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Running head: BUCKET FILLING STRATEGIES ON SELF-REGULATION

The effects of character education literature of bucket filling strategies on the ability of 5-year-old students to self-regulate in a Montessori classroom

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Abstract

The purpose of this action research project was to explore how the implementation of bucket filling could affect self-regulation in 5-year-olds in a Montessori classroom. The bucket filling theme is character education children's literature. The collection of data for this action research utilized a mixed method of quantitative and qualitative, including the pre- and post-Preschool Self-Regulation Assessment, daily observation reflections, and tally sheets of behaviors. The data collected and analyzed in this study use of bucket filling can have some effect on self-regulation skills in 5-year-olds in a Montessori classroom. Self-regulation is essential to success in the classroom and in the world at large, any intervention that supports self-regulation is vital for students and teachers.

Keywords: Montessori, self-regulation, character education, bucket filling

American youth is at risk. More students now are involved in substance abuse, violence, self-directed harm, depression, and are detaching from school and community than ever before (Tatman, Edmonson, & Slate, 2009). In 2013, there were 46 incidents of gunfire on school grounds. In 2019, gunfire increased by 33% to 64 incidents on school grounds (Everytown For Gun Safety, 2019). The Centers for Disease Control reported in April of 2018 that between 2006 and 2016, suicide in youths 10 to 17 had increased by 70% (Flannery, 2018). In addition, research data collected regarding middle school and high school students depicted a sizable prevalence of students involved in or affected by bullying (McKenna, Hawk, Mullen, & Hertz, 2009). In response to these dangers, a renewed interest in character education has taken root in the United States (Lickona, 1996).

Character Education has been a part of a school curriculum from the beginning of public-school inception. Horace Mann, an education reformer who helped bring about state sponsored public education, reported in 1839 the effects of reading on the formation of character (Harris, 1896). Since 1995, U.S. Department of Education has provided resources that support character education to teach such values as respect, responsibility, trustworthiness, fairness, caring, and kindness. It has awarded over 97 grants to support opportunities that strengthen strong character life skills in students (U.S. Department of Education, 2019). In this new millennium, character education continues to be a national movement that incorporates academics that help students develop socially and ethically (Tatman et al., 2009). Even as the field continues to evolve, there is a pressing need to identify and measure the outcomes of character education programs (Person, Moiduddin, Hague-Angus, & Malone, 2009).

According to Berkowitz (2002), during the early childhood education years, peers have a powerful effect on self-concept with regards to conflict resolution and moral reasoning

development. While self-concept is how a person defines one's self, self-esteem interprets that knowledge; it is the way one feels about oneself. Character education promotes self-esteem, which in turn helps students' abilities to control actions and emotions. These abilities are called self-regulation and contribute to positive behavior outcomes. According to Walton (2016), theorists and teachers believe that character education will help young children self-regulate.

Review of Literature

Character education is essential, now more than ever, to help prepare children to face the many perils of today's society and to support them in becoming productive, compassionate citizens of the world. Consequently, there is a need to continue to gather and present information about various approaches to character education in early childhood education. The following literature review will discuss the research on character education and its impact on emotional development. Next, it will identify the children's literature topic of bucket filling as character education literature. The final section will conclude with an overview of current research on self-regulation in early childhood education and provide insight into the impact on child development through children's literature, which leads to greater success in school, better relationships, and fewer behavioral adversities (Rosanbalm & Murray, 2017).

Theoretical Framework

The theoretical framework that guides this research is self-determination theory. Self-determination theory stems from examining motivation theories of the past and proposes that all humans have three psychological needs, which are for autonomy, competence, and relatedness. According to Deci and Ryan (2008), to live a satisfying life requires a fulfilled trifecta of autonomy, competence, and relatedness to exist within one's own self; "in short, psychological health requires satisfaction of all three needs; one or two are not enough" (Ryan & Deci, 2000, p.

233). After attaining these needs, intrinsic motivation, and a sense of well-being become prevalent, which creates psychological nourishment that is important for ongoing mental growth, integrity, and prosperity (Deci & Ryan, 2000).

Autonomy refers to being in control over one's life. People have a fundamental need to be in control of themselves. This significant need to be in control is a universal pull for the harmony of one's life (Deci & Ryan, 2008). However, according to Vansteenkiste, Simons, Lens, Sheldon, and Deci (2004), autonomy is dependent on the other two fundamental needs (competence and relatedness) working in conjunction to create a wholeness to controlling one's behavior, destiny, and choices. Evidence suggests that when humans receive support for these needs, they become more autonomous in their behaviors. It, also, shows that the behaviors are more likely to persist and lead to an overall feeling of satisfaction (Ryan & Deci, 2000).

Competence refers to being effective in one's mastery of an activity in the classroom or in life. People have a fundamental need to achieve knowledge and skills. They build their competence with tasks that have meaning to them (Deci & Ryan, 2002). According to *The Handbook of Self-Determination Research* (Deci & Ryan, 2002), the need for competence leads people to activities that challenge their skills and capacities. In a classroom, a student would be able to interact with the environment, assess the materials and use their skills to accomplish tasks. By mastering tasks and learning different skills necessary to control the outcomes, the student would develop a sense of competence (Deci & Ryan, 2002).

Relatedness refers to being connected to others. People have a fundamental need to belong, be connected, and relate to others. In the educational setting, it is the classroom culture and relevant curriculum that foster feelings of closeness and belonging to a social group. This universal need

to interact, be connected, and experience caring for others develops secure and satisfying feelings within one's social context.

These three psychological needs are invariant across cultural and ethnic delineations (Deci & Ryan, 2008). Sociocultural values play a role in how humans choose to satisfy these fundamental needs; each social environment can establish or dismantle a person's fulfillment of these needs based on their internally and culturally endorsed values (Deci & Ryan, 2008). Social contexts and values that support autonomy, competence, and relatedness were found to enhance the development and control of intrinsic motivating behaviors (Ryan & Deci, 2000).

For the purposes of examining the self-regulation of 5-year-olds in a Montessori classroom, I will be using self-determination theory as my theoretical framework. Studies have shown that students with their fundamental needs met have greater intrinsic motivation (Ryan & Deci, 2000). Research has found a positive link between a student's intrinsic motivation and their self-esteem (Deci, Vallerand, Pelletier, & Ryan, 1991). According to Rhodewalt and Tragakis (2003, p. 69) "Self-esteem evolves through its ties to self-knowledge and self-regulation."

Character Education

Character education is an approach that nurtures and promotes the development of ethical and responsible individuals. It emphasizes character and morals, as well as intellectual, social, and emotional development (Lickona, Schaps, & Lewis, 2007). It guides individuals in their development of morals which include caring for others while being responsible for themselves. When morals are developed, individuals can have positive relationships that foster respect, kindness, and appreciation for others. Character, as defined by Berkowitz, Bier, and McCauley (2016, p.3) is the "set of psychological characteristics that motivate and enable one to function as a moral agent." According to Lickona et al., (2007), character education curriculum should foster

intrinsic motivation in as many ways as possible. Also, it should strive to help students develop a stronger inner commitment in doing what is morally right (Lickona, 1996). In order to promote intrinsic motivation, it is most important to focus on the management of the student's behavior, promotion of personal growth, and the student's service to others (Berkowitz et al., 2016). The relationships that the child has with others are also imperative to character development. These relationships need to be supportive, authentic, respectful, and consistent (Berkowitz, 2002). All of the aspects of a moral life (cognitive, emotional and behavioral) need to be presented in order for a character education program to be effective (Lickona, 1996). According to Berkowitz (2002), most character education programs are centered around defining the words or concepts that constitute "character". However, it can be a daunting task to find age-appropriate concepts that resonate with a child, while presenting morals, promoting their self-concept, helping them manage their behavior, and encouraging them to be of service to others.

Bucket Filling

Abraham Maslow (1962, p. 44) once wrote, "No psychological health is possible unless the essential core of the person is fundamentally accepted, loved and respected by others and himself." Bucket filling is centered around this notion of self-concept. The metaphor states that there is an invisible bucket inside a person that holds all their thoughts and feelings.

The law of bucket filling is this: When you fill someone else's bucket, you fill your own.

