

**Comparing the Normalization of Children in Traditional and Montessori Kindergarten**

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A Master's Paper

Submitted in Partial Fulfillment of

The Requirements for the Degree of

Master of Science in Education – Montessori

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Date

University of Wisconsin – River Falls

2014

### **Abstract**

*In this study, the author examined the level of Normalization kindergarten children display in a Montessori classroom and a traditional classroom. Normalization can be demonstrated through the child's love of work, concentration, self-discipline and sociability. Data was gathered from the child and lead teacher through classroom observations, teacher questionnaires, child-interviews and a self-control test. Classroom observations in both environments gave insight into the child's ability to focus and concentrate, as well as observable indications of a love of learning. Teacher questionnaire results were compiled and compared revealing children in Montessori classrooms have more room for choice, multi-sensory material use and more developed literacy skills. The child-interview results indicated that Montessori children were more sociable and self-reliant than traditional school children. Children attending Montessori kindergarten showed a greater level of self-discipline than traditional school children in the self-control test. Ideally, children attending a Montessori children's house should continue their education for kindergarten into their third and final year. The discussion considers the ongoing benefits of staying in a Montessori environment for the kindergarten year.*

*Keywords: Normalization, Montessori, Kindergarten, self-control, self-regulation*

### **Introduction**

Comparing Montessori and traditional schools brings up many differences. They are two completely different environments, with the same goal of educating children. A Montessori environment is drastically different than a traditional school. Children who attend Montessori are with the same teacher for three years whereas a child who attends kindergarten in a traditional school setting is only with the teacher for one year. A large aspect of Montessori education focuses on the child, and the child's ability to find success. When a child is successful, they find the sense of determination and become self-sufficient learners. The kindergarten year in Montessori is really a culmination for the child, where all of the lessons come together and the child is very knowledgeable about their role in the classroom. Completing the three year cycle of a Montessori classroom is only beneficial for the child. Children who attend traditional schools do not have the means of creating the bond formed between child, teacher and environment such as Montessori. There is a lack of time and a different structure that doesn't allow the child the self-discovery that can be found in a Montessori room. Montessori classrooms are better equipped to support self-regulation in children. There are many factors that are considered when referring to self-regulation. In this literature review, the factors will be discussed and supported by findings from research. The purpose of this research and future qualitative study will support the idea that children in a Montessori classroom are more self-sufficient than those who attend a public kindergarten.

## Literature Review

### **Normalization**

Maria Montessori used the term ‘normalization’ during her studies of the child. Normalization could be defined as the child’s ability to work while experiencing deep concentration, self-discipline and a true love of work. This is not something that can be directly taught; it is a process the child finds within themselves. “Given the right conditions, children change their character, almost their nature, revealing profound qualities in the infant soul which had hitherto remain unknown” (Standing, 1998, p. 179). The four different characteristics of Normalization as defined by Crystal Dahlmeier (2013) are: Love of work, concentration, self-discipline and sociability. Each of these areas are developed through the use of Montessori materials and proper lessons from the teacher. The combination of these characteristics in the child create a positive self-image and greater self-regulation of the child. For the rest of this report, I will share details of each characteristic and share research relating to each characteristic as well as current topics regarding kindergarten today.

### **Love of Work**

When one walks into a Montessori classroom, one might be astounded by the amount of precisely prepared materials on the shelves. When not familiar with Montessori, it can be difficult to understand how the classroom can run the way it does. A child being able to freely choose their work from the prepared environment creates a sense of autonomy. The child respects the beauty and the order of the materials. The child is following an inner-drive to choose his or her work and in turn adopts the understanding of the very purposeful materials. Every material in the Montessori classroom has a purpose and is always modeled first by the

teacher. After the child has been given a lesson on the material, he or she is then able to complete that work whenever he or she is interested. The prepared environment is essential for the child's success. A study of kindergarten children found that higher self-regulation was an effect of better classroom management. When the classroom is better managed, children are allowed a peaceful, calm work environment. The classroom set up and the teacher were large factors of the classroom environment. A well-managed classroom may set the child up for success for a greater push toward self-regulation (Rimm-Kaufman, Grimm, Curby, Nathanson & Brock, 2009). A Montessori classroom exceeds the qualifications of a well-managed classroom. According to this study, a well-managed classroom involves individualized learning, modifying lessons to the child, hands-on activities, teachers provide scaffolding and support for conceptual development. All of these qualifications are fundamentals of the Montessori Method. The prepared environment in a Montessori classroom invites the child to be self-directed and builds autonomy.

### **Concentration**

A child's concentration is one of the first signs that the child is becoming normalized. The Montessori environment gives the child the greatest opportunity to concentrate through the long work cycle in a peaceful classroom atmosphere, as well as allowing the child to explore freely. The child is allowed to be independent and can follow the desire to work in the area of his or her choice. Maria Montessori found that when a child concentrates, the child's physical and mental energies have been brought together. "The 'point of contact' having been established at the 'periphery,' down in the 'centre' of the child's personality a mysterious but beneficial change is

taking place” (Standing, 1998, p. 174). The child finds his or her ability to concentrate by finding his or her personality through work. When a child is concentrating, he/she is engaged, interested and retaining information. Learning takes place within the child, but when a child is deeply in concentration it becomes visible to others. Cossentino cites Maria Montessori’s words in *The Montessori Method* noting that, “Through concentration the child transforms her personality from ‘defective’ to ‘normal.’ She replaces the ‘vices’ of sloth, timidity, and caprice with the ‘virtues’ of work, sociability, and concentration. Work, in other words, is both the path to and the manifestation of a particular conception of ‘goodness’” (Cossentino, 2006, p. 68). It is through deep concentration that the child is able to find that happiness and self-esteem to learn.

