

Unplugging: A Parent's Handbook for Children's Technology Use

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UNPLUGGING: A PARENT'S HANDBOOK FOR CHILDREN'S
TECHNOLOGY USE

by

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A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Education
in the College of Education
and in the Burnett Honors College
at the University of Central Florida
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ABSTRACT

The intent of this thesis is to explore children's technology usage, technology's effects, and what can be done to regulate technology use for children and families. The overuse of technology by children has been proven to be detrimental to a child's emotions and health and wellness. Children need rules and regulations for proper use of technology as well as instruction on how to positively use technology. In a world of growing technologies and the creation of new digital devices, research is needed for assist parents and guardians of children of all ages. This thesis focuses on the negative effects of technology on the developing child and will produce a handbook for parents.

The handbook includes a letter to parents, reasons for regulation, guidelines, activities for technology replacement, strategies, and lessons on digital citizenship. This tool for parents is the start to raising responsible digital citizens. With this handbook, parents will gain insight on what they can do for their children and with their children in order to effectively use technology in a positive and beneficial way. The handbook includes a list of books and websites for parents to complete more research and provides an extensive list of activities and guidelines for technology and technology replacement. The purpose of this handbook is help parents to better understand what technology does to their children and how they can work with technology in the most positive and educational ways.

DEDICATION

For my loving parents, who gave me a childhood full of explorations and cheerfulness and continue to support every adventure I take.

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Chapter One: Introduction

Technology has become an integral part of everyone's daily lives including those of children. We have immediate news both positive and negative at our fingertips through digital newspapers and various websites. We manage our lives through online bill paying, communicate with others around the world, and can find information within seconds via the Internet. More than 2.8 billion people communicate and keep in touch with friends through social networking (National Association for the Education of Young Children, 2016). The following statistics from the Kaiser Family Foundation (2016) are very revealing, as of December 2016, Facebook had 1.79 billion monthly active users. Myspace boasted over 313 million active user accounts and Instagram had over 550 million users. As reported by CNN, as of December 1, 2016, Tumblr was host to over 324.7 million blogs and had 555 million monthly visitors. Flickr had over 120 million users. The reporting also indicated that by the time American children reach two years of age, more than 98% of them will have an online history. Evidence shows 89% of 12 to 14 year olds have some form of online monthly account. Over 94% of 12 to 17 year olds use social media to send messages and over 97% of which do so every day (Kaiser Family Foundation, 2016). In the third quarter of 2016, worldwide smartphone users exceeded 2.16 billion with over 48% of those users being under the age of 18. This new technological drive in our lives can be attributed to the constant development and now affordable technology available in the United States (Hatch, 2011).

As technology becomes commonplace, it is not surprising that today's children have become avid users. However, regulating a child's technology is important (Kardaras, 2016) especially when one considers the inordinate amounts of time spent using it. Smartphones are now seen in the hands of children as young as two to three years of age. Manufacturers are now making laptops for children as young as four years of age. According to Rowan (2013), elementary-aged children 5-8 years of age spend 7.5 hours a day using technology. In 2010, The Kaiser Family Foundation's survey on media use, indicated that 8-18 year olds were exposed to an average of 11 hours of media/technology per day. However, according to DeLoatch (2015), this number increased an average of 1 hour 48 minutes per day by the end of 2015, and a continued yearly rise is expected. Children today spend over 10,000 hours playing video games, send over 200,000 emails and instant messages, and log more than 10,000 hours talking on a cellphone before they turn 18 (Ramasubbu, 2015). While technology is important, its use is becoming more of a "pacifier" to entertain children and/or occupy their time (Kardaras, 2016) as evidenced by the above statistics.

As children continue to become more immersed in media, many adults have begun to wonder whether or not exposure to such high amounts of electronic media is a positive or negative. On the positive side, there is indication that technology is preparing children for the 'real world' for which they are about to enter (Lester, 2011). Over 84% of jobs in today's market are technology related, and children need the tech advantage to be successful in such an environment (U.S. Department of Education, 2016). Others will argue that children's excessive use of technology is creating individuals who are or have become socially stunted, ungrateful, and ridden with health related issues (Walker, 2014). While we may not know the right or wrong

answer, it is important to become informed as to how technology affects children. So what is the right approach? Which side has the correct stance toward children's technology use? While the immediate answers are not readily available, both sides of the argument must be examined to determine what the correct path for today's children is. Technology has opened up a world of great opportunities, but these opportunities come with great risks (Walker, 2014).

Today, society is developing technologies faster than ever (Behrman & Shields, 2000). There is always a new technology on the market that is bigger, better, and faster than its predecessor. According to Kardaras (2016), the growing and ever-changing market is taking a toll on today's children. Some will advocate for more technology in a developing child's life but the reality is that children face academic, emotional, and health stress due to technology. Doctors are now calling technology and screen time "digital heroin" and "electronic cocaine." When one is using technology, the front cortex is stimulated and dopamine levels rise. The dopamine sends out a joyful feeling, often leading children to become addicted to screen time (Holler, 2016). Being "plugged in" to a screen can turn into an obsession and addiction that leaves children wanting more and needing a fix. Technology is taking away from family and friends, social time, exercise, and the forgotten key to wellness, sleep. Although technology is seen as a helper in the classroom and at home, verbal communication and contact with others seems to be waning due to its excessive use, possibly hurting a child's overall social, emotional, and physical development (Yu, 2012). When a child is on a tablet at school all day, they are not engaging in social behavior (Behrman & Shields, 2000). As they have indicated, when social skills do not develop in early childhood, that child will deal with social stress later in life. In addition, children who are constantly engaged in video gaming may possibly be isolating themselves from

family, friends, and others (Yu, 2012). According to Behrman and Shields (2000), violent video games tend to have a negative reaction on a child's aggression leaving the child hostile and angry. Other concerns with technology involve the family dynamic, also affected by excessive usage. Family dinners are becoming nonexistent as family engagement has become lost while technology use becomes more commonplace (Yu, 2012).

