What is Necessary to Effectively Teach Self-Regulation to Students?

Defining the Importance for Student Self-Regulation.

By

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Dedication

I would like to thank my incredible husband, for the late night edits and the unrelenting support through this journey, as well as my two young daughters, for their simple outlooks on the value of continuing education. I would like to thank my parents, who drove up from Edmonton, Alberta in snowstorms to provide encouragement, child care, and many dinners. Lastly, I would like to thank all the professors and classmates in my cohort, who have been on my side and in my corner through these two years, pushing me to the very edge of my capabilities. Without all the support, drive, and investment of each individual, this paper would not be possible. It is with courage, and confidence I present the investigations, research, and data in this document to help educators and stakeholders provide a successful educational journey for all students.

Abstract

Students are currently experiencing a higher number of difficulties at school than in previous years. Teachers are dealing with a multitude of different behaviours and emotional issues in classrooms. Behaviour management is an ongoing struggle for teachers, with students exhibiting high impulsivity, inappropriate social interactions, and excessive anxiety in the classroom. To effectively educate students, it is time to look at the cause of their struggles, what has changed for the 21st-century learner, and what can educators do about it. This research investigates how to effectively teach self-regulation to students and the positive outcomes that come with teaching a self-regulated student. Students who efficiently self-regulate emotions and behaviours experience higher success in academia and social relationships, along with continued successes and accomplishments into adulthood. This paper will examine three areas: the history of self-regulation, how to teach students self-regulation appropriately, and the overall benefits of self-regulation. Exploring self-regulation and current issues in the classroom will give educators, parents, and community stakeholders a detailed understanding of how to create success in the classroom for students.

Table of Contents

Chapter 1: Introduction

"Students from hell", is a section in the book *Students Who Drive You Crazy*, by Kottler and Kottler (2009). Kottler and Kottler (2009) describe behaviours of students that challenge educators. Common difficult behaviours include students who are unmotivated, violent, manipulative, manipulative, perfectionist, and defiant or who have poor interpersonal skills, emotional issues, or social disorders. The sheer quantity of challenging behaviours that teachers have to deal with in the classroom is overwhelming, McEwan and Darner (2000) compiled a top ten list of the behaviours that frustrate teachers and administrators on a daily basis. These behaviors align with Kottler and Kottler (2009) and include physical aggression, disturbing others, disrespectful language, talking inappropriately or out of turn, impulsivity, failure to work independently, and disorderly behaviour. The same issues continue to control the classroom climate and take up a large part of the teacher's time and energy. Eight years after McEwan and Darner's (2000) research, a survey conducted by Clunies-Ross, Little, and Kienhuis (2008) on classroom management reported 47.4% of teachers self-reported having to deal with the same problem behaviours five or more times each day. In his research Shanker (2012) concluded the negative behaviours teachers see in the classroom are related to a lack of poor self-regulation in students. Shanker's research verifies self-regulation creates the foundation for a child's long-term physical, psychological, behavioral, and educational well-being.

The definition of self-regulation varies from theory to dictionary. The dictionary defines self as "the entire person of an individual and to regulate means to govern or direct according to rule" (Merriam-Webster Dictionary, 2016). Therefore, self-regulation is the ability to monitor one's self to ensure the compliance with the rules set by an organization. The problem teachers are facing is how to teach students to be self-regulating learners in and out of the classroom, in

turn decreasing the negative behaviours of students. This capstone paper will examine the context behind self-regulation, why and how teachers should teach self-regulation, and future considerations for teachers. Included in this chapter are the context and history of student self-regulation, the purpose of this research study, the definition of relevant terms, and the significance of studying self-regulation in students.

History of Self-Regulation

Shanker (2012) suggests that the theory of emotional and behavioral self-regulation dates back to the ancient Greeks. In the seventh and eighth century, poet Homer wrote *The Iliad*. It echoed the importance of emotional regulation. In book IX, Achilles can be used to exhibit the damage of uncontrolled emotions and actions. Achilles loses his ability to self-regulate and control his emotions resulting in the massacre of all his comrades. Throughout history there has been an inherent need to master emotional and behavioural self-regulation. Those who do not obtain mastery fall like the great Achilles, bringing down everyone around them. In the early 19th century, Russian psychologist Lev Vygotsky's (1963) constructivist theory defined self-regulated learning as the coordination of cognitive functions including memory, planning, synthesis, and evaluation. According to Vygotsky's theory, for a student to maintain control over their thoughts and actions they need to have the proper instruction and support to learn how to self-regulate. Cognitive theorist Zimmerman (2001) agrees self-regulation is a recurring process where students set goals, implement strategies, monitor learning, and adjust strategies when they believe they are not effective.

Modern theorists Gross and Thompson (2007) support the definition of self-regulation as the ability to monitor, evaluate, and modify emotional and behavioural responses. Shanker's (2012) research details self-regulation as having the capacity to respond to stress and return to a

calm state that supports optimal conditions for learning. Shanker (2012) explains the self-regulation process starting with identifying the stress in students' lives that cause the negative behaviour or emotion and their ability to master those emotions and behaviours. Self-regulation is not a new idea it has been around for centuries, and the desire to be a self-regulated individual is still a highly sought after skill. Loveland's (2005) research indicated students need to be able to control emotional eruptions and be present to what the teacher is saying. It is essential students can interact with their peers to understand what they are thinking and feeling. A significant contribution from Loveland's (2005) research proves that when students can adjust their emotions and behaviours to align with others, it creates an optimal environment for learning.

Purpose

Is it necessary to directly plan and teach self-regulation to students? Shanker (2012) addresses the rise in student self-regulatory issues. Over the last ten years there has been an increase in student problem behaviours attributed to a lack of self-regulation in students. Why is self-regulation important? Teachers are struggling to teach self-regulation to their students and need to adapt their classroom management techniques accordingly. Florez (2011) indicates students who do not self-regulate their emotions and behaviours move away from challenging learning activities in school. If we cannot engage students in challenging learning opportunities, they miss out on quality authentic learning. How do teachers effectively teach self-regulation to students?

In Ken Robinson's (2016) book *Creative Schools*, he postulates that teachers today need to enable their students to challenge thinking, build inquiry-based skills, and develop the confidence to acquire knowledge independently. Based on the research reviewed, these skills

will only be possible if the student can self-regulate. The purpose of this paper is to first provide the data and research to prove self-regulation is necessary for learning. The second goal is to detail a quantitative action plan for teachers to implement when teaching the skills and strategies of self-regulation to students.

Scope and Delimitations

This capstone paper looks at the current research and data regarding self-regulation, different ways and possible programs to assist with teaching self-regulation, and the short and long term benefits of self-regulation. This capstone does not use any data from personal teaching experiences with self-regulation programs.

Definition of Terms

Affiliation. The ability to join and contribute to a group (Perry, 2002).

Attachment. The capacity to form and maintain healthy emotional relationships (Perry, 2002).

Attunement. Awareness of others, recognizing other's needs, interests, strengths, and values (Perry, 2002).

Authentic Learning. Learning that focuses on real-world, complex problems and their solutions is authentic learning. Through role-playing exercises, problem-based activities, case studies, and participation in virtual communities of practice.

Dysregulated. An impairment of the regulatory system or process (Merriam-Webster, 2017).

GRIT. A firmness of mind or spirit, underlying courage in the face of hardship or danger (Merriam-Webster, 2017).

Iliad. Greek Mythology, a story written by Homer, a Greek bard. Stories of the travels and expeditions to the east. One of the stories was about Achilles and his lack of self-control over his emotions. Emotional self-regulation within the Iliad is prominent, emotions are addressed, and consequences of not being emotionally self-regulated are devastating.

Limbic. Part of the brain responsible for interpreting emotional responses and storing memory. It is the part of the brain that constantly scans for threats and makes decisions about the threat level in situations, it is non-conscious and makes decisions even during sleep (Shanker, 2013).

Neocortex. Part of the brain responsible for logical justifications for the choices of the limbic and reptilian parts of the brain. The neocortex can calm down the part of the brain that is irrational, working toward optimal efficiency (limited stress) (Shanker, 2013).

Perseverance. Continued effort to do or achieve something despite difficulties, failure, or opposition (Merriam-Webster, 2017).

Resiliency. The ability to cope successfully in the face of significant change, adversity, or risk. Resiliency includes the capacity to recover quickly, especially after a setback (Merriam-Webster, 2017).

Respect. Finding the value in each other's differences, and appreciating one's worth in the value in others (Perry, 2002).

Self-Regulation. Second core strength (Bruce Perry) containing to impulses, the ability to notice and control primitive urges as well as feelings such as frustration (Perry, 2002).

Self-Regulation. Self-Regulation. Capacity to attain, maintain, and change one's level of energy to match the demands of a task or situation; monitor, evaluate, and modify one's emotions; sustain and shift one's attention when necessary and ignore distractions. To

understand both the meaning and variety of social interactions and how to engage them in a sustained way and connect with and care about what others are thinking and feeling – to empathize and act accordingly (Shanker, 2013).