Effortful control is one observable feature of a focused child. Effortful control can be explained as controlling a dominant response and expressing a sub-dominant response (Neuenschwander, Rothlisberger, Cimeli & Robers, 2012, p. 354). For example, effortful control can be tested by a child’s attentiveness on a less-than exciting task. When the child knows they should be completing a task, but does not finish the task, the child has not developed effortful control. A child who follows the directions of a task without wavering is showing effortful control, or strong concentration. The child does this because he or she knows what it is he/she is expected to complete, and feels an internal need to finish. Effortful control is essential when focusing for a long time (Valiente, Lemery-Chalfant & Swanson, p. 550). The Montessori classroom allows for the child to develop effortful control over the course of three years. When the child is younger, he or she is observing the older children and their attention to their work. They are able to observe and make a connection with those older children. That younger child is then able to apply that focus, control and concentration to his or her chosen.

Concentration is really the first big leap into what we consider normalization. From here, the child is ready to take their love of work and learning to the next level and apply it to all areas of the classroom. Through knowing what true concentration feels like, the child is better equipped to build confidence and regulate his or her behavior in and out of the classroom

### **Self-Discipline**

In a Montessori classroom, children have the freedom to choose their work throughout the work period. The order and sequence of the materials correlate to the child's innate need for order. The materials in the room help the child hone these skills internally and externally. During and prior to the kindergarten year, children are gaining muscle control as well as mental and emotional control. The materials, sequence of the lessons and interactions with peers support the child's self-discipline. Self-discipline is defined as correction or regulation of oneself for the sake of improvement (Merriam-Webster, 2013). It is clear how important self-discipline is to a child's education. Very similarly related, a study regarding the effects of parental support on child autonomy refers to the term self-reliance. The study defined self-reliance as "the degree to which the child displays personal initiative, behavioral self-regulation, autonomy, persistence, and engagement in the classroom" (National Institute of Child Health and Human Development Early Child Case Research Network, 2008, p. 895). This same study retrieved data from children who were 54 months, first grade and third grade and compared the mothers' and fathers' support for autonomy. The study found that a child who is able to self-regulate before entering school could directly affect how the child interacts and transitions into primary school and the child's ability to self-reliantly function in the classroom (National Institute of Child Health and

Human Development Early Child Case Research Network, 2008, p. 903). In a study completed by Ervin, Wash & Mecca, self-regulation of children in a Montessori environment was compared to the self-regulation of children in a non-Montessori environment. The study found that children in Montessori environments showed an increase in self-regulation over the course of three years and the children in a non-Montessori school environment stayed the same or decreased. Children in the Montessori classrooms scored higher on test scores and had greater scores on levels of self-efficacy (Ervin, Wash & Mecca, 2010). The ideas behind the Montessori Method are scientific and have been designed through many trials. All of the materials and lessons that a child completes during their time in a Montessori classroom have a direct aim, as well as an indirect aim. An indirect aim of all materials is to allow the child to feel success. Every material has a control of error, in which the child can correct their own work by themselves. By doing this, the child is gaining confidence and awareness that he or she is a very capable being. Through this method of teaching, children gain the self-discipline needed to be autonomous throughout their life.

### **Sociability**

Children are social beings. Because of this fact, Montessori education embraces the social aspect through lessons of grace and courtesy. Through these lessons, children learn to be respectful and be models for the other children. When a child is normalized, the child is often quiet when he or she is enthralled by chosen work. This is where the respect of others comes greatly into play. In the Montessori classroom, there is a mixed age grouping of 3-6 year-old children. Older children, whether they are aware of it or not, are modeling behaviors for the younger children.

The children in a Montessori classroom work together for a peaceful environment. They share, respect noise levels and care about the materials and environment. There is only one of each type of material, so the virtue of patience is practiced with every choice of material. The child also gets to be one on one with the teacher often in a Montessori classroom, where behaviors are again modeled when the child is directly engaged. A study observed 27 different kindergarten classrooms amongst three different school districts. Each of these classrooms were observed over the course of two years. One child was observed in each of the rooms and the global dimension of the room was also taken into account. This study found that there was not a typical public kindergarten classroom. Research showed that higher instructional climate and teacher positivity was associated with higher child social competence and on task behavior and math and literacy scores (Pianta, La Paro, Payne, Cox & Bradley, 2002). Teachers in a Montessori environment are often called guides, named mostly because that is what they do. They are there to guide and coach the child in their learning and be there for them when they need assistance. Montessori teachers use a peaceful approach to learning and tend to be very open and optimistic toward the child's ideas and wonderings. The Montessori classroom is better able to accommodate teacher child interactions than a public school classroom. The environment and the respect the children have for it and everyone in it makes it a wonderful atmosphere to flourish. Child behavior has also been tested regarding child-engagement and the effect it takes on child behavior in the classroom. Studies have shown higher student achievement can be linked to children paying attention and higher participation with teachers. A study analyzed aspects of the kindergarten classroom to see how they affect child-engagement. Smaller class sizes resulted in more engagement and more appropriate behavior than large class sizes (Finn & Pannozzo, 2004). All of the materials in a Montessori classroom are engaging and have points of

interest for the child. The child is engaged while doing the work of choice, and is better behaved.

### **Temperament**

While it is not a focusing factor in this research, a child's temperament can affect much about a child's life, in and out of the classroom. No two children act the same or react the same during different situations. This has been observed by many different theorists, including Lev Vygotsky, who observed much about emotional and social interactions. A child's temperament can have a large influence on a child's ability to achieve normalization. A study completed in 2010 compared a child's academic achievement and how it can be predicted by emotionality and effortful control. In this study, researchers observed effortful control and correlated it with emotions (such as anger, sadness and shyness) and academic achievement. It was found that effortful control was positively related to math and reading achievement and observable anger was negatively correlated to the math and reading scores. All of the different mix of combinations compared with high effortful control related to academic achievement. "Students who are able to regulate their emotions in the classroom have a distinct advantage over their less-regulated peers (Valiente, et al, 2010, p. 558). In another study completed in 2001, temperament was compared to the child's self-regulation skills. The caregiver was given a survey to complete about the temperament and the child was asked to do a series of tests that measured impulsivity and attentional focusing. The findings of this research concluded that attention is a multicomponent system that requires both emotional responses and cognitive operations (Gonzalez, Fuentes, Carranza, Esteavez, 2001, p. 944). The temperament of a child can often

times be the first thing one notices about a child, but definitely does not give the full picture. The whole child needs to be taken into consideration when educating the child. Montessori education embraces the whole child and focuses on the child's strengths to build toward normalization. Building confidence and strengthening self-help skills empowers the child to be successful and self-reliant.

