2016

Effects of iPad tablets on private Montessori education

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EFFECTS OF iPAD TABLETS ON PRIVATE MONTESSORI EDUCATION

A dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Organizational Leadership

by

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August, 2016

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This dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

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TABLE OF CONTENTS

LIST OF FIGURES

DEDICATION

This dissertation is dedicated to my wonderful husband, Dr. Trishan Wickramasinghe. Thank you for your endless love, support, and encouragement. Thank you for teaching me the importance of believing in myself and pushing me to reach the stars.

ACKNOWLEDGEMENTS

VITA

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different methods to improve education.

ABSTRACT

Education and technology in today's era is a vital part of our lives. Academic institutions are

incorporating advanced technology into their curricula. This study will investigate how an iPad

will change the course of education and improve academic achievement. A qualitative research

approach conducted this study with open-ended interviews and observation. The participants

consisted of a selected group of 15 Montessori teachers who have been working with the iPad for

1 academic year. The study will seek investigate and discuss the changes that have taken place in

the classroom with incorporating the iPad. The following are the research questions that directed

the study: (a) According to Montessori 1 through 3 grade-level teachers, what influence do iPads

have in aiding students in reaching their academic goals?; (b) Does the interactive mobile

technology of the iPad increase student engagement in the classroom?; (c) What are the top 5

leadership techniques utilized by the head administrator of the Montessori to encourage the use

of iPads?; and (d) What is a new instructional design model for introducing new technologies

such as the iPad in an academic setting based upon the interview with the head administrator and

teacher interviews? The study is seeking to find why the iPad is making a global domination in

education. The findings indicated the following: (a) iPads have significantly improved

engagement and motivation in the classroom, (b) teachers expressed certain obstacles, but they

agreed the positive outcomes outweigh the barriers; and (c) teachers perceived the iPad will

make a significant change in the classroom learning experience.

Chapter 1: Technological Advancement

Technology refers to the assortment of tools that make life more convenient. Since the beginning of time, human beings developed tools in order to be effective with their time. As human beings evolved, technology progressed. Technology has advanced rapidly that human development is dependent on the amount of technology consumed. At this point, life without technology is impossible. Humanity's role in our world is influenced by how we operate technology. The development of technology has significantly changed the lives of people around the world; it has bridged the communication gap. In addition, it has overcome communication difficulties. Technology is a result of an ideas, imagination, and determination. It is human nature to compete against each other, and this gave rise to a rapid advancement in technology. This foundation is used to this day and it has made a significant influence on our everyday existence. The spear, the wheel, the bulb, and now the Internet resulted from human innovation.

All aspects of life use technology and it have developed a blended world. Technology, if used in the correct way and implemented, it can be a powerful tool. In general, most companies, educational institutions, and organizations use technology to flourish and develop. According to Barrow and Orwig (1997), "The successful implementation of a new technology requires planning and research" (p. 39). One of the main functions of education is to teach students to understand and develop a thought process. For an example, University accreditation boards, National Association of Industrial Technology and the International Technology Education Association, recognize competencies such as problem solving, communication, and teamwork in their accreditation criteria (Scott, 2008). According to Purdue University Online (2016),

> Technology has always been at the forefront of human education. From the days of
> carving figures on rock walls to today, when most students are equipped with several

portable technological devices at any given time, technology continues to push educational capabilities to new levels. In looking at where educational methods and tools have come from to where they are going in the future, technology's importance in the classroom is evident now more than ever. ("Evolution of Technology, para. 1)

Educational institutions are adapting technology into their everyday curricula. Educators in the United States and other parts of the world have utilized technology, applications, and programs for their teachers' and students' convenience and advantage. According to Purdue University Online (2016), "As technology advances, an educator's abilities will grow by leaps and bounds, and without the knowledge of these changes and capabilities, an instructor has a good chance of being left behind" (para. 1). Educational institutions must update their technology because it is continuing to change. Shelly Pasnik (2011), director of Center of Education and Technology, stated, "Incorporating technology into the classroom requires a double innovation." According to Purdue University Online (2016), "As the world of technology evolves, the learning environment, both on-campus and online, will equally progress, and the need for teachers who are educated in technology and design will continue to grow"(para. 1). In order to maximize the use of technology, educators must understand how to utilize technology for their benefit to implement superior teaching methods.

The researcher will conduct a study to evaluate the importance of integrating iPads to improve education. The study will analyze the impact of educators and their use of iPad technology in their classes. The study will discuss the importance of technology in the classroom. This study will be a resourceful tool for educators who want to implement the iPad to the curriculum. In addition, the study will explain how students' grades have enhanced and engagement has improved in the course of the academic year.

Statement of the Problem

How can the iPad change education to improve teaching methods and improve student's academic performance? This study will determine if adapting the iPad in education versus traditional pen and paper has a significant role in teaching and learning. The main question is why an iPad? Past research indicates iPads improve literacy, mobility, ease of use, security, and sharing demonstrations.

Research Questions

1. According to Montessori one through three grade-level teachers, what influence do iPads have in aiding students in reaching their academic goals?

2. Does the interactive mobile technology of the iPad increase student engagement in the classroom?

3. What are the top five leadership techniques utilized by the head administrator of the Montessori to encourage the use of iPads?

4. What is a new instructional design model for introducing new technologies such as the iPad in an academic setting of first through third Montessori grades based upon the interview with the head administrator and teacher interviews?

The subject for this study is a Montessori institution that has adapted the iPad technology into the teaching curriculum. What the students learn in Montessori will have a significant impact in their academic future. This will be their educational foundation for the rest of their life. Student should have a place to create and express their abilities and the iPad will allow them to process their creative thoughts into a practical knowledge base.

According to Titlow (2012), "This device makes perfect sense for educational purposes, whether it's self-learning or a more formal classroom setting" (para. 3). The dilemma and one of

the main issues is: Are educators able to adjust their teaching for a new dimension of learning?

Johnson (2012) poses the question of whether "Teachers are ready to adjust their teaching for

this new learning revolution" (p. 1).

Statement of the Purpose

The purpose of this study is to evaluate how iPads improve education, increase academic

performance, develop motivation, strengthen leadership characteristics, and measure

instructional flexibility and adaptability. The research expands our knowledge about iPads and

how other technologies impact students' and teachers' success. This valuable information will be

available as a guide to indicate how iPads can improve academic performance in all sectors of

education.

With new developments in technology, it is crucial to integrate technology to facilitate

new methods of learning and pave the way for prosperous academic future. iPads will change the

methods teacher's use to instruct in their classrooms. The benefits will be an indication in the

students' academic performance. Johnson (2012) stated, "It is time for the role of the teachers to

change, students with iPads have just as much access to knowledge as the teacher, and maybe

more" (p. 2).

Titlow (2012) wrote the following about the benefits of iPads:

- iPads will be used in the classroom to develop critical and analytical thinking skills.

- The iPad will build a complete digital classroom and alter the learning environment.

- The device makes perfect sense for educational purposes, whether it's self-learning or

  a more formal classroom setting. (p. 3)

Dede (2009) stated, "Further studies are needed on the capabilities of immersive media for learning, on the instructional designs best suited to each type of immersive medium, and on the learning strengths and preferences these media develop in users" (p. 66).

Recent Statistics

A study done at Drayton Hall Elementary indicated, "Before iPad was introduced in Kristi Meeuwse's class, about 35% of her students entered first grade reading above grade level, with the iPad, 100 percent of her students have been reading above grade level for two years running" (Apple, 2012, p. 3). According to "iPad in Educational Results" (Apple, 2012), "Students using iPad outperformed the non iPad students in every literacy measure they were tested on" (p. 3). In addition, the document noted, "By the end of the 2012-2013 school year, kindergarteners had a 40% increase in overall reading proficiency rate on top of an increase of 38 percent for the 2011-2012 school year when compared to the prior year" (p. 3).

At the Montlieu Academy of Technology (Apple, 2012), "29% increased in test scores" (p. 4). The Prince George County Public Schools, Title I office, in Landover, Maryland, is a great example:

> The number of students at "advanced" math level is 175 percent higher at four iPad one to one middle schools that similar schools without iPad. The number of students at "advanced" level of reading 35 percent higher based on state assessments. (p. 4)

According to Karsenti and Fievez (2103), "a preliminary report of key findings in a survey of 302 teachers and 6057 students (Grades 6 through 10) showed that the use of iPad has significant cognitive potential" (p. 6). Linda Chamiliar (2013), an educator at LMC Academy, stated, "Using iPad in her classroom with children with mild to moderate disabilities in an inclusive preschool program resulted in iPads having a positive change" (p. 9).

According to Karsenti and Fievez (2013), the following are the positive results:

- Letter and number recognition

- Counting

- Tracing of letters, ability to write letters and name

- Puzzle completion

- Problem solving and faster thinking

In a study at the Longfield Academy, Heinrich (2012) offered, "Several studies of the use of the iPad as an educational tool have been undertaken since the introduction of this product, together with others relating to tablet computers in general" (p. 7).

The new generation of students will be using advanced technology in the years to come. Implementing new devices will be necessary to enhance their learning ability and growth. It is important to keep the students active and this will result in improving their education. When learning becomes engaging, students tend to be attentive to their work. This will result in students paying attention to detail and increasing academic performance.

Technology should be used to enhance students' future goals and careers. According to the Educause Center for Applied Research (2012) report, "54% of students say they are more actively involved in courses that use technology" (p. 4). The same report offered, "70% of students say they learn most in blended learning environments" (p. 4). Educators are saying technology in the classroom will enhance students' productivity. According to the PEW Research Center (2013), "73% of teachers surveyed in PEW research center's Internet and American life project say that they and/or their students use their cell phones in the classroom or to complete their assignments" (p. 4). Open College's infograghic (Tab Times, 2013), showed, "81% of U.S teachers think tablets can enrich classroom learning" (para. 1).

According to Shuler (2012), in the iLearn II study:

In 2009, 60% of the 25 apps targeted toddler/preschool children compared to 35% of the

overall sample. Two years later in 2011, the percentage of apps that target

toddler/preschool has increased by over 20% to 58% of the overall sample. It seems

reasonable to construe that popularity of preschool apps amongst the top sellers in 2009

was an indication of what was to come. (p. 32)

"A Study of the Introduction of iPads at LongField Academy, Kent" by Heinrich (2012), stated

the following statistics:

- 77% of faculty respondents felt that student achievement appeared to have risen since

  the introduction of the iPad.

- 73% of students and 67% of staff felt that the iPad helped students improve the

  quality of their work.

- 69% of students that completed the survey felt that using the iPad was motivating and

  that they worked with it than without it.

- 60% of faculty said students were more motivated by lessons that incorporate the

  iPad than those that did not. (p. 3)

Significance of Topic

Technology has made a significant impact in our lives. It has made certain changes in our

daily routines. We are able to communicate with our loved ones from across the oceans merely

by using FaceTime and Skype. These tools have made it extremely convenient for the world to

communicate and collaborate.

An iPad will significantly change how the world promotes education. It will change how

the future generations adapt in education technology. Mobile devices play a main role in our

lives; few universities and other academic institutions have integrated the iPad into their

classroom. The institutions that have integrated the iPad are receiving profound results. iPads are

demonstrating improvements in academic performance, increasing motivation, and providing

instructional flexibility. In addition, the iPad is allowing resource efficiency. The iPad also

allows focus on content, design, and quality of the lesson. According to Wainwright (2015),

"One of the characteristics of the modern classroom is collaboration and having technology in

the classroom helps to empower and develop that" (para. 4). Wainwright also stated, "Having

technology like iPads in the classroom and other mobile devices can provide opportunities for

students to be able to work and excel at their own level and pace" (para. 8). The staff and faculty

will have the opportunity to customize certain lesson plans that will be tailor made for student's

academic development. Using appealing technology such as the iPad will enhance student's

motivation and thus increase engagement in the classroom.

Extend learning outside the classroom occur will with iPad use. According to Wainwright

(2015), "Incorporating technology in the classroom will allow learning to be extended beyond

the walls of the classroom, student will be able to carry on learning any time anywhere with

mobile devices" (para. 6). This will allow students to access their school materials from

anywhere and it will be a factor of convenience for them.

Recent research has been conducted on education and technology. However, a lack of

detailed research exists on the advantages and disadvantages of iPads in education. The current

study provides relevant factual data on how iPads can be used to improve education. Other

educational institutions and teachers who are hoping to integrate iPads as a source of teaching

and learning can use the information obtained by this study.

In summary, analyzing the data from the interviews with the teachers will encourage other educators seeking to find more information on how to improve their classroom. Understanding this study may provide a broader view for educators on the advantages and disadvantages of how iPads can improve education. Contributions from this study will add to the current body of knowledge about iPads in education.

Key Definitions

Accelerated learning. An intensive method of study employing techniques that enables material to be learned in a relatively short time.

Active learning. "Learning by doing" (McCarthy, 2010, p. 131).

Administrative competency. Students who have high learning administrative competencies accept the responsibility of remembering due dates, have strong time management skills, are able to plan ahead, always complete projects.

Applications (Apps). A computer program designed to run on mobile devices such as smartphones and tablet computers.

Board of directors .A group of people in charge of making big decisions for a publicly owned company.

Creativity. "Creativity is the ability to generate new ideas, alternatives, solutions, and possibilities which have value." (Robbins & Judge, 2011, p. 90)

Critical thinking. The process of independently analyzing, assessing, evaluating, or interrogating information in order to reach a valid decision regarding the truth and reliability of this information.

Desktop publishing. The production of printed material from a printer linked to a desktop computer that uses computer software to create documents.

Digital. Record using a technique that converts sounds or pictures into electronic signals.

Economic. Having to do with the system of producing, disturbing, and consuming goods within a society.

Executive. A decision-making leader of a company, such as the president or chief executive officer.

iPad. The iPad is basically a notebook without a keyboard. It has a multitouch LED-backlit 9.7 x 7.5 inch front display and weighs 1.5 pounds, with a battery that lasts up to 10 hours.

iTunes U. A dedicated section of Apple's iTunes Music Store that features educational audio and video files from universities, museums, and public media organizations for free download to PCs and mobile devices.

Leadership. "Both research area and practical skills regarding the ability of an individual or organization to lead or guide other individuals, teams, and organizations" (Robbins & Judge, 2011, p. 12).

Learning engagement. The level to which students are involved in the learning process.

Learning styles. A range of competing and contested theories that aim to account for differences in individuals' learning. These theories propose that all people can be classified according to their style of learning, although the various theories present differing views on how the styles should be defined and categorized. A common concept is that individuals differ in how they learn.

Personal digital assistant. A lightweight electronic device that looks like a hand-held computer but is designed to perform specific tasks, such as keep track of schedules or serving as a diary or personal database.

Software. The programs that run a computer, or tell it how to operate.

Student engagement. Occurs when students make a psychological investment in learning.

Teacher education. "Refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviors, and skills they require to perform their tasks effectively in classroom, school, and community" (Robbins & Judge, 2011, p. 12).

Key Assumptions

One of the most important assumptions to address in this study is the need to increase our education levels and prepare our students for the future. The research has to indicate the need for advanced technology in the classroom. The research has to specify that educators will benefit from technology and it will aid their future goals. Another key assumption is that majority of students will gravitate toward using the iPad and use it efficiently.

The researcher is an educator and is writing from a technological and education perspective. The study is limited to Montessori population. Montessori education is limited to students who only attend private Montessori schools. The sample population consists of Montessori school educators. During the course of the study, honest responses are expected from the educators. The responses are from their personal experiences and may differ in multiple aspects from other teacher's experiences. In order to protect the participants, all the information is stored in the researcher personal computer and is password protected. Study codes are used to protect the participants and confidentiality. The participants volunteered their time for this study and they had the ability to withdraw at anytime during the course of the study.

Limitations of the Study

This study was limited because of the population selection, as only Montessori teachers were chosen. Therefore, results are not applicable to all populations. The research followed all standards and ethical principles. This study honored APA guidelines. The study's sample populations are teachers from the Los Angeles area. This will limit the results because they are not applicable to the general population. Study participants only represent the Montessori sector. Not all subject areas are taught in the school because of the student's age factor. These interviews are based on the teacher's perspectives and not the student's experiences. Some of shortcomings of the interviews are the participants may lack memories of their experiences and may not report all advantages and disadvantages. It is not certain if the findings of this study can be applicable to other grade levels or other method of teaching.

Using iPads is limited in various school districts because of the lack of funding. The results will not be pertinent to institutions that do not use iPads for multiple reasons. The findings are limited to those in the study. From a previous study, the following are some of the limitations of an iPad:

According to the "iLearn II" study (Shuler, 2012), the following are few limitations:

- Apps are an important and growing medium for providing educational content to children, in terms of their both availability and popularity.

- Early learning apps for toddler/-preschool are particularly prominent. Developers should consider potential saturation of this market.

- Developers should not default to the lowest price point and should consider a fair price value proposition.

- Apps are significantly different market than television, video games, or toys.

- The use of social media, making sure students does not have access to social media.

- Unsupervised web browsing.

- Social isolation.

- Cost of iPads.

- Parental controls and gaming addiction.

- Battery life.

Organization of the Study

"The current generation of Western K-12 students has been immersed in mobile communication technology since birth" (Ward, Finley, Keil, & Clay, 2013, p. 378). The study is designed to understand engagement and students' ability to improve their education. "Although the use of tablets by instructors has become increasingly widespread, there has been little development in the use of class sets of tablets in K-12 Science, Technology, Engineering, and Mathematics (STEM) classrooms" (Ward et al., 2013, p. 378). The framework for this study was based on the David Kolb's learning theory, iPad technology, and Piaget's theory. "Learners are active participants or co-producers rather than passive consumers of content, and so that learning is participatory, social process supporting personal life goals and needs" (Kolb, 1984, p. 131).