In fact, being a bucket filler and filling someone else's bucket is the best way to keep your own bucket filled. Now switch it around; if you hardly ever fill buckets, your bucket will hardly ever be full. (McCloud, 2011, p.4)

In the late 1960s, Dr. Donald O. Clifton, a psychologist and professor at the University of Nebraska began using the terms "bucket" and "dipper" as descriptors in college classes to aid in

the understanding of a person's self-concept (Rath & Clifton, 2005). He created these terms as metaphors to describe the interactions that humans have with one another. These encounters are either positive or negative and rarely neutral (Rath & Clifton, 2005). Every interaction can support or disrupt one's mental and emotional health. In 1971 psychologist Dr. John Valusek described the terms 'buckets' and 'dippers' as an "overly simplified way of thinking about the self" (Valusek, 1971, p. 5).

In the 1990s, Carol McCloud was teaching preschool and attended an education seminar that referred to Dr. Clifton's buckets and dippers. McCloud adapted the strategy into a series of successful books, presentations, and supplemental materials, supplying over a thousand schools across four countries (United States, Canada, Australia, and China) (McCloud, 2019). The books outline moral lessons such as; caring, respect, kindness, consideration for others (elders, community works, family members), social justice (tolerance, human rights) self-discipline and self-control (Harerimana, 2019). According to McCloud's character development program, Bucket Fillers, each individual has an invisible bucket. This bucket is our self-concept: the emotional self (McCloud, 2011, see also Valusek, 1971, Rath & Clifton, 2005). Others can fill up your bucket by being kind, loving, or respectful. When this happens, you are able to fill up another's bucket, paying it forward, and creating a sequence of happiness or "rippling effect" (Katsikis, 2013). Dippers are "unhappy, bitter, complaining, vindictive and non-support[ive]" persons who reach into another's bucket in a futile attempt to enhance themselves (Valusek, 1971, p. 8). According to McCloud, "When you dip into someone else's bucket, you dip into your own" (2011, p.18). This creates a negative ripple effect, where everyone's bucket becomes empty. Although Clifton referred to dippers being used to fill and empty buckets, McCloud states that the "dipper" is used solely for dipping. In Marquardt's (2012) research on *The Effects*

of Bucket Filling on Peer Relations in an Elementary Classroom, she says that McCloud simplified the dipper descriptor to just one action for younger children. Marquardt's research findings aligned with the beliefs of Clifton, Valusek, and McCloud that a full bucket of positive thoughts can lead to a more confident, secure, calm, patient, and friendly person, while an emptied bucket can lead to feelings of sadness, nervousness, anger, and fear (Valusek, 1971, Rath & Clifton, 2005, McCloud, 2011, Marquardt, 2012).

Self-Regulation

Self-regulation is the control over self, actions, and emotions (Rosanbalm & Murray, 2017). It is the ability to comply and modulate emotions while responding appropriately to others (Ravers, et al., 2012, Rosenbalm & Murray, 2017). Students naturally develop the ability to control external actions as their internal regulations evolve. According to Kopp (1982, p.199) students begin to “modulate the intensity, frequency, and duration” of their activities in the classroom and can postpone gratification (Kopp, 1982, Vale, 2006). A critical element of child development is providing experiences, support, and encouragement to self-regulate. Supporting self-regulation development in early childhood has been shown to lead to a significant achievement in school, better relationships, and fewer behavioral adversities (Rosanbalm & Murray, 2017).

In the Montessori pedagogy, the term normalization describes the child's inner discipline, and which can be related to self-regulation (Ervin, Wash, & Mecca, 2010). Montessori wrote extensively about the child's inner discipline. She discussed their ability to concentrate, work effortfully, build respect for others and the environment, and find contentment with themselves (Montessori, 1995). Montessori classrooms move theory into practice as the environment is prepared with activities that have been proven to promote concentration and self-determination (Lloyd, 2008). Along with providing the child with the necessary materials to develop self-

regulation, classrooms support independent work and pro-social skills (Ervin, et al., 2010).

According to the dissertation *An Analysis of Maria Montessori's Theory of Normalization in Light of Emerging Research in Self-Regulation* (Lloyd, 2008), normalization can be understood as an applied theory of self-regulation and is in alignment with self-determination theory.

Based on individual cognitive and motor skill development, self-regulation skills can vary over the first five years of life. In Rosanbalm and Murray practice brief (2017) they list the five examples of preschool-aged children's self-regulation skills as: recognizing an array of feelings in self and others, identifying solutions to simple problems, using strategies to calm down, focusing attention on difficult tasks for longer lengths of time, and empathy for others. Also, according to their practice brief, preschool-aged children are taught in the classroom to build self-regulation skills directly through teaching, coaching, and literature.

Character education and self-regulation are essential to support children in becoming productive, compassionate citizens of the world. Because the Montessori classroom allows for activities that support pro-social skills and promote character education the environment provides an opportunity to collect data on the effect of bucket filling strategies on self-regulation in 5-year-olds.

Methodology

This study utilized both quantitative and qualitative experimental design to determine the effect of character education literature of bucket filling strategies on the ability of 5-year-olds to self-regulate (emotional, cognitive, and social) in a Montessori classroom. The quantitative measurement utilized a tally sheets of behaviors associated with self-regulation, attendance, and filling of physical buckets (see Appendix A). The qualitative measurement utilized daily observations (see Appendix B), reflection of lesson (see Appendix C), and conflict observation

(see Appendix D). Additionally, an analysis of student pre- and post-self-regulation skills were gathered using the Preschool Self-Regulation Assessment (PSRA) (Smith-Donald et al., 2007).

Design

This research was intended to find information as to the effect that character education literature of bucket filling strategies had on the abilities of 5-year-olds to self-regulate in a Montessori classroom. In the literature review, it was established that character education can have an effect on self-regulation. Because bucket filling is a form of character education, this research was designed to find out the effect bucket filling would have on self-regulation. The dependent variables of levels of social, emotional and cognitive self-regulation were measured in this study by asking the following question: Does bucket filling strategies have an effect on emotional self-regulation (self-calming), cognitive self-regulation (problem-solving) and social self-regulation (interacting with others)?

Setting

The research study spanned six weeks in a kindergarten Montessori classroom located in a small suburban coastal area in the western region of the United States. The private school is composed of individual graded classes from pre-K to 8th grade. The school's philosophy utilizes Montessori materials and pedagogy while implementing traditional school aspects of workbooks and other curriculums in single age/grade classrooms. The population for this action research study is eight 5-year-old Kindergarten students. The sample is three girls and five boys enrolled in all-day Kindergarten.

Instruments

To measure students' self-regulation skills, the following methods were utilized: (1) Tally sheet of behaviors associated with self-regulation (See Appendix A); (2) student attendance (See

Appendix A); (3) daily observation (see Appendix B); (4) reflection of lesson (See Appendix C); (5) conflict observation (See Appendix D); (6) filling of physical buckets (See Appendix E); and (7) pre- and post-intervention PSRA (Smith-Donald et al., 2007).

Quantitative data collection was in the form of tally sheet of behaviors (see Appendix A) associated with self-regulation. The list actions filled out by the researcher that correlate with these behaviors were: (1) emotional: self-calming; (2) cognitive: problem-solving; and, (3) social: arguments, unkind words, interrupting, physical outbursts, ignoring/avoiding, or tattling.

Further gather of quantitative measurements from the same tally sheet of behaviors, were collected; student attendance, conflict observations, and filling of physical buckets. Tallying attendance helped to determine if participation played a role in the development of self-regulation during this action research implementation. Counting the number of conflicts and whether or not a student could solve with or without help provided more insight into the implementation. The count of bucket filling showed if the implementation was having an effect on bucket filling or dipping instances.

Three types of reflections were used to gather qualitative measurement. The first was a daily observation, which occurred at 10:00 a.m. each morning for twenty minutes (see Appendix B). It consisted of prompts to guide the researcher in recording bucket filling behaviors. The second was the reflection of the lesson (see Appendix C); a guided prompt to reflect on experience giving the lesson and the effectiveness of the lesson, both during and after the lesson.

The third was a conflict observation (see Appendix D). The researcher collected qualitative data on characteristics of an observed conflict such as the language used, resolution strategies, whether adult intervention was needed, and notable physical responses.

The PSRA is designed to assess self-regulation in emotional, attentional, and behavioral domains by using short, structured tasks such as walking on a balance beam or tapping a pencil. The Balance Beam and Pencil Tap tests are for attention/planning. The Tower Clean Up and Toy Sort tests are for following directions. The Toy Wrap and Snack Delay tests are for impulse control. The PSRA gave a pre and post evaluation of self-regulation skills. All children were assessed in the first and last week of study. The assessment helped to determine if the intervention had an effect on impulsive behavior, focus and direct attention, listening, processing, and following directions.