There are many tests in the realm of education that have been created for the purpose of testing self-regulation and temperament: however, the use of these tests in research often are only used to analyze traditional school classrooms. For the research completed in this study, I used a combination of these ideas to compare Montessori and traditional kindergarten children. The data collecting methods I employed in my research were the the Child Behavior Questionnaire, teacher surveys, classroom observation and child interview. The Child Behavior Questionnaire (CBQ) is a theory-based tool that considers the child's temperament and behavior style together to assess children. This assessment tool was created for three to seven year old children with the purpose to create a questionnaire that is effective for all that are using it. Through asking specific questions of the child, researchers are able to make comparisons between academics and temperament (Rothbart, Ahadi, Hershey & Fisher, 2001). Many steps were taken to find questions that would best describe the behavior of the child. I created my own questionnaire for the purpose of my research and followed similar steps to create the questionnaire as were done to create the CBQ. Child interviews and classroom observations also proved very useful when analyzing the whole child.

### **Other Factors in Choosing Kindergartens**

The concept of normalization of children is quite different when comparing a Montessori school to a traditional kindergarten setting. When debating between a child attending one or the other, the child's love of work, concentration, self-discipline, and benevolence should be considered. There are also many other factors regarding choice of kindergarten as of late. Testing is very prevalent in kindergarten and any grade going forward, so choosing a school where a child will grow and continue the love of learning despite these requirements is essential. Another large factor involved in choosing a kindergarten is the type of program. More and more school districts are offering full-day kindergarten rather than half-day kindergarten. Chang & Singh completed a study that found that all-day kindergarten programs have a more successful academic performance in math and reading compared to half-day kindergarten. Also, full day kindergarten children had a better overall transition into formal schooling from first grade on (Chang & Singh, 2008). Transitioning into 1<sup>st</sup> grade after kindergarten can be tough. A study in Greece piloted a program for children to have kindergarten children visit the first grade classrooms and slowly transition into their new room (Carida, 2011). Both teachers involved saw the benefit of the program for the child. Transitioning into first grade slowly decreased the amount of mishaps that tend to happen with a blunt transition. In Montessori schools, children are building their confidence daily and becoming more autonomous. Staying in the Montessori environment for the final year of the three year cycle could only benefit the child.

Many factors need to be considered when choosing where a child will be attending kindergarten. It is a critical year of the child's life. I think that children who stay in a Montessori classroom will gain more self-confidence and become better self-directed, normalized learners than if they were to attend a primary school for kindergarten. The research I

have conducted measured the autonomy and normalization of children in a Montessori kindergarten and also in traditional schools. My hypothesis was that children would be more normalized in a Montessori environment and overall would better benefit from continuing in their Montessori cycle.

### **Methodology**

The purpose of this action research project has two objectives. The foremost purpose of this research is to share the importance of Montessori education and the positive effects of the three year cycle. I am a Montessori teacher in a children's house that also provides a kindergarten program. With the new opportunity of all-day kindergarten arising in traditional schools, parents are opting to save money and move their child to a new school for the last, crucial year of children's house, their kindergarten year. By providing more insight and current, local research comparing self-regulation of kindergarten children, I hope to prove the strong benefits of staying with the Montessori program. To guide my research, I asked the question, what is the difference in 'normalization' between the Montessori educated kindergarten child and the child educated in a traditional classroom? This question required more defined inquiry and the following questions are also explored through this research:

- Are children more autonomous in the Montessori class?
- In what environment are children more normalized?
- What are other benefits of completing the final year in Children's House?
- Is there a difference in deviant behaviors in the two different classrooms?

By completing this research and answering these questions, I hoped to provide parents with more information to consider when deciding their kindergarteners academic journey. This research compared the settings in question, as well as the behavior of kindergarten children.

## **Participants**

The participants in this study are children currently in kindergarten and were either five or six years of age. There were four children who participated in this study. The children that participated in this study were selected by the color shirt they were wearing the first day I observed. I chose the identifier to be a red shirt. Making sure there was one girl and one boy in each environment, I first found a boy in a red shirt and then a girl in a red shirt in the next classroom. Three children were six-years-old and one was five-years-old. One male and one female in each environment were observed for this data. The lead teacher in each environment was asked to complete a questionnaire, as well as observed along with the child.

## **Setting**

Data was collected from four different classrooms. Representing the Montessori kindergarten experience, observations were completed at a private Montessori school in a Midwestern city. The schools have a set student/teacher ratio of 10:1, and the children at this school are primarily multi-racial. Lunch is included in the cost of tuition at these schools. To represent the traditional kindergarten classroom, observations were completed at a public school in a Midwestern city. This school has 373 students and average teacher/student ratio is 10:1. The children at this school are primarily multiracial and 87% of the students are paying reduced lunch prices.

**Procedure**

To conduct this research, interview questions were prepared for the child. This interview ranged from simple questions to reasoning answers, as well as included a self-regulation test. A questionnaire was completed by every lead teacher, and included information about the child including his or her academic success, temperament and autonomy. A thirty minute observation was completed in each classroom on my first visit to every school. During this observation, I took notes on one child in the class and how they connected and participated in the activity expected of them. For the second visit, I asked the child if he or she would like to come work with me and answer some questions. At the child's will, we relocated to a quiet area to complete the interview.

