# USING SELF-MANAGEMENT TO ENHANCE EDUCATION

## Identifying Implementation Methods

A Final Proposal By

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## CHAPTER ONE: INTRODUCTION AND STATEMENT OF PROBLEM

### Introduction

A self-management system is summed up as the ability to carefully examine one's problem behaviors, as well as the events that trigger them, in order to change those behaviors into something more positive or beneficial. But in order to get an accurate picture of what the problem is, and how to change it, a quantitative system of counting the occurrence is often needed. In order to do so, particular habits are chosen, a practical measurement system is decided upon, and the behavior is tallied every time that it appears. When an accurate measurement is completed, creating a history for the target behavior, help and change can finally be realized (Dombeck, 2006).

This study served to examine self-management systems within an educational realm. Specifically, it looked at the various ways in which self-monitoring techniques served to enhance the educational experiences and academic success of elementary students with autism. Further, the implementation method preferences of teachers and specialists themselves were revealed throughout this study in an exploratory way.

Previous literature has been completed that has examined the topic of behavioral interventions and evidence-based practices used within the special education field. Positive results were found across all age levels, classrooms and abilities. Previous studies have also found that interventions, such as self-monitoring techniques, are relatively easy to learn, simple to implement, and beneficial for students of any ability (Ganz, 2008; Gulchak, 2008; Agran, et al., 2005; Holifield, et al., 2010; Coyle & Cole, 2004). However, despite these positive findings, the percentages of teachers and specialists who use this technique are surprisingly low. Studies also revealed a multitude of

implementation approaches without a consistent focus. This study aimed to broaden the current research in three ways: by focusing specifically on elementary students, the diagnosis of autism, and the preferred implementation methods of teachers and therapists.

**Purpose of the Study**

The purpose of this study was to identify how well self-monitoring procedures influenced the academic performance of elementary students, specifically students on the autism spectrum. Additionally, this study took into account the preferences and methods of implementation that teachers and therapists use on a daily basis. From this information, insight was gathered into which methods are thought to be the most efficient in regards to self-management.

Furthermore, this study serves to increase awareness for educational professionals everywhere of this evidence-based practice and its possibility for usefulness in encouraging academic success. This study is a source of inspiration for more teachers and therapists to find ways to implement this technique within their own classrooms for any of their students with autism.

**Statement of the Problem**

How does the use of self-management procedures serve to positively affect the academic success of elementary students with autism? Secondly, which methods of implementation do educational professionals and therapists prefer and why?

**Significance of the Study**

Autism is a growing epidemic in society today and requires the extensive knowledge and use of effective strategies to encourage academic success among

elementary students. As inclusion within neurotypical classrooms is becoming more common and encouraged for students with autism, evidence-based practices have emerged that allow for greater success among children with developmental disorders.

Therefore, the significance of this study is three-fold. First, emerging research was expanded upon by focusing specifically on the effectiveness of self-monitoring as an evidence-based (EB) practice. Because the practice of self-monitoring has been shown to be one of the most effective EB techniques across all domains (UC Davis M.I.N.D. Institute, 2014), it was focused on exclusively in this study. Second, while past research has studied various developmental and neurological disorders together, this study focused entirely on autism alone since it is so prevalent, affecting 1 out of every 68 children today ("Facts about autism, n.d.), and varied ("Symptoms, n.d.). Third, findings typically focus on results and benefits rather than on implementation methods. Although the gains of self-monitoring are widely known (Agran, Sinclair, & Alper, 2005, p.1), this EB practice is often overlooked by teachers. If practical suggestions come from the professionals themselves, perhaps more educators and practitioners will feel comfortable learning about and using this technique with their own students. This study encourages the greater use of self-management systems within the educational environment.