Technology is also associated with other critical social and personal issues. Unsupervised Internet use may expose children to dangers such as child predators, inappropriate sexual content not suitable for children, violence, gaming, and/or cyberbullying (O'Keefe, 2011). Parents need awareness of the potential dangers that technology has on the developing child and what can happen without proper supervision and regulation (Holler, 2016). According to Newby, Stepich, Lehman, Russell, and Leftwich, (2011), technology will be part of our world for the rest of our foreseeable lives. Technology is here to stay and is now more accessible than ever. Schools and society encourage children to become accustomed to technology and enjoy its many benefits and vast offerings. However, just as rules and regulations inhibit our everyday lives, it is important to have the similar rules and regulations in our digital lives. It is when technology has no rules that children become addicted to the screen (Shoshany, 2015). Therefore, the purpose of this thesis is to explore the current research related to effects of technology as it relates to academic, emotional, and health and wellness in a child's life. Further, after reviewing the research and gathering recommendations from current research, this thesis will conclude with a handbook for parents. This handbook will provide parents with a resource list for parental regulation, ways to keep children safe while using technology, methods for how to regulate technology use, and

ways to encourage children to “log off,” and interact in face to face communication with family, friends, and others.

In the next chapter, Review of the Literature, a discussion will include the various sources of research that helped guide and formulate this thesis work. Sources came from online databases, research articles, various organizational websites, and professional readings.

Chapter Two: Review of the Literature

The literature review of this study focuses on how technology affects the different areas of children's lives such as academics, emotions, and health. Academic topics include school performance to discipline, effects on emotions including social skills and risks, and health topics ranging from physical to mental disorders.

Technology and Its Effects

A mere 20 years ago, children used to play outside all day long, playing sports, riding bicycles and skateboards, and playing hide-and-seek. Children would create their own imaginary games or other forms of play for entertainment and pastime. Their sensory world was simple and nature based, their form of play would cost little, and very little if any, parental supervision was needed. Family time was spent doing chores around the house, baking, doing homework, and chatting around the dinner table. The impact of technology on today's family structure is fracturing its very foundation, and causing a disintegration of core values that until not long ago was the very fabric that held families together (Strouse, O'Doherty, & Troseth, 2013).

Reminiscing about these times is worth taking as we try to see how play and the issues children now face have changed. Today, families are different as they juggle work, home, community, and school. Parents and children rely heavily on technology for gathering information and communication to make their lives faster, effective, and more efficient (Plowman, Stephen, & McPake, 2010). Entertainment technology (i.e., Internet, TV, video games, iPads, cell phones etc.) has advanced so quickly that recognizing its impact and rapid change on our lifestyles and family structure have gone virtually unnoticed.

Technology is becoming the norm. However, as technology grows, the negative effects also grow. Technology has a similar effect on the brain as cocaine that stimulates the front cortex and raises dopamine levels (Holler, 2016). When a child is so concerned and consumed by technology, the brain likely suffers. Children view technology as exciting and simple and one that offers instant gratification through its use (Tumbokon, 2014). However, many parents do not understand the negative impact the excessive and/or simple use of a device has on their child's developing intelligence. Technology is sometimes seen as a discipline strategy to stop a child's crying or as a distraction, but these strategies will negatively affect the brain's growth (O'Keefe, 2011). Children who view more cartoons and action-oriented television are more impulsive and less analytical thinkers (Behrman & Shields, 2000). Technology is causing children to lose ability to focus on what is important. Young children miss out on observing their world which results in a slow development of curiosity and intelligence (Roman, 2015). A developing child needs to work their imagination and experience real life instead of witnessing virtual worlds.

According to Taylor (2012), technology and television alter attention by giving children visual stimuli, eliminating the need for imagination, and thus resulting in an inhibited memory. In addition, excessive technological use is causing memory recall problems (Tumbokon, 2014). For example, children reading uninterrupted printed texts results in faster completion and better recall as opposed to reading a text full of hyperlinks and ads. However, consistent attention is becoming nearly impossible (Taylor, 2012). Carr (2010) compares book reading and Internet use to Scuba diving and jet-skiing. He states that reading a physical book is like Scuba diving where the diver is emerged in a quiet, visually restricted, slow-paced setting. This results in a deeper thinking and better focus. Carr adds that using the Internet is like jet-skiing. The jet-ski is

skimming along the surface at a high speed and is surrounded by multiple distractions. Students who were “wired” to technology while in classes in school did not recall the material as well as students who were not on technology, paying closer attention to the lecture. “Wired” students did not perform as well on a test as their peers who were not on technology (Taylor, 2012).

Another concern with the effects of technology on children is the amount of discipline problems now reporting in schools. Teachers across the country indicate that cellphones are now an issue in all grade level classrooms (Cesarone, 2014). Unauthorized use of technology in the class can result in disciplinary action, such as suspension, which may in turn affect their academic growth (O’Keefe, 2011). With technology everywhere and easily accessible, children are impacted in ways they do not understand. Technology is damaging to a child’s emotional, physical, and academic growth; therefore, limitations for its excessive use should be addressed (Taylor, 2012).

Effects of Technology on Emotions

How could a small, handheld device affect emotional health? In children, it is not as complex as one would think. Technology can be detrimental to a child’s emotional health if there are no rules and guidelines regarding its use (Ramasubbu, 2015). It can take over their lives, increase violence, pose life-threatening risks, and lead to social isolation (Behrman & Shields, 2000). Social isolation caused by the formation of “electronic friendships” hinders the developing interpersonal skills (Taylor, 2012). Children are spending so much time online that social physical communication and interaction is limited, isolate or obsolete. “We are more connected, but we feel less connected” (Ramasubbu, 2015, p. 1). This quote refers to connections

made via Internet and technology, yet, there is a lack of communication in the real world. Computers are being used to replace child-to-child relationships. Due to excessive use of social media outlets, children lose the ability to communicate face-to-face and can experience alienation, loneliness, and depression (Roman, 2015). When children are troubled from not having friends or peers to interact with, they turn to technology, leading to “Facebook depression.” According to O’Keefe (2011), “Facebook depression” develops when preteens and teens spend a great deal of time on social media resulting in classic symptoms of depression. This leads to children turning to risky Internet sites for self-help that promote substance abuse, unsafe sexual practices, and/or aggressive or self-destructive behaviors.