Data Collection Procedures

Before the research started, parents were given a consent letter (see Appendix F). This letter explained the anonymity, process of the study, and the collection of data. The data collection covered emotional, cognitive, social interactions and counted the instances their child could; calm their self, problem-solve with or without help, use bucket filling vocabulary, argue, use unkind words, interrupt, display physical outburst, ignore others, or tattle. The letter explained that attendance would be taken, and that data would be used to determine if the lessons are useful for those who attended. The letter further explained that they could opt out of having their child's data collected. Furthermore, a meeting took place before research started with all parents of students to be included in the study. They were provided with the character education literature along with an open dialogue as to what the research study would entail. All parents agreed, supported the research study, and elected for their child's data to be used.

At the beginning of the study, the PSRA assessment was administered to all students. The assessments required a substantial amount of time. A total of three days was necessary to assess

all students. After completion of the PSRA's and due to the school calendar, another two days were needed before official presentation of bucket filling strategies began.

Once a week during standard morning circle time in the classroom, a story that exhibited the theme of bucket filling was read. A supplemental lesson that related to the story's narrative was presented (see Appendix G). These lessons correspond with Montessori pedagogy and the supplemental materials were age appropriate. The lessons were accessible for any of the students to choose throughout the six-week study.

At 10:00 a.m. each school day, the researcher observed for twenty minutes. Also, throughout the day the researcher collected data on a tally sheet (see Appendix A). This data included: behaviors associated with self-regulation, student attendance, conflict observation and resolution, bucket filling and/or bucket dipping behaviors. For emotional self-regulation, the researcher counted when the student could calm down when upset. For cognitive self-regulation, the researcher counted when the student could problem solve with or without help. For social self-regulation, the researcher counted when bucket filler and bucket dipper terminology was used, and when there were disruptive behaviors such as arguments, use of unkind words, physical outbursts, ignoring/avoiding, or tattling.

On this same tally sheet, the student's attendance was verified during the weeks of intervention. The researcher also counted observable instances of conflicts and resolutions. This is defined as an interaction between two or more children in a disagreement that may or may not need teacher guidance to resolve. These instances did not have a minimum or maximum length of time. An adult intervened if the disagreement became physical. The researcher also counted the filling of physical buckets.

Data Analysis

The raw data was collected in the form of Preschool Self-Regulation Assessments (PSRA), tally sheets of behaviors associated with self-regulation, student attendance, filling of physical buckets, daily observation, reflection of the lesson, and conflict observation.

The PSRA has quantitative coding to show the difference between the pre and post PSRA tests. In a bar graph, the maturation from pre to post in the six-week study is depicted. The quantitative data of the tally sheets of behaviors associated with self-regulation, student attendance, and filling of physical buckets were analyzed using Microsoft Excel, which showed the data trend over the six-week duration of the study.

The qualitative data of the daily observation, reflection of the lesson, and the conflict observation were analyzed in five phases using thematic analysis. The first phase required compiling the data. The second phase involved categorizing and coding the data. Phases three, four, and five found themes based on the codes, looked at them and attributed them to a self-regulation behavior. Phase six analyzed and triangulated the data in relation to the research question to produce a report.

The purpose of this study was to determine to what extent character education literature of bucket filling strategies affects the ability of 5-year-old students to self-regulate in a Montessori classroom. The research design was a mixed method. The qualitative data was collected using daily observation, reflection of the lesson, and the conflict observation to gather information about previous and present self-regulation skills. The quantitative data used pre- and post-Preschool Self-Regulation Assessments (PSRA), tally sheets of behaviors associated with self-regulation, student attendance, and filling of physical buckets

The sample size for this action research study is eight Kindergarten students. All students were five years old at the time of research and consisted of three girls and five boys enrolled in an all-day non-mixed age group Montessori classroom. Figure 1 below provides the quantities of gender to visually show the predominance of boys versus girls in this study.

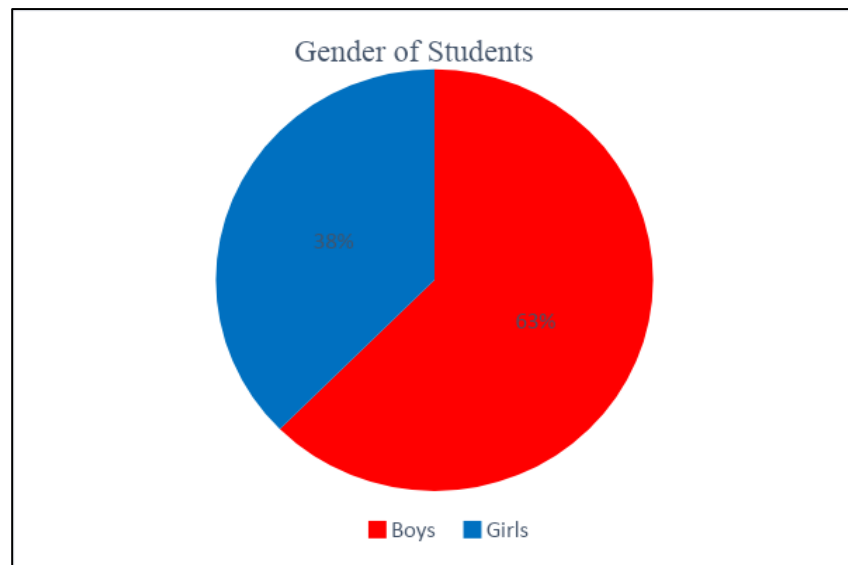


Figure 1. Percentage of boys and girls in this study

In this study, there were two research questions. The first question was designed to measure the level of self-regulation skills of the students before and after implementing bucket filling strategies. The researcher addressed the question by administering the PSRA before the introduction of the bucket filling strategies, which provided a baseline to which compare the post-assessment results.

Another tool used to determine self-regulation behaviors was a tally sheet of specific behaviors to count daily during the work time. These behaviors included emotional self-regulation: the student could self-calm without help or needed help. For cognitive self-regulation, the student could problem solve without help or with help. For social self-regulation, the usage

of the terminology of bucket filler and bucket dipper, and if when there were disruptive behaviors such as arguments, use of unkind words, physical outbursts, ignoring/avoiding, or tattling.

Data from the Pre- and Post-Preschool Self-Regulation Assessment (PSRA)

In this research, data collection on student's self-regulation via the Preschool Self-Regulation Assessment (PSRA), developed by Smith-Donald, Raver, Hayes, & Richardson, (2007) assessed students' self-regulation in the areas of emotional, attentional, and behavioral utilizing nine quick structured tasks. No formal training or certification is required to administer this test, and all scripted materials are available from New York University Neuroscience and Education Lab (2019). The performance-based evaluation consists of two parts: The tasks the child is expected to perform and an examiner's rating scale.

The PSRA assessment has two components. The first is nine tasks divided into three areas of self-regulation. Firstly, the executive function tasks (Balance Beam, Pencil Tap, and Tower Task), which filter competing stimuli (Smith-Donald et al., 2007), and are indicators for success in impulse control and attentiveness (Raver et al., 2012). Secondly, gratification levels tasks (Toy Wrap and Wait, Snack Delay, Tongue Task), and thirdly socialization skills (Tower Cleanup, Toy Sort, and Toy Return).