**Assumptions of the Study**

In conducting this study, the researcher assumed five things. The first assumption was that the teachers and therapists selected to be involved in this study were representative of other educational professionals that interact with students

with autism. Second, this study assumed that the interviewees were familiar with evidence-based practices and autism spectrum disorders in general. Third, it was assumed that some professionals possessed a greater knowledge and experience in using and implementing this technique with the target audience than others. However, this imbalance was a positive influence in this study since the findings are now applicable for educational professionals of any skill or experience level. Fourth, this study assumed that the participants answered honestly in their opinions and about their experiences in using self-monitoring procedures. Finally, it was assumed that any discussion of self-management techniques was in the context of pertaining to elementary-age students diagnosed with autism in a school setting.

**Limitations of the Study**

Although this study made every attempt to reduce bias during the research process, certain limitations still occurred. Foremost among these was due to the reduced timeframe in which the researcher had to conduct the five, 45-minute interviews and collect data. With the required qualitative research that was performed, it was necessary to coordinate with multiple professionals who each had differing schedules within a timespan covering about a week. This time limitation unavoidably narrowed the scope and detail of the data that was gathered.

This study was also limited by gender. The number of educators that have both experience with elementary teaching and autism are limited, while the number of male educators working in elementary schools that meet this criteria are even fewer. Therefore, this study was limited to five, female educators due to availability and the specified criteria that needed to be met.

Further, due to the reliance of this study on personal interviews, a limitation existed in the ability to control the degree of honesty and accuracy that was shared by the subjects. Finally, although this study would have benefitted by including an observation element as well as a general quantitative survey to create a baseline using mixed methodologies; the constraints on the researcher's time limited this study to using a single, qualitative approach.

**Definitions**

**Autism spectrum disorder:** This is a generic term that is often used to explain varying, complex disorders of brain development. Autism varies in each individual in the areas of social ability, verbal and nonverbal communication, and repeated behaviors.

**Behavioral benefits:** The ability children have to control their physical actions or movements.

**Elementary:** A lower level of public education that generally serves students in kindergarten through 6$^{th}$ grades.

**Evidence-based practice:** A strategy or intervention that has been scientifically tested to create consistency, success, and positive outcomes. Although these strategies can positively affect students across all domains, such as in transitions, social, play, etc., for the purposes of this study it refers to gains that can be witnessed in an academic setting.

**Fine motor skills:** The development and coordination of small muscle movements in the fingers and hands commonly referred to as manual dexterity.

**Gross motor skills:** The acquisition of large muscle movements, such as standing, walking, and running, that young children learn as part of their early motor development.

**Implementation:** The process of a teacher or therapist creating a specific, individualized plan and then carrying out that plan in a systematic, organized way.

**Interview:** The process of the researcher meeting with the participant, either in-person or over the phone, to ask relevant questions and record the respondent's answers leading to the creation of data for further analysis.

**Language benefits:** The ability children have to communicate their emotions and needs verbally.

**Metacognitive benefits:** The ability children have to use internal strategies, such as self-talk, coping, problem solving, and justifying behaviors. This would also refer to intellectual strengths resulting in average or above-average grades in elementary school.

**Neurotypical:** A politically correct term developed within the autism community that is applied to individuals who are developmentally average or "normal."

**Occupational therapist:** A master's level specialist that is trained to use therapeutic skills to improve movement or function in everyday activities. For the purposes of this study, this term will refer to therapists who help children with autism improve their functional life skills, along with gross and fine motor development.

**Sample:** A select number of participants used in a particular study because they meet a prescribed set of criteria that were necessary for the study.

**Self-management procedure:** The process that people use to record their behavior using techniques such as self-observation, self-recording, and self-evaluation to improve independent functioning. In an educational setting, a teacher or professional can also implement this method first and later teach it to children. In this study, the terms self-monitoring, self-management, and self-regulation were used interchangeably as their meaning is practically identical. This term also refers only to elementary-age children with autism in this study.

**Special needs:** The specific, educational requirements of an individual that has either been diagnosed with a developmental disorder or has a disadvantage due to mental, emotional, or physical disabilities. This study focused on autism in the younger population specifically.

**Speech-language pathologist:** A master's level professional, also known as a speech therapist, that is trained to assess, diagnose, and treat speech, language, swallowing, and communication disorders. This study focused on therapists who help children with autism increase their verbal and nonverbal communication skills in a school setting.