Another risk affecting children’s emotional health is the use of technological gaming. Video games in today’s world have changed since their inception. Games have become more violent and may include sexually explicit content. Violent video games desensitize young children (Roman, 2015). When children are spending hours a day playing video games, the happenings in the game are becoming commonplace in their behavior as well. Nearly 96% of children in the United States play at least once every two days and 65.25% of them are addicted (Roman, 2015). The average 8 to 12 year old now plays an average of 18 hours of video games per week, while the average 13 to 18 year old plays an average of 20 hours of video games per week (ESRB Ratings Guide, 2014). Research by Tumbokon (2014) showed that violent programs/video games leads to “the mean world syndrome.” According to Behrman and Shields (2000), playing violent video games and computer games has a direct link to a child’s aggression and an increase in hostility. They also state that excessive use of gaming technology can cause a

child's perception of reality to blur. This means that, due to excessive gaming, children may have a hard time distinguishing real life from simulation and game play (Roman, 2015).

The Internet can be a dangerous place for anyone, regardless of age. According to Sheldon (2012), cybercrimes, such as bullying, sextortion and pornography, and other forms of fraud have been reported. Deciphering good from bad web sites is key to navigating the Internet in today's fast paced technological society. A vast majority of information on the Internet can be child unfriendly and/or inappropriate (Behrman & Shields, 2000). Uncensored information on the Internet includes violence, sexual content, and unwanted commercial content. Blocking and placing limitations on Internet sites is a very tricky task and is not always 100% effective.

As the Internet gains increasing prominence in the lives of young people, researchers have begun investigating the influence that the Internet environment may be having on child and adolescent development particularly as it relates to their exposure to child predators and/or sexual material (Roman, 2015; Rowan, 2013; Holler, 2016). Most statistics report that a child's first exposure to sexual related material or pornography is occurring as early as seven years of age. Not only are children being exposed to such material, child pornography has become a thriving underground industry for pedophiles and has become a serious crime problem as the Internet allows the perpetrator to remain hidden and anonymous (Hsin, Li, & Tsai, 2014). The Internet now allows pedophiles the ability to prowl children's chat rooms in pursuit of new prey. There is an alarming increase in the number of pedophiles using the Internet to arrange face-to-face meetings with children. While one would hope that parents have frank and

frequent talks with their children regarding sex and intimacy, much too often the first exposure that children and teens have to sexual images and pornography is gathered from the Internet. According to Hsin, et. al. (2014), sexual material on the Internet is extremely unsuitable for children and suggests that the exposure to such sexual content often plants in children a twisted and perverse view of human intimacy that is difficult or impossible to weed out. Unfortunately, these early learning experiences can lead to depression, negative emotional reactions to sex, sexual deviancy, and crime. These also have causation to negatively affect their future relationships and marriages (Walker, 2014).

Another serious emotional threat to children is "sexting". According to O'Keefe (2011), sexting is defined as sending, receiving, or forwarding sexually explicit messages, photographs, or images via cell phone, computer, or other digital device. Although parents and teachers doubt the existence of sexting, nearly 30% of teens have sent or posted nude or sexually explicit photographs or videos of themselves (Holler, 2016). Teens often face an enormous amount of peer pressure to engage in such activity, often creating an expectation of "hooking up" (sex) on the part of the recipient. It increases peer pressure to engage in sex or other related activities, is risky, will often be reoccurring, and leads to unforeseen reputation disasters that may be irreversible (Walker, 2014). It almost becomes like a chain letter spreading out of control often wreaking havoc on their

reputation. Sexting, whether sending or receiving, can result in emotion distress, school suspension, and even felony pornography charges (O’Keefe, 2011) and in some instances to suicide (Holler, 2016).

Children are most at risk when repeatedly exposed to images that are overstimulating and potentially addictive (Holler, 2016). Cybersex addiction is on the rise among children/teens and functions in ways similar to other addictions. This often leads to a cycle of compulsion, acting out, shame, depression, self-absorption, and preoccupation (Roman, 2015). Another online danger to children/teens is exposure to unwanted sexual solicitations. Teens are the most vulnerable of any age group to such unwanted sexual advances (Holler, 2016). Six in ten teens reported being subjected to unwanted provocations. The majority of which involved invitations to meet offline, asking teens to talk about sex or answer sexual questions, or asking teens for sexually explicit photos (Holler, 2016).

Also on the rise is online harassment, also known as cyberbullying. Cyberbullying is very common and can happen to any young person online. Cyberbullying can result in depression, anxiety, severe isolation, and suicide (O’Keefe, 2011). Which are all negatives on a child’s emotional well-being. It is difficult to hide from bullies on the Internet. Anyone can be targeted and because the aggressor is behind a screen, anything can be said. The Internet and technology usage can be a dangerous and tricky place for children of all ages. Therefore, it is important to have rules and regulations regarding technology to keep children safe of emotional damages.

When parents or guardians allow the use of technology to overrun their children's lives, social isolation, increased violence, and life threatening risks become greater (Behrman & Shields, 2000).

Effects of Technology on Health and Wellness

Children's health and wellness is an important component for child development.

Technology has a large impact on a child's health, but what is the impact of technology on the developing child? Children's developing sensory, motor, and attachment systems have biologically not evolved to accommodate the sedentary, yet frenzied and chaotic nature today's technology has caused (Hsin, et.al., 2014). The impact of rapidly advancing technology on the developing child has seen an increase of physical, psychological and behavioral disorders that the health and education systems are just beginning to detect, much less understand. Child obesity has been directly linked to technology use (Behrman & Shields, 2000), and is also associated with heart disease, diabetes, and social discrimination (Hsin, et.al., 2014). Also directly linked is the form of various disorders including mood swings, bodily functions issues, psychological and academic hardships, and sleep deprivation (Roman, 2015). The National Sleep Foundation has stated that toddlers need 11 to 14 hours of sleep, school-aged children need 10 to 11 hours, and teenagers need around 9 hours of sleep a night. Staring at a computer or phone bright light in a dark room can result in the inability to sleep and the lack of good, quality sleep (Roman, 2015). The white light that technology emits does not allow the brain to calm itself for sleep. Photoreceptors in the eye's retina sense light and dark which signals the brain of the outside surroundings (National Sleep Foundation). When a child is lying in a dark room, the

child's eyes are signaling darkness to the brain and that it is time to sleep, until this process is interrupted by the light of a smartphone, tablet, or television. Sleep deprivation from excessive technology use is one of the fastest growing health issues in children.

Technology also has other health and wellness risks. According to Rock (2013), ADHD is the most common behavioral disorder in today's children. The rise in cases of children with ADHD is coincided with the rise of technology including smartphones and tablets. Technology puts visual and auditory sensory systems in overload, resulting in the lack of attention span (Rowan, 2013). Children are becoming less likely to focus on academics, family time, and sleep because they are devoting their full attention to small screens. According to Rowan (2013), technology overuse can lead to diagnoses of autism, coordination disorder, developmental delays, unintelligible speech, learning difficulties, and sensory processing disorder.