During my first visit to each site, I was introduced to the class, and sat in a corner somewhat near the child I was observing so I could attend to their work. It was during this observation that I took note of the happenings in the classroom, as well as how many interactions or attempted interactions the child had with an adult. I recorded this information by hand, creating a running record. On this first visit, I asked the lead teacher in the room to complete the questionnaire about the child, and to have it completed the next time I visited. The next visit, the children already were comfortable with me in their environment and this visit I completed the child interview. During this interview, I told the child that I was just going to ask a few questions and then we would be able to play a sorting game. After a few questions, I asked the child if he or she were ready to play the sorting game. I had a red bag on the table that contained the objects. I told the child that I would take out all of the objects from the bag and to wait for directions. I took objects out of the bag a few at a time. The objects were multi-colored (blue, red, green and yellow) and were random teaching materials/toys (legos, bears, and magnets). I

timed how long the child waited until touching the materials and starting the sorting process. This data was received from every school and child in the same manner. The child was observed and interviewed within the first two hours of the beginning of their day at school. This information was then compared to the data discovered through the literature review to create a qualitative analysis and find patterns in the responses.

## Results

### **Teacher Questionnaire**

All four teachers involved in the study responded to the questionnaire promptly. (See Table 1.) All of the responses were condensed and compared in a chart. This made the similarities and differences more apparent. All teachers confirmed the birthdate and year of the child, which is a question in the child interview as well. There seemed to be a wide range of learning abilities in all of the classrooms. Three of the children seemed to be above average, and one child was considered below average, but is an English Language Learner. All children seemed to excel in math, and all children can read or have started the process of reading. All children are happy, easy-going children most of the time. All children were reported to have a good work ethic and are usually active participates in class. All of the children have unique academic challenges that did not have similar qualities. Every classroom observed had approximately a 10:1 student-to-teacher ratio. However, both times that I visited the traditional schools, there was only one teacher in the room. The second teacher could possibly be shared between rooms or not in class every day. The average age of children in the traditional schools was 5 and-a-half-years-old, and the Montessori average age of children was almost 4 years of age. In the Montessori classroom, there is a three year age range in the classroom

kindergarteners work in, whereas traditional kindergarteners are all roughly the same age. The reading levels in the two environments seemed to be roughly the same, however, compared to the age level of the classroom; children are reading at a younger age in a Montessori class. A large difference between the two types of classroom settings is when children are able to make choices. In a Montessori classroom, children are able to choose their work for majority of the day. Students make their own decisions on what they would like to work on during the work period. In the traditional classroom, children are required to do the scheduled, planned activity. The traditional school teachers reported that the child is allowed choice during scheduled free time and when they make a choice during the daily 5 block of time. The traditional school classrooms have multisensory materials for some of the classroom activities, such as math and language. The Montessori classrooms reported that all of the Montessori materials are multisensory or have multisensory aspects. All classroom settings reported similar expectations for children sitting at a group or circle time, this also was the same for the time the child can stay focused on a work. The only slight difference is that the child in a Montessori classroom is only expected to focus and sit for as long as it takes for them to complete and clean up their work. In a traditional classroom, the child is expected to stay focused until the next movement break or activity. Noise level and discipline policies were very similar across all classroom settings. The Montessori teachers have been American Montessori Society (AMS) certified, and the traditional classroom teachers have had no formal training on the Montessori teaching methods.

# Table 1: Teacher Questionnaire Results

	<b>Classroom 1 (Traditional)</b>	<b>Classroom 2 (Montessori)</b>	<b>Classroom 3 (Traditional)</b>	<b>Classroom 4 (Montessori)</b>
<b>What is the birthdate of this child?</b>	10/1/2007	9/13/2009	11/2/2007	1/10/2008
<b>Teacher assessment of child's academic progress</b>	above average	can do basic adding and subtracting and is reading and putting sounds together	ELL learner & receives SPED speech services. Below average academically for kindergarten	excels in math areas and has started to read, strong fine motor skills and great handwriting
<b>Teacher reported child's temperament</b>	optimistic, positive, happy	easy going, shy around adults she does not know, becoming more confident	easy going and friendly	calm spirit but quick to shut down sometimes
<b>Child's strengths</b>	good work ethic, passionate, high in math and reading	good work attitude, will do work until she is done, easy going, friendly	enjoys learning, makes connections, well-liked and enjoys sharing	great leader, role model, loves to learn
<b>Child's weaknesses</b>	frustrated with others at times, being patient	shy, can be a follower	easily distracted, working on self-confidence	sometimes controlling of the other kids, quick to change moods can be challenging
<b>How many children are in the class?</b>	19	40	21	20
<b>How many adults are in the classroom?</b>	1-2	4	1-2	2
<b>Average age of children in room</b>	5.5	4	5.5	3.5
<b>Average reading level of children</b>	Guided reading level B&C	Beginning	below grade level	pre-reading
<b>Teacher reported ability to make own choices</b>	how they greet others, who they want to share with, choice for use of manipulatives, Daily 5, free choice time play area	All morning children are able to make their own "challenging" work choices.	During academic and social learning. Happens usually within large activity (different ways to get similar outcomes)	during all work times, basically all day

<b>Where are multisensory opportunities for children in the classroom?</b>	tactile letter cards, playdoh, sand trays, rainbow writing, iPad, actions for high-frequency words	Montessori materials all have multi-sensory aspects.	Manipulatives, tactile tools during literacy time	Montessori materials and books on tape area
<b>How long are children expected to sit during circle time/work time?</b>	15 minutes	15 minutes for circle, work time: as long as it takes them to finish their chosen work	circle time: 7-10 minutes work time: 10 minutes	circle time: 5-15 minutes, work time: 2 hours
<b>How long do you think children typically sit and also stay focused on their work?</b>	15-20 minutes	Usually about 10-15 minutes, depending completely on age and activity.	5-10 minutes	depending on age, 5-60 minutes
<b>Level of noise description</b>	Appropriate level that allows for conversations with peers or focusing on a speaker/teacher/student expressing thought/idea.	Average-with 40 children it will never be silent. Children are allowed to talk quietly with their friends at tables.	healthy amount of discussion, chatting and participating	On a normal day, the noise level is low, when children are allowed to do 'free work' the noise level increases.
<b>Reminder/discipline policy</b>	Responsive classroom-modeling, visuals, reminders. Reinforcing good choices, allow students to take a break to refocus and provide guidance to fix mistakes	Verbal and non-verbal reminders.	responsive classroom	reminders, and redirection
<b>Familiarity with Montessori</b>	Children who went to Montessori preschool in classroom.	AMS trained	some background, nothing formal	AMS trained

While many of the responses were similar, the questionnaire gave insight into a few key differences between Montessori and traditional kindergarten children. The Montessori classroom allows more time for academic free choice. The teacher is available for the child, but it is the child's choice as to what work they wish to do that day. In a traditional school, children are required to follow the lead of the teacher. While not all activities are solely teacher lead, they are dictated and chosen by the teacher/curriculum. Montessori materials all having multisensory appeal keeps the child intrigued and interested in learning. While traditional schools have some multisensory experiences for children, they are not readily available and at the child's disposal.