Self-Control. The power to control one's actions, impulses, or emotions (Merriam-Webster, 2017).

Self-Regulated Learning. Learning that is guided by metacognition (thinking about one's thinking), strategic action (planning, monitoring, and evaluating progress against a standard), and motivation to learn.

Stress. A state of mental or emotional strain or tension, resulting from adverse or very demanding circumstances. Children experience stress in different ways than adults and do not have the mechanisms to deal with the added negative stress (Merriam-Webster, 2017).

Tolerance. Understanding and accepting differences in others (Perry, 2002).

Trauma. A profoundly disturbing or distressing experience (Perry, 2009).

Significance of Study

Shanker (2012) suggests it is highly important that when a student enters into school they have strategies for dealing with challenges and situations that create anxiety and frustration. Shanker (2012) suggests factors that can impact a student's ability to self-regulate. For example, the age of and development of the student, culture, social climate, family circumstances, global issues, economic stability, relationships, brain development, environment, and student limitations all have an impact on self-regulation. The reasons students struggle with self-regulation is partly because of social changes and the increasing demands on students. Shanker (2012) explained that the added stresses might cause students to display negative or flat emotions. Research done by Shanker (2012) summarized the reasons for stress that affect students' ability to self-regulate: the

decline of sports and play, changing family dynamics, social patterns and eating and sleeping habits, and exposure to violent video games and media.

The challenges students face daily require self-regulation for students to effectively address emotions when they begin to feel anxious or stressed. Children first learn to self-regulate in the early years. By the time they enter school, they should have had successful experiences using self-regulation; however, the data indicates this in not the case. Rimm-Kaufman's et al.'s (2009) research on student transitions into school indicated an increasing number of students were not entering school with the skills needed to self-regulate. Consequentially, if students are never taught self-regulation at home or school, how successful is their educational journey going to be?

Summary

Success in education encompasses the student as a whole. When the student leaves school, they need to need to be able to self-regulate to be successful in their future educational experiences, jobs, and throughout their adult lives. Evidence shows that teaching self-regulation to students increases their success in school and society, helping to build stronger communities. Self-regulation creates students and adults who are resilient, motivated, and have perseverance. In his research, Shanker (2012) found students leaving school with strong self-regulation skills have fewer health and mental illnesses, relationship problems, and addiction issues. Students leaving schools with strong self-regulation skills have the potential to become successful members of their communities and society.

This capstone will examine the significance of understanding brain growth, early childhood development, stress in students' lives today, and positive relationship building to teach self-regulation effectively. Chapter two will focus on the research and data on the topic of self-

regulation, what teachers need to be doing to teach regulation to students, and the short and long term benefits of self-regulation. Chapter three will focus on possible implementation models to address the issue of declining student self-regulation in the classroom, detailing the process teachers can take to ensure appropriate self-regulation is happening in the classroom, and in the school.

Chapter 2: Literature Review

Introduction

This chapter will focus on the research regarding self-regulation, negative factors that influence student regulation, positive benefits of self-regulation, and the long-term successes for self-regulated students.

The terms "self-regulation" and "self-control" are often used concurrently and thought to mean the same thing; for this paper it is important to note the difference in the definitions. Self-control is having control or restraint of one's actions and feelings; a mastery of self-regulation is required to demonstrate self-control effectively. For example, Mischel (2014) explains self-control as being a delayed gratification process. Mischel found the way to gain self-control is to change how we think about the situation. Shanker (2012) explains how self-regulation involves the ability to attain, maintain, and change one's level of energy to match the demands of a task or situation. Self-regulation involves monitoring, evaluating, and modifying one's emotions; the ability to sustain and shift one's attention when necessary and ignore distractions. Self-regulation also involves the person understanding both the meaning and variety of social interactions (Shanker, 2012). Additionally, Shanker (2012) explains self-regulation as the ability to respond to stress and return to a calm state. Stressors or vulnerabilities need strategies and tools to be eliminated or reduced, Mischel (2014) agrees: "Self-control skills can protect us against our vulnerabilities; they may not remove these vulnerabilities completely" (p.230).

It is important to understand self-control is a necessary strength and it is a product of a self-regulated student. To better comprehend self-regulation, there needs to be a clear understanding of when self-regulation matures and how it develops in the child. Research on

brain development, core strengths, and early childhood development help us to better explain the process of teaching self-regulation.

Self-Regulation and the Early Years

Shanker (2013) explains that babies are born with 20-25% of their adult brain and relationship connections begin to form immediately after birth. Shanker (2013) adds that the process of developing the needed regulatory skills starts in the womb. Self-regulation starts to develop instantaneously as "An infant may suck her thumb after hearing a loud sound, indicating that she is regulating her responses to the environment" (Florez, 2011, p.48). Mustard and Rowcliffe (2009) expand on the importance of strong early infant relationships and self-regulation development. Caregivers are responsible for supporting self-regulation in infants; when an infant is born into a supportive and caring environment they have optimal development opportunities. Accordingly, Mustard and Rowcliffe (2009) indicate poor caregiver-infant interactions will result in poor emotional regulation. Shanker (2013) supports the importance of the infant-caregiver relationship, how caregivers respond to the infant is vital. Caregivers that react in a calm tone create a safe and secure environment that is "a fundamental principle of self-regulation" (Shanker, 2013, p. 2).

Once a child can speak and verbally express needs and wants, caregivers must respond with the appropriate language to support regulation. Blair (2002) showed children develop the foundational skills needed to self-regulate during the first five years of life. Self-regulation occurs only in safe, secure, and loving relationships. If these relationships are unsafe, unpredictable, or traumatic, the infant will not form an attachment with the caregiver, and in turn self-regulatory skills will not develop.

Attachment

As discussed in the previous section, positive relationships are pivotal in the development of self-regulation. Perry is a recognized authority on brain development and trauma in children. Perry (2001) reasons that there are six core strengths children need to develop to become healthy humans, and they are sequential and build upon each other. Furthermore, Perry explains attachment, the first core strength, as the capability to bond with another person. Perry stresses that attachment is the cornerstone to the other five core strengths. Infants form positive attachments with loving, responsive, and attentive caregivers. Students need to form attachments with loving, responsive, and attentive teachers. Signs of poor attachment include poor impulse control, aggression, lack of empathy, and delays in cognitive development. Positive, healthy attachments will prevent aggression and anti-social behaviors in children (Perry, 2009). Positive early relationships resonate with Kottler and Kottler (2009) they can decrease the problem behaviours teachers are dealing with in the classroom. Before self-regulatory development, strong healthy attachments must be in place for the student to be successful. Marzano's (2003) study on teacher-student relationships supports Perry's attachment research. Marzano concluded that there is a decrease in disruptive problem behaviour when the teacher-student relationship is good. Before self-regulation, healthy attachment needs to be in place for the student. Perry's (2002) second core strength is self-regulation, and can only be possible when students have healthy attachments within the school.

Self-Regulation

Self-regulation is Perry's second core strength for healthy development. Perry (2002) describes self-regulation as "The ability to notice and control primary urges such as hunger and sleep, as well as feelings such as frustration, anger, and fear" (p.4). Perry maintains that self-regulation is important because it puts a pause between an impulse and an action. Additionally,

Shanker (2012) suggests regulation involves how we connect with and care about what others are thinking and feeling to effectively empathize and act accordingly. The ability to self-regulate involves recognizing one's feelings and understanding the feelings of others. Self-regulation involves how our feelings and actions impact others feelings (Perry, 2009). Perry (2009) details the signs of children who are struggling with self-regulation, including poor socialization and difficulties forming friendships. Children with poor self-regulation also have difficulty controlling behaviors; they blurt out inappropriate responses, are apathetic to their actions, aggressive towards others, and are more reactive and immature (Perry, 2002). The outcome is students with poor self-regulatory skills have more behavioural problems in the classroom.

The effects these students have on classroom environment are proven to be detrimental to themselves, other students, and the classroom teacher. A study in 2012 concluded that teachers who felt stress related to student's negative behaviour and had poor classroom management exhibited low teaching efficacy (Collie, Shapka, & Perry, 2012). Through collaboration with teachers, Florez (2012) found "improved learning and behaviour requires strong self-regulation skills" (p. 46). Additionally, children who cannot self-regulate feelings such as anxiety or discouragement do not engage in learning opportunities in the classroom (Florez, 2012).

In summary, students who struggle with self-regulation in the classroom struggle academically, socially, and emotionally. They create disruptions and unsafe learning environments for others. Teachers become less effective at teaching the more they have to deal with self-regulation issues in the classroom. Lastly, a strong attached relationship between the teacher and the student needs to be in place before self-regulation can develop. Unfortunately, those students who exhibit negative behaviours or socially inappropriate tendencies are harder to form bonds with. Research done by Sutherland and Oswald (2005) suggests teachers will avoid

interacting with students who exhibit problem behaviours. Peers, teachers, and other adults seem to steer clear of these students, and their interaction with the student are often negative. Children who require positive attachments with teachers become those least likely to develop an attachment with the teacher (Bailey, 2011). Therefore, teachers themselves need to practice regulation and empathize with those disruptive students to effectively form positive relationships.