Due to technology usage on the rise, multiple new medical terminologies have been coined. Technology has a harmful effect on eyes, back, neck, and wrists for all ages (Behrman & Shields, 2000). "Text neck" is the latest trend and watchguard in the medical field. Text neck is defined as neck pain and damage from looking down at a wireless device too frequently and for large amounts of time (Shoshany, 2015). This diagnosis is becoming common in children. Technology is also to blame for poor posture, going hand in hand with text neck. Another common health issue now seen in children is "Blackberry thumb." According to Wells (2016), Blackberry thumb is caused by the overuse of a QWERTY keyboard on phones and tablets. The repetitive motion of the thumb leads burning and swelling. Wells (2016) also states that "Text claw" harms the whole hand due to the awkward positions that phones are held. Text claw can lead to tendonitis or the inflammation of tendons.

As one might imagine, children lead more sedentary life styles when they are technology attached. Time spent playing outside, exercising, and participating in extracurricular activities is replaced with texting, video games, and television. In 2016, reports indicated that nearly 75% of children have TVs in their bedrooms, and 72% of North American homes have the TV on all day. According to Rowan (2013), young children require two to three hours of active rough and tumble play to achieve adequate sensory stimulation. She suggests that free play be done outdoors since nature has a calming influence on children. Unfortunately, technology is now relied upon for the majority of children's play. The amount of time spent engrossed in technology has begun to challenge children's creativity, imagination, and the ability to achieve optimal sensory and motor development. It is causing body sensations of overall "shaking", increased breathing and heart rate, a general state of "unease", and stress. She also indicated that in order for the development of praxis, or planned movement patterns to occur, children must receive tactile stimulation through touching, hugging, and play. All of which does not occur through excessive technology use. Touch also activates the parasympathetic system lowering cortisol, adrenalin and anxiety. Involvement is critical with movement, touch, human connection, and exposure to nature for children to be healthy. "These types of sensory inputs ensure normal development of posture, bilateral coordination, optimal arousal states and self-regulation necessary for achieving foundation skills for eventual school entry" (Rowan, 2013, p. 3). She indicated that the excessive use of technology also interrupts the vestibular, proprioceptive, tactile, and attachments systems. These systems become under stimulated, while the visual and auditory sensory systems become overloaded. This sensory system imbalance is creating huge

problems in a child's overall neurological development, as the brain's anatomy, chemistry, and pathways are becoming permanently altered and impaired (Rowan, 2013).

While the long term effects in children are generally unknown at this time, research regarding stress in adults has shown weakened immune systems and a variety of serious mental and physical disorders and diseases. Long-term studies are being conducted to determine the lifelong physical and psychological effects technology and its stressors have on children (Walker, 2014). While these studies are in progress other research has shown evidence that as children's bodies become sedentary, it becomes bombarded with chaotic sensory stimulation resulting in delays in attaining developmental milestones, which subsequently negatively impacts basic foundation skills for achieving literacy (Holler, 2016). In addition, children who are hard-wired for technology's high speed are struggling with self-regulation, deficits in attention skills, and significant behavior management problems (Rowan, 2013). It is with these concerns that recognition be given to the devastating effects technology is having not only on children's physical, psychological and behavioral health, but also on their ability to learn and sustain personal and family relationships.

With health and wellness being a top priority for parents and caregivers, the facts about how technology affects a child's overall health should be well known as it is largely impacted. When technology has this great of an influence on children's wellness, something needs to change as children are often suffering because of an obsession with digital tools.

Conclusions from Review of Literature

The information provided within this chapter included various and necessary reasons for the research conducted and a theme that presented itself: better regulation is needed for children's technology use. It is important for parents and caregivers to be aware of the risks that technology poses on their child. With this information, parents can set rules for their child's technology in and out of the household. A handbook for parents may be relevant and needed by parents who are looking for ways to address and regulate their child's technology use for the best and safest way. By presenting this information in the form of a handbook, parents can formulate their own methods and strategies for regulating technology in their homes.

A key part of the handbook is for parents to examine their own technology use. Parents have heavy influence on their children and their habits become the child's habits. Therefore, this handbook will expose the daily realities of the effects of technological use on all family members. As technology has grown and changed, it is important to keep parents informed. Because of this growth and change, professionals are now outlining warning signs. Parents should be informed, too. Therefore, the purpose of this handbook is to assist parents of children's of all ages with information to make informed decisions to help regulate technology use in their homes. I anticipate dividing it into sections, such as reasons for regulation, guidelines by age groups, strategies for in the home, and troubleshooting.

Chapter Three: Methodology

Informal Observations

As a future educator, I often find myself observing everyone around me, particularly children. I observe their interactions with others, listening for communication and their language development. I also look for their emotional reaction and/or physical contact with others. One thing I have found to be of particular interest is children's growing interaction with technology. It seems that in today's society, everyone has a cell phone, IPAD, an I-phone watch, or some type of technological device. As I look around observing children in both public and private settings, I often ask myself why others, including children, are so infatuated with technology. I

have witnessed children of all ages spend many continuous hours playing video games or Xbox. Children, even the smaller ones are often engrossed in technology's entirety and understand its offerings. Because of this, I wonder if the device's use is regulated. Is technology used strictly for entertainment or to pacify the child after a temper tantrum as I have seen done before? Is technology a tool to replace parental interaction? Does technology offer instant gratification? Is it a fascination or intrigue? Could using technology be a combination of all of the above?

Understanding technology as well as the setting is the inspiration for this study. I recall a father of two children, a six months old daughter, and a two-year old son. The son has exhibited an infatuation with a smartphone, regardless if the phone was on or off since infancy. As his babysitter, I often let him play with an empty phone case without a phone. Up until a year old, he seemed unaware that no phone was inside the case. However, he always seemed content just to be holding it. His six month old sister seemed intrigued with the light source when the phone was engaged. When she became frustrated, unhappy, bored, or cried, her father handed her a phone to redirect her attention. As soon as the smartphone was in her hand, she would stop crying and would smile. She seemed fluent in knowing how to press the "home" button, so it would light the background. The father always seemed consumed with his phone when in the presence of his children. No physical or oral communication would occur as he ignored them to engage on his I-phone. The father ignored the children while this behavior occurred.