### **Classroom observation**

For the first visit to the classrooms, I observed the child and his or her interaction with the class for thirty minutes. After reading through running records of observations, many patterns started to become apparent between Montessori classrooms and traditional classrooms. (See Figure 1.) In classroom number one (traditional), children were at a teacher directed group for a guided reading lesson at the beginning of the observation. There were 16 children and 1 teacher in the room. I sat in the back of the group area to observe and record. All of the children had their assigned seats at group and completed a lesson. A book about animals was read and children were asked questions in a large group and then asked to discuss with a partner. For the last ten minutes, the children were split up into three groups to do three different activities. The child observed was in a small reading group lesson.

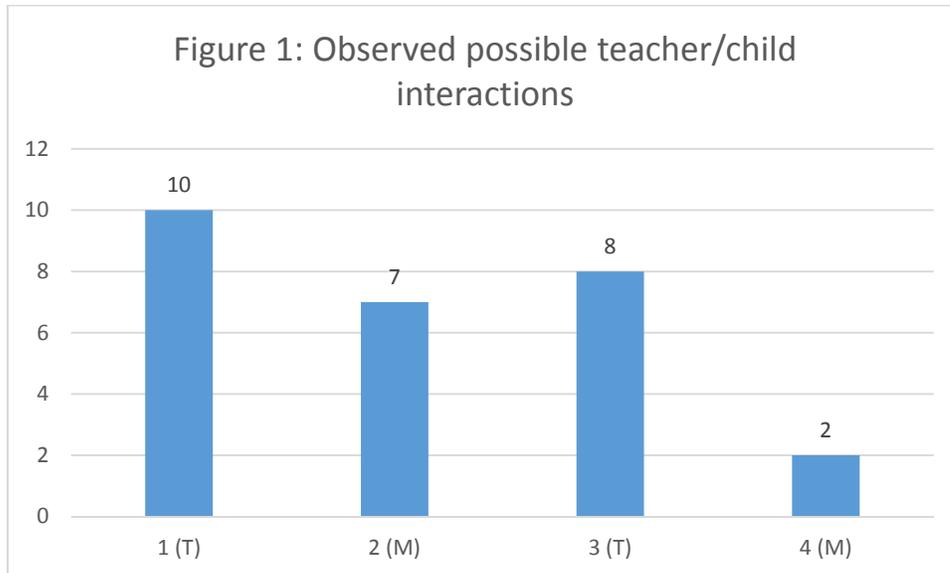
Classroom number two (Montessori) was in the middle of a work time. When I walked in there were 32 children and four adults in the classroom. I found a quiet chair near the child to

be observed. She was carrying a rug and sat down near me. The entirety of the observation was part of a work period. The child worked on the Moveable Alphabet. This work requires the child to decipher the sounds that make up the name of the image on picture cards. The child then writes the word with small wooden letters. She worked alone with some interactions with the teacher to ask questions.

Classroom number three (traditional) were having some free work with tangrams when I walked in. I sat near the table the child I was observing and started my observation. There were 19 children in the classroom and one teacher. The teacher asked everyone to clean up tangrams and put them back on the tray in middle of the table. A match the shape game was played with the tangrams, and then there was a bathroom break. The class then came back to complete some journaling.

In the fourth classroom (Montessori) there were 18 children in the room with two teachers. I walked in and sat near the child to be observed. It was in the middle of a work period when I began observing. The child was reading a book aloud of the –ack word family. He then put the book away and took out the number roll. A number roll consists of a child recording numbers onto paper in numerical order. The child adds pieces of paper with tape as they need and it creates a long scroll. The whole observation time the children in the classroom were working.

To test for self-reliance and ability to self-direct, I counted the number of times the child interacted with/attempted to interact with the teacher. Possible teacher/child interactions included if the child raised their hand to ask a question, to answer a question or talked to the teacher. The results are show in the graph (Figure 1) below.



Children in traditional schools averaged 9 possible teacher interactions in a half hour, while Montessori kindergarten children averaged 4.5 possible teacher interactions during the observable half-hour. The Montessori environment allowed for more time for children to make choices by themselves and work individually at his or her own pace. The traditional classrooms allowed for a more social environment. Children were able to share ideas and make connections, albeit the teacher chose the topic.

### **Child interview**

All four of the children were interviewed on my second visit, during the beginning of their school day. The child's responses were tape-recorded and then responses were compiled into a chart to then be compared and analyzed. (See Table 2.) To be sure child 3 was understanding the questions that I asked, I rephrased each question in another way. Because he is an ELL learner, I wanted to make sure that he had the same understanding of the questions being asked of him as the other children.