This study was conducted to investigate how could iPad tablets improve education. In summary, Chapter 1 described the overall perception of technology, how much it has impacted our everyday lives, and how technology has grown and entered our homes. The research investigates the impact of an iPad in education. In addition, Chapter 1 addressed the statement of problem, research questions, purpose, sample population, key assumptions, and limitations. The chapter discussed how technology has entered the grounds of educational institutions. Chapter 2 provides a literature review on the subject matter and demonstrates how past research has shed

light on incorporating technology in the classroom. Chapter 3 provides the research

methodology, data gathering procedures, restating the research questions, and method of

analysis. Chapter 4 describes the data findings of the research questions. Last, Chapter 5 offers

the conclusion of the study, implications for practice, and future research recommendations.

Chapter 2: Literature Review

The educational world is transforming at a rapid rate. Educator's self-direct new curricula. The curricula are intended to be self-motivating to the students and promote new learning styles. Education curricula are incorporating technology into daily learning routines to increase motivation, relevancy, and curiosity among students. Using technology will retain interest. Education needs to be innovative and it must be student centered. Incorporating technology will pave an avenue to design the classroom and change the traditional views of the classroom.

This chapter gives an overview of past research and how it can be incorporated to facilitate technology into the classrooms. Research indicates that incorporating technology in the everyday class routine will increase motivation, determination, and school-life balance. "Today's children will benefit if apps become an important force for learning and discovery" (Shuler, 2012, p. 3).

According to Aina (2013), "Methods of teaching has gone beyond traditional method of talk and chalk method" (p. 43). Aina provided more comments:

> Nothing is static in the world again everything changes almost every second of the day; so should be educational activities (teaching and learning), gone are the days when teaching and learning is only based on chalk and booked packed somewhere called library; today everything has done computerized to retrieved, store and transmit information. (p. 43)

There is no question that the iPad will continue to have an impact on learning and teaching. According to Ireland and Woollerton (2010), "the iPad, and similar machines that will follow, which will truly change and revolutionize the world of language learning and teaching in

the coming years" (p. 35). There are two very important reasons to support the author's belief

about the iPad and its capabilities. Ireland and Woollerton (2010) offered, one reason:

> Firstly, the size of the iPad itself is very relevant, even though it is light and convenient to
>
> carry around, the screen size of the iPad in comparison to the iPhone makes it much more
>
> convenient, the second and more important reason is that the process for creating digital
>
> versions of books and magazines is much simpler than the required to produce iApps. (p.
>
> 35)

Another reason is that apps are growing and increasing in popularity with children (Shuler,

2012):

- Over 80% of the top selling paid apps in the Education category of the iTunes store

  target children.

- In 2009, almost half (47%) of the top selling apps targeted preschool or elementary

  aged children. That number has increased to almost three quarters (72%).

- The percentage of apps for children has risen in every age category, accompanied by

  a decrease in apps for adults. (p. 3)

History of Apple

Steve Wozniak (as cited in Apple, 2012, p. 3) once said, "In the end, I hope there's a

little note somewhere that says I designed a good computer". The story of Apple is one of the

most remarkable stories of all time; it shows how a dream can become reality. It demonstrates

the importance of dedication and persistence. Apple is enormously successful and growing, it

has contributed much knowledge to the growth of the world.

Steve Jobs and Steven Wozniak founded Apple; both were incredibly gifted in their own ways. They were both incredibly driven and motivated. They created a whole new world with Apple. According to Apple (2012), both Jobs and Wozniak met at Hewlett- Packard, while Jobs was its summer employee and Wozniak was its calculator manufacturer. Jobs and Wozniak decided to work together to build a revolutionary device. According to the post, "Three Great Decades: The Interesting History of Apple" (Feihongbo, 2012), "It was in Steve Job's tiny basement that they invented the first personal computer, in 1976, Steve Jobs and Steve Wozniak released the first Apple I computer and started the company Apple computers" (para. 6).

Their first computer was successful, and Wozniak wanted to make a better computer for the second release. They presented the Apple II on April 16, 1977 during the West Coast Computer Fair. The post on Feihongbo (2012) stated, "A Japanese chemist named Toshio Mizushima became interested in the Apple II prototype, and later on became the first authorized Apple dealer in Japan" (para 10).

They used the money from the sales from the first computer to make an excellent computer for Apple II. "Apple II… became known as the most popular computer of all time" Feihongbo, 2012, para 10). This computer was different from the first one because the Apple II was capable of handling text, graphics, and color. "Apple's most successful is the famed Macinstosh,. It was the first computer to successfully use a graphic user interface and mouse" (Feihongbo, 2012, para 12). When John Sculley was bought in, there was a power struggle. Sculley was a traditional leader, but Jobs was more spontaneous. Because of the conflict that took place, Jobs parted ways with Apple (Feihongbo, 2012).

There was a period of time when Apple was without Jobs. During this period, Apple's marketing strategy suffered tremendously. Many of the new computers failed miserably because

of a lack of marketing. While Apple was suffering, leadership roles were changing. While these changes were taking place at Apple, Jobs was navigating Pixar. Jobs founded another company called Next. This computer was not successful; however, it later became the foundation for the Mac OsX (Feihongbo, 2012). Once Jobs rejoined Apple, sales started growing between 1998-2000. "One of Jobs' first move as CEO was to develop the iMac, with the integrated CRT display and the CPU in a clean, streamlined design, the computer was huge success, selling one million units a year" (Feihongbo, 2012, para. 21).

"Three Great Decades: Interesting History of Apple" pointed out, "Today's Apple products are simple, clean and minimalist. Everything is simplified: all the unnecessary features are taken out and only the essential remain, and because of its style and simplicity" (p. 17). Apple has created a massive following and it has drastically grown over the years. According to "Three Great Decades: Interesting History of Apple", "Stock market value of Apple overtook that of Microsoft, it was the only time in 20 years that Microsoft was lower than Apple, which would've seem 'unimaginable' 10 years ago" (Feihongbo, 2012, para. 25).

Apple has brilliant plans for the future, and the techniques are quite exciting. The new features for Siri will revolutionize how a personal assistant will assist individuals on a daily basis. The Siri component will guide with sending messages, making incoming and outgoing calls, and scheduling meetings. Apple has a bright future and it will consistently uphold its beliefs. "The passing of Jobs was unexpected; however, Jobs has set forth amazing goals. Steve Jobs ambitious goals set for the future will build a solid foundation for Apple" (Feihongbo, 2012 para. 25).

According to Hall (2013), Apple, Inc. offered, "As a company founded and built on the idea that technology placed in the hands of the many has the power to change the world, we feel

it is our responsibility to act" (para. 13). "Many schools struggle to provide the basics despite the dedicated efforts of teachers and families, a lack of equal access to technology and knowledge puts entire communities and populations of students at a disadvantage, especially minorities" (para. 12). "Technology paired with passionate and well-supported teachers enables deeper creativity and learning" (para. 12). The iPad will allow students to connect with different avenues and topics, which will provide opportunities to express their uniqueness.

How Many People Will Use the iPad

Ireland and Woollerton (2010) wrote,

As of 1 September 2010, 120 million iOS devices have been sold worldwide and 230,000 new devices are being activated each day. In the first two months of availability (3 April–31 May 2010), two million iPads were sold. The likelihood is that iPads will be purchased initially, mainly by adults in employment rather than by students. (p. 44)

One major reason is, "unlike the iPhone, the iPad is not available at a subsidized price or amortized using a two year subscription" (p. 44).

According to Ireland and Woollerton (2010), it is not difficult to imagine how the iPad could revolutionize the classroom. The iPad (along with Wi-Fi equipped buildings) will facilitate the following six main developments:

1. Audio and video material will be controlled by the student rather than by the teacher. Playing material will be an individual activity not a communal one. Students will be able to decide how long to listen to material, when to stop, when to replay, and where to focus their listening within the material.

2. Students will be able to download, upload, share or collaborate via Wi-Fi and web pages.

3. Every classroom can be a Computer assisted language learning or language and literacy room. Computer assisted language learning and language and literacy rooms can be liberated from the constraints of bulky furniture that have been a barrier between other students and between the students and the teacher.

4. There will be instant access to the web for research purposes and/or access to the digital collections held by an institution's library.

5. The iPad is not just a consumer device (in the sense that the user is solely a recipient of material). The user can also author his or her own material using software such as iWork, a suite of applications that includes Pages Numbers (a spreadsheet) and Keynote (a presentation tool).

6. The iPad is a presentation device and can be connected to large displays and projection systems. Apple TV can be used for projection to display or share information on iPad via AirPlay feature. (p. 44)

Even though these capabilities are possible to use in laptop computers, Ireland and Woollerton (2010) believed the iPad has many advantages over PCs for use in education. The following are the advantages:

1. Price-The cheapest version of the iPad at this time is about $400, whereas a decent quality PC would probably cost double.

2. Size and Portability-The iPad is much lighter, smaller and easier to carry than most PCs on the market.

3. Ease of use-The iPad is much more simple and intuitive device to use. Applications are designed to be simple and easy to navigate.

4. Software-There are many more applications available to the students to work with. The iPads applications are much cheaper than the PC version or it is offered free.

5. The touch of screen-Having a touch screen allows for much quicker and simpler manipulation of both materials being viewed or created. (p. 60)

Theoretical Framework

"Learning is the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38). Kolb published his learning styles model in 1984, from which he established his learning style inventory. The most effective way to understand leadership is through experience (Guthrie & Jones, 2012). "Thus, experiential learning theory provides a solid foundation for leadership education, as well as a framework for developing and implementing programs for students to reach their full-time leadership capacity" (Guthrie & Jones, 2012, p. 54). Kolb (as cited in Guthrie & Jones, 2012) stated, "Experiential learning includes a set of techniques used to provide individuals with encounters from which they can learn and develop" (p. 54). Experimental learning theory as stated previously, defines learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41). According to Guthrie and Jones (2012), "Kolb and Fry argued that when learners experience challenges or difficult situations, the experience is not as meaningful unless meaning is made" (p. 54).

According to McLeod (2013), "Kolb's experiential learning theory works on two levels: a four stage cycle of learning and four separate learning styles" (p. 38). Kolb (1984) believed that learning involves experiences from all ranges of settings (see Figure 1). According to Kolb, the following are the four stages:

- Concrete Experience: A new experience of situation is encountered, or a reinterpretation of existing experience.

- Reflective Observation: of the new experience. Of particular importance are any inconsistencies between experience and understanding.

- Abstract Conceptualization: Reflection gives rise to a new idea, or a modification of an existing abstract concept.

- Active Experimentation: The learner applies them to the world around them to see what results. (p. 38)
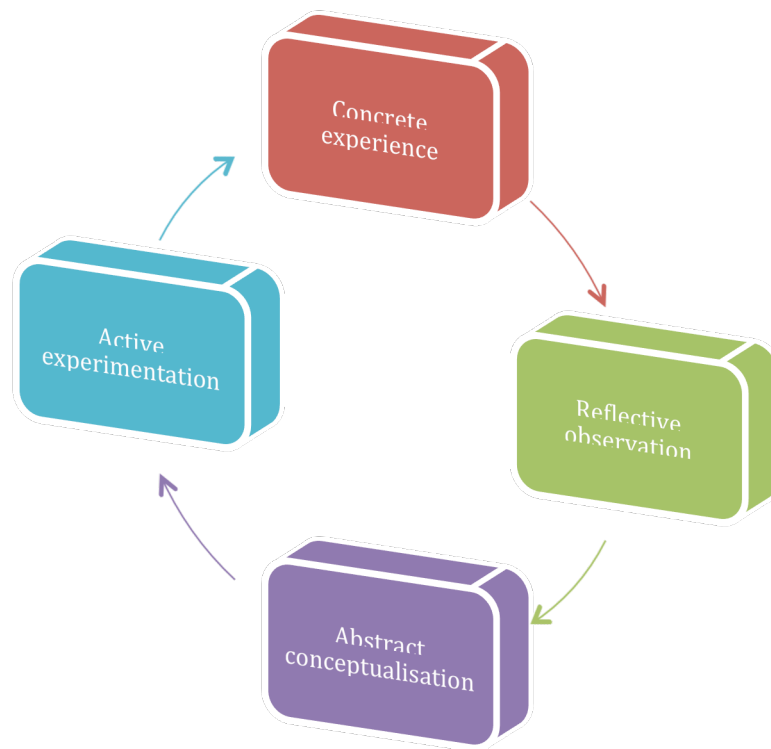
Figure 1. Kolb's learning model.

According to Dede (2008), "Technology widens the range of instructional design" (p. 4). Dede further stated, "The relative roles of content, pedagogy assessment, and technology in learning" (p. 42) are the following:

Technology is learning described as instrumental-it is the tool to make it easier, the result is of higher quality than possible without the tools.

1. Technology is a way to support the learning and the learner in an already established pattern of curriculum, pedagogy, and assessment.

2. Technology can support anyone of those three aspects of schooling.

3. The instructional design based developed by Dabbagh concludes theories of how people learn in turn inform pedagogical and design decisions. (p. 43)

Dabbagh (2006) offered three learning theories: objectivism-behaviorism, cognitivism-pragmatism, and constructivism-interpretivisim. Dede (2008) explained, "Objectivism posits that reality is external and is objective, and knowledge is gained through experiences" (p. 45). Behaviorists are firm believers that learning is founded on experience, "Instruction centers on manipulating environmental factors to create instructional events inculcating content and procedures in ways that alter students' behavior" (Dede, 2008, p. 45). "Pragmatism posits that reality is mediated through cognitively developed representations, and knowledge is negotiated through experience and thinking" (Dede, 2008, p. 45). Furthermore, "cognitivists believe that, since learning involves both experience and thinking, instruction centers on helping learners develop interrelated, symbolic mental constructs that form that basis of knowledge and skills" (Dede, 2008, p. 45).

Interpretivism posits that reality is interior and knowledge is composed. Dede (2008) explained, "Constructivists believe that, since learning involves constructing one's own

knowledge, instruction centers on helping learners to actively invent individual meaning from

experience" (p. 45). According to Richmond and Cummings (2005),

> The concrete experiences mode is characteristic of learners who desire plenty of
>
> opportunities for direct human interpersonal interactions. These individuals also prefer to
>
> feel experience rather than think. Kolb describes them as intuitive decision makers, who
>
> value circumstances involving people in real-world situations. (p. 46)

It is also known that individuals who prefer a concrete experiences learning mode take an

artistic intuitive approach to problem solving rather than scientific approach. Richmond and

Cummings (2005) wrote,

> Reflective observation focuses on the ability to understand the meaning of ideas,
>
> individuals who are characterized by this mode value objective judgment, impartiality,
>
> and patience. They prefer abstract understanding over practical applications, and they
>
> prefer to reflect and observe rather than act on a situation. (p. 46)

Guthrie and Jones (2012) also offered that reflection is critical, "How do students 'mine'

their experiences to learn the most and to develop leadership knowledge and skills? Reflection is

key to unlocking the developmental opportunities in experience" (p. 56). There are two

dimensions that involve learning. The two dimensions are perception and processing. "Human

processing refers to the ways people integrate new information, typically through reflection and

action" (Guthrie & Jones, 2012, p. 140). "Experiential learning can take place either through a

direct educational encounter or via everyday life events (Clark, Threeton, & Ewing, 2010). An

individual's total life experience includes both personal growth producing occurrences and

experiences of others (Kolb & Kolb, 2005)" (Kolb, 2005, p. 56). It is important to evaluate how

educators include meaningful opportunities and make significant abilities to connect concepts for

students. Kothaneth, Robinson, and Amelink (2010) stated,

> In the context of rapid technology development, it comes as no surprise that technology
>
> continues to impact the educational domain, challenging traditional teaching and learning
>
> styles. If employed correctly, instructional technologies, in particular, have been found to
>
> benefit the learning experience by aiding conceptualization, applying knowledge, and
>
> facilitating dialogue. (p. 60)

Active Learning

"Experiential learning, or active learning, interactive learning, or 'learning by doing,'"

according to McCarthy (2010), "has resulted in positive outcomes. Most experts agree that when

students take an active role in the learning process the student's learning is optimized" (p. 131).

Additional research needs to be conducted to increase active learning as a result of classroom

changes.

Bruner's Learning Theory

> Rhalmi (2011) offered the following on learning:
>
> Instruction must be appropriate to the level of the learners. For an example, being aware
>
> of the learner's learning modes, will help you plan and prepare appropriate materials for
>
> instruction according to the difficulty that matches learner's level. The teachers must
>
> revisit material to enhance knowledge. (para. 2)

Rhalmi added, "Building on pre-taught ideas to grasp the full formal concept is of paramount

importance according to Bruner. Teachers should assist learners in building their knowledge.

This assistance should fade away as it becomes unnecessary" (para. 2). Bruner (as cited in

Rhalmi, 2011) stated, "Learners must experience success and failure not as reward and punishment, but as information" (para. 2).

Technology Affordances

Gaver (1991) wrote,

Affordances imply the complementarity of the acting organism and the acted upon environment. Most fundamentally, affordances are properties of the world that make possible some action to an organism equipped to act in certain ways. Whether a handle with particular dimensions will afford grasping depends on the grasper's height, hand size, etc. (p. 80)

Gaver added, "Affordances, then, are properties of the world defined with respect to people's interaction with it" (p. 80).

Cognitive Development

Simatwa (2010) stated, "Jean Piaget's theory of intellectual development is considered a leading theory on cognitive development. Piaget's theory asserts that intellectual development is a direct continuation of inborn biological development" (p. 366). Piaget stressed, according to Simatwa, that as children mature mentally, they pass sequentially through four major stages of cognitive development, each stage having several sub stages:

- Sensory motor stage—0−2 years

- Preoperational stage—2−7 years

- Concrete operations stage—7−11 years

- Formal operations stage—11−15 years

Simatwa (2010) offered that Piaget believed children grow through playing and physical interactions. "Children cannot overcome a development lag or speed up their movement from

one stage to the next, they need to have sufficient experience in each stage and sufficient time to

internalize that experience before they can move on." (p. 367)

Reflection Activities

The incorporation of the iPad will require a reflective period for students. It will provide

alternative methods of reflection for the students. Guthrie and Jones (2012) stated, "Reflection

activities can include reading, writing, and/or discussion, and can take place in a group or

individually. Educators should be aware that different types of reflection activities may be more

appropriate at different stages of the learning cycle" (p. 57). "Learning is relational; therefore,

dialogue and learning are essential elements for the process. As such, intentional engagement

with peers, staff, or faculty encourages students to reflect on their own experience, thoughts, or

opinions" (p. 58).