**Students:** Children between the ages of 6 and 11 that typically attend kindergarten through $6^{th}$ grades.

**Success:** A desired or favorable outcome that takes place within an educational environment. This term also refers to the ability of children to meet their own unique goals.

## CHAPTER TWO: REVIEW OF RELATED LITERATURE

### Introduction

The word "autism" is a generic term that is used to describe

> "complex disorders of brain development … characterized, in varying degrees, by difficulties in social interaction, verbal and nonverbal communication, and repetitive behaviors" ("What Is Autism?," n.d., para. 1).

With the diagnosis of autism showing a surprising upsurge from the 1980s when compared with other neurological and developmental disorders, it is fast becoming a pervasive problem in American school systems today. This diagnosis is further complicated by the fact that each child with autism varies according to "range of impairment" (Crosland & Dunlap, 2012, p. 252) in areas such as "social interaction, language and communication," (Coyle & Cole, 2004) and intelligence. With such a broad spectrum of abilities being represented by children with autism, and with the practice of inclusion being so prevalent within American classrooms, schools have turned to behavioral procedures to effect change and improve the learning process for students with autism.

But teachers and parents should be cautious before implementing a new behavioral treatment with their autistic students, making sure that it has been previously tested and scientifically researched. Effective procedures, known as evidence-based practices (EBP), are methods of training, intervention, or schooling that, through the process of experimentation, have consistently resulted in positive outcomes (Simpson, 2005). These types of EBPs are generally implemented within the classroom since they have been proven to work with students with autism. According to the video *Self-Monitoring and Self-Management for Autism* featuring

Patty Schetter, MA, BCBA, the EBP of self-monitoring "has been shown to be effective across all academic, cognitive, behavior, communication, play, social and transition domains" and across all age-spans for kids and young adults with autism (UC Davis M.I.N.D. Institute, 2014).

When describing self-management techniques, researchers generally agree that self-monitoring references a process that helps make an individual aware of their own behavior using various methods of recording, observing, or evaluating one's own actions (Coyle & Cole, 2004). Teaching this technique first serves to encourage independent student thought and actions while, eventually, the goal is to work on "shifting the responsibility of behavior management from the teacher to the student" (Crosland & Dunlap, 2012, p. 256). This shift and redirection results in reduced dependence on outside support while increasing engagement, motivation, and learning (Agran, Sinclair, & Alper, 2005). Because of the positive results obtained thus far for special needs students using this method, research concerning self-monitoring as an intervention strategy is gaining increased positive support and attention from both researchers and educators worldwide.

Background Research

When collecting data, researchers usually focus on using the natural environment of general and special education classrooms to reduce bias, increase accuracy, and ensure that the results will be useful for the participants. Improvements in areas such as attending, on-task behaviors, following directions, academic productivity, accuracy, independence, and self-control have all been witnessed using studies of self-management techniques (Ganz, 2008; Gulchak, 2008;

Agran, et al., 2005; Holifield, Goodman, Hazelkorn, & Heflin, 2010; Coyle & Cole, 2004). There is a general concurrence as well among research that self-monitoring can be implemented successfully with a wide range of "disabilities, including autism, cognitive impairments, learning disabilities, and attention deficit hyperactivity disorder" (Ganz, 2008, p. 39). Further, studies find that self-monitoring can often be implemented within a classroom environment easily and effectively with only a small time commitment required by teachers or staff and without disruption to the classroom routine (Ganz, 2008; Gulchak, 2008; Agran, et al., 2005; Holifield, et al., 2010; Coyle & Cole, 2004).

Variances Within Research

Three areas within the research were found to vary. The first area was in the use of self-management as a procedure that can be broadly applied to all social and academic behavior treatments. Previous publications involving self-monitoring had implemented a reduced scope, such as the child's ability to follow a schedule, with narrowed outcomes as the result (Coyle and Cole, 2004). Second, the use of videotaped self-modeling (VSM) was used as a compliment to typical self-monitoring treatment programs to observe the changes that occur after children have seen themselves completing positive, desired behaviors on videotape (Coyle & Cole, 2004). VSM was found to be effective in

> "producing positive behavioral outcomes, attracting the learners' attention, directing attention to relevant cues, and sustaining attention through active engagement in the learning experiences" (p. 14).