The development of positive relationships early in the child's life is key in building self-regulation skills. However, other factors influence the child's ability to self-regulate. Stress influences a student's ability to regulate their behaviours and emotions. Through his research, Shanker (2013) identified different levels of stress children experience including biological, emotional, cognitive, social, and prosocial. In each of the domains, various stressors may impact the child's ability to self-regulate. Bonnett and Maich (2014) define each domain; biological domain is the energy in the nervous system; the emotional domain consists of negative and positive feelings; the cognitive domain is the mental processes; the social domain consists of responding to social cues; and lastly, the prosocial domain entails acceptance and friendship. Additionally, Shanker (2013) goes on to say that while stress can be highly motivating when applied correctly, too often children are experiencing too many stressors at once over a long period of time. Ultimately, Shanker (2013) believes it is the adult's job to identify the stress, eliminate or reduce it, and then teach the student to identify it themselves and determine what they need to do when they become agitated to return to a comfortable level. It is critical teachers understand the stressors that hinder the development of self-regulation and how to effectively reduce them to ensure student success.

Factors and Stressors that can Impact Self-Regulation

Different factors have a bearing on the development of student self-regulatory abilities. Some stressors include a disruptive family structure, inappropriate technology use, lack of unstructured play opportunities, poor environment, health concerns, and global issues, all of which cause excessive stress in students' lives (Shanker, 2013). Shanker explains the signs of a student who is experiencing an extreme number of stressors include trouble paying attention, difficulties responding, irritability, unhappiness, argumentative, aggressively angry, highly impulsive, and easily frustrated. Also, the student experiences difficulty sitting still, going to bed at night, problem-solving and getting along with others; as well they have few positive interests and cannot stop watching TV or playing video games (Shanker, 2013). "A child that is chronically hypo- or hyper- aroused as a result of excessive stress may readily go into fight or flight, or freezes" (Shanker, 2015a, p.1). Based on this research, reducing the stresses that may be impacting the student's ability to self-regulate will increase the likelihood the student will be able to develop positive self-regulation skills. Shanker (2015a) emphasizes that children who are acting out, hyperactive, and aggressive are not doing so on purpose; they simply are experiencing too much stress to engage or cope with the situation. If the student's stress load is too much for the child to manage, then teaching will be ineffective. Understanding some of the stressors that students may be facing at school and home will help teachers create a plan to reduce the stress and will support student learning. The stress students experience outside of the school also plays a vital role in their educational journey.

Family Structure

Family dynamic plays a role in student stress in many different ways. The family structure of the student can impact their ability to regulate, Perry (2009) explains that children who experience neglect, abuse, or trauma, have attachment problems. Parents often reject

maltreated children, or on the other hand, the child is viewed as a friend to the parent instead of a child. Perry (2009) also draws attention to the fact that the neglect is often occurring in a generational cycle, passing from parent to child.

Perry (2009) details a lack of parental education surrounding early childhood development; parents may be unaware of what their child's needs are and how to meet them. A review of early childhood programs demonstrated a need to provide families with the education and supports for children from birth to age six (Mustard, 2009). The recommendations included a comprehensive approach to building community supports to prepare students for school. Mustard (2009) observed effective strategies such as providing health information, early childhood education, home care, home visits, and parent supports that helped to ensure all families have the best opportunities. Universal early intervention is imperative in providing families with necessary supports; all families benefit from the strategies.

Further family stressors that play a role in the student's ability to self-regulate include parental work schedules, finances, and home life stability. Magnuson and Berger (2009) found children who had two parents at home had less behavioural problems than those from single-parent homes. Mothers who work outside the home bring in additional money to support the family; on the other hand, there is a reduction in time spent with the child (Coley et al., 2007). The added finances may not be enough to outweigh the negative impact of an over tired and stressed mother (Coley et al., 2007). The economic instability of the current job climate ensures both parents need to be working to maintain the family finances. Another study by Cabrera, Hofferth, and Hancock (2014) looked at the father's impact on the child's behaviour and self-regulatory abilities. They found that having the biological father at home reduced behavioural issues, resulting in less stress for the child. Cabrera et al (2014) also found when a stepfather

was introduced into a child's life before the child was four the child exhibited more behavioural problems. It is important to note that Cabrera et al. (2014) were uncertain if it was the introduction of a step-father that caused the dysregulated behaviours or the change in the living situation that commonly occurred in the families studied.

To effectively reduce the stress in families' lives, they need support, education, and understanding. When parents are tired from employment, they spend less time monitoring their child's activities and learning (Cabrera et al., 2014). Parental exhaustion leads to problem behaviours and activities; children who cannot self-regulate engage in inappropriate activities and risky behaviours.

Inappropriate Technology Use

In the book *Glow Kids*, Kardaras (2016) reports on working with many different children suffering from video game and social media addictions. Specializing in neuropsychology and the treatment of addiction, Kardaras observed children who played video games for multiple days and weeks in a row. The children suffered catatonic states, and they could no longer differentiate reality from the game; they had high levels of stress and anxiety, lost touch with reality, and were addicted to the games. Kardaras (2016) went on to illustrate the addictive nature of technology differs among social groupings:

> Video games for the alienated kid and social media for the cheerleader are both as addicting as heroin to a junkie. With every burst of virtual gunfire, every text and tweet there is a release-a little squirt- of dopamine. (Kardaras, 2016, p.14)

When the brain is over aroused and a child is asked to stop in the middle of an aroused state, they can become agitated, aggressive, and defiant (Kardaras, 2016). Kardaras (2016) continues by

clarifying the issue with technology is the age of exposure. Children are using devices at a younger age and the hyper arousing screens can be detrimental in their brain development as their brains are not ready to handle the over stimulation.

Poor impulse control and distractibility are signs of addiction, as well as biological stress, too much visual stimulation and lack of sleep lead to poor self-regulation (Shanker, 2013). Shanker adds that violent video games cause the limbic system in the brain to become hyper-aroused. Hyper-arousal of the limbic can cause a flight, fight, or freeze state (Shanker, 2013). During a repetitive stress response, the child's neural network begins to rewire, and the child becomes dependent on the technology (Perry, 2009). Perry (2009) continues by saying, "The brain will "reset"- acting as if the individual is under persistent threat" (p. 244). If the brain is in a constant state of threat, it cannot be calm and alert (Shanker, 2013). It is understandable that students are not able to focus and remain in a calm state during instruction when they are constantly ready to run or shut down. Even after the child has stopped using the technology, it takes a substantial amount of time for the brain to return to a calm state, so learning is possible.

Furthermore, Shanker (2013) found children who use technology directly before bed do not achieve a proper night sleep cycle. Shanker's (2013) brain research indicates it takes two to six hours for a child's brain to return to a calm state following technology use. Therefore, after switching off the device the brain is still predicting something is going to happen; it feels as it is under threat and it stays in a hyper-vigilant state (Shanker, 2013). During the time of stress, some body systems turn off until the brain returns to a calm state. Shanker (2013) found digestion, capillaries, cellular repair systems, immune system, prefrontal cortex functioning, reproduction, and muscle growth all cease when the brain in hyper-aroused.

Social media is equally addictive and over stimulating, as well as providing a false sense of social interaction. Kardaras (2016) found we are a connected society: every second there are over 7,500 tweets, 1,394 Instagram posts, and over 119,000 YouTube videos. As well, globally there are 23 billion texts sent every second. Human beings are born with a need to interact with others. Social media gives an illusion of social interaction. We feel connected with an enormous number of people each day; however, we are in fact interacting less and less with people. Kardaras (2016) adds people find purpose and meaning through physical and social interactions with others; without this interaction a distorted view develops leading to irrational thinking. Receiving social interactions primarily through media creates added stress and has significant consequences for the development of social norms.

The fallouts of social media addiction include difficulty picking up on social cues and the ability to understand the behaviour of others (Shanker, 2013). The lack of human touch, face to face contact, expressions, and tone of the conversation all impact the development of self-regulation skills. The stress of losing ongoing opportunities for human interaction affects the child's ability play cooperatively, and there is a deficiency of social intelligence (Bonnett & Maich, 2014). Children who are overusing or abusing technology act if they are under continual threat, and the enormous stress is detrimental to all domains of healthy development.

Monitoring the amount of existing technology children have available to them and limiting the times they engage with the technology will help to reduce the brain's hyper-arousal and the less stress the child will experience.