**Table 2: Child Interview Responses**

Column1	1 (Traditional)	2 (Montessori)	3 (Traditional)	4 (Montessori)
1.) How old are you?	6	5	6	6
2.) When is your birthday? Year?	Oct. 1st. No. (Correct)	Sept. 13th. No. (Correct)	halloween. 26th. No. (Incorrect, 11/2/07)	Jan. 10th. No. (Correct)
3.) What is your favorite thing to do at school? Least?	learning. Presidents. Least likes nothing	favorite thing to do: reading least favorite: nothing	play blocks and go to gym. Least: math, its hard work	favorite thing: number roll least favorite: coloring, library
4.) What do you do if you are not interested in what you are working on?	I just try it	I always feel like work. When it is work time you have to work	stay at home (what if you are already at school) then I just do the work.	I just do the work.
5.) If I were to watch you working hard, what would it look like?	I don't know. Working. (what would the picture look like) I don't know. I would be excited	loud. (what would I see with my eyes) us. On a rug.	tired.	spying. I would be working and it would be quiet.
6.) What are some of the rules in your classroom?	no jumping, no saying bad words. Be kind. Listen to others.	no running, no yelling.	I don't know	no biting, no sticking your tongue out at your teachers.
7.) What does try your best mean?	if you don't know what to do, just ask the teacher. Just to try your best	you have to do it as hard as you can do it'	just keep on working	do your best writing, I don't know.
8.) Do you prefer to work by yourself or with others?	by self. Because I like it when it is quiet. It sometimes gets noisy	others.	by myself. It doesn't distract me.	both.
9.) What does it mean to concentrate?	working hard and no playing	to not talk to people	don't stop.	when you do your work and don't talk and look at the people by you.
10.) Play sorting 'game' with objects	1:07.45 seconds & touched. Sorted randomly and into piles. 1:30.56 to sort.	did not touch. Sorted by color & into straight lines, standing every object up. 1:33.41	02:35 seconds & touched. Sorted randomly and into piles. 32:46 seconds to sort	did not touch. Sorted by color piles. 31:50 seconds to sort
11.) How do you feel? What does that mean? (to feel good?)	good. Played with objects. I don't know.	I don't know.	happy. (playing with objects)	good.
12.) What would you do if someone in your class wasn't being nice to you?	tell the teacher. Would you talk to them? Would you stop doing that I don't like that	tell the teacher (would you talk to them?) yes	tell them to stop and be calm	say please don't do that and tell a teacher
13.) Are you a good listener? What does that mean?	listen to the teachers. Pay attention.	yes. To sit nicely at circle. Criss cross apple sauce.	yes. Listen to the teacher.	yes, listening and respectful. Be nice to friends and teachers.

The child was asked to state how old they are and their birthdate. All of the children knew how old they are, and all but child 3 knew their birthdate. None of the children knew what year they were born. All of the children were able to name a favorite activity, but only the boys were able to name a least favorite activity. When asked what they do when they do not feel like completing a task, all children responded they would still complete the activity. Child 3 initially responded, 'stay home,' but when prompted again he stated that he would just do the work. Child 2 responded that she always does work and that "When it is work time you need to work." The responses about what working hard looks like varied, but both Montessori educated children responded to the question with descriptions of what I would see and hear. For example, Child 4 responded with 'it would be quiet' and child 2 responded that I would see her working at a mat. The traditional school children both did not know, and child 1 described her emotion (excited).

All of the children could list some of the rules in their classroom except for child 3. He responded with I don't know even with asking in a different way. When asked what 'try your best' means, the traditional school children replied with short, archetypal responses that imitated the question asked. 'Try your best' and 'just keep trying' were traditional classroom student's responses. Montessori children had more of a unique definition of 'try your best.' Child 4 gave a personal experience and referred to his handwriting and Child 2 created her definition as 'you have to do it as hard as you can do it.' Children in a traditional classroom preferred to work by themselves, and Montessori children enjoy working with others or a combination of both. The traditional children felt like they can focus better when working alone. Both Montessori children related the word concentration with the idea of no talking. Traditional classroom children related concentration to not stopping and not playing. After completing a sorting game, all children were asked how they felt. None of the children could verbally describe the feeling they felt, other than 'good.' All of the children agreed that asking the child to stop and telling the teacher when a friend is not being nice to them was the right thing to do. All of the children interviewed defined 'being a good listener' as listening to the teacher, and everyone considered themselves a good listener. Montessori children gave examples such as sitting nice at group, being kind and respectful and nice to friends and teachers.

### **Self-Control test**

After answering nine questions, children were asked if they would like to play a game. The child was asked to wait for directions until directed. I had a bag of objects with me and slowly took the objects out a handful at a time. This process took about 70 seconds. The child

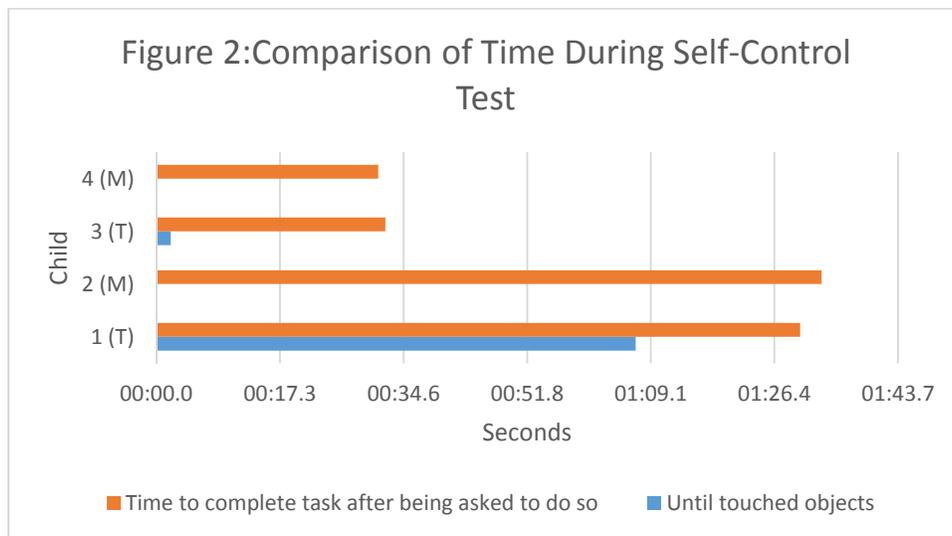
was then asked to sort the objects by color. The Montessori children followed the directions and did not touch the objects until asked. Traditional school children touched before they were asked. Child 1 touched after 1 minute 7 seconds, and Child 3 touched after 2 seconds. Interestingly, the boys sorted the objects much faster than the girls by about one minute. Montessori children sorted the objects one color at a time, while the traditional school children sorted the objects randomly. Child 2 sorted the objects not only one color at a time, but also stood every object up in a line.