The Electronic Classroom

The concept of a classroom is also changing. According to Boschmann (2000),

Few people pay much attention to "classrooms" even teachers, but mention the electronic

classroom, and instantly the name conjures forth such a rich array of prospects, both

alluring and disquieting, as to make any school's crew uneasy about what lies beyond the

horizon or beneath the surface. (p. 3)

Technology has been a driving force behind many successful classrooms and companies. The

term technology "often refers to the tools that are used to assist in the delivery of a curriculum"

(Manning & Johnson, 2011, p. 9). Manning and Johnson provided more insight on technology in

the classroom:

Johann Friedrich Herbart introduced technology as a systematic approach to instruction

and in 1970 the commission on instructional technology defined instructional technology

as a systematic way of designing, carrying out, and evaluating the total process learning

and teaching in terms of specific objectives, based on research in human learning and

communication, and employing a combination of human and nonhuman resources to

bring about more effective instruction. (p. 10)

The proclamation of an electronic classroom has given educators and students an

awakening to what is coming in the future. "The electronic classroom has become a symbol of

change of improvement of the future itself" (Boschmann, 2000, p. 3). Research is reviewing the

areas that will benefit the most by having an electronic classroom in education. In the pursuit of

an electronic classroom, the following categorizes will be reviewed, "when, where and how

people learn, what and why they learn, the evolving role of faculty, the future of the institution

itself" (Boschmann, 2000, p. 3).

Learning Development

As the world keeps changing, it is vital citizens adapt with the changes. The growing

business world, medical field, and universities are continuing to evolve, which requires

individuals to grow with the times. Fortunately, the global economy and citizens are changing

rapidly with the times. "Outside the academy the electronic classroom is just as important

symbol of a new era in education from preschool to post secondary continuing education"

(Boschmann, 2000, p. 7). Boschmann further wrote, "As the symbolic and literal potential of the

electronic classroom encourages persons outside academe to exert influence on formal learning,

the focus shifts from the faculty expert to the inquiring learner" (p. 8).

Academic institutions have begun to restructure their programs to electronic classrooms.

Integrating the iPad in to the curriculum will benefit their response to learning. Students are

anticipating new methods of learning and it will generate new interests. "Already wise in the

ways of Nintendo, MTV, and prodigy, young people are learning how to use hyperstacks, Boolean searches, and electronic mail in the first and second grades" (Boschmann, 2000, p. 9). Adapting technology will be relatively informal because of the exposure to technology from an early age. This is the stage most young people learn how to access and operate an electronic device. Children are aware of how to operate an electronic device as they attend kindergarten. Technology has progressed in drastic ways. Both professional and personal relationships have been integrated by technology.

Teacher-Centered Learning

"Teacher centered learning is," according to Glasgow (1996), "a well known and understood education model that most of us have been exposed to since kindergarten" (p. 31). The teacher must take responsibility to distribute the information to the learners. "The teacher's role in this method is to distribute and interpret information for the students via lectures, assigned readings, demonstration, and selected activities" (Glasgow, 1996, p. 31).

When incorporating technology into the classroom, teachers need to have assessments, standards, and student-centered curriculum. Education varies depending on the school, guidelines, and delivery. One of the most crucial changes that must be implemented is consistent regulations and standards. School districts need to develop additional professional development days in order to unite teachers and collaborate for the development of students (Apple Inc., 2016).

Teachers should be given added workshops to learn about technology and how to increase student motivation. Teachers should constantly receive comments in regards to their work. Teachers can use the positive reinforcement given by their administrators and use it attain their goals for the classroom. "People do better when they get feedback on how well they are

progressing towards their goals, because it helps identify discrepancies between what they have done and what they want to do" (Robbins & Judge, 2011, p. 212). During professional development days, teachers should be given goal-setting strategies; this will support them in the process of integrating technology into their classrooms. The institutions' administrators should be monitoring the teachers' progress in their capability to enforce technology to the classrooms. "Individuals perform best when assigned goals by their boss" (Robbins & Judge, 2011, p. 212). Teachers must try their best to provide an experience that is unique for the classroom. Once students leave the classroom, it is their decision on how to utilize information they learned in the classroom. "Teachers usually cannot guarantee that students' experiences will be useful once they leave the class" (Glasgow, 1996, p. 33). As teachers, it is crucial to deliver the information accurately; how students utilize their knowledge is purely depending on them. An educator can only point them to the correct path. "No one can predict which parts of the information the students have learned will eventually becoming obsolete or incorrect or what students will forget" (Robbins & Judge, 2011, p. 33).

The use of the iPad will enhance learning in the classroom and it will create a diverse environment. It will spark students' interest along with keeping them engaged. "Students do learn to learn so they can meet lifelong need to adapt to contemporary knowledge, challenges, and problems they will encounter in the future" (Glasgow, 1996, p. 35)

"Communication fosters motivation by clarifying to the individuals what they must do, how well they are doing it, and how they can improve" (Robbins & Judge, 2011, p. 337). These methods will help advance the students and increase their success rate. It is necessary to have inspirational motivation; "It communicates high expectations, uses symbols to focus efforts, and expresses important purposes in simple ways" (p. 383).

Teachers as leaders need to develop trust between their staff and students. According to Robbins and Judge (2011), the three characteristics that make a leader trustworthy are: "Integrity, benevolence, and ability" (p. 389). "Integrity refers to honesty and truthfulness" (p. 389). In addition, benevolence refers to "the trusted person has your interests at heart, even if yours aren't necessarily in line with theirs" (p. 389). Finally, According to Robbins and Judge, ability is, "encompasses an individual's technical and interpersonal knowledge and skills" (p. 389).

Trust is essential because, trust "encourages risk taking, trust facilitates information sharing, trusting groups are more effective, trust enhances productivity" (Robbins & Judge, 2011, p. 390). Trust advances character development and the organization's growth. This will simplify the understanding between teacher and student.

When students trust teachers, they are more attentive to the objectives in the class and tend to be goal oriented. When incorporating new technology into the classroom, it is vital to state the importance clearly. According to Morgan (2012), "Most of us who began our careers with chalk and nonvirtual blackboards find ourselves now immersed in a world dominated by YouTube, PowerPoint, and course management systems" (p. 88). From a young age, it is important to be read to, it increases children's chances of learning and seeing new dimensions.

Nix and Spiro (1990) wrote:

The advantages of being read to continue as children start learning to read, by following along in the text as someone reads to them, children participate in the reading in a way that offers benefits on many levels of reading simultaneously. (p. 33)

These factors are the core of good teaching, and educators must develop these factors into the classroom. This will genuinely spark students' concentration and increase interest in their education.

Assessing Learners in the Online World

There is a historical perspective for online learning. It was originated from the term distance education. "The current surge of interest in distance education and particularly online learning has been brought about by contemporary technology and facilitates communication between the instructor and the learner" (Oosterhof, Conrad, & Ely, 2008, p. 3).

Incorporating the iPad into online classes will be extremely beneficial to students. It will provide them with access to the classroom from anywhere in the world. Applications should be created to promote online learning. "Since its beginning, distance education has been considered to be a one-to-one relationship between an instructor and a learner who are generally not in the same place at the same time" (Oosterhof et al., 2008, p. 3). As a result of technology, these relationships have expanded such that students can communicate with instructors on educational portals. "Technological developments have made it feasible to expand this relationship to include group interactions" (Oosterhof et al., 2008, p. 3).

Education Leadership Policy Standards

Good educators enhance student development by facilitating articulation, and implementation of profound material in their classrooms. According to Papa (2011), "An education leaders promotes success by, collaboratively develop and implement a shared vision and mission, create and implement plans to achieve goals, promote continuous and sustainable improvement, monitor and evaluate progress and revise plans" (p. 24).

According to Papa (2011), "An education leader promotes the success of every student by advocating, nurturing, and sustaining a school culture and instructional programs conducive to student learning and staff professional growth" (p. 24). The discussion on what transforms the classroom setting has been receiving much debate and it allows the educators to discuss what matters the most in their classroom. According to Libernman and Miller (1999), transforming a classroom requires, "combining content and process, attending to the needs of both teachers and students, and balancing action and reflection" (p. 13).

In order to sustain professional and academic growth, educators must foster the following environment: according to Libernman and Miller (1999), educators must "nurture and sustain a culture of collaboration, trust, learning, and high expectations and create a personalized and motivating learning environment for students" (p. 24). Teachers must cultivate a positive environment regardless of the iPads in the classroom.

Instructional Technology and Instructional Design

"Instructional technology dates as far back as the printing press, which allowed the same information to be shared with multiple students simultaneously" (Manning & Johnson, 2011, p. 9). Educators are using instructional design to navigate their lesson plans and to make it different for students.

According to the British Broadcasting Corporation (2010):

The introduction of the iPad, with its easy to manipulate touch screen technology, has allowed even very young children taking advantage of a computer. Its portable format and fast load-up time has made it possible for them to be used easily in the classroom. (p. 1)

The use of iPads has increased sharing of resources among educators. Much of the communication among parents is done electronically. It is convenient for students to do work in teams because they can share documents electronically. One of the positive attributes about iPads is students can use electronic textbooks; they are most cost effective and easy to transport because of the lightness of the iPad. The iPad can contain multiple different electronic textbooks in the iBook application and they are easily accessible. The content of the textbooks can be easily searched. "iBooks is Apple's eBook reading program, and one of the iPad's most natural and useful apps, with iBooks, you can carry around dozens or hundreds of books on your tablet, without adding an ounce of weight to it" (Pogue, 2014, p. 304). In addition, it can also load students' protable document format (pdf) documents and thousands of free books.

The iPad Defined

There was much speculation when the first iPad was released in 2010. Many critics disregarded the iPad and made it a failure. However, they were completely wrong. Apple sold "300,000 iPads on the first day they were available; 1 million in the first month; 250 million in the first seven years" (Pogue, 2014, p. 1). The iPad has revolutionized the world and it has become the "fastest-adopted new product category in history" (Pogue, 2014, p. 1). The iPad has changed the course of time and most individuals carry the iPad with them on a regular basis. According to Pogue, "Now, here we are, five iPad models (and three mini models) later, and we can now see that the iPad was a turning point in computing history" (p. 1).

The iPad is flawless depending on the use of it. Pogue (2014) wrote,

Your ability to replace a laptop with an iPad, however, depends on what you want to do with it. For years, the conventional wisdom was that the iPad is fantastic for consuming

material-surfing the web, reading eBooks, watching videos, playing music, doing a first

pass on email-but a clumsy tool for creating it. (p. 1)

The expansion of the iPad from being used for academics or professional work has

changed; nowadays almost every home has an iPad for daily and recreational use. Currently,

children have access to iPads and they are technically advanced. "As a tablet computer, the iPad

faces a fundamental limitation; it has no real keyboard or mouse, which might be considered a

drawback on a gadget that's capable of running hundreds of thousands of programs" (Pogue,

2014, p. 55). It is important to keep in mind that the iPad has no physical keys; the only

possibility for typing is on the touch screen or by an accessory keyboard. The keyboard appears

at any place typing is necessary.

"Siri, the iPad's famous voice recognition technology, is actually two features, not one.

First, there is dictation, where the tablet types out everything you say, it's faster than typing with

little onscreen keys" (Pogue, 2014, p. 85). The advancement of technology in this device has

gone far beyond anyone's expectations. This will guide students in a friendly manner in

navigating through web sites. The second feature is Siri is a virtual personal assistant that can

help students with operating systems and guide them through the learning process.

Apple's usual routine is to introduce a new iPad every October; as Apple continues to

introduce the new iPad, it continues to advance. Pogue (2014) wrote that in 2014:

The new model was, thinner, it's the biggest feature, the air 2 is less than a quarter inch

thick (6.1 millimeters), a tablet is something you have to hold all the time you're using it,

so thinness, and lightness matters. (p. 5)

It continues to become faster, "There is a new processor inside: Apple's own chip, the

A8X, Apple says its 40 percent faster than before, and it does feel faster, yet the iPad's 10-hour

battery life hasn't suffered as a result" (Pogue, 2014, p. 5). The 10-hour battery life is an

advantage for students in the class to use the device without any interruptions, compared with a

standard laptop in which the battery typically lasts for 4 hours. When using the iPad, students do

not need to carry their chargers and look for charging stations because the battery lasts for more

than a full working day. Having this device in the classroom will be useful for the students in

multiple ways.

Using new technology in the classroom will motivate students and fresh ideas will spark

interest more than traditional methods. Education can be enjoyable when it is organized in a

proper manner. When students are happy and more eager to learn, it will significantly increase

their academic progress. The future of technology is growing at the speed of light. The more

advanced students are, the better for the future. During the next few years, the use of paper and

pencils in classroom will drastically disappear. There have been numerous studies done around

the world that indicate why technology should be used in the classroom. Pogue (2014) offered

the following are the reasons:

1. If used correctly, technology will help prepare students for their future careers, which

   will inevitably include the use of wireless technology.

2. Integrating technology into the classroom is definitely a great way to reach diversity

   in learning styles.

3. It gives students the chance to interact with their classmates more by encouraging

   collaboration.

4. Technology helps the teachers prepare students for the real-world environment. As

   our nation becomes increasingly more technology dependent, it becomes even more

   necessary that to be successful citizens, students must learn to be tech savvy.

5. Integrating technology in education everyday helps students stay engaged. Today's students love technology, so they are sure to be interested in learning if they can use the tools they love.

6. With technology, the classroom is a happier place. Students are excited about being able to use technology and, therefore, are more apt to learn.

7. When mobile technology is readily available in the classroom, students are able to access the most up-to-date information quicker and easier than ever.

8. The traditional passive learning mold is broken. With technology in the classroom, the teacher becomes the encourager, adviser, and coach.

9. Students become more responsible. Technology helps students take more control over their own learning. They learn how to make their own decisions and think for themselves.

10. Student can have access to digital textbooks that are constantly updated and often more vivid, helpful, creative, interactive, and a lot cheaper than those old heavy books. (p. 85)

The Classroom and Apple TV

"Technology has provided teachers with more tools that ever before to support a rich and personalized learning experience. 1:1 initiatives are commonplace and strategies are surfacing that clearly show how mobile devices can support instruction and learning" (Mahaley, 2013, p. 2). Mahaley supported the notion, Apple TV enhances classroom productivity:

The basic operation of the Apple TV involves connecting the device to the existing organization network. With the AirPlay feature found on iPads and Apple computers, one connects in wirelessly to the Apple TV. This technology allows not only the streaming

image of the iPad or airplay enabled computer, but also carries the audio signal as well.

(p. 2)

Mahaley (2013) added,

Resolution on television screens is superior to that of the IWB's commonly used in

schools. This high definition is useful with media rich curriculum containing pictures,

Videos, and other presentation graphics and text. The life hours of the TV screen exceeds

that of a projector bulb many times over and does not have the degradation of lumens

found with most lamps used by projectors over time. (p. 2)

Mahaley (2013) also wrote that the Apple TV is an enjoyable asset in the classroom:

There are advantages in teaching and learning using the Apple TV with iPad deployments

in schools. Apple TV users in the classroom enjoy moving about the classroom while

actively controlling the presentation from their iPad. No longer are teachers trapped at the

front of the classroom in order to share content with students or mark up documents.

Presenting directly from the iPad allows for circulation around the classroom and

increased interaction with students. (p. 3)

Mahaley (2013) continued,

Like the teacher, student iPads are capable of presenting from anywhere in the room. This

allows groups to report to the rest of the class, individuals to present from their seats, or

the teacher selecting student work to share with others in the classroom. (p. 3)

Engagement and Motivation

Engagement and motivation are important education components. Students must be

constantly motivated and engaged in and out of the classroom. Cubelic and Larwin (2014) stated,

"The processes of teaching and learning are organic and require a delicate balance of give and

take by both the instructor and student" (p. 48). "Teachers construct the setting into which

students enter. The ability for that setting to produce the intended learning outcome requires

engagement. Notwithstanding its definitional variability, research indicates that when children

are engaged in classroom activities, their learning increases" (p. 49).

Cubelic and Larwin (2014) wrote,

The ability to incite interest and excitement with reading is fundamentally important in

establishing positive feelings about reading that enable students to work through

challenges and persevere. The use of technology is one way to establish this excitement.

With its colorful images, and pleasing graphics, the "hook" for students is apparent. (p.

49)

Cubelic and Larwin (2014) added,

Teachers in Auburn, Maine, who are piloting the use of iPads in their Kindergarten

classes, are encouraged with the level of engagement they have seen in their students.

They reported that in addition to the visible engagement that can be observed, the

connections go much deeper. (p. 49)

Instructional Tools

Cubelic and Larwin (2014) suggested,

Technology is not a code intended only for young people, but rather a valuable tool for

teachers to support the goals of learning. If we are truly intending to refocus and reform

education, we need to recognize the impact that technology use can have in the

classroom. (p. 49)

Regarding technology, Rosen, (2007, as cited in Cubelic & Larwin, 2014) stated, "The

iGeneration is immersed in technology. Their tech world is open 24/7. Children reared

during the computer age, unlike their predecessors, may not respond well to traditional

methods of teaching as they will not capture, or sustain their interest." (p. 49)

Cubelic and Larwin added, "According to Harvey-Woodall, these children will likely be more

engaged with the use of technology as a medium for their learning. The designation of an entire

generation as members of the 'Digital age' is not a universal descriptor" (p. 49).