Lack of Unstructured Play

With the reduction in instances children have to interact with other kids, they have fewer opportunities to learn self-regulation through natural play experiences. Vygotsky (1978)

concluded that children learn about social cues, rules, and expectations through their direct interaction with others. These social encounters are essential for developing self-control and regulation, and children need opportunities to experience unstructured play. According to Noddings (2012) students learn from social interactions more than they learn from objects. The amount of free time children have is minimal, between school and scheduled activities there is not a lot of time left just to play. Free play engages children and encourages authentic learning opportunities (Mustard & Rowcliffe, 2009). During play, children experience arguments, problem-solving, and expected social behaviours, and thus they learn how to self-regulate. Without these early childhood experiences, children do not have the opportunities to learn self-regulation. Harrison and Muthivhi (2013) explain children engaged in play activities develop the ability to self-regulate. As well, play becomes the first experience children have in resisting instant gratification and building additional self-regulatory skills through interactions (Bodrova, 2008).

A study on play experiences and children by Clements (2004) showed 71% of the participants said they played outside daily when they were little, and only 26% of the participants said their kids play outside daily today. Clements (2004) states that because of the lack of play in children's lives they lack the needed social skills, are isolated, have passive behaviours, and have less time to interact with others. Children need free play time that is unstructured, unplugged, and unchained interacting with their peers and with adults (Ramey, 2010). Ramey (2010) adds that parents are over scheduling their children's lives as a form of control, keeping them safe and uncomplicated, avoiding any unscheduled time. The added stress of overscheduling kids causes anxiety and performance worries for children. Children are expected to do more in less time; add in the lessened free play time, and the stress can be too much for the

child to cope. Ramey (2010) explains children need free play so they can learn to take risks, make decisions, and trust their judgments, essential skills that point to a self-regulated learner.

Environmental and Global Stress

Urbanization causes added stress on children. Over stimulating environments in the city can create added visual, auditory, and social stimuli (Shanker, 2009). The lack of parks and nature spaces for children to play in is a growing concern (Kahn & Kellert, 2002). Even when a community has abundant green spaces and playgrounds for children, they are still not outside playing. The parental choice to spend more time indoors and less time out in the community creates anxiety and stress in children. Ramey (2010) states, many urban children grow up fearful of being outside and spend the majority of their time inside watching TV or playing video games. Ramey (2010) asks, "Are parents who are overly concerned with keeping an overprotective eye on children instead commanding their children to, "watch TV or play some video games on the computer?" (p. 21).

The risks of keeping a child at home and contained then could be devastating. Children need age appropriate opportunities to explore their community and to create a feeling of safety while doing so. Ramey (2010) states that children are being denied opportunities to build confidence when they find their way around their neighborhood. A lack of independence and confidence emerges when children do not have opportunities to be out in their community.

Ramey (2010) explained, the urbanization of societies includes more roads and less space to play; parents drive kids to soccer and baseball when they used to ride their bikes. The reduced time children and families are outside, the less time they are physically active. Living in urban areas, children are less likely to play outside or walk to school. The decline of a healthy lifestyle along with reduced exercise causes children to experience additional stress (Franco et al., 2007).

Global issues cause stress that impacts the child's ability to self-regulate; the newspaper, television news, radio, social media, and intense conversations all contribute. Wilson (2008) reported a rise in anxiety, depression, and stress resulting from fear induced media. If an event or story causes stress in an adult's life, it will create anxiety in the child's life. The troubling news events raise concern for parents and caregivers as:

> Round-the-clock coverage of child abductions, war, terrorism, and even hurricanes has made it difficult to shield young children from graphic news stories. Indeed, the content of television news has become more violent and graphic over time. (Wilson, 2008, p. 94)

Additionally, Wilson (2008) found that children who lived close to the location of the news story suffered symptoms of post-traumatic stress syndrome from the constant over exposure. When a traumatic event is close to a child's home, there will be added stress for the child. Feelings of anxiety, worry, and fear can inundate the child's days. To reduce the stress of global events in children's lives, parents and educators need to choose their words wisely and communicate openly with kids in a safe environment.

Physical Activity and Nutrition

Physical activity directly impacts children's emotional stability, mental health, and the ability to retain concepts (Maddison, 2009). As previously discussed, there is a lack of physical activity in children due to urbanization and family structures. Students need more opportunities to engage in activity throughout the school day. Students who have structured physical activity in school before completing a task are shown to have increased on-task behaviours (Miramontez & Schwartz, 2016). Therefore, for instruction to be effective students need more movement throughout the day. In contrast, Stegelin, Anderson, Kemper, Wagner, and Evans (2007) found

children ages four to seven years old, in elementary school, have limited opportunity for physical activity during the school day.

To reduce the inactivity in students' lives and increase their ability to remain engaged in instruction, teachers need to add movement into their routines. When physical activity is incorporated throughout the school day, children experience improved motor skills, physical competence, and greater academic successes (Stegelin et al., 2013). Exercise is vital, and children need regular opportunities to engage in physical activity throughout the day. As well as reducing obesity in students, physical activity will reduce depression and lessen anxiety in children (Motta, Kuligowski & Marino, 2010). In addition to the other stressors in children's lives, a lack of activity can cause a student to go into a flight or fight state. Students will either shut down or explode during instruction creating challenges for the teacher. Simply put, the more students move, the less stress they experience, and the less negative behaviours teachers have to deal with daily.

Along with physical activity, "Nutritional health has been associated with children's memory development and ability to learn"; sugar or junk food can be a stressor that causes a child to have weak regulatory skills (Shanker, 2013). Early intervention is imperative for developing proper nutritional health in children. Maintaining a healthy diet is imperative for healthy brain and body development. Children exposed to sugar, salt, and processed foods early continue to gravitate toward those choices as they grow (Stegelin et al., 2013).

Adults and caregivers have a positive impact on healthy eating; "children can learn to prefer healthy foods if appropriate feeding practices in supportive and positive social contexts are used" (Birch & Ventura, 2009). The more a child is exposed to healthy food choices at home and at school, the more likely they will be to choose those foods regularly. The rates of obesity

are on the rise considering the lack of activity and the poor nutritional eating habits of families. Stegelin et al. (2013) found three things to help prevent obesity in school-aged children; first, families need to eat together in the evening; second is to ensure children get enough sleep; and third is to limit available screen time. In the increasingly overscheduled world, it is essential that families take the time to sit and eat together.

To reduce the stress caused by the lack of physical activity and the increasingly poor diets of the children in our schools, Stegelin et al. (2013) recommend reducing the amount of high sugar, processed, and fatty foods while increasing the healthy foods in the child's diet. Stegelin et al. (2013) also recommend teachers increase the quantity of physical activity throughout the instructional routine of the school day.

Positive Impact of Self-Regulation

Learning Disabilities and Self-Regulation

The retention of self-regulation skills has a tremendous positive impact on students with learning disabilities, such as attention deficit hyperactivity disorder (ADHD), autism, and oppositional defiance disorder. As well as supporting students who suffer from anxiety and depression, self-regulation can help them communicate and express their needs. Children with ADHD struggle with empathy, appropriate emotional responses, and goal-directed behaviours; they also rely on external motivation and arousal to complete tasks (Barkley, 1997). If a student with ADHD is taught self-regulating skills and they can use the skills to pause before an impulse takes over then they will be able to delay the inappropriate social response. The ability to stop and consider the views of others before responding is becoming emotionally regulated. Crundwell (2005) found that ADHD students with low regulation and high emotional responses

had increased behavioural problems at school and home. A child with ADHD who learns to self-regulate will have the ability to remain calm in emotionally charged settings.

Students diagnosed with oppositional defiance disorder often will argue, lose their temper, defy authority, and blame others for their mistakes. Shanker (2013) promotes self-regulation by explaining how we need not only to see the diagnosis but the child: "Yet, what Self-Reg sees is a child or teen caught up in a maladaptive coping strategy…" (para.8). Self-regulation looks at the child's behaviours, not the diagnosis, and deals with the stressors that might be causing the behaviour. Social engagement helps to limit the stress in the child with oppositional tendencies. Shanker (2013) adds it is the "child's first line of defense in dealing with excessive stress" (para. 9). In the classroom, teachers can support the student by remaining calm and patient while the child returns to a calm state. Only once the student is calm and feels safe can you then discuss what is expected at school (Shanker, 2013).

Finally, students who struggle with anxiety and depression may be unable to redirect their attention and regulate their emotions due to mounting stresses (Shanker, 2013). As discussed previously, reducing the stress in children's lives will support the development of self-regulation. Students with a significant amount of stress may shut down in freeze mode and stop communicating with peers and teachers. While this is a maladaptive response to stress, the body is trying to recharge and build enough energy to re-engage in the situation (Shanker, 2013). Shanker (2013) continues by saying in the long run this frozen state is detrimental when dealing with excessive stress as it causes the body to go into a dysregulated state. Anxiety and depression sets in when the child is constantly looking for the threat and their internal voice creates fear driven possibilities. The way to support students with anxiety or depression is to deal with the stress, the underlying cause of the stress and to deal with it appropriately.