Another setting I have observed involved a nine-year-old boy obsessed with video game playing and/or technological device. He would hold a technological device in his hand at all times even while watching television or playing games. His parents provided no limitations to types of games or time restrictions on his game play. While playing, he seemed to be so

engrossed in the activity that any type of communication went unnoticed. He lacked social skills and was home schooled because he was not making friends at public schools. Parental discipline was almost nonexistent. He had poor oral hygiene because his parents did not enforce proper hygiene. When asked to turn the game off, he threw temper tantrums until his parents complied and allowed him to play. In this instance, technology was used as an entertainer and a friend, but not as an educational tool to enhance schoolwork and knowledge.

Even though I provided just a couple of instances to voice my concerns about technology, I can also think of many more. I, myself, am also consumed by technology. I am continuously on my phone or laptop. I am constantly scrolling through all forms of social media, sometimes reading items repeatedly. I also have multiple shows set to record weekly on my television, so I may binge watch recordings on the weekend. Technology has been out of control. I know I have allowed technology to control me and I see that it is doing the same for others. I also see teenagers caught in the gossip and drama that comes with social media for which they thrive. Just recently, I observed high school students in the hallways between classes (some with headphones and some without), but all consumed with their iPhones perusing, mindlessly, through content on their devices. Absolutely, no interaction was occurring with those around them. Some were even walking together and texting those right beside them, rather than turning and talking to one another. The hallways were not replete with chatter, but with shuffling of feet with heads down buried in the technological devices. I found this both disturbing and sad.

In public, I see the same activity occurring. The use of technology by individuals surrounds you wherever you may be. Teenagers and adults alike are texting while driving. Children in vehicles are watching video games or movies on the back headrest. Some are viewing videos

with an iPad, phone, or computer in their hands as they ride in the car. I see people walking down the street become involved in dangerous situations because they are not paying attention to their surroundings due to their constant use of technology. In a restaurant, individuals, including parents and children sit at dinner tables with their faces glued to the screen of a handheld device. Very little interaction or communicative involvement with others seated at the table is evident or occurring. I have even seen children throw a tantrum when food comes to the table, because parents ask them to eat instead of playing with the device. Technology is everywhere. Individuals including children are both obsessed and consumed with technology. As a result, it appears that it has taken over our everyday lives.

It is because of this consumption and observations that I was driven to focus on what it is that makes technology so exciting and necessary in a child's life. Witnessing firsthand how technology impacts a child's relationship with the outside world, their family and friends, and desire to do play with age appropriate toys has been both shocking and concerning. It seems like children were being brainwashed by small screens. What can I do to help parents and future parents regulate their child's technology use, and make it educational and a reward and privilege?

Steps to Creating the Handbook

Before its inception, the handbook consisted of ideas of how to help parents regulate technology use in their home. I want parents to have the tools to help their children use technology effectively. As a future teacher, I want students to come into my classroom and know how to use technology on a mature and professional level. Taking multiple courses with a heavy

emphasis on technology usage, I understand that technology is a great component to use in the classroom. It can make learning more interactive and exciting for children. I have learned multiple ways to create presentations and used various forms of technology for teaching. I understand that technology is changing the way we teach and that is why I want children to know how to properly use technology and be safe while on the Internet.

This, along with my personal observations, has created a drive to send a message to parents in the form of a handbook. I realize that reaching parents will help children and teachers with technology usage. I want to be proactive in developing children and understanding how technology will affect children long term. Analyzing how technology affects a child's brain, mind, and health will make it easier for parents and caregivers to monitor and create guidelines for their growing child.

Beginning to Create the Parent Handbook

The handbook produced will be the instrument promoted to guide parents to explore the effects of technology the academic, emotional, health, and wellness in a child's life. The handbook includes a resource list for parental regulation, ways to keep children safe while using technology, how to regulate technology use, and to offer ways to encourage children to "log off" and interact face-to-face time communication with family, friends, and others. Also, if not present in the handbook, at least parents can locate adequate resources for their further investigation. It is important to have a one-stop handbook, almost like a textbook, to offer parents the first line of defense to help effectively regulate their child's technological use. This handbook will be thorough enough to be a first or final resource on the topic as well as handy

enough for quick ideas, solutions, options, understandings, and guidance parents will face as their children actively engage with technology.

In the next chapter, *Unplugging: A Handbook for Children's Technology Use*, I will present my handbook. It will include an Introduction, a chapter for strategies and ideas for in the home, a chapter for activities for technology replacement, and a chapter for digital citizenship and Internet safety.

Chapter Four: Unplugging: A Handbook for Children's Technology Use

This handbook for parents serves three purposes. First, it is the outcome and product of this thesis. The second purpose of this handbook is the most important. This handbook's main purpose is to give helpful insight to parents on how to introduce technology to their children and how to create a safe technological community for their family. The goal of this handbook is give parents clarity on how children should be using technology and for parents to set boundaries for

their children. This handbook includes tips and resources for parents to implement in their homes.

Letter to Parents

In the age of technology, parents today are faced with the dilemma of supervising technology. Technology, electronic devices, and the Internet can be remarkable resources and tools for communication, education, and leisure. However, just as every rose has its thorns, the incredible digital world has its downfalls.

Parents need to be aware of the dangers and pitfalls of technology as well as how much is too much. Children are using technology at alarming rates for extensive periods of time. Doctors are comparing children's technology additions to that of a drug addiction coining the terms "digital heroin" and "electronic cocaine." This addiction is leading to negative effects on a child's social and emotional life, academic life, and their health and wellness.

In this handbook, *Unplugging*, parents will learn how to work with and for their children in the field of technology. The ever-changing digital world can be a tricky one to navigate for parents since the technology they had just last year has already evolved into something bigger. This handbook encompasses sections explaining why technology needs rules, age appropriate guidelines, strategies, technology replacements, Internet safety, and additional resources such as books and websites for deeper understanding.

Why We Regulate

Children of all ages need to have rules. Children have rules for school and play as well as rules for bedtime and dinner time. If a child has rules for every other aspect of their life, why not implement regulations for technology use?

The reason for technology regulation is simple: technology can be dangerous (Holler, 2016). Technology has effects on a child's emotional development and health and wellness. Children's health and wellness is an important component for child development. Technology can be detrimental to a child's emotional health if there are no rules and guidelines for technology use (Ramasubbu, 2015). When children let technology take over their lives, technology leads to social isolation, increased violence, and life threatening risks. Technology has a large impact on a child's health. Children's bodies react to technology in the form of weight gain, sleep deprivation, various disorders, and bodily functions.