*Objects used in object sorting activity.*



*Child 2 while sorting the objects*



### **Limitations**

While understanding this research is only a start to researching the very important topic of normalization, this study did have its limitations. The small amount of children involved in this study narrowed the vastness of the results. The limited number of schools visited did not show an ideal amount of economic diversity. This research is the start of something that requires a larger amount of participants, a variety of environments and a greater deal of time than this individual study allowed.

### **Interpretations**

The purpose of this research was to compare Montessori kindergarten programs with traditional kindergarten programs to see which type of environment promotes. Crystal Dalhmeier's characteristics of normalization were my guidelines as I analyzed the data from the four different environments. As stated in the literature review, these characteristics are the love of work, concentration, benevolence and self-discipline.

While comparing the teacher questionnaires, it was clear that all of the teachers and children are happy in their own environment, however while visiting the classrooms and observing the class as a whole, the settings felt very different. Traditional classrooms were completing teacher directed activities that were engaging and interesting to some children, but seemed to be archetypal. The Montessori teachers described the time the child has for free choice as a morning long activity. The child is allowed to follow what they would like to work on and pursue their interests. Child 2 had stated her favorite activity was to read, and while observing she was completing a writing work. Knowing that she has approximately two hours to work, it seems she feels comfortable with her time frame to explore other areas in the room. At

the other extreme, Child 4's favorite activity was the number roll and that is the activity I observed him completing. Before completing the number roll, he made the choice to read. Math, reading, writing all in the same classroom, on the child's schedule. The confidence built by being successful with their choices creates a love of work. The love of work visible in the traditional classroom was not as apparent. The amount of choices the traditional classroom children have are drastically smaller than that in a Montessori classroom and the choices available are still micromanaged by the teacher. During the child interview, the traditional classroom students had a harder time answering questions about their favorite activity in school, and were not as confident about the meaning of 'trying your best.' Montessori schooled children develop the internal need to try their best, which creates a found love of learning throughout the three year cycle.

The teacher interview gave insight to the child's day and what is expected of them in their school setting. All of the teachers stated that the children in all of the classrooms are not expected to sit and focus for longer than ten to fifteen minutes. The Montessori classroom teachers both stated that the amount of time a child can stay focused is definitely dependent of the age of the child. The Montessori classrooms has an average age of 4 years old, but the Montessori classrooms that were observed had an age range of 33 months-6 years. Concentration is a lesson that cannot be taught, it needs to be experienced. The younger child can observe the act of concentration and see what it looks like: quiet, peaceful and purposeful. While observing the children in their classroom setting, both the Montessori children were able to continue their work by themselves without much of any assistance. Regarding self-regulation, I totaled how many time the child interacted or attempted to interact with the teacher. The traditional classroom students required more interaction than Montessori trained students during

the observed time. This shows that Montessori children are capable of making their own decisions, creating their own suggestions and generate their own path of learning. The traditional classrooms required constant prompting and direct guiding from the teacher. The traditional classrooms had teacher lead discussions that required children to raise their hands and discuss pre-set questions. The teacher asked the questions in the traditional classroom as opposed to the Montessori environment in which children ask the questions. The teacher in the Montessori classroom was still available for assistance, but so as a guide on the side. The children in the traditional classrooms participated with the group activity, but it was not without touching materials, playing with clothing or moving his or her body. Both Child 1 and 3 twisted their clothing and touched objects around them that didn't pertain to the group lesson. Child 2 and 4 took short breaks from their work to adjust themselves, get a drink of water or to ask a question, but they were able to continue on their lesson at the same point they left off. They are in control of when working begins and ends, whereas in a traditional classroom, if a child is focused on stacking tangram pieces rather than the lesson, he or she is missing important information relayed by their teacher or peers. Concentration is one of the first characteristics of normalization to be observed by a child (Dahlmeier, 2013). The children in the Montessori classroom were exhibiting concentration during the work period. Both children worked until they completed their work complete, and for both children that lasted for at least the thirty minute window I saw of their day. Comparatively to the teacher questionnaire answers, children in a Montessori classroom seems more able to concentrate than those in a traditional classroom setting.

Through observing the classroom, speaking to the child individually and getting to know the classroom teacher, it was interesting to see how much responsibility the child was expected

to display. All of the children knew some of the rules of the classroom when asked in the child interview, and seemed to be aware of what they were expected to do in a classroom setting. As far as the traditional classrooms are concerned, they have been in class together for 6 months. The Montessori children have been with the same teacher since they were much younger, on average 2 years. To test the child's effortful control, we played a game during the child interview. In timing how long it would take the child to touch the materials on the table showed that Montessori children possess more effortful control. Child 2 and 4 talked about the materials, but did not touch them until they were prompted. The traditional school children did touch the materials before being prompted, and did not talk about the materials while they were being taken out of the bag. All children showed interested in the materials and found a connection with something in the pile, but the Montessori children were able to control the urge to touch until prompted. This indicates that the Montessori classroom builds a better sense of self-discipline. While this is just one set of data, comparing the data from the classroom observation and the self-regulation test shows a similar result. My small sample observations supported a view that the children in the Montessori classroom were able to control their thoughts, actions and make the choice to do work. While the traditional school children did not have much of a choice in their actions or what it is they were working on, they did have an opportunity to focus and stay on track with the rest of the class. Observations mentioned before such as moving around on a chair, arms in sleeves and moving pencils are signs of distractibility. The traditional school children did not have the self-regulation and self-discipline skills, at least not to the extent, of the Montessori children. Self-discipline is yet another quality that cannot be taught; it comes from an internal need. The Montessori child is able to make choices on their work and be in control of their own learning. Through experience, the child in a Montessori classroom is better equipped

to succeed. Observing, modeling and teaching other children helps develop the self-discipline found in a child. When attending a Montessori kindergarten classroom, children are able to be autonomous and find control and balance in his or her environment.