Cubelic and Larwin (2014) stated, "The successful implementation of technology is a

complex proposition. Despite commonly accepted indicators of positive potential, there exists a

paucity of concrete evidence of the impact of technology, and specifically the use of iPad

technology, on early student achievement" (p. 50).

Communication and Education

According to Kenney (2011) the way teachers communicate has changed:

In certain schools, a paper and pencil is no longer needed to teach a math lesson. Now

thanks to Apple's new iPad, there's an app for that. Students can be more engaged than

ever before and create their own math equations using the Alien equation app on the iPad.

The same holds true for learning grammar as well. Sentence structure diagrams on a

chalkboard are a thing of the past now that grammar apps can be downloaded for the iPad

through "TapToLearn" software. (p. 67)

The iPad has improved communication vastly; iPads have been contributing to increasing

communication. Kenney (2011) wrote,

The iPad is just one example of the many recent improvements in technology that have

contributed to advancements in elementary education over the past decade. With a global

boom in terms of communications technology, educational achievements have been

fostered, and these improvements have made it possible to expand and expedite learning

for children in the classroom. (p. 67)

Technology and a Set of Skills

There are numerous studies that indicate that technology has had a positive impact on

creating a good set of critical thinking skills. There are additional studies being conducted about

critical thinking skill and technology (Kenney, 2011):

Technology is seen as a benefit and described as helping to reinforce critical skills. One

the topic of inquiry-based curriculums that deal with gathering, evaluating, analyzing,

and presenting skills, and it has been argued "technological tools exists for each of these

skills. Both students and teachers need to be aware of the choices they have so that they

effectively use the right tool for the job at hand. (Kenney, 2011, p. 69)

Applications

"App is short for application, meaning software program, and the Apple app store is a

single, centralized catalog of every authorized iPad add-on program in the world" (Pogue, 2014,

p. 259). Apple has more than 1.5 million applications and more than 100,000 applications for

education. More applications are being added everyday in order to assist students and educators.

New applications are developed on a daily basis and they are creative. They are adaptable to the

general population. Apple's goal behind creating applications is to make life simpler for

everyday people. The development of applications is growing at a drastic speed and individuals

who are using the applications are taking full advantage of them.

Applications are created for all ages and categories. Applications have fascinating

capabilities. Applications are designed to improve the lives of people and make matters

convenient for them. "The home screen comes already loaded with the icons of about 25

programs, these are the essentials. Eventually, of course, you'll find that home screen with apps

you install yourself" (Pogue, 2014, p. 287). The starter apps include the following:

- Internet

- Communication tools

- Visual records of your life

- Shopping centers

- Entertainment

According to Pogue (2014), there are several apps that are useful for individuals of all ages, but

the standard apps that students should use are,

- Pages: a word processing/page-layout program.

- Numbers: Apple's spreadsheet program.

- Keynote: Apple's version of PowerPoint. It lets the student make slideshow

  presentations from the iPad.

- Garageband: Portable music studio.

- iTunes U: "A catalog of 600,000 free courses by professors at colleges, museums, and

  libraries all over the world. This app lets you browse the catalog, watch and read the

  course materials." (Pogue, 2014, p. 342). iTunes U is bringing the classroom

  together.

In addition, the iPad offers a few features (Pogue, 2014):

> The first feature is planning and posting. This allows teachers to create extraordinary
>
> lesson plans and deliver them within minutes. This feature allows all the details to be
>
> shared with the class.

- The second feature is creativity. This will allow engagement from all the students with rich learning materials, such as apps, podcasts, and videos.

- The third feature is posting all the details. Once a lesson has been published, students will have immediate access to that assignment.

- Collect and Grade is the final feature. This feature allows students to turn in the assignments. Teacher will have access to view the assignment as it is submitted and can monitor the assignment from the time it was submitted.

Finally, teachers can grade assignments in their leisure and they will not have to transport bags of assignments since all the data will be stored in the iPad or iCloud. Using these applications will guide the students through different types of experience and academia. It will enable the students to become advanced in technology and pursue learning about new applications. These applications are readily available for the students to use at any time.

One of the most important applications both students and faculty need on a daily basis is e-mail. E-mail is used every minute of the day and one of the swiftest forms of communications (Pogue, 2014):

E-mail on your iPad offers full formatting, fonts, graphics, and choice of type size: file attachments like Word, Excel, PowerPoint, PDF, pages, numbers, photos, and even zip compressed files, and compatibility with Yahoo mail, Gmail, AOL mail, iCloud mail, corporate exchange mail, and any standard e-mail account. (p. 379).

E-mail is the most efficient form of communication; students can use e-mail to contact faculty at any given time to ask questions or get clarification on assignments. E-mail has given an outlook for individuals to communicate at anytime from anywhere in the world. Through e-mail, people can share and collaborate all types of information (e.g., notes, pictures, files, and projects).

Creativity in Education

There have been numerous debates on why creativity is important. Specifically, why creativity is important in education, and to what level of education is fostering creativity. "According to the U.S. Industry Report, corporations are now budgeting billions of U.S. dollars for creativity training programmers" (Cropley, 2001, p. 157). There have been numerous studies completed on why creativity is lacking in education.

Existing education is also one sided in another sense: "It stresses some forms of learning but not others. To take an example, most schools and even universities still emphasize other directed, face-to-face learning, while neglecting self-directed and independent learning" (Cropley, 2001, p. 160). Incorporating creativity with technology is essential since education has been the same for decades. The world is advancing because of technology and in order to prepare students for the workforce, they need to be creative and learn with technology.

Fostering Creativity in Education

Fostering creativity is essential in all types of education. Regardless of the age group or the subject, educators should make it a point to engage and foster creativity. Educators should make it possible for students to be in an environment that fosters a positive environment. However, the most important aspect is that the students should feel comfortable in their space and be able to speak freely with mutual respect.

"Students tend to learn faster through hands-on participations. Guided problem solving outside the classroom environment has been regarded as better and a motivating learning method for these young generations" (Mahidi, Sukarman, & Yok, 2015, p. 257). Innovation and engagement is highly regarded at institutions. It is believed that these interactions will directly influence perspective future leaders. It will have a correlation with their ability to work in teams.

The iPad, with creativity and proper education, will be able to guide students who are career ready. The following should be incorporated in the curricula to help students prepare for careers. According to Werrell (2014), the four Cs include:

- Communication

- Critical Thinking

- Collaboration

- Creativity (para. 2)

Werrell (2014) stated, "Standard reading and writing instruction addresses only a part of the communication skill set" (para. 4). Werrell continued, "In the modern information age, people need to process data not only from printed sources like books, magazines, and newspapers, but also from a variety of digital and broadcast media" (para. 4).

Critical thinking skills are important. Werell (2014) explained, "Being able to think critically is a skill that includes many methods of reasoning and problem solving. Developing reasoning helps students succeed not only in college, but also in career and life" (p. 1)

According to Werell (2014), collaboration is important

Because many offices now offer employees the ability to telecommute, and since workers often participate on teams with people who are on the other side of the world, the time children spend in the virtual classroom may present them with a distinct advantage in the workplace of the future. (para. 17)

Finally, Werrell (2014) stated, creativity is

…far beyond the act of drawing a picture or writing a poem, creativity is at the heart of every innovation and discovery! People who can 'think outside the box' and come up

with new solutions, approaches, or products are in demand in every business and

industry. (para. 12)

When students use these components, they are well-rounded individuals who are capable

of facing the world in any situation. They are well trained to handle the workforce and will give

back to the world. By incorporating the four Cs in the curriculum, students will be able to

navigate through their careers with enough experience in all divisions. Additionally, having these

skills will assist them in their personal lives (Werrell, 2014).

These skills will be a guide for students to become entrepreneurs and creative geniuses.

They will be able to build their companies from ground zero and have the necessary leadership

skills to drive their companies to the future. By having necessary leadership skills, proper

education, and vast knowledge about the world, the future generation will be capable of handling

any task. More importantly, its members will learn to collaborate and communicate among

teams, which is essential for success (Werrell, 2014).

One of the most important components is teaching students the aspect of problem

solving. According to Cropley (2001), creativity has been linked to problem solving. There are

four stages:

- Recognition that a problem exists

- Production of a variety of relevant ideas

- Evaluation of the various possibilities produced

- Drawing of appropriate conclusions that lead to the solution of the problem.

Newell and Simon (1972) also defined creativity as a special form of problem solving. In

a study Walsh (2012) conducted, he found there were many benefits to using the iPad as an

education tool:

1. The overwhelming majority of teachers regularly use the iPads in their teaching.

2. There is a high demand from the students for iPad use to be extended further.

3. Teachers have identified significant benefits for their workload and have also identified cost savings.

4. Students are more motivated when using iPads.

5. The quality and standard of pupil work and progress is rising.

6. Appropriate use of apps aids learning. (p. 30)

During the course of this study, Walsh (2012) indicated students wanted more applications and resources from the iPad to be used in the classroom. They expressed their need to have more resources in the iPad. The students wanted to make more use of the iPad and they expressed different programs in the iPad that should be incorporated in their daily academic programs.

- Photography editing and animations

- Making videos/movies

- Word games to help teach spelling

- Use of the iPad in place of pen and paper

- More writing assignments on the iPad

- Taking tests on the tablet

- Replacing text books with eBooks

- Designing games/more science apps

When incorporating iPads in the class, teachers must be well informed about the iPad and all the services it provides. If the educator is not aware of the device, the students will be

confused. In order to incorporate technology smoothly, teachers should make the transition simple for the students.

People are often frightened by the rise of technology and they fear change. However, technology can be used for improvements for many places such as workplaces, growing companies, and start-up companies. Individuals who are exploring the possibilities of including technology in their workplace are having numerous successes. Incorporating technology will generate communication, collaboration, and efficiency.

Apple provides impressive technology that conforms to students' unique learning profiles and increasing learning efficiently and effectively. Such tools are included with Mac computers, iPads, iPods, and iPhones. Apple is continuing its commitment to provide tools to empower the individual and make technology accessible for all citizens. Technology tools hold the same promise for engagement and success in learning experiences. This will create an environment where students will get support based on his or her needs.

Freedom to access the curriculum, collaborate with peers, or express their unique understanding with digital tools that best meet their needs will provide students with proper guidance to complete their school tasks successfully. How teachers teach and students learn changes because of iPads.

- Improvements in academic performance

- Increases in engagement and motivation

- Added instructional flexibility and resource efficiency

- Integrated focus on content quality and design (Apple Inc., 2016)

Academic Performance

Academic performance is measured by standardized test scores and students achievements. A number of K-12 schools and districts in the United States are seeing substantial improvements when comparing the iPad to standard learning with pen and paper. Kenney (2011) stated, "Teachers indicate that given the speed of technology advancements and the individualized development of software, the next big step is technology being able to adapt to individuals' different speeds of learning" (p. 73). Currently,

teachers are using a wide range of communications technologies to teach broadly to their students on a very general level. With technology rapidly evolving, it is not reasonable to predict that in the near future, it will have the capability to become more personalized and specific to different needs. (Kenny, 2011, p. 73)

Examples

Montlieu Academy of Technology and UCI Medical Center indicates 23% have higher scores in classrooms equipped with the iPads. Using iTunes U courses, blogs, and a program series as a sharing hub of communication and best practices worldwide is aiding in health care higher education, including nursing and pharmacy. At Lynn University, 94% of students say iPad contributed to its learning experiences (Apple, 2012). "Introduction of iPads" stated:

With the introduction of the iPad, Apple has succeeded in establishing a new form and input/output factor in the personal computer arena. Within a few weeks of becoming available, the iPad reportedly sold over three million units, a brisker pace than other devices in the smaller than a notebook computer, but larger than a media player realm. (Apple, 2012, p. 6)

Using iPads in the classroom will increase the amount of efficiency among students and create motivation to stay engaged in the setting. The amount of teachers that will receive iPad

training will be resourceful for the future generation of teachers. Having the teacher's knowledge increase on the use of iPads will increase productivity and guide students to be more attentive during classroom hours.

There has been much debate about why iPads are better than using pen and paper. However, there has been much debate about why pen and paper is better choice than iPads. This has been an ongoing argument. Individuals are concerned about the use of the iPad versus using a pen and paper. Certain populations are wondering whether students will be able to grasp the potential of writing and the gravity of writing being replaced by the iPad. Certain traditions say students should only write on paper and certain customs should not change. However, times are changing and technology is growing by the minute.

Technology is developing and has been incorporated into every home. It has given the world an opportunity to communicate and collaborate. At this point, the world will be at a disadvantage without technology. People are dependent on technology and it has to be used for all types of communication. The Internet bought the world together using e-mail; individuals were able to send personal notes to their loved ones within seconds. The use of the Internet will exponentially grow and use of technology among communities will rise at a rapid rate.

The use of technology in the classroom should increase as students proceed to advanced classes. K-12 should incorporate technology in the curriculum from kindergarten and teach children how to do their class work on the iPad. This will be a positive tool to learn how to navigate the iPad from an early stage and understand iPad concepts.

Even though the use of the iPad will be a great advantage, according to Gentile (2012), "While this trend brings new and exciting educational opportunities, administrators and district IT managers are faced with another set of problems for these new devices: security,

management, and content delivery" (p. 11). iPads are significantly resourceful; however, there should be privacy settings placed in order to prevent students from misusing them.

According to Gentile (2012),

Increasing demand for new apps and other content to enrich the classroom experience will be inevitable as the technology evolves. Teachers across the nation are finding it increasingly necessary to access data and applications through mobile devices such as tablets. (p. 11)

The use of tablets among teachers to create substantial lesson plans is increasing. Gentile (2012) offered, "In 2010, the education sector alone was responsible for 60% of the largest iPad deployments" (p. 11). This statistic indicates the education world is taking notice of the use of iPads and drastically including it in the classrooms. One of the limitations is certain districts find it difficult to afford iPads for their students. Gentile stated, "A survey of 25 technology directors conducted by research firm Piper Jaffray found that 100% of those polled are testing or deploying the iPad in their schools, and they expect tablets to outnumber computers in the next five years" (p. 12).

The development of technology is progressing from district to district and individuals are hoping to learn and grow with technology. Technology will only aid citizens to grow at a fast pace and increase their productivity. The teachers should receive the following professional development days:

- Instruction on how to use an iPad

- How to visualize the iPad in their everyday curriculum

- Separate class times for students to use the iPad and instruction

- How to use the iPad in group work

- In built the iPad for everyday class work (Apple, 2016)

The teacher's iPad knowledge will be a benefit to students who are trying to learn about the iPad and all it has to offer. However, there are some limitations associated with not using pen and paper and using an iPad. For an example, according to Borelli (2014),

Note-taking using pen and paper has quickly become obsolete, at least in college classrooms. In the digital age, using laptops, or "notebooks," to transcribe lectures has become common practice, but can typing electronic, copious notes be harmful to academic performance? (para. 1)

Borelli (2014) referenced a Princeton study that found "using pen and paper, not laptops, to take notes boosts memory and the ability to retain and understand concepts" (para. 1). According to the study, using pen and paper helps the students absorb the material and retain the information. If technology grows to become more personalized, additional research is needed to investigate these developments.

Technology

The article "Experiencing New Technology" gives us a better understanding of why technology should be used on a daily basis. According to Redman and Trapani (2012),

…pre-service teachers' perceptions of the affordances of new technology after experiencing two social media tools embedded into their coursework, this sociological ethnographic study builds upon previously gathered data that highlighted that 72% of pre-service teachers in the Masters of Teaching degree use personal mobile devices. (p. 14)

The research indicated that teachers felt the use of mobile devices alleviated them with tracking work and communication amongst other teachers (Redman & Trapani, 2012). These teachers were using technology for their everyday routines, "Personal technology use was high,

and the previous survey demonstrated that participants held a positive outlook for technology use

in their future classrooms" (Redman & Trapani, 2012, p. 18). The difference was teachers are

open to change and wanted to grow with the changing times. This will allow their classrooms to

grow with the changing times. The use of Twitter, they felt, was useful to advertise school

events. Since most students spend ample amounts of time on social media, this was a positive use

of communication and connecting with the student population.

In Mango's (2015) study, the participants were students enrolled in two foreign language

classes at a college in the Southwest U.S. They had to respond to a 5-point Likert-type

questionnaire. The data indicated that students were more responsive to iPads and they believed

that iPads played a significant role in their learning engagement. It indicated the iPad promoted

learning engagement and supported the notion of student success.

By using applications that are made for the iPad, parents are able to interact with their

children during homework and reading assignments. "Enabling easy parent child interaction,

these applications were created for the iPad, this will allow pre-literature children to externalize

their understanding and draw the story they have read by tapping on the screen" (Liu, 2013, p.

135).

Storytelling applications on the iPad have become popular amongst parents and children.

This is a great avenue for children and parents to interact. "By tapping a record button, the

storytelling application records the voice narration along with the episode, narrating stories

collaboratively. The visual drawings have proved to be more motivating and engaging" (Liu

2013, p. 136). Furthermore, the results of Liu's (2013) study indicated the storytelling

applications on the iPad enhanced the children's awareness of the story structure and thus can

enhance story comprehension. "The collaborative storytelling activity with sketching on the e-

book readers might have informed the parents to provide different levels of guidance" (p. 145).

"The findings indicated that collaborative storytelling approach using the apps on the iPad is

helpful in promoting parents-children reading activities" (p. 146).

The current body of literature indicates students are engaged in the classroom with the

use of technology. When compared with students who are easily distracted by technology and

has a negative impact; the results indicated the use of technology, helps distracted students and

they are more engaged during class time. A study done by Apple Inc. (2012) indicated 50%

reduction in suspension and detention rates and 85% of primary teachers found students are

motivated and learning in class when using iPads.