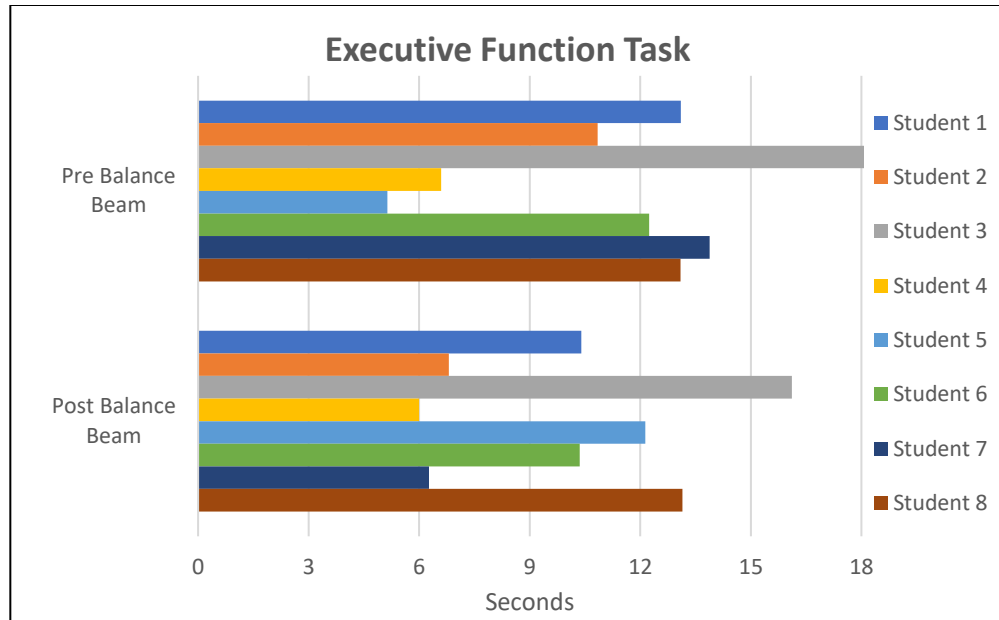


Figure 2. Pre- and Post-PSRA Executive Function Tasks; Balance Beam in Seconds

Figure 2 shows that during the Balance Beam Task, which is to control the stimuli to go fast, six students decreased their times. From the remaining students, one student’s time increased, and one student stayed the same.

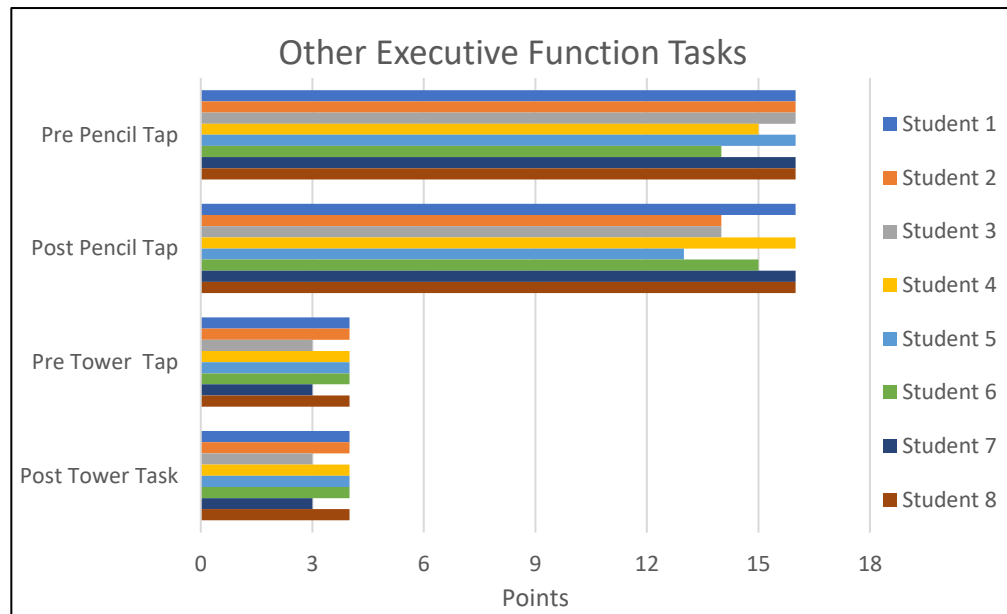


Figure 3. Pre- and Post-PSRA Other Executive Function Tasks; Pencil Tap, and Tower Task

Figure 3 shows an analysis of the pre- and post-assessments in the remaining executive functions using a point system. These eight students demonstrated no significant change for the Tower Task, while four students decreased in the Pencil Tap post-assessment.

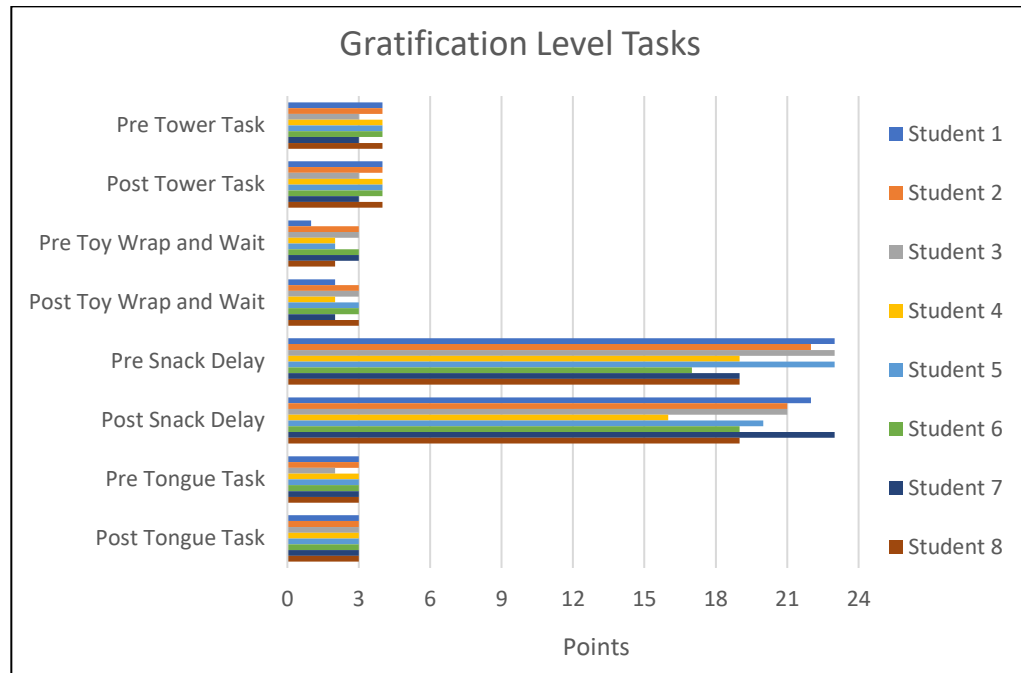


Figure 4. Pre- and Post-PSRA Gratification Level Tasks: Tower Task, Toy Wrap and Wait, Snack Delay, and Tongue Task

In the second area of self-regulation, the tasks are assessing gratification levels also effortful control. The functions in Figure 4 are Tower Task, Toy Wrap and Wait, Snack Delay, and Tongue Task. There was no variation from pre- to post-test of the Tower Task. Increases were in Toy Wrap and Wait and Tongue Task. Snack Delay shows five students decreasing in their ability to delay gratification post-intervention.

In the area of socialization, the tasks Tower Cleanup, Toy Sort, and Toy Return are scored differently per item. Such as in the Toy Return task where the student receives one point for a “yes” answer to the following questions; 1. Shows positive affect, 2. engages examiner in play,

3. Defiant/ignores examiner, 4. complies within one minute, 5. ignores at least three secs, and 6. defiant/refuses. The best score is 2. While in Toy Sort Task, one point for “yes” for the following: 1. sorting correctly, 2. full compliance, 3. partial compliance, 4. non-compliance, 5. plays with toys, 6. complains, 7. positive engaging, 8. defiant/ignores, and 9. refuses task. The best score is 4.