Communication and Self-Regulation

Self-regulation in school involves the ability to express feelings and to communicate with others effectively: “Self-regulation is the mastery of thinking. Therefore, language development underlies the development of self-regulatory skills” (Cheyney, Wang & Bettini, 2013, p.11). Concrete oral communication skills support children in developing friendships, problem-solving skills, and cultivates the needed stamina to complete tasks (Mustard & Rowcliffe, 2009). Children proficiently learn how to communicate through social stories they hear from parents and teachers. High-quality instruction while incorporating books to teach social norms, increases students overall language ability (Riva & Ryan, 2015).

Nonverbal communication plays a role in the child’s self-regulation development as well; what they view as stress can be learned from their caregivers. A recent study looked at how a human’s visual system plays a role in threat responses (Isbell, 2009). If a parent is afraid of snakes, the child observes and will watch the response and also grow to fear snakes. How adults deal with stress impacts how the children they care for deal with same stress.

Teachers and parents need to use clear and consistent communication with children. Riva and Ryan (2013) suggest using visual reminders, setting clear limits, and having everything at eye level. Students who struggle with self-regulation need positive visual reminders to communicate information in a clear and concise way.

21st Century Learners and Self-Regulation

“Teachers are expected to deliver an academic curriculum in addition to meeting the social and emotional needs of their students” (Riva & Ryan, 2015, p.71). It is the teachers’ responsibility to educate the whole child, academic and social-emotional. When students can regulate their emotions and behaviours they are more successful in school and life:

> When children are calmly focused and alert, they are best able to modulate their emotions, pay attention, ignore distractions, assess the consequences of an action, understand what others are thinking and feeling, and the effects of their own behaviours; or feel empathy for others. (Shanker, 2013, p. 3)

Today's 21st-century student is expected to problems solve, think critically, assess information, and have an entrepreneurial spirit. Self-regulation provides the tools they need to be collaborative, communicate effectively, and be empathetic and tolerant toward others.

Long Term Benefits of Self-Regulation

Mental Health

Bradley (2000) looked at the evidence regarding mental health and emotional regulation. He discovered there is a correlation between positive mental health and emotional control. When a child can control their emotions, they can make useful assessments, remain composed, and work cooperatively with others. Penedo and Dahn (2005) reported that physical activity reduces symptoms of depression and improves students overall mood. Moreover, researchers Paluska and Schwenk (2000) found students who engage in activity gain social support from others. As stated previously healthy relationships are the cornerstone of building self-regulation (Perry, 2009).

Addiction

Research regarding addiction has shown that strong social connections are the discerning factor in whether or not someone may suffer from addiction to alcohol, drugs, gambling, or media. Alexander (2010) explains that during the 1960s to the 1980s experiments involving rats were taking place. Alexander (2010) illustrates how the rats were isolated and given the option of having water or water laced with a variety of drugs. The rats almost always quickly

overdosed and died after consuming the drug-laced water. Originally the conclusion from these experiments was that drugs were highly addictive and needed to be controlled in society. As well people who abused drugs needed consequences and extensive rehabilitation away from their family and friends.

In the 1970s, Alexander (2010) postulated the rats overdosed because they were isolated alone in steel cages. The rats were kept in solitary confinement day after day until they overdosed on the drug laced water. Alexander (2010) and his colleagues opened what they termed Rat Park, where all the rats lived together in a large community complex, playing, mating, eating, and thriving together. The rats in the Rat Park were given the same option of water or heroin infused water. The results were astonishing; the rats consumed less than a quarter of the drug-laced water, and not one died.

Alexander (2010) proved that addiction happens when people are isolated and alone. Individuals who are alone and have no social connections because of poor regulation, depression, or anxiety are more likely to suffer from addiction. There is a new addiction paradigm shift: "…the opposite of addiction isn't sobriety- the opposite of addiction is connection." (Hari, 2015, para. 20). The theory aligns with Perry's (2009) attachment core strength. To have self-regulation, first there needs to be a relationship, and when there is a lack of self-regulation because there is not attachment to others, it leads to addiction, and connection with others is the solution.

Society Success

Self-regulation is a skill that once learned, does not diminish over time. Children who develop strong regulation skills grow up into adults who are strong self-regulators. Mischel (2014) discusses a series of tests involving self-control and children. The active research

involved placing children in a room alone with a marshmallow on a plate. The children were told if they did not eat the marshmallow within ten minutes they would get a second marshmallow to eat. The children who resisted the tempting marshmallow used distraction strategies like looking away, taking big breaths, singing, touching the marshmallow, and talking out loud to help convince themselves not to eat it. The follow-up studies involving the same children forty years later showed their self-regulatory skills remained the same over the years. The children who delayed gratification and practiced self-regulation continued to do so into adulthood (Mischel, 2014). Self-control is a product of a well-regulated child. Therefore, a child who demonstrates self-control grows into an adult who continues to use self-regulatory skills.

In contrast, if a child is unable to self-regulate and grows up under constant stress induced states, the brain is altered, resulting in adults who experience a lifetime of anxiety, hyper vigilance, and cognitive distortion (Perry, 1998). Creating a culture of self-regulation benefits society as a whole. Adults need to be able to match the energy requirements of a task, shift and sustain attention, modify emotions, ignore distractions, and most importantly understand social interactions and how to engage in them (Bonnet & Maich, 2014). Successful adults use self-regulating tools and strategies to help them adjust their energy level to the needs of the task, as well as proficiently identifying the stress in their life and how to limit it.

Summary

Children who are self-regulated are ready to learn. They are focused, regulate emotions, have impulse control, can assess the consequences of a situation, understand what others are feeling, understand how their behaviours affect others, and feel empathetic toward others (Shanker, 2012). Using the research examined in chapter two of this capstone, chapter three will

address strategies to teach self-regulation, stress reduction, and identification techniques. As well as the follow-up programming for schools to implement to prepare students to self-regulate their emotions and behaviours.

Chapter 3: Interpretation and Summary

Introduction

Parents, teachers, and others involved in the education of children need to have the tools and understanding of self-regulation. Teachers and school staff need to build a school culture surrounding self-regulation skills. Walker (2004) found 20% of students have behavioural and emotional self-regulatory problems in school. Additionally, Walker (2004) observed out of the 20% of students who suffer, a total of 84% were not receiving appropriate interventions. It is unacceptable students are not being taught to regulate. The research and data communicate it is time for teachers and schools to intervene and respond to the regulation problems within their school culture.

The issues regarding self-regulation do not exist in a bubble; the application of self-regulation needs to be universal to ensure all students are receiving the necessary skills. First teachers need to examine their relationships with students and take steps to improve the quality of the interactions they are having with their students. Next, teachers need to reduce the stress in their students' lives to ensure they can receive the teaching of self-regulation as well as other academic learning. Last, educators must evaluate the effective programs or training for teaching self-regulation to students and how they should implement them into their classrooms.

Concluding this chapter there will be a complete and detailed process, based on the research, available for teachers to follow to ensure their students are self-regulating. Following

the essential steps will help ensure teachers are doing what is best for the students and families entrusted to them; creating a safe and calm school environment.

Relationships

The first step in teaching regulation or any skill is to ensure the relationship the teacher has with the student is strong. Children under stress or who have experienced trauma learn how to cope with the stress and build resiliency when they have a stable, healthy relationship with an adult (Perry, 2009). Therefore, healthy relationships reduce excessive stress loads in children and it is teacher's role to ensure they foster positive relationships with each student.

As discussed in chapter one, students who drive teachers crazy are the ones who need self-regulation the most. Unfortunately, their behaviors make them extremely hard to interact with, and it is imperative teachers form a strong bond with the student. The Teaching Quality Standards (TQS) requires "Teachers establish learning environments wherein students feel physically, psychologically, socially and culturally secure. They are respectful of students' human dignity, and seek to establish a positive professional relationship with students that is characterized by mutual respect, trust and harmony" (Teaching Quality Standards, 2013, pg. 3).

Recommendations for teachers to support the development of the relationship include a need to "engage frequently with the students who present the biggest challenges" in the classroom (Bettini, Wang, & Cheyney, 2013, p. 15). First, observe your class carefully for the students who test and stretch your abilities. Second, create a time each day to engage with the student, walking to the playground, playing a game, or reading a book. The amount of time teachers spend redirecting and disciplining these challenging students is reduced as the healthy relationship is developed. Third, create communication time with the student if needed ask administration for support. Fourth, be accountable; keep track of the time you are investing in

the relationship and how the student responds to your time together. Finally, the fifth way to build quality relationships is to change your attitude; these students will not benefit from forced, fake, or manipulative interactions. Find something amazing about the child and repeat it over and over again to help change your mindset regarding the student (Bettini, Wang, & Cheyney, 2013).

