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Running head: PARENT PERCEPTION AND ENGAGEMENT IN MONTESSORI  
EDUCATION

Pepperdine University  
Graduate School of Education and Psychology

MEASURING PARENT PERCEPTION AND UNDERSTANDING OF MONTESSORI  
EDUCATION IN THREE MASSACHUSETTS MONTESSORI SCHOOLS

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organization Change

by

Elisabeth Hiles

October, 2015

Susan Nero, Ph.D. – Dissertation Chairperson

This dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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## DEDICATION

To Mom and Dad, for always being there for me every step of the way. For constant reinforcement that I can do and achieve anything. For the quiet and patient belief in me. For everything, thank you, Mom and Dad.

For Luke and Cole: may I pass on to you what Nana and Papa gave to me—the courage and faith to succeed, the will to overcome any obstacle, and the mantra that “A Hiles never quits.” I love you, Luke and Cole!

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Finally, thank you to my family. Thank you to Mom and Dad for never letting me quit, and thank you to Luke and Cole, for being the only reason I needed to finish.



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## ABSTRACT

The Montessori method is a comprehensive, child-centered, developmentalist philosophy of education developed by Dr. Maria Montessori in Rome, Italy, in the early 1900s. The Montessori method differs from traditional approaches to education, and has had limited exposure in the U.S. until the last 20 years. Despite this growth, little research data exists on the effectiveness of the method or of parent understanding of the method. This research project attempted to determine parent understanding of the Montessori method of education at three Montessori schools in Massachusetts that educate children from toddlers to grade eight.

The objective of the research was to design, implement, and analyze a survey that measured parent understanding of the Montessori principles and classroom practices. The survey was developed using the Montessori principles as the foundation. The goal was to determine both the extent of parent understanding of the Montessori principles and parent perception of how these principles are carried out in the Montessori classroom.

Parents and guardians were asked a total of 10 questions, 7 of which involved a five-point Likert scale of multiple items specific to Montessori principles. The quantitative questions designed to test parents' overall understanding of each principle. Responses ranged from a principle being not at all important to very important. The qualitative portion of the survey instrument utilized three open-ended, self-completed questions designed to reveal a range of parent perceptions about Montessori education and classroom practices.

The surveys revealed that parent values and thinking do line up with some aspects of the Montessori method and philosophy. The surveys also revealed that parents seem to value classroom practices contrary to the founding principles. What parents value and what parents think about concepts such as goal setting, achievement, competition with peers, and teachers

preparing and presenting lessons is in direct contrast with some of the Montessori founding principles and intentions.

If Montessori schools wish to remain viable, they will need to reconcile the Montessori principles with conflicting parent values and, further, determine how to better align their principles with parent views and desires for their children.

## **Chapter 1: Introduction**

The Montessori method is a comprehensive, child-centered, developmentalist philosophy of education developed by Dr. Maria Montessori in Rome, Italy, in the early 1900s. It employs a concrete, pedagogical method that, while exceedingly well organized, still allows for a great deal of individual choice and freedom (Whitescarver & Cossentino, 2008). The climate at the time in Italy was one rife with social disorders and economic hardship (Kramer, 1988). Montessori, a physician by training, had taken a keen interest in early childhood development. She found herself overseeing a children's house, charged with keeping the children placated. She observed children accustomed to ridicule and scolding. She determined that what was needed was treating each individual child with respect (Kramer, 1988).

From that first children's house in the slums of Rome grew a movement and philosophy known today as the Montessori method of teaching. The method was briefly introduced in the U.S. in 1911, where it disappeared as quickly as it arrived (Povell, 2010). Suffering resistance from naysayers and well-known educators at the time, such as John Dewey and William Herd Kilpatrick, Montessori education failed to make headlines in America again until the late 1950s and early 1960s (Chertoff, 2012). Since its rebirth, the number of Montessori schools in the U.S. continues to grow.

Due to the early struggles of the movement in the U.S., and a lack of sufficient empirical research to support its implementation (A. Lillard, 2012), Montessori schools and the method of teaching remain elusive and difficult for many to comprehend. Many misconceptions about what Montessori "is" exist (North American Montessori Teacher's Association [NAMTA], 2014), and research on outcomes and the benefits of a Montessori education remain largely unstudied (A. Lillard, 2012). Even less research exists about parents' understanding of the Montessori method

and teaching. To date, only one large-scale public knowledge study has been conducted (Murray, 2012), with a second one underway in South Carolina (The Riley Institute, 2014).

The primary research setting and impetus for this study, Bay Farm Montessori Academy, is a small, private toddler through grade eight Montessori day school located in Duxbury, MA. The school services 172 students, representing 125 families. The culture and curriculum at Bay Farm are built from a strong Montessori foundation, and teachers are trained in Montessori methods and materials. Bay Farm's programs also incorporate concepts such as a peace curriculum (McFarland, 2004; Wolf, 2009a), multiple intelligences (Gardner, Kornhaber, & Wake, 1996; Gardner, 2011) and current research on brain development (Duffy, 2008; P. Lillard, 1997), all of which are logical extensions of the Montessori curriculum (Bay Farm, 2015). Respect for each child and the respect each child shows for the work of others are hallmark qualities of a Bay Farm education.