Guidelines by Age

Several guidelines are offered by those whom work closely with children. The following recommendations are from the American Academy of Pediatrics (2016). The AAP publishes new technology recommendations for children's media use every October.

- Children younger than 18 months should avoid all use of screen media other than video-chatting.
- If parents of children 18 to 24 months of age want to introduce technology, parents should look for high-quality programming as well as watch it with their children to help with understanding.

- Children ages two to five should limit screen use to 1 hour per day of high-quality programs. Parents should continue to co-view media with the child.
- Children ages six and older should have consistent limits spent using media and types of media. Technology should not interfere with sleep, physical activity, and other behaviors essential to health.

Children need different rules at different ages of development (Young, 2015). The following guidelines are from psychologist Kimberly Young's "Parenting Guidelines" (2015, pp. 1-2).

- Birth to three years-
 - No screen time
 - Children need time to develop relationships with others and sensory-motor skills with physical toys, reading skills, and relationships with other children.
- Three to six years-
 - One hour a day
 - Appropriate activities include eReader for story time, sorting shapes on mobile apps, and electronic toys that educate.
 - Parents need to make sure children are physically playing, reading books, and engaging with other children.
- Six to Nine years-
 - Two hours of supervised use
 - Appropriate activities include Internet use with supervision, active video games with family.
- Nine to Twelve years-

- Two hours of supervised use
- Appropriate activities include Internet use with supervision, social media with strict time limitations, and homework on the computer.
- Parents are to make sure children are completing chores and staying involved in school activities and friends.

Strategies to Use at Home

The American Academy of Pediatrics stresses that technology not take place of sleep, physical activity, or other behaviors essential to good health (2016, p. 1). The following is a list of easy to follow regulations for technology inside the home.

- 1) Designate media free locations throughout the house. The bedroom is a room in the house that should be free of technology.
- 2) Designate technology free times. Technology free times can include dinner time, chores, family bonding activities, or times of spiritual activities.
- 3) Have ongoing conversations about online citizenship, technology usage, and media safety.

The AAP provides a website titled “HealthyChildren.org.” This website has two tools, both of which are available in Spanish, in order to regulate technology for your family (www.healthychildren.org). The first tool is a “Media Time Calculator.” This tool allows you to type in your child’s name and age in order to set time restrictions for the child. The calculator is preprogrammed to the amount of sleep and physical activity the child needs based on age. With

the calculator you can insert time for other activities such as after school activities, chores, jobs, family time, free time, homework, meals, personal care, reading, and school.

The next tool is the “Family Media Plan” (www.healthychildren.org/English/media). This tool is a more in depth calculator that you can use to add the whole family as well as print and save. For each child, you can customize screen free zones, screen free times, device curfews, media they are allowed to use, activities to balance online and off-line time, media manners, and sleep and exercise. Each topic has multiple options to choose in order to create a well-balanced plan for your family.

When regulating your family’s technology use, it is important to stay up to date in changes in the media world. Technology is consistently changing and what worked for a 10 year old in 2007 will not work for a 10 year old in 2017. There will always be a new smartphone, new app, and new social media website for the world to use. Computer scientist, Alan Kay (2013, p. 1), said “technology is anything that was not around when you were born.” This means that children can pick up a smartphone and know how to use it with ease, while their parent may be struggling to learn the new device. Parents need to stay current on new technology trends in the developing child’s world.

When it comes to creating rules, regulations, and consequences for your children’s technology, The American Academy of Pediatrics (2016, pp. 3-4) suggests to parents the following:

- Keeping screens out of your child’s bedroom.
- Take an active role in your child’s media education.
- Look for media choices that are educational, or teach good values such as empathy.

- Create clear and consistent rules on viewing age appropriate content.
- Keep a family computer that is to be used in a public place within the home.
- Instill in your children that every move made on the Internet is remembered.
- Familiarize yourself with social media sites that your child may be using.
- Explain what it means to be a good “digital citizen”.
- Consult with your family’s pediatrician about your child’s current habits and technology usage.

The most important influence a child has is their parents. In order for young children to learn proper technology behaviors, parents need to be the role model of how and when to use digital devices. It is important for parents not to fall for the “do as I say, not as a do” trap and practice the values they are attempting to instill in their own children. This includes respecting the tech free zones, such as dinner time and bedtime, participating in physical activity and other technology replacement activities, and encouraging face to face conversations (American Academy of Pediatrics, 2016)

Activities for Technology Replacement

Whether getting rid of technology completely or limiting the use of technology in your house, families as a whole will need activities and programs to make up for that time. Dr. Nicholas Kardaras, author of *Glow Kids: How Screen Addiction is Hijacking Out Kids and How to Break the Trance* (2016), suggests swapping “Minecraft”, a popular virtual land where kids can create their own worlds and experiences, with Legos, a construction toy using interlocking

plastic blocks. Kardaras urges parents to swap iPads for books and nature and sports instead of television.

While building your family plan, remember to incorporate time for daily chores. Chores need to be structured and consistent. Examples of appropriate chores for children include washing the dishes, mowing the lawn, and taking out the garbage. Once a child turns sixteen, parents can encourage their children to apply for part-time jobs (Young, 2015). The following is a list of age appropriate chores to engage children (Seifert, 2009).

Ages two and three

- Pick up playthings with your supervision
- Take their dirty laundry to the laundry basket
- Help a parent clean up spills and dirt

Ages four and five

- Get dressed with minimal parental help
- Set the table with supervision
- Sort colors for the laundry

Ages six and seven

- Make their bed every day
- Put their laundry in their drawers and closets
- Put away dishes from the dishwasher

Ages eight to 11

- Keep bedroom clean
- Wash dishes

- Take the trash can to the curb for pick up

Ages 12 and 13

- Set their alarm clock
- Change bed sheets
- Prepare an occasional family meal

Ages 14 and 15

- Do assigned housework without prompting
- Do yard work as needed

Ages 16 to 18

- Responsible to earn spending money
- Do housework as needed
- Do yard work as needed

The American Heart Association (2016) recommends 170 minutes per week or 30 minutes a day for five days a week of physical activity for the average adult. The daily recommendation for children over the age of six is 60 minutes a day of physical activity (American Academy of Pediatrics, 2015, p. 1). In order to have time away from technology and in a healthy, fitness environment, parents and children can together spend time daily in active play. This can include a walk around the block, a game of kickball in the yard, going on a bicycle ride, or playing in the pool. For extracurricular activities and club sports, it is important to find activities that your children will enjoy and want to spend their time doing.