Leakage of negative feelings towards students will damage a healthy relationship instantaneously. Shanker (2016a) warns, "…even if a teacher struggles to restrain what he or she says to the student, what they feel "leaks out" in their nonverbal behaviors (Leakage)" (para.6). How teachers feel about students will be apparent; the verbal or nonverbal cues the student sees will negatively affect their feeling of a safe and caring classroom and teacher.

The more positive relationships the child has in their life, the better chance they have at successfully learning how to self-regulate. In contrast, children with volatile and chaotic families experience relational poverty and have little or no attachment to others (Perry, 2009). Healthy relationships and attachment are the beginning of Perry's (2009) core strengths. Perry (2009) claims students who have strong attachments become a better friend, student, and peer, promoting learning. The network of strong relationships teachers create in their classrooms and within the school is vital in producing an optimal learning environment leading to the effective instruction of self-regulation (Perry, 2006).

As important as the relationships between teacher and student are, the relationship between the parent and the child is extremely important. The TQS (2013) requires, "Teachers strive to involve parents in their children's schooling. Partnerships with the home are characterized by the candid sharing of information and ideas to influence how teachers and parents, independently and cooperatively, contribute to students' learning" (Teaching Quality

Standards, 2013, pg. 4). Parents who show an interest and want to invest in their child's educational path should be encouraged to volunteer in the classroom and should be given jobs that support student learning. Equally important is the parent's role in their child's education. Once a child transitions to grade one, there is a drop in parent involvement at the school level (Pianta & Kraft-Sayre, 2003). The more involved the parents are in the classroom, the more improved student's literacy and math skills become (Sy & Schulenberg, 2005).

Parents that show an interest and invest in their child's educational path should be encouraged to volunteer in the classroom and given jobs to do that support student learning. For example, reading with students, supporting numeracy skills in groups, and participating in classroom routines. When parents cannot be in the classroom due to work or other commitments, teachers need to be incorporating alternative tools to support interactions (Ray & Smith, 2010). Some ways to involve parents in their child's education include the use of social media, online portfolios, technology with communication abilities, and holding family nights. Ray and Smith (2010) remind teachers that parents are also under a great deal of stress, and it is teachers and schools job to encourage them and help to reduce the stress in families lives and not add to it.

To summarize, the creation of a healthy relationship is the first step needed before self-regulation can effectively be taught and learned. Planning individual time for each student should be part of the teacher's lesson plan. There should be connection building time scheduled into daily plans and educators need to be accountable to follow through with the time. Having a conversation about interests, constructive conversation about the student's strengths, or just asking how they are doing are all ways to build a stable bond. After a healthy relationship is formed between the teacher and the student, as well as between the teacher and the family,

teachers can then effectively start to address the stress in the child's life. Identifying excessive stress and teaching the student how to reduce the amount of negative stressors is the second step toward self-regulation.

Reduction of Stressors

The second step in the pre self-regulation process is to guarantee students do not have an excessive stress load. Shanker (2013) speculates that excessive stress loads are the source of children's behavioral issues; then reducing the amount of stress the child is experiencing should be the objective of teachers and parents. Once the stress is reduced then the child can effectively learn self-regulation skills from the teacher or parent. Children under lots of stress have trouble paying attention, responding to others, doing simple tasks, and are grumpy, unhappy, argumentative, angry, extremely impulsive, and easily frustrated (Shanker, 2013). All the signs of excessive stress create issues in the child's ability to learn and consequently problems in the classroom. The teacher will spend a considerable amount of time dealing with problem behaviors. The reasons students experience stress are different for each child. As discussed throughout this paper excessive or age inappropriate technology use, too much noise or visual stimulation in the environment, unhealthy diets, overuse of sugar, a lack of quality sleep, the reduction in free independent community play, are all stressors that a child may be unable to cope with.

Kids Have Stress Too is a program designed by the Psychology Foundation of Canada and was created to help parents and teachers identify stress and help children deal with it. Physical signs that a child may be experiencing stress, include reoccurring headaches, tummy aches, irritability, nail biting, overacting to small problems, poor sleep, low energy or excessive energy, whining, fighting, or becoming withdrawn. All the signs of stress impact families and

children in the classroom. The Psychology Foundation of Canada's approach to dealing with stress aligns with all previous research. First, connect with the child, reduce the stress in the home environment, and teach them first to comfort themselves through self-regulation. The program *Kids Have Stress Too* has a structured framework for dealing with stress; stop, look, and listen. Stop, take the time to set the climate, reframe the problem for the child, and help them identify what is upsetting them. Choose a moment to talk to the child that is calm and there will be no interruptions and make sure you connect daily with the child. Look for signs on the child's face and body that show excessive stress is present; pay close attention to facial expression, mood, and activity for signs. Lastly, listen, give your full attention to the child and show interest in them, and make a connection that shows genuine care. Listen without speaking, nod your head, let them finish their sentence, and give a high amount of wait time without jumping in to speak.

Technology Stress and Recommendations

Shanker (2013) recommends looking at each of the possible stresses in the child's life and reducing what is possible. At home ensure the child's technology use is limited and monitored and age appropriate. The American Academy of Pediatrics (2016) recommends children under 18 months have no screen time at all, children ages two to five should have no more than one hour a day, and children over six years old should have limited and monitored time. Parents should be aware of what their children are watching and playing and have a discussion around the shows. The National Association for the Education of Young Children (naeyc) (2012) recommends avoiding passive screen time in children under eight years of age. Any non-interactive technology is considered passive, including, T.V., movies, or watching youtube videos. These create substitutions for interactive and engaging conversations with others. At

school teachers and school, leaders should be aware of the type of technology used in the classroom. The naeyc (2012) has recommendations for early childhood educators to follow to ensure the use of technology is appropriate. First, the naeyc (2012) suggests teachers integrate and evaluate technology and tools they use to ensure it is engaging and age appropriate. Second, provide a balance of activities throughout the day. Third, prohibit or strongly discourage the use of passive technology in school; no DVD's, television shows, and on-line videos. Fourth, support parents and families with understanding the appropriate use of technology in the home.

The stress caused by over stimulation and excessive technology use can be difficult to reduce. However, previous research in this paper indicates many ways adults can help decrease the stress from technology use. Parents and teachers can support children by setting limits and timers to indicate when the time is up, restricting the amount of passive screen time, having a discussion about the media the child is watching and restricting technology time before bed and school.

Play, Physical Activity, and Nutritional

The lack of play in children's lives is a stress that can be reduced by parents and teachers. Play is the first activity that requires children to delay gratification (Bodrova, 2008). If children are not given time to play daily, they enter in the school setting and struggle with social rules and interactions with others. If children are not allowed the right to play upon entering school they may lack the skills needed to negotiated play or social interactions appropriately. Parents and schools need to grant children daily opportunities to experience unstructured play opportunities. From this, it appears parents need to look at the time their child spends in structured sports and planned activities each week and then balance them equally with unstructured play opportunities. Furthermore, children will experience the benefits of physical activity resulting in a reduction in

potential stress in the child's life. Physical activity and movement breaks should be incorporated into the student's daily routine. Teachers should be encouraging play at recess time and frequent opportunities to move during the day. The stress of trying to remain in a desk and still can be too much for some children to handle.

Parents and educators can reduce stress in children life by ensuring they have a balanced diet each day. Sugar and junk food cause overstimulation in the body and brain. Reducing the amount of sugar and unhealthy choices in the child's diet will help to reduce the stress resulting from poor nutrition. Parents should include their children in the meal planning process; other suggestions could be to take a cooking class, cook and shop together, eat together as a family each night, and learn to read nutritional labels on foods. Teachers and schools should review what their policies are for birthday celebrations, bake sales, hot lunch programs, and supplemental meals to ensure students are meeting the Health Canada guidelines for healthy eating. Parents and teachers should sit down and eat with their children during any snack or meal time. Food should not be eaten during play or in a hurry. Healthy food can reduce stress in children, but rushing the consumption of food could result in anxiety or poor relationships with food later on in life.

Stress in the Environment

Some children can become overwhelmed by things in their environment, lights, noises, clutter, and chaos can cause excessive stress in some children's lives. Reducing the amount of stimulating objects in the home and at school can help to create a calmer environment. Lighting and seating can also cause children to undergo unneeded stress in the classroom. Teachers should look for signs that a child may be overwhelmed by the environment and begin to create a stress-

free physical environment. Blue lighting can create a calming classroom and different seating and calming spaces can be added to classroom environments to support hyper-sensitive students.

Regulation Programing

The last step is teaching self-regulation skills; after there is a strong relationship formed between the teacher and student and the excessive stress load has been reduced. Shanker (2015a) explains self-regulation is a five step process. First, reframe the behaviour, classify the stress and recognize it as stress response, not misbehavior. Second, identify the stressors, whether it is family life, overuse of technology, nutritional, or sensory. Third, look at how to reduce the stress, plan steps to support the student and reduce excessive negative stress. Fourth, reflect on what is working and the emotions and behaviours that the student is experiencing and what they need to do to be calm and alert. Fifth, respond to the student in a safe and caring way; remember to keep in mind the importance of your relationship with the child. What helped the child return to a calm and alert state and identify positive coping strategies? Using these five steps along with an understanding of the domains of self-regulation can help pinpoint the excessive stress and what to do to reduce the stress.