The study done by Nurual Safura (2015) on mobile learning and student engagement has

indicated how much student engagement increases with the use of mobile technology. Safura

(2015) stated, "Mobile devices are allowing educators to build new community learning

ecosystem for and by today's students using smart phones, iPads, tablets, and iPod devices to

stay connected" (p. 2). Safura researched the key factors contributing to students engagement in

mobile learning, investigated the factors that engage students in using English language in

mobile learning, and sought to improve usage of mobile technology in English language

learning.

Safura (2015) indicated students who are English language learners were not active in

classroom because they were fearful of participating in class because English was their second

language. Since the students were fearful of participating in class because of their lack of

knowing the language, the article indicated they are more likely to participate in mobile devices.

The mobile devices are improving their language skills. The fear of communicating in class is

preventing students from communicating with their peers; however, the use of technology is a

great asset to connect with their peers and educators. This will pave a way for students to communicate with others. This will continue to build confidence and improve language skills.

By using mobile technology, English language learners will become familiar with the education systems and student portals. This will give guidance on how to access the student portals, resources that are available, how to get assistance with homework, and other assignments from the tutorial centers that are offered in schools. This will provide guidance on learning about the school, faculty and services offered by the school (Stewart, 2012).

According to Stewart (2012), operating a school consists of "survival, efficiency, and global knowledge" (p. 35). Stewart highlighted the key elements that helped achieve success: "leadership, promoting equal opportunities, specific criteria, standards, high quality teachers, future opportunities and most importantly, accountability" (p. 42). As educators, faculty, administrators, and staff, it is necessary to make a significant commitment to learn from one another while recognizing and adapting to change. The importance of having a historical and global perspective is key. Linking education and economic growth is crucial, as is being able to work collaboratively. From a political perspective, it is important for political leaders to value quality education. As educators, we must work collaboratively to develop effective strategies to service all students in need.

When incorporating new methods into the curriculum, it is crucial to understand the importance of staying true to the foundation of the school and understanding the needs of others especially the students. Goleman (1998b) suggested the following:

- Understanding others: sensing others' feelings and perspectives

- Service orientation: anticipating, recognizing, and meeting customers' needs

- Developing others: sensing others development needs and bolstering their abilities

- Leveraging diversity: cultivating opportunities through diverse people

- Political awareness: reading the political and social currents in an organization. (p. 138)

All these factors revolve around trust. Robbins and Judge (2011) stated, "Trust is a psychological state that exists when you agree to make yourself vulnerable to another because you have positive expectations about how things are going to turn out" (p. 387).

According to the National Council of Nonprofits (2014), "It is useful to adopt a set of principles to guide a organization's decision making, and activities, as well as the behavior of its employees, volunteers, and board members" (para. 1). This is often referred to as a statement of values or code of ethics. The National Council of Nonprofits also stated, "Honesty, integrity, transparency, confidentiality, and equity are each examples of values that are expressed in a charitable nonprofit code of ethics" (para. 1).

It is important to have checkpoints such as short- and long-term goals to ensure the organization's efforts will be effective. As an organization, it is important to monitor the organization changes and adapt with the times. In order to stay on target with revising and creating the institution's vision, the team must be strong. The decisions organizations make must align with the overall success of the organization and they should be consistent with the vision. In order to encourage this, a leader must constantly emphasize innovation. Robbins and Judge (2011) stated, "An organization's employees can be the impetus for innovation and change or they can be a major stumbling block" (p. 20). The most challenging part as a leader is to excite their originality and imagination. They need both aspects to inspire young minds.

Leadership

In a team, it is important to build strong leaders and grow as leaders. Building strong leaders is critical for developing a strong team. Kotter (2007/1995) asserted, "If there is one trait that virtually all effective leaders have, it is motivation" (p. 63). As a leader, it is critical to have commitment from all individuals of the organization. In order to reach high levels of accomplishment, the goals must be prioritized. The first goal is to make the institution a success, and this will escalate the levels of motivation. The educators should be committed to making the school successful, regardless of the obstacles they may have to overcome. Given the skills educators have acquired as a team, leadership and management will still take time. These developments will align with technology in the classroom. Teachers are noting, the number of students using technology in the classroom is rising. Following are two statistics on what the teachers are saying:

1. "73% of teachers surveyed in Pew Research Center's Internet & American life project say that they and/or their students use their cellphones in the classroom or to complete assignments" (Purcell, Heaps, Buchanan, & Friedrich, 2013, p. 20).

2. According to Open Colleges (as cited in Tab Times, 2013), "81% of U.S., teachers think tablets can enrich the classroom learning" (para. 1).

Chapter 3 discusses the research methodology, data sources, data gathering instruments, and data gathering procedures. It discusses the survey questions that were given to the teachers to obtain how the iPad affects the students and their progress in the classroom.

Chapter 3: Methodology

Chapter 3 provides the selected study's basic qualitative research design. The intent for this chapter is to discuss a review of the research questions, in-depth discussion of the research methodology, data gathering procedures, selected participants, analysis observations, and IRB submissions and plans. This chapter discusses the respective definitions and descriptions of the procedures. "Qualitative research covers a wide range of approaches for the exploration of human experiences, perceptions, motivations, and behavior and is concerned with the collection and analysis of words whether in the form of speech or writing" (Tavallaei & Talib, 2010, p. 571). This study is based on Creswell's (2007) qualitative research design model and it was used to understand how iPads could improve education from the teachers' experiences. "Qualitative research begins with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2007, p. 37).

Significance of the Study

The significance of the study is to gain a richer understanding of how iPads can improve education. As stated previously, the experiences of the teachers who are implementing the iPad into the curricula will be a great model for other teachers who are incorporating iPads into their daily lesson plans. The teachers' experiences both positive and negative will be a great contribution to the current body of knowledge about iPads in education. In addition, one of the main goals as an educator is to guide students to achieve their academic targets. This selected study will be a positive tool to facilitate discussion about different methods on how to improve students' academic performance.

Restatement of the Research Questions

The research questions are based on the relationship between iPads and classroom. The researcher is investigating if the iPad will contribute to improving student success. The researcher was seeking to find relationships between iPads and education. The research questions focus on encouragement, efficacy of the iPad, engagement, and instructional design. The instructional design focuses on the learner-centered model and teacher-centered learning.

The research questions for this proposed study are the following:

1. According to Montessori first- through third- grade-level teachers, what influence do iPads have in aiding students in reaching their academic goals?

2. Does the use interactive mobile technology of the iPad increase student engagement in the classroom?

3. What are the top five leadership techniques utilized by the head administrator of the Montessori to encourage the use of iPads?

4. What is a new model for introducing new technologies such as the iPad in an academic setting of first through third grades based upon interviews with the head administrator and teachers?

The research questions are linked to the current research problem and it will assist the researcher to gain an in-depth understanding on how iPads can improve education. Additional research must be done to understand how iPads can replace traditional methods; however, this study contributes to current findings. Furthermore, additional research must be completed to understand instructional design with incorporating technology and other methods of learning that will be interactive. The findings of the data from the teacher's experiences will be a positive tool for changing curricula.

Research Methodology

The research study is a basic qualitative research method. Denzin and Lincoln (2005) wrote:

Qualitative research is a situated activity that locates the observer in the world. It consists

of a set of interpretive, material practices that make the world visible. These practices

transform the world. They turn the world into a series of representations, including field

notes, interviews, conversations, photographs, recordings, and memos to the self. At this

level, qualitative research involves an interpretive, naturalistic approach to the world.

This means that qualitative researchers study things in their natural settings, attempting to

the make sense of, or interpret, phenomena in terms of the meanings people bring to

them. (p. 3)

The past literature opens many doors to former educators' experiences on what is best for

their classrooms. These previous findings allow researchers to understand how important

teachers' input is on what is best for their students. In addition, these findings should be applied

into the future classrooms in order to make them a successful setting for future students.

As previously stated, one-on-one interviews with the teachers took place in order to

understand their perspectives on the iPads. According to Baumeister and Leary (1995), "there

are distinct advantages in using a questionnaire vs. an interview methodology: questionnaires are

less expensive and easier to administer than personal interviews; they lend themselves to group

administration; and, they allow confidentiality to be assured" (p. 520). The study focused on the

benefits and the potential advantages of having an iPad in the classroom. This was the primary

focus point of the interview process.

The following concepts were the foundation for the interviews with the administrator. During the research process, the researcher discussed the Goleman (1998a) methods with the administrator and teachers. The researcher also discussed different types of leadership used by the administrator to operate the institution. Ethics and leadership overlap in many ways. "Leaders who treat their followers with fairness, especially by providing honest, frequent, accurate information, are seen as more effective" (Robbins & Judge, 2011, p. 386). To be an authentic leader, leaders must have a clear understanding of who they are before they can lead others. "Yet many leaders, especially those early in their careers, are trying so hard to establish themselves in the world that they leave little time for self-exploration" (George, Sims, McLean, & Mayer. 2007, p. 3). Their strengths come from past experiences from all career paths.

According to Robbins and Judge (2011), transformational leaders are "leaders who inspire followers to transcend their self-interests for the good of the organization and they can have an extraordinary effect on their followers" (p. 383). The Montessori school has a great amount of potential, especially with the use of iPad technology. The teachers are prepared to work countless hours to establish the development process. This will have a significant impact on the school grounds.

According to Robbins and Judge (2011), "Team focused transformational leadership emphasizes group goals, shared values, beliefs, and unified efforts" (p. 385). The researcher discussed the servant leadership above all, the teacher's dedication and willingness to make the organization successful, and strong sense of purpose with the administrator and the teachers.

Target Population

The population consisted of Montessori teachers who have been teaching in the Montessori sector for 5 years and have been using the iPads for teaching purposes in the past

academic year. This current study elaborated the teachers' experiences using the iPad as a teaching tool and how it has improved students' academic performance. The researcher informed the teachers that all information is confidential and the information will be stored in the researcher's password protected computer. It is important to build trust with the participants in order to understand truly the nature of their environment. Farber (2006) wrote,

> Establishing an honest, forthright working relationship with this person is the key to getting your study off the ground. If you are honest with people about what it is you are doing and why, they will be less hesitant to let you in. (p. 369)

In addition, "It does help, however, to request that you have a space that will assure privacy and confidentiality so that your subject feels free to share with you" (p. 369). A private room in the institution was used to conduct the interviews; it allowed the teachers and administrator to speak freely about their experiences about the iPad in the classroom.

Sampling Method

Creswell (2007) stated, "The concept of purposeful sampling is used in qualitative research. This means that the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study" (p. 125). Criterion sampling is the following, "selects all cases that meet some criterion" (Creswell, 2007, p. 125). A purposeful sampling method was used to conduct the study. The criteria for the participants included Montessori teachers, working in the Montessori sector for 5 years, and used the iPad for a teaching tool in the past academic year.

Process for Selection of Data Sources-Research Design and Rationale

The unique characteristic of qualitative research is "it calls for investigator to enter into the lives of the persons being studied as fully and naturally as possible" (Farber, 2006, p. 368).

The study used phenomenological inquiry through in-depth interviews to gain a better

understanding of the experiences of the 15 teachers who are working with iPads and

incorporating technology into their classrooms. According to Englander (2012),

> Phenomenological, human scientific researchers tend to choose the interview due to their
>
> interest in the meaning of a phenomenon as it is lived by other subjects. Collecting data
>
> solely from oneself would be more of a philosophical endeavor. The basic issue here is
>
> that we as phenomenological researchers are interested in the subjectivity of other
>
> persons and thus it seems logical that we would want to get a description of such
>
> subjectivity. (p. 14)

This study investigated the unique experiences and challenges that the participants

encountered as they were trying to build their school to make it more successful for students. The

sample selection was from a Montessori school located in Rancho Cucamonga, California. The

teachers are highly qualified individuals from the Los Angeles area. It contained 15 interviews,

and from the 15 interviews, 14 were with teachers and one was with an administrator. The

research began with a meeting between the researcher and owner of the Montessori to outline the

basic fundamental steps of the qualitative investigation.

The Interview Questions for the Teachers

1. What made you as an organization change from traditional methods of teaching to

   using iPads for teaching?

2. Is the learning environment in your classroom student centered?

3. Certain applications on the iPad reward students for their work, do you feel that these

   rewards are increasing competition among peers? Along with making the students

   work toward achieving their goals?

4. Do you feel the iPad has developed accelerated learning?

5. Will you continue to use the iPad or do you prefer traditional methods of teaching?

6. This academic year, the students received presidential awards do you think the iPad had influence this achievement?

Interview Questions for the Administrator

1. What leadership methods were used to implement iPads into the curriculum?

2. Do you think the iPads help with creating a more learner-centered environment?

3. How did parental influence affect adaption of iPads?

4. Do you think the iPad is improving academics in your institution?

5. Do you think the iPad increases engagement in your academic institution?

6. What is your vision for learning and teaching in your school with implementing the iPad? (e.g. academics, engagement, follow student centered model)

There were multiple levels of data collection, field documentation, observations, journal writings, and interviews. Participants had the opportunity to discuss their perspectives on how effective the iPad has been and how much they perceive it will impact the classroom and the future. They also had the opportunity to discuss their potential plans for the future with the iPad and discussed potential issues for the classroom such as classroom management problems, isolation problems, and administrational difficulties.

Validation of Interview Protocol

The sample selection was from a Montessori school. Interview protocol was validated by a panel of educators who have multiple years of experience in education and technology. A panel of experts reviewed the questions. They were asked if they believed the interview questions related to the primary research questions.

Definition of Data Gathering Instruments

Prior to all the interviews, the researcher discussed the proper protocol with the teachers and administrators. The interview procedures that will be discussed with the teachers and administrators will emphasize, that these interviews are conducted to gain a better understanding of how much iPads are impacting their everyday education. The confidentiality will be stressed in order to gain the teachers trust.

The interview with all the teachers at the Montessori took place in the Montessori conference room. Each teacher agreed to participate in the study on a voluntary basis. Each teacher was aware of the research purpose. These results indicated the contributions of the iPad with the barriers they faced in the classroom. The school was built on the principles of always doing what is best for the children. The researcher spent time with the teachers and made observations of their classroom routines. The researcher discussed the leadership characteristics that were used to bring change to the Montessori school. The also researcher discussed with the head administrator about the different methods and leadership traits that made a significant impact in the school's operation.

Data Collection

"Data collection in qualitative research generally includes two processes: interviews and observations" (Farber, 2006, p. 369). It is crucial to remember the process of data collection is to explore and discover. "What will make the data collection process valuable is if you totally immerse yourself in the experience and enjoy the process" (Farber, 2006, p. 369). The following were step was taken to collect data: informed consent forms were distributed and discussed with the participants. As stated previously, the participants were informed of the confidentiality of the interview and notified all information will be in the researcher's password protected computer.

Following the initial discussion, appointments were scheduled with the participants at times that were convenient based on their schedules.

The participants were met at the conference room and the room provided privacy for the interview. The overview of the interview process was discussed before the recording device was turned on to help facilitate conversation between the researcher and the participant. The researcher informed the participants of the significance of the study and thanked the participants for volunteering their time. The participants were informed that they could withdraw from the study as they please without any consequences. The researcher informed the participants, they would be labeled as participants A, B, C, and etcetera, to maintain confidentiality. The interview sessions took approximately 45 minutes to 1 hour. This allowed the participants plenty of time to discuss each question and clarify their experiences with the iPad in education.

Farber (2006) wrote,

Once you have established the tone, you can move into the heart of the interview process.

The goal of the interview is to stay attuned to your research questions and, at the same

time, open yourself up to information that you had not anticipated. (p. 370)

The researcher asked the participants to provide answers to the best of their ability. In addition, the researcher informed the participants of the importance of learning about the iPad and unanticipated information.

The researcher used data gathering procedures such as the interviews, which consist of open-ended questions, to gain a better understanding of the iPad in education. The researcher conducted the interviews in a one-on-one setting. Once the interviews were completed, the answers were transcribed and coding took place.

According to Saladana (2009), there are three primary purposes of coding qualitative research:

- Briefly discuss the functions of codes, coding, and analytic memo writing during the qualitative data collection and analytic processes.

- Profile a selected yet diverse repertoire of coding methods generally applied in qualitative data analysis.

- Provide readers sources, descriptions, examples, recommended applications, and exercises for coding and further analyzing qualitative data. (p. 1)

Validity of Data Gathering Instruments

According to Key (1997),

Validity can be defined as the degree to which a test measures what it is supposed to measure. There are three basic approaches to the validity of tests and measures as shown by Mason and Bramble (1989). These are content validity; construct validity, and criterion-related validity. (p. 1)

The data gathering instruments consist of all types of questionnaires, interviews, employee satisfaction tools, and observations. According to Kimberlin and Wintersin (2008), "Validity is often defined as the extent to which an instrument measures what it purports to measure. Validity requires that an instrument is reliable, but an instrument can be reliable without being valid" (p. 2278). The interviews that will be conducted will be transcribed and the information will be used for development of the school.

Reliability of Data Gathering Instrument Data Gathering Procedures

Kimberlin and Wintersin (2008) stated, "According to classical test theory, any score obtained by a measuring instrument (the observed score) is composed of both the 'true' score, which is unknown, and 'error' in the measurement process" (p. 2279).

Description of Data Analysis Processes

First, the researcher discussed the research questions with the administrators and teachers. The second step entailed conducting the interview, as previously stated. The third step was collecting and gathering data. The fourth step was summarizing the collected data   After the data was collected, the researcher analyzed it and interpreted the details.

The data analysis processes consisted of documentation, interviews, and direct observation. According to Tellis (1997), "The interview could take one of several forms: open-ended, focused, or structured. In open-ended interview, the researcher could ask for the informant's opinion on events or facts" (p. 9). The researcher worked with a transcriber and objectives were categorized. The categories consisted of improved grades, improved attention, increase involvement, active learning, and overall experience in the class. This is the codebook that was used to categorize the data. The data that are found were shared with other scholars who are interested in the iPad studies and education.