Further, a combined VSM/self-monitoring program encouraged both mid- and long-term gains for students with autism whereas past studies favored a shorter-term

outlook (2004). Third, variance was found in the process of self-recording and data graphing. While students with autism have typically been taught to self-record their on- or off-task behaviors using rudimentary methods, such as pencil and paper, Gulchak (2008) introduced the idea that such methods of recording and transferring results into graphing form were stagnant and inefficient. Instead, he suggested that autistic students collect data with handheld computers to take advantage of new technology, reliability and student preference while decreasing wasted time in data entry and graphing for teachers (2008). The results were positive and two-fold in proving that students with autism can learn to self-monitor their on-task behavior using a handheld computer and that the process of using handhelds results in improved on-task behavior within classrooms (2008).

Benefits of Self-Monitoring

Despite discrepancies about the best manner of conducting self-monitoring procedures, research has shown that it is beneficial in all forms for students with autism, among other disabilities. In a study performed by Holifield, et al. (2010), two elementary-level students with autism demonstrated immediate increases in their "ability to self-monitor attending to task [and academic accuracy] during language arts and mathematics" (p. 236). Their improvements were significant with both students having improved in attending and accuracy by 175% and 67%, respectively. Another student-directed study performed by Agran, et al. (2005) examined the effects of self-monitoring on direction-following behaviors in six special needs, middle-school students in a general education setting. Again, dramatic changes in performance levels were observed for all students "in their ability to follow

directions, with results being maintained for months afterwards" (p. 7). Therefore, despite which behavior is being targeted for self-management procedures, improvement seems to be a consistent theme when the EBP of self-monitoring is implemented.

New Contributions To Research

Because of the varied possibilities and vast benefits available for the autistic community, there was a need to continue studying the effects of self-management in an organized school setting. The proposed research enhanced the previously published literature in three ways. First, the level studied was narrowed to elementary grades wherein there had been limited focus previously. This study determined whether the maturity of the students, being limited to the range of 6- through 11-year-olds, had any direct impact on the beneficial aspects of self-management or the ease of implementation. Second, the minority of autism was focused on rather than a conglomerate of disabilities and neurological disorders. With the prevalence of autism, and the varied capacities of diagnosed students, it was important to give this complicated diagnosis the attention it required. Third, input regarding preferred methods of implementation was sought from teachers and therapists since the process of carrying out self-monitoring techniques can vary greatly.

While teachers and organizations will surely benefit from any new knowledge gained from self-management research, the main focus of the primary data performed considered how each of the above factors, combined with self-monitoring procedures, could encourage academic outcomes for students.

## CHAPTER THREE: METHODOLOGY

### Purpose of the Study

This study sought to build upon previous literature and research by focusing on the specific EBP of self-management using self-monitoring techniques within American classrooms. Research explored the numerous ways that self-regulation may positively affect the educational outcomes for autistic students in an elementary school setting. Further, in an effort to increase the widespread knowledge and use by educators of these techniques, this study considered the unique viewpoints of five teachers and therapists currently using this procedure on a daily basis within the autistic community. Through the course of interviewing, an effective method became clear that would serve to encourage other educators to begin implementing this practice in their own classrooms.

As previously stated, a general theory has already been constructed by reviewing existing extant literature. Phenomenological data was then collected using five, 45-minute, in-person interviews that were semi-structured in nature with participants that met specific criteria and availability. After data collection, generalities were examined, variables were isolated, and a specific, future best practice was determined using grounded theory methods. Verbal data, in the form of interview responses and documents, were mostly focused on along with any nonverbal data, such as photographs, charts, or videotapes, which were available at the time of each interview.