The Five Domains of Self-Regulation

Shanker (2015a) detailed the five domains of self-regulation and the type of energy needed in each domain to effectively self-regulate. The five domains of regulation, according to Shanker (2015a), are biological, emotional, cognitive, social, and prosocial. Along with Shanker's domains of self-regulation, Bonnett and Maich (2014) suggest ways teachers and parents can help support their children in each of the domains.

The biological domain produces the energy needed for the nervous system to function. (Bonnett & Maich, 2014). Students may need help if they are sensitive to sensory input,

overloaded easily, hyper alert, or easily distracted. Bonnett and Maich (2014) recommend strategies to support self-regulation including calming music, routine in transitions, and providing a warning before changes occur. Also effective are sensory tools, such as appropriate fidgets tools, stress balls, wiggle seats, incline planes, and exercise bands.

The emotional domain encompasses feeling and moods both positive and negative. Bonnett and Maich (2014) describe students who require support, go to one extreme and then the other, get over excited when praised and have intense negative emotions when frustrated, both result in an incapability to focus. Strategies Bonnett and Maich (2014) recommend include using stories with feelings of characters. Role playing is an effective tool to rehearse how to appropriately express emotions. Mindfulness and calming activities, such as meditation and yoga, have been found to reduce stress. Additionally, sensory rooms can be a great tool or strategy for creating a calm feeling in students. For some students, keeping a journal of feelings and experiences to reflect on can be helpful.

The cognitive domain comprises of all mental processing, retention, and critical thinking (Shanker, 2015a). Students who experience dysregulation in the cognitive domain have difficulty shifting their attention and are impulsive. Bonnett and Maich (2014) expressed that students who cannot regulate in the cognitive domain have trouble with the sequence of thoughts and cannot keep more than one thought at a time. To support students, teachers can engage the class in dramatic play experiences including puppets, blocks, sand, and water play. Teachers need to give students opportunities to do puzzles, obstacle courses, scavenger hunts, Simon says, and just dance; all these activities help students practice sequential thoughts (Bonnett & Maich, 2014). Additionally, teachers and parents need to break down all instructions and directions into simpler smaller steps that are easy to follow.

The social domain involves the regulation needed to respond to social cues in an appropriate way (Bonnett & Maich, 2014). Students who struggle, experience low social intelligence; they cannot read others cues and therefore, struggle in social situations. Providing collaborative opportunities in the classroom each day will help build the social regulation of students. Bonnett and Maich (2014) suggest playing games that identify others' feelings and mind reading games that support social understanding.

Last, prosocial, social approval, forming friendships, empathy, and peer connections are all part of this domain. Shanker (2015a) states,

> Some children are born susceptible to limbic arousal, or something happened that kindled the limbic system. If hyperaroused, impulses intensify while social and self-awareness decline: the child can't share, sympathize, or communicate. Someone else's arousal is so stressful that it triggers fight-or-flight or freeze. (p.5)

Bonnett and Maich (2014) agree students may find it difficult to focus for an extended period of time and as a result they miss out on vital social prompts of others. Students feel over stressed and overwhelmed to the point they are not able to process the state of mind of others (Bonnett & Maich, 2014). The inability to slow down and read social prompts and cues causes them to appear not to care when their friends are hurt or upset. It may seem they lack empathy when they are over stressed and are unable to process the feelings of others. Bonnett and Maich (2014) suggest that to help students build self-regulation skills in the prosocial domain adult need to model appropriate interactions. Using movie clips and short videos may help demonstrate empathy and create visual guides for students. Programs that support anti-bullying and common programing that teach social skills are beneficial. One example is The *Roots of Empathy*

program, designed to model and scaffold empathy to children through experiences with a neighborhood parent and baby.

Important to note, each child is unique and may be experiencing stress in different ways. Some tools will be effective and others may not be; nevertheless, universally these tools and strategies will benefit classes as a whole. Universal teaching benefits the whole class "Restricting programs to the most vulnerable children…misses the majority of children experiencing difficulties. Any program to improve the competence and well-being of populations should be available for all families with young children" (Mustard & Rowcliffe, 2009, p.156). A universal approach to addressing self-regulation should be viewed as best practice in education. Mustard and Rowcliffe (2009) emphasize it is not poverty that creates vulnerable populations it is in fact inequality. All programming needs to be fluently used throughout the school, community, and at home; equal access for all populations is necessary for the success of programming to be fully realized. Programs that involve the whole school community are then going to experience higher success rates for children. Whatever program a school chooses to adopt there needs to be a clear and definite plan for implementation.

Regulation Programs and Training

Teachers and parents need to invest in the adoption of a program to successfully teach self-regulation to students. There are different programs that may fit the needs of a teacher's class and the school community if they are incorporated appropriately into the school community. Teachers can support self-regulation in students through modeling and scaffolding during daily activities (Florez, 2011). Riva and Ryan (2015) agree that helping children master self-regulation behaviors involves accurate modeling and scaffolding. Scaffolding self-regulation skills learning, through collaborative groupings, supports students who struggle with

understanding the strategies. For example, creating heterogeneous groupings and allowing time to learn a skill like reframing negative thoughts, helps students who struggle with the concept. After three or four planned scaffold collaborations students are more likely to master the skills with appropriate peer modeling and evaluation. Teachers and parents must demonstrate the steps to take to ensure appropriate emotional and behavioural actions in different situations.

Modeling the appropriate way to resolve problems help students to internalize their actions. The findings of a study on teacher modeling by Tiger and Ingvarsson (2007) proved teachers who model self-regulation skills decreased the behavioural issues in their classes, by as much as 74%. Children learn through observation; watching their parents, teachers, and coaches helps them to internalize their reaction to problems. If teachers are expected to model self-regulation to students, then they first have to have strong self-regulation themselves. "When teachers deliberately teach self-regulation as part of everyday experiences, they help children become actively engaged learners, laying the foundation for years of future success in school and life" (Florez, 2011,p.51).

As well as modeling and scaffolding self-regulation skills, Florez (2011) states that to retain these learned skills children need time to practice with other adults and peers. Programming needs to be school-wide, all teachers need to have the skills to model self-regulation to every student in the school and community. The ongoing practice leads to mastery of self-regulation skills. For students who are incapable of self-regulation it is not appropriate to expect them to regulate after watching a video clip or plastering posters around the classroom; they need to practice each day: "One cannot change a neural system without activating it; one cannot learn how to write by watching a DVD on how to write, one has to hold the pencil, make the movements, and practice and master the skill" (Perry, 2009, p.252).

Perry (2002) details general suggestions for modeling self-regulation. Model self-control as a teacher each day when you are frustrated with classroom situations; step in quickly when students are using harmful language or actions; introduce students to peer mediation and conflict resolution tools; and praise thoughtful actions and language. Perry continues by saying transitions and planned routines need to be made clear to the class, and impulsive students can create chaos in the classroom; their actions can cause stress in other children. Above all, it is important to create a safe classroom environment. Riva and Ryan (2015) emphasize the importance of quality teacher training regarding teaching and implementing of self-regulation programs to ensure they are used effectively.

The Stop Now and Plan (SNAP) is a regulation framework through the Child Development Institute that teaches problem-solving skills and effective emotional regulation. The primary goal of *SNAP* is to help children flourish in school by encouraging them to stop, plan and then make sensible choices. The program serves boys and girls age six to eleven who are facing severe behavioural difficulties. While supporting self-regulation and offering necessary tools, this program segregates boys and girls, which could be an issue in a gender inclusive society. Inclusive programming with no possibility of gender discrimination needs to be delivered.

The *Alert* program helps create centered students, build focus, and increase attention through cooperative strategies. Developed by Williams and Shellenberger, the *Alert* program to help students get into the right state for learning, the three states being high alert, low alert, or optimal alert sate. Teaching children how to move from one energy state to another when needed. For example, at school an optimal state of learning is required, calm and ready to learn. However, there are times students are in low energy states, lethargic and slow, and other times

when they are in high alert states, hyper active and running in high gear. The *Alert* program is an individualized program for students struggling with self-regulation. The goal of any program is to first be universal. It indicates that the optimal state is a state all students should strive to return to. However, children should be encouraged to express the right state or emotion depending on the situation. For example, if a child's dog dies they would not be in an optimal state; they would be in a low state and that is an appropriate emotion for the situation.