Creditability

"Lincoln and Guba argue that ensuring creditability is one of the most important factors in establishing trustworthiness" (Shenton, 2004, p. 64). The population is a group of Montessori teachers. The Montessori principles are completely education based and teach children hands-on activities. The Montessori school principles are vastly different from a traditional classroom.

To uphold the study's creditability, the interview questions were developed to gain a richer

understanding of how iPads can improve education. Shenton (2004) wrote,

> Participants should be encouraged to be frank from the outset of each session, with the
>
> researcher aiming to establish a rapport in the opening moments and indicating that there
>
> are no right answers to the questions that will be asked. (p. 67)

By building a positive environment, the participants discussed their experiences in a comfortable

manner, which can ensure the creditability of the study. "Where appropriate, the independent

status of the researcher should also be emphasized. Participants can, therefore, contribute ideas

and talk of their experiences without fear of losing creditability in the eyes of managers of the

organization" (Shenton, 2004, p. 67).

Transferability

"Since the findings of a qualitative project are specific to a small number of particular

environments and individuals, it is impossible to demonstrate that the findings and conclusions

are applicable to other situations or populations" (Shenton, 2004, p. 67). The findings may not be

applicable to other situations or populations because of the organization that is taking part in this

study and the number of participants in the study. In addition, its applicability might be limited

because of the data collection methods employed and the timeframe in which the data were

collected.

Dependability

"Dependability requires accounting for dynamic changes in the phenomenon of study,

design, or methodology as appropriate" (Esteves & Pastor, 2003, p. 106). "Therefore, there is a

need to be able to demonstrate any changes or shifts in the way in which the inquiry was

conducted" (Esteves & Pastor, 2003, p. 106). In addition, "In order to address the dependability

issue more directly, the processes within the study should be reported in detail, thereby enabling

a future researcher to repeat the work, if not necessarily to gain the same results" (Shenton, 2004,

p. 71). The study is detailed oriented and all aspects of the experiences were documented and

described. Even though the study is not transferable to other populations, much of the findings

can contribute to the overall knowledge base about iPads in education.

Plans for IRB

The following are the scheduled plans for the Institutional Review Board: Prior to

beginning the study, approval from the IRB was requested. The copies of approval documents

were filed.

Summary

Chapter 3 provided an overview of the present study's methodology. In addition, the

research questions, research methodology, selection of data sources, data gathering instruments,

reliability, validity, and IRB procedures have been described in extensive detail. The study was

intended to gain a deep understanding of how iPads can improve education and assist students in

reaching their academic goals.

Chapter 4: Results

The purpose of the chapter is to present the findings from the interviews administered to the Montessori teachers in order to understand how iPads have changed the classroom and student's success. Responses from the teacher's interviews were used to analyze the research questions. This was done through a process of coding and using the codebook. Additionally, the researcher observed the classrooms and conducted an interview with the administrator to understand changes the iPad has made in the institution. A basic qualitative research design was used for this study. The qualitative research design process allowed the participants to respond to the questions, which were open-ended interview questions. The participants responded with expressive information. Their responses provided a descriptive and meticulous description of how iPads have influenced their classrooms and the data was directly applicable to the study's purpose. Additionally, the descriptive information was directly tied to the research questions. As described in Chapter 3, the research questions were about how iPads have influenced the student's academic progress in the classroom. It was used as a framework for the study. The qualitative data were collected through one-on-one interviews with the teachers using iPads in their classrooms for teaching purposes.

Sampling

The population for this study consisted of educators who are currently employed at the Montessori. The researcher briefed the teachers on the study's purpose. The researcher discussed the study's importance with the teachers. After completing the discussion, they were invited to participate in the study. A sample of 15 teachers was selected to participate in the study. The teachers come from different backgrounds; however, they share similar interest in education. All research participants have been in the Montessori sector for 5 or more years. They have worked

with iPads in their classrooms for more than one year. Additionally, the participants have

Montessori credentials. Teachers were assigned a letter during the data collection process to

maintain confidentiality. Their answers to the research questions were audiotaped and

transcribed once the interviews were finalized. Observations of the classroom were made during

data collection process. "Observations may include descriptions of the participants, descriptions

of the physical setting, and accounts of particular events and activities" (Farber, 2006, p. 370).

In addition, notes were taken on the classrooms and student behavior. This was done to gain a

better understanding of the classroom setting. Farber (2006), stated, "Qualitative approaches are

used when you want to add richness or thick descriptions to your findings" (p. 367).

Findings

"The major task of the qualitative researcher at this point is to analyze data by organizing

it into categories on the basis of themes, patterns, concepts, or similar concepts or similar

features" (Farber, 2006, p. 371). Once the interviews were concluded, the themes were

categorized. "In order to do this, one uses a process known as coding that simply means sifting

through data and as you note recurring themes, patterns, concepts, labeling pieces of data to

indicate what theme, pattern, or concept they reflect" (Farber, 2006, p. 371). Once the interviews

were complete, Microsoft Excel was used to categorize the themes. The relevant pieces were

labeled, many of the themes were repeated in numerous places. Labels consisted of actions,

activities, concepts, and differences (Farber, 2006). The following is a section describing how

the teachers responded to the research questions.

Interview Question 1: Organization Change

The first interview question was: What made you as an organization change from

traditional methods of teaching to using iPads for teaching? The teachers were asked to describe

how the transition happened between the two forms of learning. When discussing traditional methods of teaching and using iPads for teaching, all 15 teachers described the positive attributes of iPads in the classroom. Teacher A, Teacher B, and Teacher C stated the following overlapping concepts.

The need for change. Public school were about to start using iPads. We did not want our students going to bigger school and not knowing how to use iPads. Technology is always present. Montessori concepts revolve around everything being hands on. iPads are more abstract versus the Montessori concepts. First they work on touching the materials and completing the worksheets. Then the final concept is using the iPads. (Teacher A)

Teacher B stated, "Learning new skills, helping their academic success."

Administrator encouraged us to use the iPads. Because we are a private organization and we wanted the children to be able to use all technology. Other schools were using technology; we wanted our children to be up to standard with the rest of the children from different schools. (Teacher C)

Teacher D stated, "Moving with the times. Montessori concepts have evolved and we need to grow with the times."

One recurring theme from all 15 teachers was the need to make change, increase engagement, and collaboration. Teacher I stated the following, "We are always looking at new techniques to increase involvement and increasing student's success. We felt the iPad will give us an opportunity to improve upon our goals in helping our students." One specific example from all the teachers was the ability to grow with the times. Technology has become a large part of everyday life. They want the students to be able to stay current. Another example that was cited

by all 15 teachers was the iPad allowed the classroom to be more student centered. There are different applications that allow students to learn at their own pace.

Teacher J offered, "The iPad is fascinating. It is a great tool for education if it is used in a correct format. The iPad has multiple functions and applications to help student increase their learning and increasing collaboration." Teacher K stated the following:

Since technology plays such an important role in our everyday life, we do not want children to be left behind. The Montessori is the first step to education and it is better to have a solid foundation from this stage on.

All 15 teachers emphasized on the notion that mobile technology is fascinating; it gives the students a new avenue to learn. It is a different setting from the traditional learning methods. Teacher L affirmed that she uses educational video in class on Fridays instead of traditional learning methods and they have been extremely effective. She felt the students were constantly excited to learn and they were looking forward to new lessons on a daily basis. According to the British Broadcasting Corporation (2010):

Another innovation is the use of educational video during lectures, which has transformed the engagement levels of students and has created a greatly enhanced learning experience. Through the use of video during lectures, students are more alert, motivated and focused on the topic in hand. There are recognized connections between visual content, memory knowledge and students' ability to retain new information. (para. 2)

In summary, all teachers expressed they wanted to make a change from traditional methods to iPads because they felt it would be successful with the students. As the previous data describes, the iPad has been beneficial to the students and their learning ability.

Interview Question 2: Student Centered Classroom

The second interview question investigated: Is the learning environment in your classroom student centered? The participants were asked to discuss how their classrooms are student centered. All 15 teachers reaffirmed their classrooms are centered on the students' needs. A strategy that was important to the teachers was student productivity. They felt when the students work at their own pace, productivity tends to increase. The teachers use certain applications on the iPad to monitor each student's progress. These applications show each student's progress on a daily, weekly, monthly, semester, and yearly basis. It demonstrates a descriptive picture of the student's evolution for the academic year. These applications help teachers to have a clear idea of the student's areas of weakness. They revisit these areas and assist the students in achieving their targets. The administrator has a strict policy of no child should be left behind. The policy gives all students the opportunity to advance. This is one of the main reasons this institution received the president's award in the previous year.

Teachers I, J, and K provided comments on question 2, "All our classrooms are student centered. We believe in our institution, every student needs to learn at their own pace (Teacher I). "Yes, all lesson plans and curriculum are developed based on the students. It is extremely important to have all lesson plans on the needs of the students. This will help with facilitating a positive learning environment" (Teach J). "Yes, our administration and the teachers work together. We discuss each student and their needs" (Teacher K). The teachers emphasized the importance of student-centered learning.

Froyd and Simpson (2010) wrote the following:

Student-centered instruction [SCI] is an instructional approach in which students influence the content, activities, materials, and pace of learning. This learning model

places the student (learner) in the center of the learning process. The instructor provides

students with opportunities to learn independently and from one another and coaches

them in the skills they need to do so effectively. The SCI approach includes such

techniques as substituting active learning experiences for lectures, assigning open-ended

problems and problems requiring critical or creative thinking that cannot be solved by

following text examples, involving students in simulations and role plays, and using self-

paced and/or cooperative (team-based) learning. Properly implemented SCI can lead to

increased motivation to learn, greater retention of knowledge, deeper understanding, and

more positive attitudes towards the subject being taught. (p. 1)

Teachers A, B, and C offered comments on question 2. "Yes, we need to look at each

student and their level. Each child is different" (Teacher A), Teacher B stated, "They direct

themselves to complete all tasks, we focus on their needs, and their level of problem solving. We

want them to feel comfortable and know that we are focusing on their needs." Teacher C stated,

"Every child works at their own individual pace and level, and we focus on their individual

talents and needs." Teacher G recalled that "every student is different and in all my years of

teaching I have designed lesson plans around students' needs."

Teachers G, H, and Teacher I agreed the classroom should always be student centered.

This is one of the avenues to create an environment that fosters learning. When the students are

aware that they will have guidance when facing barriers, they are prone to admit when they need

assistance. They felt the iPad has produced an environment that is creative. When the classroom

is student centered, it creates a place that is enthusiastic and motivated.

Teachers were asked to give their perspectives on how iPad integration has influenced

student-centered learning. When discussing this aspect, the teacher's emphasized iPads allow

students to work to their capacity. For an example, there are certain applications on the iPad that assess student's level by having students complete a series of exams. Depending on their results, iPad applications can cater to students' weaknesses. The teachers continued to discuss how the iPad is easily accessible to the students from anywhere. This will allow the students to continue working on their math, science, and language arts exercises at home. The teachers stated the iPad allowed them to customize lesson plans that focus on students' needs. This has changed the environment of the class to be more student centered. It allowed peers to collaborate more effectively with others. Because of the iPad, students were able to go above and beyond the standards for their grade level. They were able to work on assignments that are above their grade level. In summary, the environment in the classroom is student centered; however, the iPad has taken the concept of a student-centered learning environment to the next level. It allows the teachers to focus predominately on the students' strengths and weaknesses.

Interview Question 3: Rewards and Accomplishments

The third interview question investigated: Certain applications on the iPad rewards students for their work, do you feel that these rewards are increasing competition among peers? Along with making the students work toward achieving their goals? When discussing how the rewards of the application increase student competitiveness, the teachers responded by saying, "It does not increase competition." However, the students get excited about receiving medals and trophies within the academic applications. The medals and trophies are motivation factors for the students. The teachers expressed how these medals capture students' attention. Teacher F stated,

> The students enjoy doing the different exercises on the apps that reward them with
>
> different rewards, sometimes I feel the students compete to have extra medals than their

peers. This is a basis for a friendly competition. And I do, believe it increases their

accomplishments because they are excited to get the medals.

Teacher E emphasized how much the iPad has increased collaboration and teamwork:

I believe they enjoy getting the medals and stars. But I don't believe it increases

competition; it's more of a friendly competition. I have seen them work together in

certain apps to achieve the goals. These medals increase their teamwork. And yes it

definitely helps them achieve their goals."

Working with their classmates allows them to communicate and receive additional clarification.

It paves an avenue for the students to learn from each other. It gives them the opportunity to

learn, discover, and explore. By working with the iPad, it has changed dynamics that occur in the

classroom. When asked about competition in the classroom with the iPad and achieving goals,

teacher G stated, "No, I don't think it increases the competition. I think the students like the

rewards, so in order to get the reward they want to increase their accomplishments-based on my

observation." Teacher L stated, "The online course management platforms have allowed us

include these exercises in the lesson plans, and it has motivated the students to complete these

exercises and reach the medals."

In summary, healthy competition through iPad applications for medals and trophies

increases students' attentiveness, motivation, progress, communication between students, and

their ability to work cohesively. The rich data obtained by the teachers indicate active learning.

Interview Question 4: Accelerated Learning

The fourth interview question was: Do you feel the iPad has developed accelerated

learning? This question inquired about accelerated learning and how it is progressing in the

classroom with iPad use. According to Dankers (2012), accelerated learning is the following:

Accelerated Learning (AL) is a comprehensive, proven methodology that greatly

increases our capacity to learn, problem-solve and create. Using a framework based on

the brain's natural learning cycle, it draws on music, storytelling, metaphor and

movement to create an interactive, learner-centered environment in which knowledge is

easily acquired and retained. AL facilitates deep learning and increases the rate of

transfer of learning from the classroom to real life. The knowledge we acquire in an AL

classroom "sticks," so there is no need to repeat the same material again and again. AL

enables us to expand our perspective and move beyond limiting beliefs about ourselves

and our ability to learn. (para. 1)

When discussing about accelerated learning, all the teachers agreed the iPad has

significantly developed accelerated learning. They all agreed the iPad technology has increased

student engagement. There are several apps for all different types of content and they can be

adapted to fit the students' needs. The iPad is practical and it is user friendly.

When discussing the iPad Teacher A stated the following:

The iPad has increased accelerated learning tremendously because some students are

better at writing on the iPad rather than writing on paper and pen. The iPad attracts more

attention from the child because of the tech component. They tend to write better on the

iPad and tend to be more drawn to the iPad.

There was discussion about writing issues using the iPad. Students are attracted to the touch

screen component of the iPad and it has increased students' ability to form sentences. The visuals

presented by the iPad have increased students' attentiveness. Students' ability to stay focus will

increase their academic success. The teacher emphasized the iPad has drastically improved

students' ability to stay focused on their assignments.

Teacher C stated,

The iPad has increased accelerated learning by advancing them and they can work at their

own pace; They can repeat lessons until they master the lesson; They must achieve 100%

on their assignments before they can move to the next assignment.

Certain applications on the iPad request students to get a certain grade before they can move to

the next assignment. This task requires the students to repeat a lesson until they have retained all

the knowledge. This ties to the phrase practice makes perfect. When a student is unable to

understand certain concepts or equations, he or she has to practice or study the material several

times in order to understand the concepts. The applications are making the students study more

by having them repeat lessons. Additionally, this method will assist students in retaining

information. Teacher H stated, "I have noticed students are more ahead of their work; some of

them at times do more work than what is required. I feel the iPad made a change in this behavior

and it will contribute to accelerated learning." Teacher O stated, "The iPad has definitely

increased accelerated learning by making the students cooperate, reflect, and be more engaging.

The iPad has been a positive tool to guide us in helping the students reflect and be more

engaging."

In summary, the teachers agreed the iPad has developed better-accelerated learning more

so than traditional methods. One of the main reasons is the variety of different approaches

students use to learn and grow. The iPad provides them a platform to learn at their own pace and

develop their skills in subjects they find challenging. The iPad gives them a variety of exercises,

especially for the subjects the students find perplexing. The more practice they receive, the less

challenging the subject matter will become for the students. This will increase their willingness

to learn and foster their skills.

Interview Question 5: iPads versus Traditional Methods of Teaching

The fifth interview question was: Will you continue to use the iPad or do you prefer traditional methods of teaching? The transition from using traditional methods of teaching to iPads or any technological device is a difficult step. The teacher must be open-minded to the concept of bringing technology in to the curriculum. In summary, when discussing this research question, the teachers all agreed the iPad has made a smooth transition into their classrooms. They felt students learning advanced through the iPad. The iPad is created to make learning enjoyable. However, the teachers stressed the importance of staying true to the roots of teaching and traditional pen and paper.

Teacher A stated, "Both, I don't prefer one over the other. The students are still very young. They still have to develop eye and mind coordination and acquire motor skills. Hand writing is very important." Teacher L emphasized since the children are young, they need to develop motor skills. She emphasized the iPad has developed their writing skills; however, in order to develop motor skills, they must use traditional teaching methods. The iPad is unable to advance the students with a complete necessary set of skills. In order for the students to acquire all the necessary skills, both the iPad and traditional methods must be followed in the classroom. Four of the teachers said they wished "the iPad had applications that develop students' motor skills." They felt student learning is far superior when using the iPad.

By the age of 5, students must have knowledge of numbers and their writing skills must be at a good standard. Students using the iPad have demonstrated to be highly advanced compared to students who are unlikely to utilize the iPad. When asked about traditional methods versus iPads, teacher H stated, "I will use both. I believe students need to be advanced in technology because of the current times; however, always be attentive to pen and paper and the

basics of the foundation." All the teachers reported they prefer the iPad with respect to traditional

methods because they have noticed a pattern with the iPad advancing students' academic

progress. Ultimately, the teachers want the students to be successful and they will take any

measures to make students successful. The teachers agreed the digital environment may have its

challenges; however, with the growing times, they must learn to adapt with technology.

In summary, all teachers agreed that there is no one method that is greater than another.