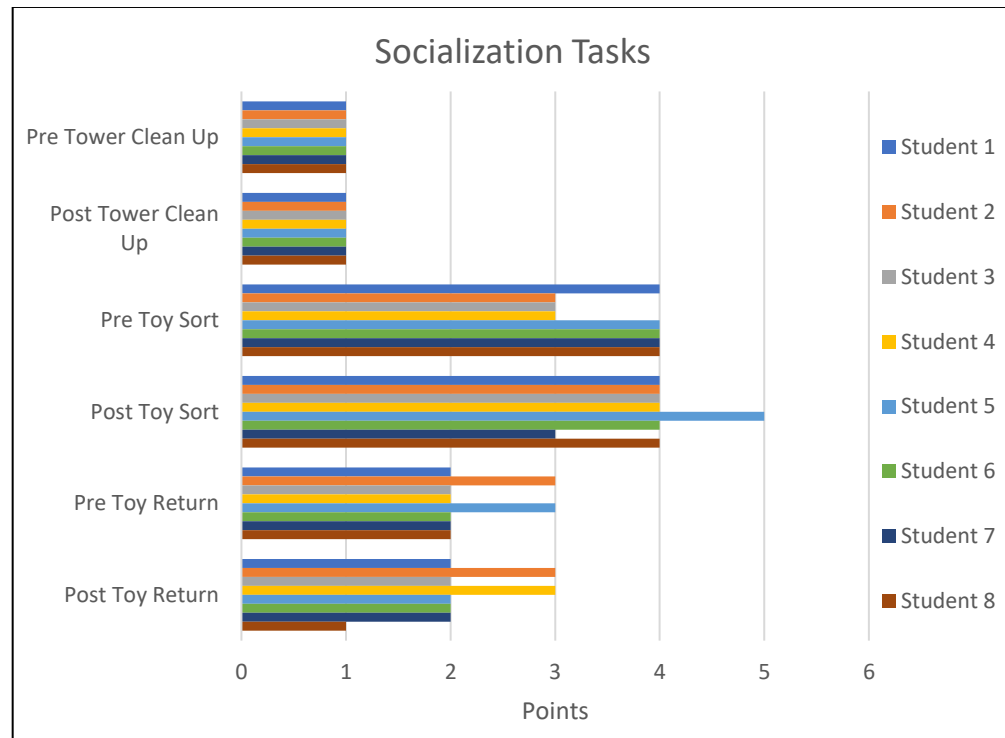


Figure 5. Pre- and Post-PSRA Socialization Tasks; Tower Clean Up, Toy Sort, and Toy Return

Figure 5 shows the Tower Clean Up task had no variation. In the Toy Sort, out of eight students, three students had no variation. Toy Return Task showed anomalies in the randomness of five students having no variation, while one student increased, and two students decreased.

The second part of the assessment, the PSRA Assessor Report Examiner Rating Scale (ARERS), is used to scale for emotional regulation. Smith-Donald et al., (2007) states that the ARERS was adapted from combining Leiter-R social-emotional scale and the Disruptive

Behavior-Diagnostic Observation Schedule coding system. These together provide an overall look at the student’s emotions, attention and behaviors. The ARERS report is divided into sections for attention, impulse control, activity level, sociability, and energy and feelings.

Since the ARERS reverse-coded some of the questions to minimize researcher auto responses, this researcher reversed back the coding to create a total possible of 78 points. The first twenty-five question valued at three points each and the last three questions valued at one point each making the highest possible score 78.

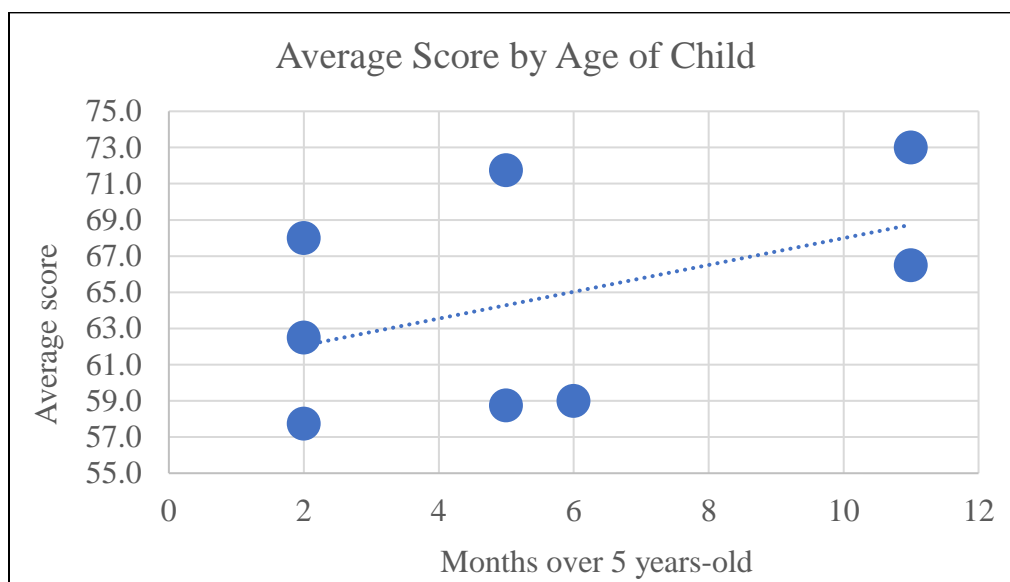


Figure 6. Average Score by Age of Child in Months

Figure 6 shows that based on the age of the child the average scoring for both pre- and post-ARERS report. The trend line shows an average increase in scores going up. Notice that none of the students reach a total of 78. The data suggest that age may not play a factor in scores as seen in the three students of the same age.

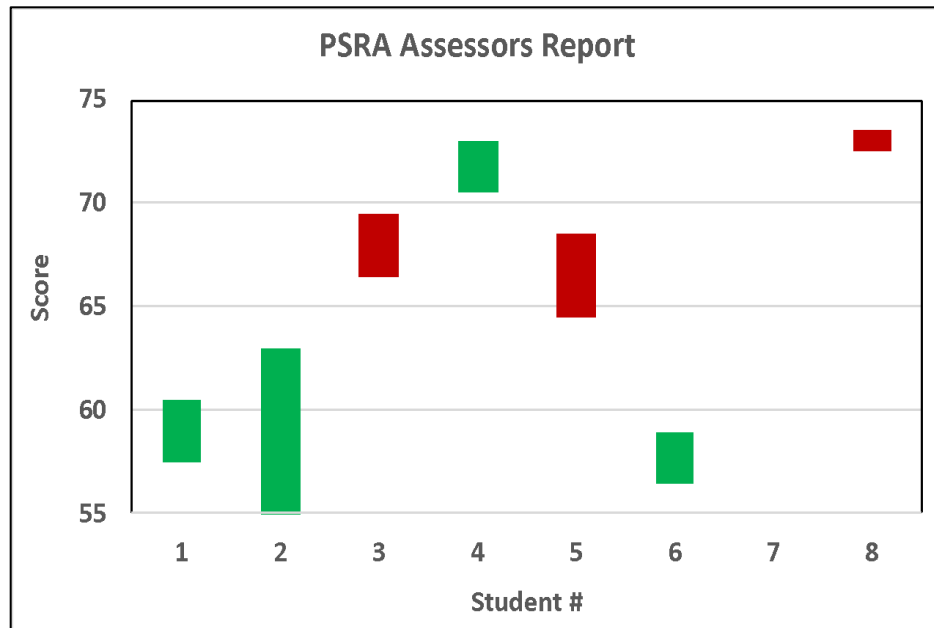


Figure 7. Pre- and Post-Assessors Report Examiner Rating Scale

In Figure 7 the ARERS depicts in green the increases in self-regulation and in red the decreases in self-regulation per individual student. Of the eight students, one student made a substantial increase of seven points. While 50% had an increase from pre- to post-assessment, 38% of the students also had a decrease, and 12% stayed the same.

Data from the Observational Field Notes and Tally Sheets

The next question was to find to what extent bucket filling strategies affect the ability of 5-year-old students to self-regulate in a Montessori classroom. To answer this question, the researcher used the data from student attendance, daily observation, reflection of the lesson, conflict observation, and the filling of physical buckets. Identifying and comparing these collections and the pre- and post-PSRA’s helped the researcher determine the effects on self-regulation in the areas of (1) emotional: self-calming; (2) cognitive: problem-solving; and, (3) social: arguments, unkind words, interrupting, physical outbursts, ignoring/avoiding, or tattling.

In addition to the pre- and post-PSRA and ARERS assessments, this study used daily observations to identify self-regulation in the areas of (1) emotional: self-calming; (2) cognitive: problem-solving; and, (3) social: arguments, unkind words, interrupting, physical outbursts, ignoring/avoiding, or tattling. The qualitative data of the daily observation, reflection of the lesson, and the conflict observation were analyzed in a triangulation. The following figures show the data produced.