### Setting and Population

The environment for which this study took place was in the state of Utah, which currently contains around 2.9 million people (U.S. Census Bureau, March, 27, 2014b). Specifically, the setting was in the city of Draper, which is 20 minutes south of Salt Lake

City in both Salt Lake and Utah counties. Currently, Draper is the home to 44,103 people and continues to increase in population each year (U.S. Census Bureau, March 27, 2014a). The qualitative interviews were conducted in individual classrooms and offices either at American Preparatory Academy, a classical, liberal arts school located at 12892 S. Pony Express Rd., Draper, Utah 84020, or via phone located in the researcher's residence in Draper, Utah.

Qualitative sampling relied on purposive techniques with the researcher initially choosing two participants that met the defined criteria (described below). The researcher then relied on those chosen contacts to initiate a snowball effect by directing the researcher to additional participants that also qualified to be a part of the study. Ultimately, the researcher used a sample size that consisted of five female professionals: a 3rd grade teacher, a paraprofessional, an occupational therapist, a speech-language pathologist, and a special education director. These five individuals provided an appropriate sample size for a qualitative study of this nature. Each individual was chosen based on three critical points. First, each participant had to be an elementary-level educator or professional; second, each participant was familiar, and had experience with, autism; and, third, each person had knowledge of, and experience implementing, self-management practices. Further, it was required that each subject be employed at the same school, American Preparatory Academy, to allow the researcher convenience in obtaining an appropriate amount of data within a short, weeklong timeframe. Varied sampling also applied as the educators and professionals chosen functioned in different classrooms and across varied specialties.

**Data Collection**

A qualitative research design was chosen in order to allow the researcher to delve deep into data collection. Phenomenological elements were used when gathering individual personal experiences, knowledge, and stories of the participants while a grounded theory design assisted the researcher in deriving a cogent theory of implementation based upon data collected within a natural environment.

The process of conducting each qualitative interview began with a brief introduction of the researcher, an explanation of this study with the reasons for its significance, and clarifications or questions about any related vocabulary or definitions involved. The introduction to each interview concluded with obtaining a verbal consent from each participant. Verbal consent took the place of requiring any additional written documentation from the participants and reminded them that the study is being completed in an ethical, confidential way. The verbal consent form that was used is located in Appendix A. The entire interview process, including data collection and analysis, for all participants took place over the course of one week, from April 21st through April 25th, 2014, and required no additional funds other than the time and efforts of the researcher and participants.

This study showed validity by basing data collection on questions shown to be significant through a review of the current literature, thereby ensuring that the interview questions were relevant to acquiring the desired data. Structured note taking during each interview captured each participant's main ideas and provided follow-up questions for the researcher to use at the conclusion of each interview. The use of a recording device for each 30 to 45-minute interview further added to this study's validity, with each recording having been erased once this report was completed for confidentiality reasons. The

researcher allowed for any final thoughts or questions from the participant at the conclusion of each interview.

Utilizing the same interview format, process, and questions with each participant showed this study's reliability. Although the interview questions tended toward being open-ended in nature, the semi-structured format assisted the researcher in contributing to a reliable and consistent sample overall. The interview questions that the researcher asked each participant are found in greater detail in Appendix B.

**Data Compilation and Analysis**

Once the interviews were completed, the data for this study was compiled referring to both the researcher's hand-written notes and the typed transcriptions of the recordings. This allowed easy access to important points, specific quotes, and helped in detecting overarching themes found within each transcript. The data was then examined in a phenomenological way in order to, first, detect similarities and differences among the three areas of inquiry (academic success, benefits of self-monitoring procedures, and preferred methods of implementation) and, second, to systematically code the data into categories while looking for interrelated connections within. From the research data analysis, the researcher made note of emerging themes, preferences, or patterns among the participants' responses and used that information to formulate a solid grounded theory.

**Summary**

In sum, autism is a growing epidemic that is placing greater demands upon teachers and therapists everywhere as well as requiring a deeper knowledge and use of evidence-based teaching methods within elementary schools. One solution to meeting the

special needs of elementary students with autism is incorporating the practice of self-monitoring techniques into the classroom. While prior research has shown that self-management procedures can improve the academic performance of students, this study sought to examine this practice, and its benefits, further.