All teachers will continue to use traditional methods of teaching in their classroom. Nevertheless,

when combing the iPad with traditional methods of teaching, it provides a superior teaching

experience. All teachers felt the iPad was not a replacement for traditional methods, but an

additional asset. They continued to say they felt the iPad was appealing for all students. All the

teachers commented that they would continue to use new technology and find additional avenues

to increase the use of the iPad in the classroom. The iPad has opened the teachers' minds to a

broader perspective on teaching techniques.

Interview Question 6: Presidential Awards

The final interview question investigated the student's achievements and their

presidential awards. The research question was the following: This academic year, all the

students received presidential awards. Do you think the iPad had influence this achievement?

According to the U.S. Department of Education (2012),

Founded in 1983, the President's Education Awards Program (PEAP) honors graduating

elementary, middle and high school students for their achievement and hard work. The

program has provided individual recognition from the President and the U.S. Secretary of

Education to those students whose outstanding efforts have enabled them to meet

challenging standards of excellence. (para. 30)

This award recognizes students' excellent work through the academic year. When discussing the president's award, the teacher felt an overwhelming joy because of the students' achievement. As an institution, they take pride in their accomplishments. Since the iPad has been implemented into the curriculum the past academic year, each student received a presidential award. When discussing this topic, the teachers were extremely excited. They all agreed the iPad made an enormous contribution to the students receiving a presidential award.

Teacher A provided the following comment:

We were able to do more with the iPad. The tech aspect of the iPad developed more activities for the students and it allowed the students to do activities in math, science, and language arts at their own pace. Since they were able to do activities at their own pace, they were able to retain more knowledge.

All the participants agreed the iPad improved methods of instruction and made the lessons accessible to the students at their own pace. Teacher L stated the following, "The iPad definitely helped us achieve the presidential award, and however, it was students' hard work and the teachers been able to navigate the iPads into the curriculum and their excellent instruction." The recurring theme when discussing this question was the iPad had a significant impact on the students, which led to them receiving the award. They all agreed it was the students' hard work. Nevertheless, the iPad allowed them a space to learn and grow. Figure 2 represents data about teachers' views on the iPad in education based on this study.

Administrator Questions

The administrator was proud to speak on behalf of his school. When discussing leadership, he expressed his ability to lead through experience and education. When asked what

leadership methods were used to implement iPads into the curriculum, he responded with the following:

> I have a strong vision for my school, I want all the students to be successful and build a strong foundation before they leave the institution, I want my teachers to grow as teachers and I am constantly asking them for their input on what can be done to improve our methods. We are a team; I treat all my teachers as my equals; I am working alongside with them.

Teachers Views on the iPad in Education

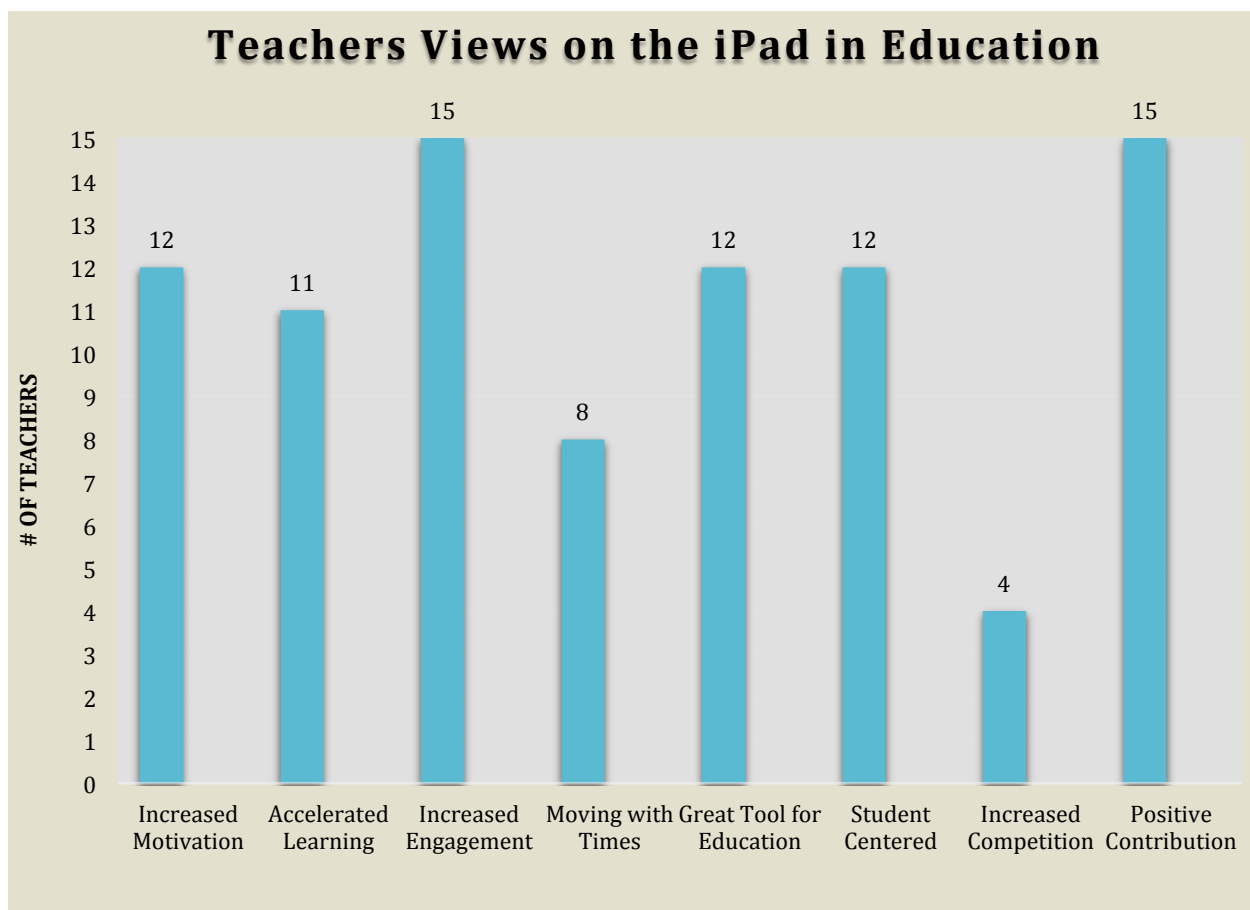| Category	# of Teachers
Increased Motivation	12
Accelerated Learning	11
Increased Engagement	15
Moving with Times	8
Great Tool for Education	12
Student Centered	12
Increased Competition	4
Positive Contribution	15

Figure 2. Teachers views on the iPads in education.

The administrator spoke about many discussions he had with the staff before implementing iPads into the curriculum. They shared their thoughts and wanted to do what was

best for the students for their academic success. The administrator stated he used the coaching

leadership style. Benincasa (2012) wrote,

> The coaching leader develops people for the future. If this style were summed up in one
>
> phrase, it would be "Try this." The coaching style works best when the leader wants to
>
> help teammates build lasting personal strengths that make them more successful overall.
>
> (para. 13)

When discussing whether the iPad helps with creating a learner-centered environment,

the administrator stated, "Of course, the iPad allows the students to learn at their own pace and

develop a set of skills which will build a great foundation for their future academia." A learner-

centered environment is personalized learning, learning that is collaborative and relevant. It

allows learning to be flexible and accessible from anywhere.

When speaking about classroom engagement, the administrator stated, "The iPad has

made a significant impact on classroom engagement; it has given the students an opportunity to

work together and share their knowledge and ideas." In addition, the institution received

tremendous support from the parents. The parents were supportive of the idea of implementing

iPads into the curriculum. They wanted their children to be advanced in technology and grow

with the changing times.

When discussing whether the iPads are improving academics in the institution, the

administrator stated the following:

> Yes, iPads have significantly improved academics in our institution. The iPad allows
>
> students to learn at their own pace, and it increases encouragement. The efficacy of the
>
> iPad is tremendously paving new paths for students to learn in different avenues.

When discussing instructional design, the administrators emphasized the iPad allows the students to have a more learner-centered environment. The administrator emphasized that he has witnessed a change in active learning in the classroom since the iPad.

When discussing how teachers coped with the iPad change, the administrator emphasized that teachers created a student-centered learning environment. He said he has been fortunate to have a great staff that adapts to changes. The administrator gave endless amounts of credit to teachers for making iPads successful within their classrooms. The administrator realized with the implementation of the iPad, attendance has increased. He spoke well about student's attendance in the prior years; however, he has noticed student attendance continued to improve with the iPad implementation.

The administrator noted that the school culture had changed; he realized the small number of student behavior problems decreased. The administrator emphasized the importance of obtaining teachers input with all the changes that were taking place. Additionally, observing student success, his response has been positive with the iPad implementation. Thus far, he has not seen any problematic characteristics with the iPad. Both teachers and administrator witnessed student grades presenting positive results. Consequently, they have seen students enabling others to act upon their ideas since iPads were brought into the classroom.

Concerns About the iPad

All participants clearly stated that the iPad is not a substitution for traditional pen and paper. Since the iPad is fairly costly compared with most other tablets and laptops, many institutions may not be able to afford the iPad expense. Adapting new technology takes significant amounts of time and patience in order to grasp the full benefits of the tech product. All participants stated that because Apple is constantly updating the iPad with new features, it is

difficult to cope with features of the product. Applications required for teaching are added

expenses to institutions and students. As a result of the cost of applications, institutions may find

it difficult to explore different apps that are based on teaching foundations. Teachers expressed

concern that some students neglect to bring the iPad to class, which result in the students not

being able to participate in iPad activities. Schools do not have the ability to maintain a supply of

additional iPads in case students forget or damage their iPads.

Summary

In summary, both teachers and administrator share a vision and inspire others to guide

students to improve grades, improve attention, increase involvement, and give them an overall

great experience in the classroom. They have observed reliable and consistent results with

students' assignments and their willingness to learn has increased. This was a challenging

process for both teachers and administrator to bring the iPad into their curricula. However, with

the challenges, they decided to encourage each other and give the students the best education

possible.

Chapter 5: Conclusion

As the education world continues to integrate technology in the classroom as a main source of content, students' achievements increase. Hamilton (2007) wrote,

> I believe that the integration of technology with classroom content improves student achievement. Thoughtfully planned, such lessons engage students to a higher degree than traditional teaching and lead to the development of 21st century skills such as complex thinking, creative problem solving, and collaboration. (p. 19)

It is crucial to gain a better understanding of what the teacher's experiences were and this knowledge should be shared among other educators who are considering implementing iPads in the classroom. The purpose of this study was to gain a better understanding of how the iPad has improved education. This information can be used as best practice for future classrooms integrating iPad technology.

A basic qualitative research design was used as model and it provided extensive data on the experiences of both teachers and an administrator. An open-ended interview procedure allowed the teachers to express their thoughts and valuable descriptive data. Discussions during the interview process allowed teachers to speak on behalf of the students and the institution's achievements. Additionally, the information was analyzed and provided a detailed description of how the iPad has changed the classroom. The rich data will pave an avenue for future researchers who want to study in-depth about how iPads can improve education. The data was directly applicable to the research questions.

"Good integration of technology with content knowledge changes instruction. The more technology tools you put in the hands of students and teachers, the more technology becomes a natural expression of their thinking" (Hamilton, 2007, p. 19). The final chapter summarizes the

findings. The discoveries and outcomes add to the current body of research and literature. In

addition, the implications, limitations, and recommendations for further study are presented in

this chapter, as well as a conclusion of the study.

Summary of Findings

This section is a summary of the research questions' findings and the researcher's

analysis of what the outcomes mean. The following were the research questions:

1. According to Montessori first- through third- grade-level teachers, what influence do
   iPads have in aiding students in reaching their academic goals?

2. Does the interactive mobile technology of the iPad increase student engagement in
   the classroom?

3. What are the top five leadership techniques utilized by the head administrator of the
   Montessori School to encourage the use of iPads?

4. What is a new instructional learning model for introducing new technologies such as
   the iPad in an academic setting based upon interviews with the teachers and
   administrator?

The objective for conducting the interviews was to attain large amount of data from

teachers and administrator who have experienced how much the iPad has influenced education in

the classroom. The data were coded from the teacher interviews and analyzed to understand

recurring patterns and themes. "A code in qualitative inquiry is most often a word or short phrase

that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a

portion of language-based or visual data" (Saladana, 2009, p. 1).

How the Interview Questions Relate to the Research Questions

Research question 1: According to Montessori first through third grade level teachers, what influence do iPads have in aiding students in reaching their academic goals?

- Interview questions 1, 2, 3, 4, and 6 are directly linked to research question 1.

- Administrator questions 2, 4, and 5 are directly linked to research question 1.

Research question 2: Does the interactive mobile technology of the iPad increase student engagement in the classroom?

- Interview questions 2, 3, 4, 5, and 6 are directly linked to research question 2.

- Administrator questions 2, 4, and 5 are directly linked to research question 2.

Research question 3: What are the top five leadership techniques utilized by the head administrator of the Montessori to encourage the use of iPads?

- Administrator questions 1, 3, 4, and 6 are directly linked to research question 3.

Research question 4: What is a new model for introducing new technologies such as the iPad in an academic setting of first through third grades based upon interview with the head administrator and teachers?

- All interview questions and administrator questions are directly linked to research question 4.

Research Question 1: iPads and Academic Goals

According to Montessori first through third- grade-level teachers, what influence do iPads have in aiding students in reaching their academic goals? As previously stated, 15 teachers participated in the study. They have extensive experience in teaching Montessori and proper credentials. This question is based upon the efficacy of the iPad. In order to gain an understanding of the question, teachers were asked to describe different methods of how iPads

have influenced their classroom. They were asked to describe what they witnessed in the students' progress.

When discussing how iPads have aided the students, all participants reported the iPad has been beneficial for students to improve their academic goals. One of the main reasons is increased motivation. The iPad allows students the ability to repeat exercises in order to grasp content and improve their current knowledge. By using the iPad, students are able to collaborate and communicate together. It provides an environment of interactive features and activities that allows them to work as a team. Teachers have seen a positive change in motivation, attention, engagement, involvement, and productivity. These are some of the ways iPads has been a positive influence on academic goals.

The participants discussed all different applications they use to operate the classroom. Applications that are used on a daily basis consist of *Alma*, *TeacherKi*t, *iTunes U*, and other apps used to teach mathematics, science, geography, language, and arts. They emphasized the iPad provides students a platform to organize their work. Additionally, an added benefit is improvements upon active learning. Throughout the interviews, the participants described that there has been a significant increase in active engagement and students are excited to learn. "Students like to know why they're learning something and they want to access that information through a lens that interests them" (Schwartz, 2014, para. 8). The students are focused and driven to learn from the iPad because of medals given by the applications to reward positive work. Most importantly, students enjoy using technology in the classroom. These reasons have contributed to increasing academic achievement in the classroom more so than a traditional classroom. The rise of productivity has contributed to the students receiving the presidential award. The touch screen feature of the iPad has increased students' reading levels more than a traditional textbook. For an

example, the application Reading Trainer on the iPad improves students' reading speed and

retention. The participants reported students were advancing in their set of creative and positive

learning skills.

When discussing the students, the participants emphasized the iPad allows the students to

create presentations that express individual talents and develop problem-solving skills. By

creating their own presentations, it allows them an opportunity to expand their creativity or gain

new skills. When discussing students' grades, participants expressed there is one particular

application that allows teachers to view areas in which students need the most assistance. *Alma* is

an application that allows teachers to manage the administrative functions by maintaining their

grade books, assignments, report cards, attendance, and curricula. This application provides a

broad overview of the students' daily, weekly, monthly, and semester progress. If the student is

falling behind, the application allows teachers to view the weak areas of student's assignments

and provide individual attention to the student. This is another reason how iPads have increased

academic accomplishment.

The participants were asked to give their opinion on how the iPad has changed the overall

classroom experience. When discussing this subject matter, the teachers reported positive

features such as increased engagement, level of focus, and enthusiasm. They indicated that active

learning has increased; they have seen changes in grades, and students' reading profiles have

improved. In addition, they felt the iPad was giving students more opportunities to learn and

grow. They expressed concern initially when the iPad was introduced to the class because they

did not want traditional methods to be replaced. However, after much deliberation, they felt the

iPad was aligning positively with traditional teaching methods. It has created a platform for

advanced learning and it offers collaborative opportunities for both students and teachers. The

data provided several reasons on how iPads made a positive impact and it has been valuable tool

to improve academic goals. The data also examined the teachers concerns about traditional

methods being compromised and the integration of the iPad. The teachers indicated certain

obstacles such as technology being the forefront of the classroom, but they were able to find a

common ground between technology and the classroom.

Research Question 2: iPads and Student Engagement

The second research question stated: Does the interactive mobile technology of the iPad

increase student engagement in the classroom? To gain an understanding of engagement in the

classroom, participants were asked to describe strategies they have witnessed that indicate

engagement in the classroom is progressing. They were asked to describe how increased

involvement has changed since the addition of the iPad. They were asked to described positive

features of engagement in the classroom and asked if they encountered any negative features.

The participants explained engagement in a positive manner by stating students look

forward to lessons because the iPad created an interactive environment. They have noticed

increased involvement, attention, and students are more focused during instruction. To explore

the concept of engagement, the participants were discussing changes that have taken place in

their own classrooms. The participants reported the students are more attentive and motivated

when using their iPads to complete assignments. The focus has increased when using the iPad

and the participants noted the students are more willingly to express their answers to questions.

The teachers highlighted that class participation has increased and students are highly motivated

since the integration of the iPad, especially among timid students.