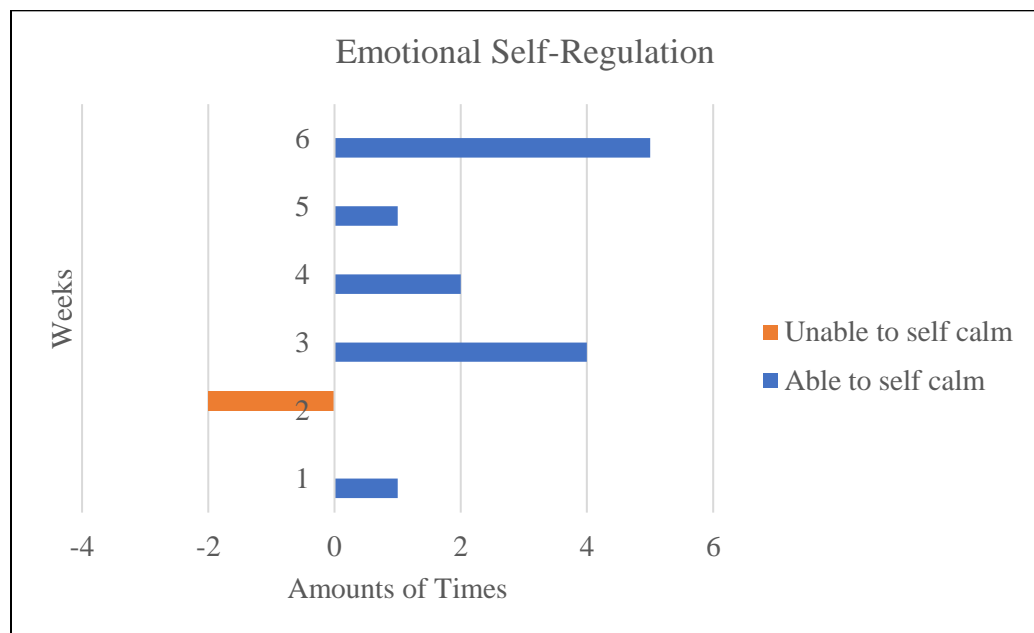


Figure 8. Emotional Self-Regulation

Figure 8 depicted most of the time students were able to self-calm throughout the day. Daily observation and conflict observation showed the students were able to self-calm during the work period. On two occasions during a conflict between students, an intervention to self-calm was needed.

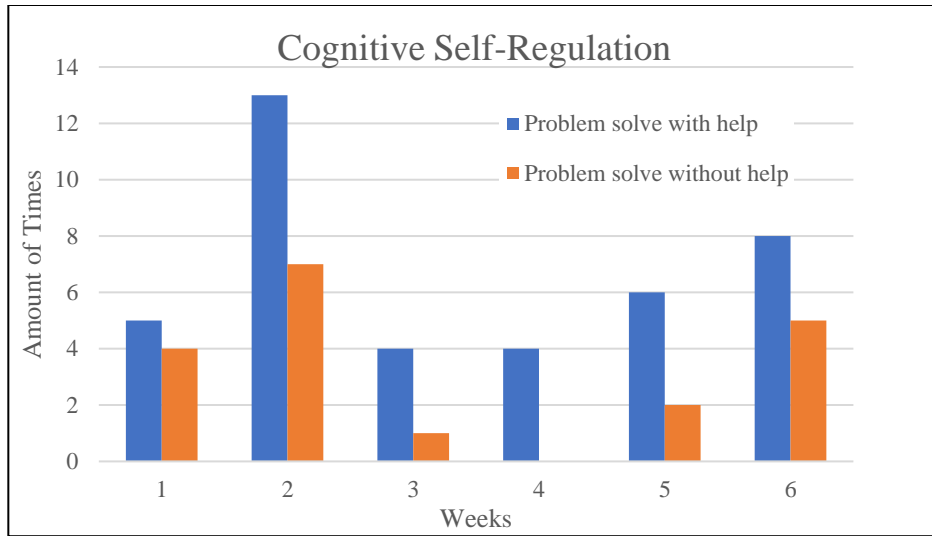


Figure 9. Cognitive Self-Regulation

During the six-week study a majority of students could not problem solve without help. Figure 9 shows that in week 4, students problem solving without help was nonexistent. Reflection showed the students were able to mostly problem solve during the work period, but the conflict observations and conflict resolution data showed that help was needed to solve the conflicts.

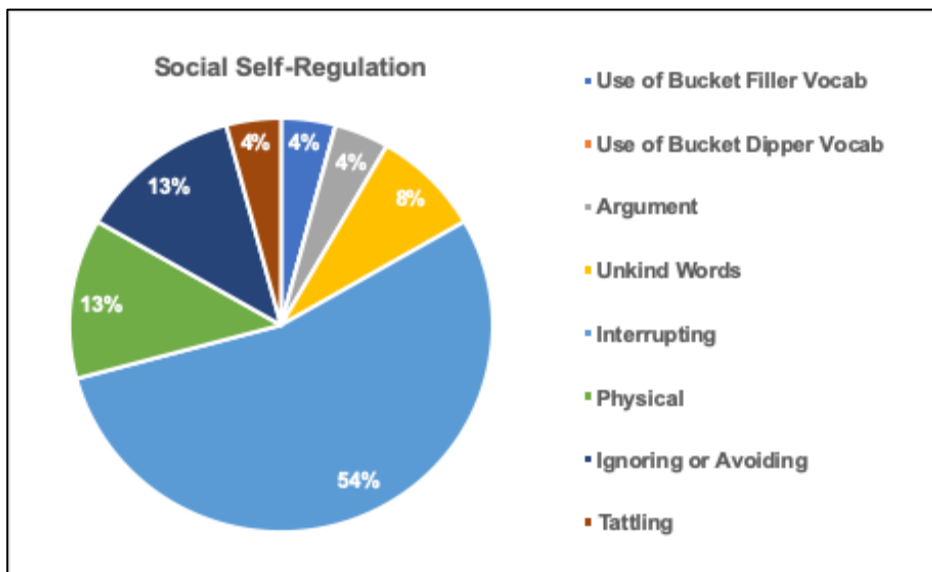


Figure 10. Social Self-Regulation

Figure 10 shows during the six-week study a high percentage of the time students were having trouble with interrupting. Daily observation showed that the help was needed to reinforce the use of bucket filler vocabulary. Also, the data showed that ignoring/avoiding and physical outbursts needed intervention more than unkind words, arguments, bucket filling and dipping vocabulary. Conflict observations showed that arguing and interrupting.

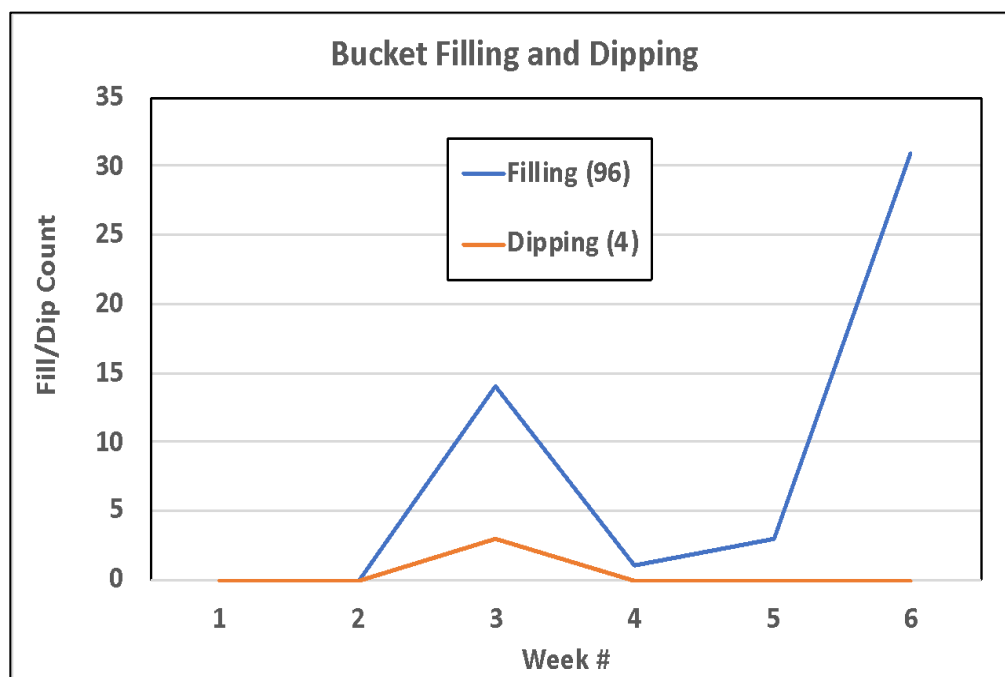


Figure 11. Bucket Filling and Bucket Dipping

Figure 11 shows that bucket filling peaked in week three and six. Daily observation showed a needed to reinforce the use of bucket filler vocabulary. It also showed that a reminder of bucket filling lessons coming to an end may have increased the usage in the last week. Conflict observations showed that students were not solving their problems with the use of the terminology of bucket filling and dipping.