This study also built upon extant literature by specifically addressing whether predicted gains can be found for younger, elementary-age students who have been diagnosed with an autism spectrum disorder. Various methods of implementation were gathered from educators using a phenomenological approach with five personal, in-depth interviews. Responses were then compiled and analyzed in order to contribute to a working theory about academic gains from self-monitoring that educators and therapists can reasonably expect to find as well as suggestions for implementation methods that can work for an elementary population diagnosed with autism.

## CHAPTER FOUR: RESULTS

This research study concluded after completing semi-structured interviews with five participants in Draper, Utah over a timespan of five days. These sample participants were chosen to assist in this study because of their knowledge of self-management procedures and experience with elementary-age students diagnosed with autism. Data was collected individually from each interview in order to gain insight into the ways that self-management techniques positively affect the performance of children with autism in an educational setting and whether educational professionals prefer a particular method of implementation or not. The interview questions (found in Appendix B) covered a range of topics that served to: a) establish a baseline of knowledge concerning student success and self-management procedures in general; b) discover individual methods of implementation, and c) discuss the various benefits that each participant had experienced throughout their career to date.

The interviewed subjects included three educators and two occupational therapy professionals. Despite the similar environment in which they all work, the researcher encountered both areas of agreement and disagreement among the three topic areas. Unanimous agreement occurred when discussing the definitions of student success and self-management procedures. A general consensus was that student success hinged on their ability to participate with the class and make progress in their studies. The ability to individually manage emotional states was another area mentioned that contributed. As far as self-management systems, the themes of independence and regulation kept reoccurring. The special education director summed up this concept nicely when she said:

> *"A child should be able to look at themselves related to their environment and monitor their behavior to see if it's appropriate without help or reminders."*

The second area of inquiry that occurred during the interviews was on the subject of implementation of self-management procedures. Again, a theme of agreement was prolific among the participants. First, the data showed that it is necessary to design an implementation plan. Everyone agreed that, once a child is found to be in need of help, a baseline should be created by carefully observing the classroom environment, having discussions with the teachers and parents, and determining the best goal to start with. An important point was made by the occupational therapist that educators should remember when beginning any self-management system. She stated that:

> *"It looks very overwhelming at the very beginning with a lot of time and effort involved in getting it set up, but from my perspective it's worth it because either you spend that time up front or you spend it in the long-run reacting to different problems, issues or behaviors that are gonna come up because the child can't self-monitor … and, in fact, you'll probably spend less time with teaching these skills than what you would in the long-run."*

This same occupational therapist later stressed the importance of starting with a systematic approach:

> *"A big mistake is starting too big. If you start too many interventions in different areas, it's hard to tell if it's working and it's hard for the child to learn. Start small and expand as you can to keep it from being overwhelming."*

However, the work doesn't end once a plan is created. Oftentimes, it is necessary to experiment through trial-and-error to find specific techniques and motivations that make a self-management system appropriate for each unique child. When the researcher discussed the importance of motivation to this system, the special education director noted that:

> *"Whenever I'm setting up a reward system for a child, I always try to look at what the teacher's already doing to reward them, such as using a treasure box. Then, even if a child is using a different method of getting to the treasure box he's still getting there. So we make sure that what he's doing ties into what the class is doing."*

Once a plan is in place, it then becomes necessary to consistently check-in with that child to fix what isn't working, expand the program to include additional goals, or begin to generalize the self-monitoring to other classrooms or environments. Along with implementation, educators and therapists believe that using self-monitoring techniques is generally an inexpensive ordeal. If a particular tool is needed, the cost is generally minimal and under fifty dollars. All participants felt similarly regarding the necessity of using cues, such as verbal, written, and physical prompts, at least early on in a self-monitoring program. When the researcher spoke with the 3rd grade teacher regarding the use of cueing in her classroom, she echoed these suggestions when she mentioned that:

> *"For grammar, we use attention monitors, or buzzers, that go off periodically to help [the child] check himself to make sure he's paying attention and on task. [We] also use dry-erase markers to make sure that [the child] is staying with the teacher and the other students so that he can effectively understand the curriculum … There are also times when we tap on his foot if he seems like he's real distracted … [and] we verbally give him cues to progress as well, such as "What part are you on?" or "What should you be working on right now?" or "Did you read the instructions?"*

When the participants were asked whether self-monitoring techniques could be implemented as a stand-alone program or as part of a more comprehensive plan an area of difference became apparent. While some interviewees felt that the unique needs of each child would determine the proper use of a system, the special education director and occupational therapist both stressed the absolute need for a larger plan that teaches complimentary skills, involves collaboration, and allows the child to generalize the program into other subjects, areas and classrooms. While self-management can be used in isolation or for a specific subject, the occupational therapist described that self-monitoring

> *"works best as part of a collaborative program [because] doing something in isolation isn't going to be as effective and the research supports that."*

Another difference of opinion came about related to the easiness or difficulty of starting such a program. Three of the participants felt that starting a self-monitoring program in the classroom could be difficult without the right support staff in place, or at the very least a teaching assistant. However, the remaining two subjects felt that implementing a system could be done simply, or even integrated into what a teacher is already doing, if started in small increments and expanded over time. The main limitations to a broader adoption of self-management procedures with teachers and professionals, according to the special education director, involve:

> *"…a lack of awareness and training … it's not as complicated as it looks and is an effective way to lighten the load."*

The third area of inquiry involved the specific benefits of self-monitoring systems. Unanimously, all participants felt that this system brought about improvements across the board in the areas of behavioral, verbal and intellectual spectrums while also promoting independence and social skills. The certified occupational therapy assistant described behavioral benefits as a child's ability to remain "organized and regulated" during transitions, outdoor play, and school activities. Verbal improvements, while not as common, may involve a reduction in "not so many outbursts or meltdowns" according to the same source. Finally, the OT assistant believes that the intellect is further benefited by "empowering" the child learning these skills through "building their confidence in knowing that they won't shut down" while being able to "monitor and handle [schoolwork] on their own."

Overall, the researcher felt that the occupational therapist summed it all up well when she stated that she has:

> *"… seen enough success with [self-management] and the kids make significant enough changes to absolutely recommend it. It's not terribly expensive and it's not even hugely time consuming to get it started. It does take a little bit of effort at first, but it's realistic and it's not recreating the wheel. It's been shown to be effective and it works.... People don't use what they don't know and what they're scared of.... I think if we can get past that and educate a little bit more and teach [educators] to start small rather than big, I think it can be easy."*

To conclude all of this research, and to echo the special education director, most typical children simply learn by "being exposed" to the behaviors of others in a social environment. But for elementary students with autism, it usually takes more deliberate efforts on the part of parents, teachers, and therapists to help these children learn to regulate their own behaviors, verbal communication, and intellect. While there were differing opinions on the ease or scale of implementation of self-management systems, the vast benefits that can obviously be found for this group of children should bring hope to classrooms and homes everywhere.

## CHAPTER FIVE: DISCUSSION

Upon the conclusion of this study, it was found that the resultant data supports and explains the original theory that self-management systems encourage academic success in elementary students with autism. The respondents were all in agreement regarding the meaning of academic success and the components that are necessary to define a fruitful self-management program with general agreement on the pronounced benefits found across various realms. Secondly, the collected data found that educators and therapists prefer to tailor implementation for each unique situation after assessing the child's environment and collaborating with others to determine appropriate goals. With the right support system in place, the researcher concludes that implementation can be a rather straightforward process in any environment and for every child.

In reference to the literature review, the findings found similar results to Coyle and Coyle (2004) that self-monitoring is a process, not a destination, and one that brings self-awareness to a child using a systematic plan to understand personal behaviors. All of the participants had similar views as well with Crosland and Dunlap's (2012) findings that this technique heightens independence, both behaviorally and intellectually, while eventually leading to the ability to generalize learned skills into other areas of involvement without as much teacher dependence.