Digital Citizenship and Internet Safety

The Internet is a different world from the physical world that children thrive in every day. In order for children to be safe online and use the Internet for positive and beneficial purposes, it is important that children learn Internet safety and digital citizenship. Digital citizenship is a complex topic that is simply stated as being responsible online (Ribble, 2016). In order to better break down digital citizenship, nine elements have been identified that fall in the categories of Respect, Education, and Protection. Ribble's (2016) nine elements are as follows:

RESPECT

1. Digital access: Advocating for equal digital rights and access.
2. Digital etiquette: Rules and policies for appropriate online conduct.
3. Digital law: Damage and theft are against the law, even if it is online.

EDUCATE

4. Digital communication: Technology and Internet supplies multiple new means of communication with new people.
5. Digital literacy: The using of technology.
6. Digital commerce: Buying and selling online.

PROTECT

7. Digital rights and responsibilities: Internet users have a right to freedom of speech and privacy.
8. Digital safety and security: Protecting your ideas, thoughts, speech, and personal information online.
9. Digital health and wellness: Understanding the risks of technology use such as obesity and addiction.

A main role and responsibility of a parent is to keep their children safe. The Internet can be uncharted territory for parents and children alike. Teaching your child about Internet safety is a crucial step that must be done before your children reach for the mouse. The Federal Bureau of Investigation (2010, p. 2) gives children basic safety tips for Internet usage:

1. Do not give out personal information such as your name, your school, or your address on the Internet.
2. Never write to someone who has made you feel unsafe or uncomfortable.
3. Do not meet someone or have them meet you without parent's permission.
4. Tell your parents right away if something or someone on the Internet has made you feel uncomfortable.
5. Remember that not everyone on the Internet is who they say they are.

These basic rules can help teach your young child an easy understanding of what not to do on the Internet. The most important thing is to instill Internet safety in your children before they get online. Explaining the rules ahead of time, will help your children better understand that the Internet is not a game and that you as parents are there to work with your child. Common Sense Media (2015) explains what you should be teaching your children about safe online behaviors (www.commonsensemedia.org).

- Communication: This means using the right language for the person you are talking to. Your child will address a teacher or parents differently from how they address a friend or sibling.
- Keeping private things private: This includes not sharing passwords, personal information, and images.

- Respect others: Being respectful online, avoiding gossip, and telling an adult if you witness cyberbullying.
- Be fair: Do not lie, steal, or cheat- The Internet is an issue with homework and take home tests because the answers may be online. Explain to your children that taking information off of the Internet is not a fair assessment of their own abilities.
- Be an “upstander” and report misbehavior: The Internet is huge! Help make the Internet a nice place that everyone can use.
- Follow your family’s rules: If a parent’s rule is to avoid a certain website or be off the computer at a certain time, listen. Instill in your child that the more responsible they act, they more privilege they will be allowed with Internet and technology usage.
- Think before you post, text, or share: Consider how others and yourself may feel after it is posted. Online behavior can be forever. Remind your children to think before posting “is this something I would say in front of my parents or teacher?”

Giving your children cell phones means monitoring your child’s phone calls, games, Internet use, social media, and messages all on one small device. If your child has a smartphone, you can keep track of their activity with a phone-monitoring service through your service provider, or you can do it yourself. AT&T, Verizon, Sprint, and T-Mobile all offer add-on packages for a fee that allow you to keep an eye on your child’s phone usage. This includes tracking the location of the phone. There are also third party programs that you can install for the same features. Common Sense Media (2016) gives the following guidelines for children’s smartphone usage to be discussed before giving your child a smartphone:

Texting

- Be respectful to the people you are texting and the people physically around you.
- Know that private texts can easily become public.

Calling

- Verify the caller and do not respond to numbers that you do not know.
- Always answer the phone with it is your parents calling.

Taking Photographs

- Ask permission before you take another person's picture.
- Do not publicly embarrass someone by posting someone's photo without their permission.

Apps and Downloads

- Pay attention to extra costs! Ask permission before purchasing games and music.
- Use parental controls. Depending of the age of your children, use age restrictions in order to filter out inappropriate content, downloads, and purchases.

Posting

- Choose wisely what to post. Think before you post if you would be comfortable with the world possibly seeing your post or text.
- Be safe. Explain the risks to your child of sharing their location in apps, posts, and messages.

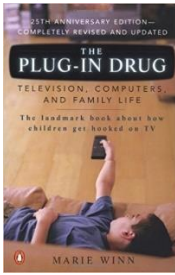
Kids First Phone (2016), an initiative from Sprint phone carrier, gives parents options, tips, and advice for their child's first phone. They note that 10.3 years old is the average age in the United States that children get their first smartphone as well as 1 in 2 kids has a social media account by the age of 12. Sprint offers a quiz for parents to take that will help them to decide if



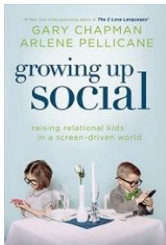
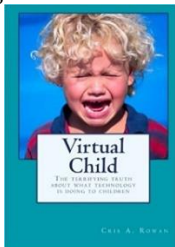
now is the right time for your child to have a smartphone. Questions include does your child need to stay in touch, does your child often break things, and is your child honest with you. Sprint notes that purchasing your child their first smartphone comes down to responsibility, maturity, and online behavior. The website also reminds parents that you are in charge of everything when it comes to your children’s smartphones. Parents have the ultimate say so when it comes to children’s apps, messages, phone calls, and over all usage.

Resources for Parents

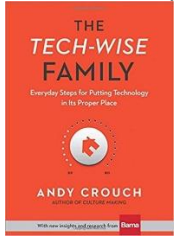
Listed below are additional resources for you. They include literature and websites. These dig deeper into the effects of technology on children and families and help parents to understand the “why” of regulating technology for their children. The resources contain tips, tricks, and suggestions for how to assist your children and family in terms of technology and electronic devices.