The findings show that after the six-week intervention, 50% of the students experienced a positive impact on their self-regulation skills. 4% of the students used bucket filling vocabulary and 96% of the time buckets were physically filled.

Conclusions

The purpose of this action research study was to determine the effects of character education literature of bucket filling strategies on the ability of 5-year-old students to self-regulate in a Montessori classroom. The first question was designed to determine the level of students' self-regulation skills before and after implementing the bucket filling strategies. The second question was designed to discern what extent bucket filling strategies affect students' self-regulation skills.

Although there were limitations in the study, the resulting data proved that implementation of bucket filling strategies had a marginal bearing on 5-year-old students' self-regulation in a Montessori classroom. The findings show that after the six-week intervention, 50% of the students experienced an increase on their self-regulation skills, 4% of the students used bucket filling vocabulary and that 96% of the time physical buckets were filled.

Based on the findings for the pre- and post-Preschool Self-Regulation Assessments the following conclusions were drawn:

- Balance Beam Task: Six students decreased time – which means they could not stop the stimuli to stop themselves from going fast.
- Pencil Tap: Four students decreased – which means they could not use their effortful control.
- Snack Delay: Five students decreased in their ability to delay gratification.
- A plot of the students' age vs. their scores suggest age has no significant impact on scores.

Based on the findings of the qualitative data collection, the following conclusions were drawn:

- The ARERS report shows both a 50% increase in emotional regulation and a 50% decrease in emotional regulation.
- Emotional Regulation: Students were able to self-calm except when in conflict with another student. In such cases, they needed intervention.
- Cognitive Regulation: Students were able to problem solve on their own except when in conflict with another student. In such cases, they again needed intervention.
- Social Regulation: Students were not solving their own problems but arguing and interrupting.
- Bucket Filling and Dipping: Students were not solving problems using the terminology from the bucket filling themed stories.

Recommendations

Although this study was performed on a small sample size, it does point toward the need for continued research of self-regulation in 5-year-olds in the Montessori classroom. The researcher concluded from the observations that to determine the extent that themed bucket filling character education literature may affect student self-regulation skills, more participants are needed in future studies. Also, a more balanced gender ratio and a mixed-age classroom of students would give the research a better statistical basis with which to make determinations.

Lastly, the researcher recommends receiving formal training on the Preschool Self-Regulation Assessment as it was challenging to execute in the following ways: Administering as the teacher-researcher, administering in the classroom with others present, and determining the ideal time frame with which to administer the assessment. Having a researcher that does not have a

preexisting rapport with the students (e.g., assessment outside of the classroom) and spreading the pre- and post-assessments more than six weeks apart may increase the accuracy of the results by eliminating the researcher-student relationship comfort levels.

In conclusion, because self-regulation is essential to success in the classroom and in the world at large, any intervention that supports self-regulation is vital for students and teachers. The students enjoyed the stories and following activities for bucket filling, which did reflect in the research at 96% of the time physical buckets were filled. The researcher recommends the stories and lessons of bucket filling to enhance character education in the Montessori classroom.

References

- Berkowitz, M. (2002). The science of character education. *Bringing in A New Era in Character Education*, 508 (43-63).
- Berkowitz, M., Bier, M., & McCauley, B. (2016). Effective features and practices that support character development. Paper presented at The National Academies of Sciences, Engineering, and Medicine Workshop on Approaches to the Development of Character, Washington, DC.
- Deci, E., Vallerand, R., Pelletier, L., Ryan, R. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26(3-4), 325-346.
- Deci, E., & Ryan, R. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
- Deci, E., & Ryan, R. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.
- Deci, E., & Ryan, R. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182–185.
- Ervin, B., Wash, P.D., & Mecca, M.E. (2010). A 3-year study of self-regulation in Montessori and non-Montessori classrooms. *Montessori Life: A publication of the American Montessori Society*. 22(2), 22-31.
- Everytown For Gun Safety. (2019). *Gunfire on school grounds in the United States*. Retrieved from <https://everytownresearch.org/gunfire-in-school/#12594>

Flannery, M.E. (2018). As teen suicide rate increases, states look to schools to address crisis.

National Education Association. Retrieved from <http://neatoday.org/2018/05/14/teen-suicide-prevention/>)

Harris, W. (1896). Horace Mann. *The Journal of Education*, 44(8 (1091)), 140-142. Retrieved

from <http://www.jstor.org/stable/44045690>

Harerimana, J.P. (2019) Brain-based and learning theories: application of theories in the

classroom. *European Journal of Education Studies*, 5(12). www.oapub.org/edu

Katsikis, K. (2013). Proactive measures in combating bullying in schools: examining the

effectiveness of the bucket fillers program in character building education. *Theses and Dissertations*. 456. <https://rdw.rowan.edu/etd456>

Kopp, C.B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental*

Psychology, 1 (8). 199-21.

Lickona, T. (1996). Eleven principles of effective character education. *Journal of Moral*

Education, 25(1), 93-100. doi: 10.1080/0305724960250110

Lickona, T., Schaps, E., & Lewis, C. (2007). *CEP's eleven principles of effective character*

education. Character Education Partnership: Washington, D.C.

Lloyd, K. M. (2008). An analysis of Maria Montessori's theory of normalization in light of

emerging research in self-regulation. (Order No. 3326413, Oregon State University).

ProQuest Dissertations and Theses, 158. Retrieved from

[http://pearl.stkate.edu/login?url=https://search-proquest-](http://pearl.stkate.edu/login?url=https://search-proquest-com.pearl.stkate.edu/docview/304503369?accountid=26879)

[com.pearl.stkate.edu/docview/304503369?accountid=26879](http://pearl.stkate.edu/docview/304503369?accountid=26879)

- Marquardt, K. (2012). The effects of bucket filling on peer relations in an elementary classroom setting. Carroll University Waukesha, WI.
<http://archives.carrollu.edu/cdm/ref/collection/edthesis/id/113>
- Maslow, A. H. (1962). Some basic propositions of a growth and self-actualization psychology. In A. Combs (Ed.), *Perceiving, behaving, becoming: A new focus for education*, Association for Supervision and Curriculum Development (ASCD) 1962 yearbook (pp. 34-49).
Washington, DC: Association for Supervision and Curriculum Development.
- McCloud, C. (2011). *Growing up with a bucket full of happiness: three rules for a happier life*. Northville, MI: Ferne Press.
- McCloud, C. (2019). *Frequently asked questions*. Retrieved from <http://bucketfillers101.com>
- McKenna, M., Hawk, E., Mullen, J., & Hertz, M. (2009). Bullying among middle school and high school students – Massachusetts. *Morbidity and Mortality Weekly Report 2011*, 60(15), 465-471.
- Montessori, M. (1995). *The absorbent mind*. New York: Henry Holt.
- NYU Neuroscience and Education Lab. (2019). *Preschool self-regulation assessment (PSRA)*. Retrieved from <https://research.steinhardt.nyu.edu/ihdsc/csrp/psra>
- Person, A., Moiduddin, E., Hague-Angus, M., & Malone, L. (2009). Survey of outcomes measurement in research on character education programs. *U.S. Department of Education, NCEE 2009-006*.
- Rath, T., & Clifton, D. (2005). *How full is your bucket? educator's edition*. New York, NY: Gallup Press.
- Raver, C. C., Carter, J. S., McCoy, D. C., Roy, A., Ursache, A., & Friedman, A. (2012). Testing models of children's self-regulation within educational contexts. *Advances in Child*

Development and Behavior Volume 42, 245-270.

doi: 10.1016/b978-0-12-394388-0.00007-1

- Rhodewalt, F., & Tragakis, M.W. (2003). Self-esteem and self-regulation: Toward optimal studies of self-esteem. *Psychological Inquiry, 14*(1), 66-70. Retrieved from:
<https://www.jstor.org/stable/1449045>
- Rosanbalm, K., & Murray, D. (2017). Promoting self-regulation in early childhood: A practice brief. *Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 79*. Washington, DC.
- Ryan, R., & Deci, E., (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.
doi:10.1037/0003-066X.55.1.68.
- Smith-Donald, R., Raver, C. C., Hayes, T., & Richardson, B. (2007). Preliminary construct and concurrent validity of the Preschool Self-regulation Assessment (PSRA) for field-based research. *Early Childhood Research Quarterly, 22*(2), 173–187. doi:10.1016/2007.01.002
- Tatman, R., Edmonson, S., & Slate, J. (2009). Character education: An historical overview. *International Journal of Educational Leadership Preparation, 4*(1).
- Vale, E. A. (2006). Early moral sense: Behavioral self-regulation, temperament, and prosocial behavior in young children in child-centered classrooms (Order No. 3218156). Available from ProQuest Dissertations & Theses Global. (305258135). Retrieved from
<http://pearl.stkate.edu/login?url=https://search-proquest-com.pearl.stkate.edu/docview/305258135?accountid=26879>
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K., & Deci, E. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and

autonomy-supportive contexts. *Journal of Personality and Social Psychology*, 87(2), 246–260.