In seeking a more interdisciplinary approach, Klein's integrative core can be used to reexamine these findings. Through analyzing this data, the researcher found implications for the discipline of education. If more research is gathered concerning self-monitoring and self-regulation techniques, educators and therapists will have access to the opinions and methods of their peers. This knowledge will then serve to

educate and encourage a more widespread use of self-management systems for children in need. Knowing that other professionals are finding help and success with these techniques may help reduce any anxiety caused by unfamiliarity with this specific evidence-based practice and serve to eventually "lighten the load," to echo the words of the special education director. The researcher further found that these findings bring significance to the field of communications. With increased knowledge that performed studies bring of the daily, specific struggles that students with autism face in school, educators and parents can learn more effective ways to use self-management techniques in assisting with verbal and nonverbal communication. This knowledge will, in turn, lead to more positive outcomes for many students with autism in social situations and public environments. Finally, the world of psychology may view these results in a positive light due to the ability of self-management procedures to create real, sustainable improvements of the mind and body for those with autism. As the participants of this study have already discussed, improvements can happen within the thought processes of these special students that may serve to bring forth a heightened ability to coordinate physical behaviors and speech.

So, just how do self-management procedures positively affect the academics of elementary students with autism, and how do professionals prefer to implement this proven system? The answer is: in more ways than one! With numerous and broad findings as support, academics for these students can be bolstered and behavior, verbal skills, and metacognitive abilities can be strengthened. As long as parents and providers are careful to define a prescribed path linked to specific motivations for each unique child, this researcher is confidant that, to use the words

of the elementary teacher participant, future children can "meet the standards for themselves and push themselves beyond what they think they're capable of." It seems like there is hope after all, and it's in the form of self-management procedures.

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## APPENDIX A

### Verbal Consent Form

I am currently an Interdisciplinary Studies student at Arizona State University (online) under the direction of Dr. Michael Pryzdia. I am conducting a research study to learn how self-monitoring procedures affect the educational performance of elementary students with autism as well as gathering preferred methods of implementation from educators and therapists.

I am seeking subjects that are willing to volunteer their time and opinions to take part in an interview process of approximately 30-45 minutes. There is no penalty for refusing to participate or for choosing not to respond to any question put forth during the interview. This study will remain confidential. Your name and personal information will not be shared with anyone, even if this study is published. While this interview will be recorded and transcribed for the use of the researcher, all written and recorded material will be destroyed once this report is completed.

Please let me know if you have any additional questions and thank you for your time and cooperation.

## APPENDIX B

## Qualitative Interview Protocol

*Introduction:* This will include a brief introduction of the researcher, reading the Verbal Consent Form in Appendix A, describing the study details, and explaining the defined vocabulary words to each participant.

*First Questions:*

- Please tell me your name, title, and how long you've worked at American Preparatory Academy.
- Total years of experience in current role/position?

**Topic Domain Question 1: Defining SMS**

- How would you describe the term "success" for elementary students with autism?
- What does "self-management" mean to you?
- What is your history with using self-management programs in the classroom or in elementary schools? How and when first learn about it? Easy or difficult to learn?

**Topic Domain Question 2: Implementing SMS**

- How do you begin to create or design a self-management plan for a student? How gather information?
- Are there any costs associated with implementing self-monitoring procedures? Specific program you use?

- What tools do you typically use when implementing a self-monitoring procedure? (pencil and paper, marker on dry-erase board, timer, handheld, apps)
- Do you use cues at all and what types do you use (verbal, physical, written)?
- Can self-management techniques be used alone or should they be used as part of a comprehensive intervention program (social groups, functional assessment, sensory accommodations, parent-teacher collaboration, etc.)?

**Topic Domain Question 3: Benefits of SMS**

- In which school subjects are you currently using SMS with?
- Do you feel that SMS are effective for your students and why? Behaviorally? Verbally? Intellectually (grades)?
- Other areas you've witnessed changes?

**Topic Domain Question 4: Conclusion**

- Would you recommend self-management procedures to other educators or therapists and why or why not?
- In your opinion, how easy or difficult is it for teachers to use self-management procedures?
- What would your final thoughts be on this subject?