The *Zones of Regulation* by Kuypers (2011) is a curriculum designed to foster self-regulation and emotional control. The program, originally designed to address self-regulation in children with autism, attention deficit disorder, and oppositional defiance disorder, has expanded to address all children who struggle with regulating their emotions and behaviours (Kuypers, 2011). This program aligns with the intervention belief that universal supports benefit the whole class, and the school community. As well, Mustard and Rowcliffe's (2009) intervention needs to be made available to all students in the school community. With any program schools choose to implement, teachers are responsible for teaching it effectively and to the best of the teachers' ability.

The *Zones of Regulation (ZONES)* program encourages teachers, students, staff, parents, and community members to all understand the vocabulary used in the program and collaborate to provide opportunities for practice. The *ZONES* uses four emotionally charges categories, red, yellow, green, and blue. Kuypers (2011) reveals she used the *ZONES* on the *Alert* program and expanded the emotional identification. Students learn what it feels like to be in each zone; red is out of control, yellow is very excited but the student still has some control, green is ready to learn and focused, and the last blue is sad or low energy. In the *ZONES* program, the consistently of vocabulary is important. All teachers, parents, and community members involved

with children need to use the appropriate vocabulary from the program. Students know what to expect, and it ensures they know everyone in their life expects the same thing from them.

The *ZONES* provides support for students suffering from poor self-regulation through teacher directed activities and group directed experiences. Incorporating sensory processing, executive functioning, and emotional regulation can be linked to the Alberta curriculum. There are assessments throughout the program to assess for learning. While the *ZONES* program is well laid out for teachers to follow, it is pertinent that teachers continue modeling and scaffolding self-regulation throughout the day. Self-regulation is not something that can be taught once a week and then tucked away. Teachers have a responsibility to ensure the children entrusted to them are receiving a comprehensive educational experience. Doing what is best for children and families in our schools remains a priority for school divisions "Supporting teachers in providing quality teaching and learning in the area of children's emotional growth is essential and should be the goal of administrations and boards of education" (Riva & Ryan, 2009).

Recommendations

Schools should look at the needs of all students and reflect on what will best support the emotional and behavioral needs. Through this paper, the three steps to effectively teaching self-regulation continue to present as imperative. First, build a healthy and engaged relationship with every student through daily intentional interactions. Plan daily interactions and be accountable to connect with each student; plan deliberate time with each of your students. Engage with other students throughout the school. The power of relationships transcends classroom walls. Collaborate with team members about students who are struggling, discuss next steps, and intentionally plan for other members to connect with those difficult students. Ask others,

administrators, physical education teachers, and staff to ensure they are all connecting with students who are struggling.

Next, identify any excessive stress the student may be dealing with and reduce it. Support families in reducing stress in their child's life as well. Balance unstructured and structured play experiences at home and school. Educate parents about age-appropriate technology usage and material. Support healthy eating and physical activity at home and school. Encourage parents and schools to reduce the amount of junk food and sugar in the food they supply. Create a safe and calm space for students suffering from family issues or stressed by global or environmental issues. Meet families where they are; families who are struggling do not need judgment; they need teachers to meet them where they are; ask what can you do to help.

Last, incorporate school-wide; a universal program such as the *Zones of Regulation*, train teachers, and warrant accountability. There needs to be a culture shift in schools to ensure programming is useful. All teachers, staff, and parents must use the vocabulary, model the way, providing scaffold experiences, and opportunities to practice newly learned skills. Programs are only tools to deliver an objective; they are only as good as the investment of the people using them.

If teachers want students to be successful self-regulators, then they need to teach them. When faced with a struggling reader great teachers do not ask them 'Why are you not reading or why do you not just read the page or why are you making the same mistake?' Instead great teachers start with letter sounds, then vowel blends then simple words. Great teachers start at the beginning. It is imperative we now start at the beginning with relationships; reduction of stress; then TEACH students to self-regulate.

Defining the importance of self-regulation and the three essential steps provides schools, teachers and parents with a sequential plan to ensure all students can be successful. The research in this paper has demonstrated children's behavioural and emotional issues are continuing to grow, causing stress for teachers and other students. The way we respond to this crisis will have affects school-wide, for families; and for the society in the future.

Leadership and Regulation

School leaders have a responsibility to ensure all children have a successful educational experience. Alberta Education released the *Principal Quality Practice Guidelines (PQPG)*, (2009) to provide a framework for effective school leadership. The document states, "The principal is an accomplished teacher who practices quality leadership in the provision of opportunities for optimum learning and development of all students in the school" (Principal Quality Practice Guidelines, 2009, p.5). The *PQPG* serves as a provincial requirement for principals and leaders to follow to ensure quality leadership.

The first dimension states, "The principal builds trust and fosters positive working relationships, on the basis of appropriate values and ethical foundations, within the school community -- students, teachers and other staff, parents, school council and others who have an interest in the school" (Principal Quality Practice Guidelines, 2009, pg. 6). Growing positive relationships built on trust, values, and ethical considerations is a requirement. Leaders who model and promote open and inclusive conversations; build healthy attachments with their students and teachers. To effectively provide opportunities for optimum learning, school leaders need to have positive relationships with teachers and students. Successful attachment is the first step in teaching self-regulation to students. Principals should ensure teachers are given time to

build relationships with each student in their class, and hold teachers accountable to follow through.

Also in this dimension it is stated that principals are required to "support process for improving relationships and dealing with conflict within the school community" (Principal Quality Practice Guidelines, 2009, pg. 6). The *ZONES* program has proven effective in supporting student regulation and reducing the amount of conflict in classrooms. If teachers are modeling and scaffolding regulation successfully, it will spill into their interactions with each other.

Another leadership dimension in the *PQPG* is leading a learning community: "The principal nurtures and sustains a school culture that values and supports learning" (Principal Quality Practice Guidelines, 2009, pg. 7). The principal or school leader is required to hold high expectations for all students and staff in the school. If it is the school's vision to reduce the amount of problem behaviours in the school, then the leader is responsible to ensure teachers are teaching the chosen programs in an effective way.

Understanding the larger societal impact is also listed in the *PQPG* requirements: "The principal understands and responds appropriately to the political, social, economic, legal and cultural contexts impacting the school" (Principal Quality Practice Guidelines, 2009, pg. 8). Based on the research and data collected in this paper it is apparent that students are increasingly unable to cope with their behaviours and emotions in and out of school. This trend should be identified by school leaders and a plan of action needs to be developed to align with the school's and the division's mission and vision.

The successful implementation of regulation programs is the responsibility of the teachers, parents, school leaders, administrators, and division staff. Teachers need the

appropriate professional development regarding regulation, and the supports to implement the teaching. Principles and leaders need to model and scaffold the programming with their teachers to ensure they are following through. Effective instructional supervision from administration along with high expectations for implementing self-regulation are imperative. In order for the programs to be successful there needs to be complete buy-in from teachers, supports in place, and quality supervision from administrators.

Conclusion

To create a climate of self-regulating students teachers need to build relationships, reduce stressors, and teach regulation skills. The student will benefit and experience successes in many different ways. It is important stakeholders communicate their struggles and success with each other through open and honest collaboration.

Self-regulation changes lives, not just for the student but the family, teacher, and community. In an email communication, a parent, expressed her feelings after her child had demonstrated expected social behaviours learned through self-regulation teachings. It begins with “So a thing happened today. My son behaved expectedly. Not at first, but it happened” (E. Peden., personal communication, April 23, 2017). The blog went on to detail the events of the previous night. The family dog had become ill and had to be put down. Her son, loving coined “the Captain” has autism, and she explains in heartbreaking details of telling the Captain why the dog had to be put down, explaining to an autistic child in a straightforward way, as there was no room for metaphors or magical places, the dog would die.

She explains the sadness that ensued in the family and the lack of appreciation the Captain had for the situation. His behaviours and emotions did not match the situation; the lack of empathy and concern was normal. Until something happened; just as they went into the

veterinarians he insisted on going in too; he bargained with the veterinary assistant. The child who had remained apathetic was now asking and begging to take his dog home. Though he did not cry, he was clearly uncomfortable with the situation. His big sister gave him her IPod to play on and he sat on a chair. The effects of teaching self-regulation and expected emotions and behaviours has implications far beyond the classroom and what happened next is a perfect example.

> Shortly after, the vet came in and prepared us for our goodbye. As he stuck the plunger into her catheter, the Captain hopped out of his chair, stood right beside the veterinarian and surprised us all when a sound climbed out of his throat and through the air. He was crying. No, he wasn't just crying, he was sobbing - broken and jagged as he begged Casey not to die. This sounds horrific, I know. It was. And also, it wasn't.
>
> Today our Casey gave our Captain the opportunity to feel. Feelings, my friends, are a gift. How would we recognize happiness if not for recognizing sadness? In her final moments she blessed my son with the gift of realizing his love for her. Today my son behaved expectedly. Not at first, but it happened. (E. Peden., personal communication, April 23, 2017)

This is just one single example of a child benefiting from universal self-regulation programs and teachings. If there is any doubt that self-regulation works, just ask the Captain's family.

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