They discussed the AirPlay feature of the iPad; It allows the content of the iPad to be

displayed wirelessly on a projector via Apple TV. Being able to present directly from the AirPlay

feature of iPad has increased interaction among students. Both teachers and students can present and share their iPad screens from any part of the classroom wirelessly. "This allows groups to report to the rest of the class, individuals to present from their seats, or the teacher selecting student work to share with others in the classroom" (Mahaley, 2014, p. 1). The AirPlay feature of the iPad allows teachers to share YouTube videos that relate to daily lessons. This provides a vibrant experience and they tend to retain visual information. The participants expressed students are constantly excited to learn and it has increased classroom morale. The subject of struggling students was raised and participants expressed students who are struggling in class have significantly improved since introducing the iPad. It has improved because the iPad provides immediate feedback about student's progress to the teachers. This allows teachers to discuss weak areas with students and provide personalized lessons. According to Gajowski (2014), "Struggling students can be harder to engage and may have trouble enduring learning challenges. Giving them the opportunity to use an iPad-based intervention can motivate learners to persevere and achieve" (para. 6). One of the positive impacts cited by all participants was students are eager to learn, which is correlating with increased engagement in the classroom.

The participants expressed concerns about traditional methods of teaching. The iPad has made such a great impact, they are apprehensive that students may not be attentive during traditional learning hours. All participants encountered positive attributes since the integration of technology and, most important, students' attentiveness has increased. This has resulted in students becoming more engaged in class during participation hours. The teachers also noted that students receive a grade for participation in class. They have seen students who are receiving low scores for participation, overcome their shyness because of interactive technology of the iPad. Teacher N stated, "The interactive mobile technology is fascinating. I have seen the students'

interest spark at a higher state. They are constantly looking forward to working on their iPads and they are always excited to learn."

They felt the iPad has been successful because teachers and parents are able to monitor students' iPad use and inhibit any use of nonacademic applications. Even though the iPad significantly increased classroom engagement, they reported, the use strict guidelines to monitor the iPad. It is vital to restrict nonacademic-related applications. In summary, the iPad has the ability to capture the students' attention because of the interactive audio and visual components. These audio and visual components have sparked the students' interest and it is directly linked to increasing student engagement in the classroom.

Research Question 3: Leadership Characteristics

The third research question examined leadership characteristics and opinions. The research question was the following: What are the top five leadership techniques utilized by the head administrator of the Montessori School to encourage the use of iPads? In order to understand the true nature of the leadership characteristics, the administrator was asked to describe different styles of leadership used to operate the organization. The administrator reflected upon his style of leadership and emphasized the following five characteristics: listening, awareness, collaboration, commitment to the organization, and commitment to students' education.

These characteristics are the foundation of a servant-leader. "The servant-leader is servant first, it begins with the natural feeling that one wants to serve……The servant leader recognizes the tremendous responsibility to do everything in his or her power to nurture the professional growth of employees and colleagues" (Spears, 2010, p. 26). When discussing the integration of the iPad to improve education in the institution, the administrator reemphasized he

made most decisions by consulting his staff. The administrator's foundation is based on ethical

and compassionate conduct. He emphasized the need to always create a caring organizational

environment. "Servant leadership is the essence of quantum thinking and quantum leadership"

(Spears, 2010, p. 26). When discussing leadership characteristics, the administrator shared that in

order to be an effective leader, he shares his vision and inspiration with the staff. When the

institution was in the process of integrating iPads, the administrator hosted several weekend

meetings to consult with the teachers about using iPads. His goal was to assist the teachers in

making a smooth transition with the iPad. The administrator is constantly receiving positive and

negative feedback from the teachers and parents about the implementation of the iPad. The

administrator, expressed by conversing with teachers, it has motivated them to strive toward

organizational success. When discussing organizational culture, he believes in the philosophy of

aspiring others to lead. In addition, his foundation is based on the belief of always serving others.

The administrator spoke favorably and is an optimist about his leadership. The

administrator was clear and concise that the ultimate goal was to provide exceptional education.

He felt the iPad is beneficial for both staff and students. His outlook was to create an

environment for students to grow and develop their skills for the future. It was evident that he

felt the iPad was opening new doors of opportunity for both students and teachers. In the future,

he has long-term goals to open more Montessori schools with iPads as the exclusive teaching

method.

The administrator felt the iPad would be a strong asset to the institution because of the

existing rich data indicating iPads are benefiting students' progress. The administrator was eager

to embrace technology. The administrator noted the iPad was opening doors to creativity. With

the changing times, iPads are fitting students' everyday lifestyle . The administrator felt the

institution was ready to incorporate more technology in the classroom. The iPad is user friendly

and easy to operate. It has a fast learning curve and these factors influenced the administrator's

decision. Most importantly, the administrator felt the iPad was allowing students to take control

of their learning. The administrator felt as the students continue in their education, they will be

using digital textbooks and paper will be converted to digital media. Because of this, students

should be familiarized with technology at a young age.

Analysis of this data revealed a coaching leadership style was used to integrate iPads

successfully into the academic institution. "Servant leadership characteristics often occur

naturally within many individuals, and, like many natural tendencies, they can be enhanced

through learning and practice. Servant leadership offers great hope for the future in creating

better, more caring, institutions" (Spears, 2010, p. 30).

Research Question 4: Instructional Design Model

The fourth and final research question was: What is a new instructional learning model

for introducing new technology such as the iPad in an academic setting based upon interviews

with the teachers and administrator? This final research question investigated the instructional

learning model for introducing new technology such as the iPad into the classroom.

"Instructional design is intended to be an iterative process of planning outcomes, selecting

effective strategies for teaching and learning, choosing relevant technologies, identifying

educational media and measuring performance" (Branch & Kopcha, as cited in Forest, 2015,

para. 2). When discussing instructional design, themes consisted of transferring of knowledge,

giving knowledge, and coverage of content. The teachers mentioned that transparency in the

classroom is essential. Transparency will guide them to build a learner-centered environment.

When discussing the instructional design model, the teachers spoke of innovation and complexity. They wanted to conduct different trials and start projects on a small scale. They wanted to seek out different methods and overcome obstacles in order to have technology grow in the classroom setting. They were willing to try different types of instructional designs and utilize different platforms to change the course of the classroom. Learning is an active process. Meaningful information must be shared among students, and teachers must coordinate their lesson plans to be relevant to a particular subject. Technology will be effective depending on the age group of the students. Most important, the teachers need to be competent on the tech device before imparting knowledge to the students.

The instructional design they used to integrate the iPad aligned with the ASSURE model. "The ASSURE model is an instructional system or guideline that teachers can use to develop lesson plans which integrate the use of technology and media" (Smaldino, Lowther & Russell, 2008, p. 4). Their process consisted of analyze learners, state objectives, select methods such as media, implementation of materials and media, participation, and evaluation. The main objective centered around this model is, "Who are the learners, behavior to be demonstrated, conditions under which the behavior will be observed, and the degree to which the learned skills are to be mastered" (Smaldino et al., 2008, p. 2). When discussing the instructional design model, the participants agreed they had instructional goals and objectives set. The next step was to incorporate the iPad into their lesson planning, organize the content, and make clear learning objectives. In the initial development phase, the participants integrated the iPad into the daily classroom routine. They discussed together as an organization the methods of delivery, learning outcomes, and they evaluated the curriculum. They are currently in the evaluation process. Thus far, their results from integrating the iPad have been positive with a few obstacles adapting to

technology and encountering technical difficulties. They are seeking new measures to grow with

advancing technology and find new possibilities to interconnect technology to the classroom.

Metathemes

Throughout the study, several themes surfaced from the interviews and observations.

Several of the themes aligned with the current research on the subject matter. The study

contributed to the current body of literature on the subject. This study offers new insight to the

education sector. Many of the themes aligned with the literature review and other scholars can

use the findings for their research.

The first emergent theme was the teachers' positive perspectives on the iPad. They

confirmed it has been a beneficial addition to education. They informed the researcher it was

time for a change and joining in with the current times. They wanted to adapt new technology

and advance into new methods of teaching. The recurring themes were engagement and

increased motivation. The teachers felt they witnessed a positive change among students in

engagement and motivation. During participation hours, the students' willingness to share

answers and their opinions increased. The iPad played an important role increasing student

activity in the classroom. There is always room to grow and for innovation. The iPad is an

abundant toolbox that teachers can use to benefit the classroom. The teachers in the study noted

even if there are technical problems troubleshooting obstacles, the benefits definitely outweigh

the obstacles. Additionally, the teachers in the study emphasized how the iPad served as a

platform for the students to have constant access to their schoolwork.

The second theme was increasing engagement in the classroom. The valuable learning

activities using the iPad have increased collaboration and opened paths to students expressing

their own thoughts. In addition to increasing engagement, the iPad has significantly made an

impact in active learning. The teachers' desire to impart knowledge has been successful with the use of the iPad. The use of instructional videos has provided a means of giving students alternative methods of learning. The traditional classroom does not deliver much variety as the technological classroom provides for students. The iPad has increased engagement by facilitating learning and making students better prepared for the future. The students' attentiveness has increased because of involvement with the iPad. This factor will align with grades rising and students' behavior in the classroom improving. Active learning elements help students learn more rapidly than basic pen and paper. Activities such as watching educational videos, listening to instructions, reading, visual conceptions, and completing online exercises are aiding students. During the interviews, the teachers often acknowledged the application *Alma*, which has been a great tool for them to organize their classrooms. When their classrooms are organized, students have a great environment to learn, which will increase engagement.

The final emerging theme was the overall positive experience in the classroom. The teachers noted the classrooms have become more student-centered and students are communicating their ideas. There has been a significant chang; students are constantly being present in the classroom and are actively partaking in all activities. The iPad allows the teachers a digital platform to make class policies clear. Applications such as *Alma* have allowed grading criteria, policies on submissions of assignments, and immediate feedback to be clear. These applications will help students avoid confusion about classroom standards. This has increased the overall classroom experience and made it more engaging. The iPads allow proper responses to students posting about assignments and their ability to retrieve past assignments if they have any questions. This type of guidance will prepare the students for real-world situations. This will contribute to their strategic planning of accomplishing any goals. When the classroom

experience is positive, the students will have higher order of thinking. The content of the

instruction is being absorbed and retained. The teachers felt the students were making

meaningful connections in class because of the new technological developments.

Relationship to Theories and Literature

Kolb's learning model served as a foundation for this study. This theory permitted the

understanding of the concepts of learning and how they vary with each student. McLeod (2013)

wrote,

> Kolb's learning theory (1974) sets out four distinct learning styles, which are based on a
>
> four-stage learning cycle. Kolb explains that different people naturally prefer a certain
>
> single different learning style. Various factors influence a person's preferred style; for
>
> example, social environment, educational experiences, or the basic cognitive structure of
>
> the individual. (p. 1)

The theory allowed the researcher to gain a better understanding of why the teachers described

the concept of learning during the interviews. When discussing the subject of iPads, the

participants stated the iPad has been an effective form of learning for the students. The

participants believed the visual thinking tools helped the students, along with the modality of the

content, and students tend to learn new materials. Another beneficial feature they encountered

was the ability to repeat exercises multiple times. This has demonstrated the students' ability to

retain large amounts of information and content from their daily lessons. The study participants

believed the best way to learn is by doing and reflecting. They have seen this concept being

successful in their institution. Their ultimate goal is to make student's problem solvers and

critical thinkers by using principles and theories. All the study participants reported the students

are becoming logical thinkers. The students are observing all aspects around them and

assembling information. This will lead to becoming creative thinkers and it is aligning with the

Montessori principles of always being hands-on. The participants reported they want the students

to be concise and take time to think and analyze what they learn in class. In addition, they want

them to learn from the teachers and their peers. Ross and Lukow (2004) offered the following:

> Smith and Kolb (1996) further suggested that learning is a cyclic process involving the
>
> four styles of learning. Students should go through the cycle in a sequence beginning
>
> with the concrete experience, moving to reflective observation, then to abstract
>
> conceptualization and finish at active experimentation. (p. 41)

Implementing technology can bring barriers to the proper learning cycles for the students.

Simatwa (2010) stated, "Jean Piaget's theory of intellectual development is considered a

leading theory on cognitive development" (p. 366). Simatwa also offered, "Children often talk at,

rather than to each other in what Piaget calls collective monologues, the child learns to associate

words and symbols with objects, he develops an awareness of the conversation of mass, weight,

and volume" (p. 367). When applying Piaget's theories to the classroom and incorporating

technology, "the teacher should encourage imagination and inventiveness in his pupils as much

as possible using play, storytelling and painting" (Simatwa, 2010, p. 368). It is important to use

visual aids in the classroom. In addition, it is important to provide a wide range of experiences

such as hands-on items and to incorporate technology to the daily lessons. This will improve

complex skills and build a foundation for learning.

Limitations of the Study

Because of the purposeful sampling used in this study, the results may not be generalized

to other populations. "The purpose of qualitative data is not to generalize findings but to form an

interpretation of events but you still need to indicate limitations to generalizability" (Creswell,

1994, p. 19). The participants reported they were being honest to the very best of their ability; however, some information may have been forgotten or not reported. There is a possibility many institution will not be able to acquire iPad because of the expense. This study has been conducted using teachers' perspectives and not exploring students' thoughts. The population was drawn using specific teacher criteria; other teachers may have different principles of teaching.

Implications of Findings

This study's findings are crucial to other educational institutions anticipating using iPads as a source of education for their classrooms. The results emphasized significant opportunities provided by the iPad and this study addressed most aspects of iPad implementation. Additionally, the findings addressed future developments and how the iPad will be beneficial for other parts of the education sector. There is future development possibility in which the iPad will be used as the only method of teaching.

Other scholars and institutions who want to implement the iPad as a source of instruction can use the perspectives the teachers and administrator discussed. As mentioned previously, teachers expressed positive results and suggested the iPad has been a significant influence in their classrooms. The iPad can be used as a method to enhance student learning. Applications such as *iTunes U*, *Alma*, and *TeacherKit* can provide a platform for educators to manage their classrooms. Furthermore, identifying all these key attributes can make a difference in implementing technology in the classrooms. Teachers stated knowing these factors have guided them to provide a personalized learning experience. In addition, professional development days have given the teachers the ability to learn more about the iPad. Other educators who want to implement the iPad can use the experiences this study presented. Having these findings will be beneficial to all sectors of education seeking to integrate iPads.

At the same time, teachers are often worried that a lack of engagement may rise if

technology dominates the classroom. There is much concern about revising teachers' approach to

lesson planning, and with the iPads being technologically advanced, some teachers are

expressing the need for additional training. The ability to engage more students who are not

advanced in technology is a prime concern and students should receive more training in the

classroom with the iPad. There are several different methods that can be used to enhance

learning without technology. Teachers should be given the opportunity to research different

approaches.

The iPad is transforming the way teachers operate their classrooms. The interactive

process and the endless number of applications available to both students and teachers are

creating a whole new generation of learners. The iPad is providing an abundance of learning

possibilities for certain grade levels. However, as stated previously, teacher should research and

implement other teaching method possibilities. The ability to create a customized and

individualized lesson plan is contributing to student success. Most importantly, the iPad can

provide a great number of interactive resources that will assist students in achieving their goals.

Recommendations for Further Study

The literature review for this study revealed that many students have received benefits

from the iPad. There should be more studies that address strategies to implement the iPad into

the daily curricula. Currently, there are only a few educational institutions that use the iPad as a

source of teaching and learning. There should be more developments on the specific impacts the

iPad is making in the classroom. Apple Inc. keeps expanding its educational program to enhance

academic growth among youth. This is a basic qualitative study to understand how the iPad

improves education. Further qualitative and quantitative research studies should be conducted on

the effectiveness of the iPad in education. However, as the literature suggested, many experts are conducting research on exploring diversity with the use of iPad. Other recommendations for further study are extensive research on iTunes U, explore the areas of collaboration with the iPad, explore the impact of teacher training with the iPad, and explore the long-term and short-term cost of implementing the iPad. Further research could also be conducted to determine the overall experience of the students in k-12 and higher education. Both qualitative and quantitative studies should be conducted on instructional design models and making the classroom more student centered by using the iPad.

Conclusion

This study presented a synopsis of the findings on how iPad tablets can improve education. This chapter has provided an overview of teacher's viewpoints on the iPad tablet. Additionally, there is an increasing presence of iPad technology in the classroom and there is a growing need for advanced research for classroom technology. The findings were aligned and reexamined with the theories and literature review. This study's main focus was to examine the changes that have taken place since the integration of the iPad and evaluate how iPads can improve education. Even though the results from the research participants indicated the iPad has made a significant impact in the classroom, many other similar tablets have the same capabilities. It is not a magical device; it is the affordance of the device that has been significant. The software capabilities, interface, and sensory characteristics will guide students and teachers to take the necessary steps to enhance education. The suggestions for future research, implications, and limitations were discussed in this chapter.

The data were collected through a basic qualitative research method. The sample population was a small group of Montessori teachers. Data were gathered through one-on-one

interviews and observations. Once the data were gathered, the information was transcribed and

coded. The emerging themes, once coding was completed, were engagement, motivation,

collaboration, communication, and increasing academic performance. The teachers' perspectives

concluded the iPad tablet provides significant benefits for improving education. As stated in

Chapter 1 in the statement of problem, past research indicated iPads tablets improve literacy,

mobility, ease of use, and sharing demonstrations. However, from this study, additional benefits

have been found that can be included in the current body of literature.

   This study's findings are essential for the current body of research on technology in

education and it can be beneficial for research on iPads in education. The findings indicated the

iPad tablet and sensory characteristics has made a powerful impact on the sample population.

However, the iPad can be a valuable tool to any student at any education level. As Nelson

Mandela once said, "Education is the most powerful weapon we can use to change the world"

(cited in Nelson Mandela Foundation, 2003, para. 1).

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APPENDIX A

IRB Approval Letter

PEPPERDINE

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: January 14, 2016

Protocol Investigator Name: Amanda Weerasinghe

Protocol #: 15-12-148

Project Title: How can iPads Improve Education

School: Graduate School of Education and Psychology

Dear Amanda Weerasinghe:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chairperson

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives

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Mr. Brett Leach, Regulatory Affairs Specialist