Table 1

Book Title	Author	About the Book
<p><i>Plug-in Drug: Television, Computers, and Family Life</i></p> 	Marie Winn	This book answers the question: How does the passive act of watching television and other electronic media-regardless of their content-affect a developing child's relationship to the real world?
<p><i>Glow Kids: How Screen Addiction Is Hijacking Our Kids-and How to Break the Trance</i></p>	Nicholas Karadas	Karadas names the illuminated glowing faces from staring at screens “Glow Kids.” The book informs

		<p>readers on technology's effects on the brains of young children.</p>
<p><i>Children, Technology and Culture: The Impacts of Technologies in Children's Everyday Lives</i></p> 	<p>Ian Hutchby and Jo Mooran-Ellis</p>	<p>The authors of this book focus on children's access to technology, the structural contexts of children's engagement with technology, the situations of children's interactions with technological objects, and the constitution of childhood through mediations of technology.</p>
<p><i>Growing Up Social: Raising Relational Kids in a Screen-Driven World</i></p> 	<p>Gary Chapman and Arlene Pellicane</p>	<p>Chapman and Pellicane teach parents how to replace mindless screen time, establish boundaries, create relationally rich children in the digital world, and healthy ways to occupy children.</p>
<p><i>Virtual Child: The Terrifying Truth about What Technology is Doing to Children</i></p> 	<p>Cris Rowan</p>	<p>This book offers parents, health and education professionals, schools and homes, innovative tools and techniques to enhance child development and academic performance, while managing balanced use of technology.</p>

<p><i>Unplug: Raising Kids in a Technology Addicted World</i></p> 	<p>Lisa K. Strohmman and Melissa J. Westendorf</p>	<p>The authors inform readers how to raise children in today’s complex digital environment. The book touches on the saying “the first step is admitting you have a problem.”</p>
<p><i>The Big Disconnect: Protecting Childhood and Family Relationships in the Digital Age</i></p> 	<p>Catherine Steiner-Adair with Teresa H. Barker</p>	<p>Clinical psychologist and author, Catherine Steiner-Adair, draws on real-life stories about technology and children from her work with children and parents and her consulting work with educators and experts from across the country.</p>
<p><i>The Cyber Effect</i></p> 	<p>Mary Aiken</p>	<p>Drawing on her own research as a cyberpsychologist, Mary Aiken covers a range of subjects from the impact of screens on the developing child to the explosion of teen sexting and acceleration of compulsive and addictive behaviors online.</p>
<p><i>Tech Savvy Parenting</i></p> 	<p>Brian Housman</p>	<p>This book teaches parents how to navigate and use the technology that is a part of their child’s life. Each chapter walks readers through a different issue of technology such as safety, time limits, restrictions, social networking, and online reputations.</p>

<p><i>The Tech-Wise Family</i></p> 	<p>Andy Crouch</p>	<p>Readers will develop wisdom, character and courage in the way digital media is used rather than accepting technology's promises of ease, instant gratification, and the world's knowledge one click away.</p>
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Table 2

Website Name	URL	Resources on Website
American Academy of Pediatrics	www.healthychildren.org	<ul style="list-style-type: none"> • Do's and don'ts for parenting technology • Family Media Use Plans • Articles about various technology topics
Child Mind Institute	www.childmind.org	<ul style="list-style-type: none"> • Articles about technology topics including media guidelines, how to talk to your kids about technology, social media and cyberbullying, videogames and violence, and educational screen time.
National Association for the Education of Young Children	www.families.naeyc.org	<ul style="list-style-type: none"> • Technology tips • Activities that do not involve technology • Childcare and preschool options • How to use toys as tools
Get Active Let's Move	www.letsmove.obamawhitehouse.archives.gov/getactive	<ul style="list-style-type: none"> • Tips for healthy eating and nutrition • Motivation for families and children to get active • Fitness activities for whole families
PBS Parents	www.pbs.org/parents	<ul style="list-style-type: none"> • Games for children of all ages • Educational tips and tools • Parenting advice for technology including cyberbullying, television habits, and children's first cellphones. • Food and fitness tools and activities

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Chapter Five: Conclusions

Technology has become such an integral part in everyone's daily lives. Individuals are spending countless hours consumed in social media, internet searches, and video gaming. As technology consumption grows, it is not surprising that today's children have become avid users. Because of this increase in digital use, it becomes very important for regulation of technology to occur for children. Therefore, the purpose of this thesis was to explore the current research related to effects of technology as it relates to academic, emotional, and health and wellness in a child's life. It also concluded with a handbook for parents. The handbook provides parents a resource list for parental regulation, ways to keep children safe while using technology, methods for how to regulate technology, and ways to encourage children to "log off" and interact in face-to-face communication with family, friends, and others. Parents can use this handbook in order to assign age-related chores, plan family activities, learn about Internet safety, and create technology plans for the entire family's technological use. The handbook is a tool to help parents become knowledgeable and technology responsible in the digital age.

Even though the handbook is for parents, it can easily transfer to the classroom. Teachers can learn specifics to facilitate their student's use of digital devices and Internet usage. This handbook provides insight on the importance of digital citizenship, the positives and negatives of digital use in the classroom, as well as the need for Internet safety. It includes regulation guidelines, online databases, technology research articles, ideas for professional reading, various organizational websites, and activities for technology replacement.

As a future educator, I have witnessed first-hand how children have become obsessed with technology. I, too, have found myself with the same obsession. It is through this research that I

have gained the knowledge and importance of the need for regulations and guidelines in our digital lives. Thus the pursuit of research and the handbook. While I want my students and someday my own children to be technology savvy, I also want them to be positively prepared for the world for which they will enter. Therefore, I will use this thesis/handbook as a guide to help my increase students' verbal communication, contact with others, and positively promote their social, emotional, and physical development. I will offer and encourage parents, colleagues, administration, and others within the educational community to do the same.

As a future educator, I have had exposure to professional development opportunities to integrate technology. I have discovered the importance of integrating technology in the classroom, but with a more purposeful and positive impact. It would be interesting to complete action research in my own classroom to determine the effects of technology on students and the impact it has on both their academic and personal lives. In addition, further research should be conducted on the positive and negative results on academic devices used in the classroom, websites for education, how much time students are involved with technology in the classroom, and if technology is capable of slowly replacing a teacher and face-to-face instruction. As a result, a handbook for teachers and administrators for those in individual classrooms and/or within the school could be created as a helpful tool. While technology has become important in our daily lives, it is very important all to have a better understanding of its use including means to disconnect ourselves from the digital world and reconnect with the world around us.

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