Valusek, J. (1971). *Bits and pieces: Some ways of thinking about human behavior*. John Valusek: Wichita, KS.

Walton, M. (2016). Mindfulness in the early childhood classroom: A curriculum to develop self-regulation (Order No. 10140735). Available from Education Database; ProQuest Dissertations & Theses Global. (1821905030). Retrieved from <http://pearl.stkate.edu/login?url=https://search-proquest-com.pearl.stkate.edu/docview/1821905030?accountid=26879>

U.S. Department of Education. (2019). Administrators/lead and manage my school. Retrieved from <https://www2.ed.gov/admins/lead/character/brochure.html>

Appendix B

DAILY OBSERVATION

| |
|--|
| <p>Did any students fill someone else's bucket today by being helpful or being thoughtful or kind?</p> |
| <p>Did you see any students filling their own buckets today? Describe.</p> |
| <p>Was there any student whose bucket is less than full and could use the teachers help? How did teacher help?</p> |
| <p>Did children asked to fill up someone's physical bucket?</p> |
| <p>Other thoughts?</p> |

Appendix C

REFLECTION OF LESSON

| |
|---|
| DATE: |
| LESSON: |
| EXTERNAL FACTORS: |
| <ul style="list-style-type: none"> ● WEATHER |
| <ul style="list-style-type: none"> ● DISTRACTION |
| <ul style="list-style-type: none"> ● VISITOR |
| <ul style="list-style-type: none"> ● OTHER |
| OBSERVATIONS DURING: |
| OBSERVATIONS AFTER: |

Appendix D
 Conflict Observation

| |
|---|
| Date: |
| Time Conflict Occurred: |
| Language used: |
| How did the children resolve conflict? |
| Did the teacher intervene? |
| How was the body language of each child involved? |

Appendix E

Filling of Physical Buckets



Appendix F

CONSENT FORM

Dear Parents,

In addition to being your child's teacher, I am a St. Catherine University student pursuing a Masters of Education. As a capstone to my program, I need to complete an Action Research project. I am going to explore how the implementation of "bucket filling" could affect self-regulation of within a Montessori Classroom. The importance of this research is to determine if the application of the bucket filling theory could affect self-regulation. Other research has shown that character education and self-regulation are essential now more than ever to help prepare children to face the many unknown perils that are in today's society and to help them become productive, caring, citizens of the world. A benefit to your child is they will have the opportunity to hear heartwarming stories that encourage positive behavior and show clear ways to express kindness and appreciation.

In the coming weeks, during the regular morning circle time, I will be presenting a story and lesson with the theme "bucket filling." The experience will be age appropriate and support Montessori pedagogy. All students will have the choice to participate as members of the class. To understand the outcomes, I plan to analyze the results of this curriculum to determine its effect on self-regulation. Self-regulation is the control over self, actions, and emotions. It is the ability to comply, modulate, and exhibit socially approved behaviors. A critical element of child development is providing experiences, support, and encouragement to self-regulate. According to the University of North Carolina, in 2017, supporting self-regulation development in early childhood has shown that it can lead to more significant achievement in school, better relationships, and fewer behavioral adversity.

For this action research, I will collect data that covers emotional, cognitive, and social interactions. I will be tallying the number of times your child can calm their self, problem-solving with/without help, their use of bucket filling vocabulary, any arguments, unkind words, interrupting, physical outburst, ignoring others, and tattling. As part of our usual morning circle, I take attendance. I will be using that data to determine if the lessons are useful for those who attended.

The purpose of this letter is to notify you of this research and to allow you the opportunity to exclude your child's data from my study.

If you decide you want your child's data to be in my study, you don't need to do anything at this point.

If you decide you do NOT want your child's data included in my study, please note that on this form below and return it by [REDACTED].

Note that your child will still participate in the morning group circle, story, and lesson presentation but his/her data will not be included in my analysis.

In order to help you make an informed decision, please note the following:

- I am working with a faculty member at St. Kate's and an advisor to complete this particular project.

- Due to the low potential for risks in this study, the benefits of presenting the “bucket filling” lessons outweigh the risks. Some of the direct benefits for the students are stories about kindness, self-control, resilience, empathy, tolerance, and forgiveness. The stories support character education and may promote self-regulation skills.
- I will be writing about the results that I get from this research. However, none of the writing that I do will include the name of this school, the names of any students, or any references that would make it possible to identify outcomes connected to a particular student. Other people will not know if your child is in my study.
- The final report of my study will be electronically available online at the St. Catherine University library. The goal of sharing my research study is to help other teachers who are also trying to improve their teaching.
- There is no penalty for not having your child’s data involved in the study, I will simply delete his or her responses from my data set.

If you have any questions, please feel free to contact me, [REDACTED]. You may ask questions now, or if you have any questions later, you can ask me, or my project coach, [REDACTED], who will be happy to answer them. If you have questions or concerns regarding the study, and would like to talk to someone other than the teacher/researcher(s), you may also contact [REDACTED], Chair of the St. Catherine University Institutional Review Board, at [REDACTED]. You may keep a copy of this form for your records.

Margaret Kennedy

Date

OPT OUT: Parents, in order to exclude your child’s data from the study, please sign and return by [REDACTED]

I do NOT want my child’s data to be included in this study.

Signature of Parent

Date

Appendix G

LESSONS PRESENTED

Lesson #1

Read: McCloud, C. (2006). *Have you filled a bucket today? A guide to daily happiness for kids*. Northville, MI: Ferne Press

Discussion: Ask questions of students on how they could fill a bucket today. Write down answers for us to review each morning.

Supplement Lesson: Give an Art lesson on creating their buckets. utilizing stars and hearts as it is part of the bucket filler theme.

Lesson #2

Read: Rath, T., & Reckmeyer, M. (2009). *How full is your bucket? For kids*. New York, NY: Gallup Press.

Discussion: Ask how it is similar or different than the story we read before. What are other ideas for filling up other buckets? Write new answers. Review old answers.

Supplemental Lesson: Cutting out hearts and stars to be used to fill buckets. The lesson is placed on the art shelf for further use.

Lesson #3

Read: McCloud, C. (2018). *Bucket dippers and lids: Secrets to your happiness*. Brighton, MI: Bucket Fillosophy.

Discussion: Ask students how they feel about dippers? What things can they do to not dip into someone's bucket? Make a list — review lists from previous lessons.

Supplemental Lesson: Coloring, cutting, and making a bucket filler hat.

Lesson #4

Read: Johncox, P. (2011). *Halle and tiger with their bucket filling family*. Northville, MI: Ferne Press.

Discussion: Ask students how this story makes them feel about buckets at home? Make a list of answers. Review previous lists.

Supplemental Lesson: Give a lesson on coloring and folding to make a bucket to take home to share with the family.

Lesson #5

Read McCloud, C., & Wells, K. (2012). *Will you fill my bucket? Daily acts of love around the world*. Northville, MI: Ferne Press

Discussion: Ask students how it is similar or different from other books we have read. Review lists we have already made.

Supplemental Lesson: Cooking heart cookies to share with the other students. We will deliver to another classroom to fill up their buckets.

Lesson #6

Read: McCloud, C, & Martin, K. (2008). *Fill a bucket: A guide to daily happiness for young children*. Northville, MI: Ferne Press

Discussion: Ask students how it is similar or different from other books we have read. Review our bucket filling list.

Supplemental Lesson: Learning the song “You Can Fill My Bucket” by Joe Crone.