Children act differently in a variety of environments. I purposely wanted to see the child in a group setting, one-on-one and from a teacher's everyday point of view. All of the children seemed to behave very similarly in every environment. Both of the traditional school children seemed a bit less vocal during the child interview, and more vocal during the group activity. The Montessori classroom children were just the opposite. During work time (observed in a group setting) the children were quiet, and then during the interview seemed quite a bit more talkative. When asked if the child likes to work alone or with others, both child 1 and 3 stated they liked to work alone because they are better able to focus. Both Montessori children preferred working with others or enjoyed both options. The Montessori classroom embraces sociability, yet also deeply respects individual choice. The child is allowed to work by themselves, as well as make the choice to work with a friend. The multi-age Montessori classroom enables children to feel comfortable with learning despite the happenings around them. The internal focus and desire to learn develops over the three years in the classroom, and when the child is in kindergarten their ability to focus has the potential to be very strong. Children in a traditional school do not have the opportunity for choice and the environment is not as open to free conversation and discussion. Montessori classrooms follow the child and are able to move from a math lesson and in the next minute relate it to geography. It is important a child feels stable and comfortable, and it seems that the child 1 and 3 feel more secure doing work on their own because they are not used to having any 'distractions' such as the example above. In the traditional classroom, children, for the bulk of class, are completing a similar activity. Some children may thrive in

that environment, however, the strength and perseverance that can be developed in a Montessori child will stay with them for the rest of their life.

All of the children who participated in this study have many strengths and will all grow and transition into first grade. Conversely, there is more than just another graduation, the next level up, and the next big thing. In regard to the hypothesis of this study, children in Montessori classrooms have been found to be more normalized than those attending a traditional kindergarten program. Montessori children are comparatively more autonomous, as well as are capable of self-control and self-regulation on a greater level than traditional school children. When a child has the background of being in a Children's House setting, the choice to move them to a traditional setting would be unjust. During the final year in a Montessori school, children are able to combine their love of work with their confidence and continue to develop the self-regulation skills that will be the foundation of their future. To compare the rich benefits of the Montessori three year cycle to the convenience and money saving selling points of traditional schools is unmatched. Montessori education is an investment for the child that will be with them for the rest of their life.

### **Reflection**

From the start of this research, I felt that this was a topic that could be researched as long as time would allow. It would be very interesting to visit more schools and add the results to the data already found and analyzed in this study. I feel the research would be better supported through more data and more results could address the issues in this paper and many more. While my analysis is supported by my data, I think academics would become a prominent difference between traditional and Montessori children. There was not a lot of detail in my inquiry about

academics. I feel that if I were to ask specifically about academics, there would be a qualitative difference that could then be compared.

My hope for this research was to be able to better inform parents whose children attend my pre-school when they are looking for guidance for the kindergarten year. The results of my research support Montessori kindergarten, but I would like to find a way to make my data more valuable for parents. Some ways I have thought about doing this is to add parent narratives, compare cost effectiveness, or provide supporting literature for parents.

Overall I would be interested in extending this study and comparing children in both environments over a few years and comparing the data and proving that socially, academically and mentally children who attended a Montessori kindergarten school are more normalized and prepared for future schooling. Another thought I had while completing this research is the limited amounts of types of public schooling. A public Montessori school in the area this study takes place in would be the best of both sides. My goal to enhance my achievements found in this paper is to inquire about a public Montessori schooling option. If this would be an option for families, the child would benefit, as well as the parents. My goal is to inquire about supporting or starting to create support for a public Montessori (E1 or E2) option for the children with whom I work.

### References

- Carida, H. (2011). Planning and implimenting an educational programme for the smooth transition from kindergarten to primary school: the greek project in all-day kindergartens. *The Curriculum Journal*, 22(1), 77-92.
- Chang, M., & Singh, K. (2008). Is all day kindergarten better for children's academic performance? Evidence from the early childhood longitudinal study. *Australian Journal of Early Childhood*, 33(4), 35-42.
- Cossentino, J. M. (2006). Big work: goodness, vocation, and engagement in the Montessori Method. *Curriculum Inquiry*, 36(1), 63-92.
- Dalhmeier, C. (2013, October) Normalization 2.0: normalized or conditioned? *Montessori Professional Development Workshop*. Workshop conducted at the Riverview Hotel in River Falls, Wisconsin.
- Ervin, B., Wash, P. D., & Mecca, M.E. (2010). A 3-year-study of self-regulation in Montessori and non-Montessori classrooms. *Montessori Life*, (2), 22-31.
- Finn, J. D., & PannoZZo, G. M., (2004). Classroom organization and student behavior in kindergarten. *The Journal of Educational Research*, 98(2), 79-92.
- Gonzalez, C., Fuentes, L.J., Carranza, J.A, Esteavez, A.F. (2001). Temperament and attention in the self-regulation of 7-year-old children. *Personality and Individual Differences*, 30, 931-946.
- National Institute of Child Health and Human Development Early Child Case Research Network (2008). Mothers' and fathers' support for child autonomy and early school achievement. *Developmental Psychology*, 44(4), 895-907.
- Neuenschwander, R., Rothlisberger, M., Cimeli, P., & Roebbers, C.M. (2012). How do different aspects of self-regulation predict successful adaptation to school? *Journal of Experimental Child Psychology*, 113, 353-371.

- Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal*, 102(3), 225-238.
- Rimm-Kaufman, S. E., Grimm, K. J., Curby, T. W., Nathanson, L., & Brock, L. L. (2009). The contribution of children's self-regulation and classroom quality to children's adaptive behaviors in the kindergarten classroom. *Developmental Psychology*, 45(4), 958-972.
- Rothbart, M. K., Ahadi, S. A., Hershey, K. L., & Fisher, P. (2001). Investigations of temperament at three to seven years: The children's behavior questionnaire. *Child Development*, 72(5), 1394-1408.
- Self-discipline. (2013). In *Merriam-Webster.com*. Retrieved November 24, 2013.  
<http://www.merriam-webster.com/dictionary/self-discipline>
- Standing, E.M. (1998). *Maria Montessori: Her life and work*. New York: Plume Publishing.
- Valiente, C., Lemery-Chalfant, K., & Swanson, J. (2010). Predication of kindergarteners' academic achievement from their effortful control and emotionality: evidence for direct and moderated relations. *Journal of Educational Psychology*, 102(3),