Founded in 1972, Bay Farm is one of the oldest and largest Montessori schools in Massachusetts. Leadership at the school began with Pam and Leo Malbeouf. They grew the school from eight preschoolers to an accredited, independent school servicing 150 students through grade six. In 2001, after nearly 30 years of running the school, Pam and Leo retired. Since the Malbeouf's retirement, the school hails its third leader and now enrolls through grade eight.

Transition to new leadership has not been easy. Although any change in leadership can cause unease, the shift from *Mom and Pop*-style management to a more structured, hierarchical workplace created some confusion (H. Kite-Powell, November 13, 2014, personal communication). With this new shift in leadership, a new identity also emerged. According to the Board President, this new identity has been both a good and bad experience for the school. The school was in need of a more structured environment, which the current Head of School

provided; however, an unintended consequence was a loss of some of the Montessori brand identity established by the founders.

Bay Farm now finds itself 5 years in to its third leader and wanting to hear from its primary stakeholder: the parents of Bay Farm students. The Board of Directors and Head of School wish to embark on an exploratory study that reveals parents' understanding of Montessori principles and education at Bay Farm and two other area Montessori schools. The school aims to build a collaborative research project where the Head of School, the Board of Directors, and the Researcher, work together with the Lead Teachers at Bay Farm to develop a parent survey that deciphers parents' perceptions of and understanding of Montessori education at Bay Farm and other area participating schools.

### **Statement of the Problem**

The Montessori method of education is still a relatively new educational approach in this country. Its methods and practices can be complex and difficult for parents to discern. There are lots of misconceptions about Montessori. For example, some believe it is too structured, while others think it is not structured enough. Some think it is not rigorous, while others think it is too complex. Still others think Montessori is only for preschoolers (NAMTA, 2014).

To that end, hearing the parents' perspective and assessing their understanding and impressions of Montessori education takes on greater significance. Bay Farm has engaged in this study to help address the issue of parent education and parent engagement in the Montessori method of schooling. They are inviting other area schools to participate in the study in the hopes of getting a better understanding of the parental landscape and mindset of Montessori parents. By engaging in this study, Bay Farm hopes to help not just its community, but the wider Montessori community in Massachusetts get a better handle on why parents chose and persist with Montessori education.

Further, Bay Farm acknowledges that the school could be more effective at communicating its message to parents. Both the Head of the School and the Board recognize a need for greater awareness about the benefits of Montessori education. They believe this starts with reinventing its message to parents. The first step in the reinvention process is to hear the parent perspective by identifying their perceptions and misconceptions about Montessori education. Trying to ascertain parents' views and attitudes regarding Montessori education can help the school create new methods for delivering and disseminating information to parents.

### **Purpose of the Study**

The Montessori method of teaching is a hundred-year-old alternate approach to schooling that was first introduced in the U.S. in 1911. After a failed introduction, Montessori schools experienced a resurgence in the 1960s (Whitescarver & Cossentino, 2008). The purpose of this study is to gather information about parental perceptions about Montessori education at Bay Farm and several other area Montessori schools. The study aimed to both understand and unravel the mindset of the parent community. The study attempted to:

- Identify parent perceptions of Montessori education
- Identify parent misconceptions of Montessori education
- Uncover deficits in parent understanding of Montessori education
- Reveal effective and ineffective methods of parent education at area Montessori schools

After analysis of the survey data, the Heads of School and Boards of Trustees will be able to uncover parent understanding of the Montessori approach at each of the schools. They will also be able to decipher parent value of a Montessori Education. The collected data will further reveal parent agreement regarding the successes of the Montessori approach. Finally, the data



will display deficits in parent understanding of the teaching methods employed by area Montessori schools.

The study concludes with program recommendations for the Boards and the Heads of Schools around how to effectively communicate the benefits of the Montessori method to the parent population.

### **Objective and Research Questions**

The study aimed to understand consumer behavior by surveying parents about their perception and misconceptions of the Montessori method at Bay Farm and two other area Montessori schools. The study addressed the parental mindset by uncovering parent perceptions; identifying parent misconceptions; and revealing where there are deficits around understanding Montessori education and principles. The following questions guided the study:

1. What reasons do parents and guardians give for sending their children to Montessori schools?
2. What do parents and guardians understand about the Montessori principles of education? What do they misunderstand?
3. How do parents and guardians perceive implementation of the Montessori principles in the classroom?

### **Research Setting**

The participants in this study were the parents of children enrolled at Bay Farm Montessori Academy in Duxbury, MA; Oak Meadow in Littleton, MA; and Thacher Montessori School in Milton, MA. The primary research setting was Bay Farm, a small, private, toddler through grade 8 school that uses the Montessori approach as its primary style of teaching. Bay Farm, along with the other two schools, is considered an alternative school to public school and

traditional preparatory schools. The target population included parents and guardians from all three schools. The total number of students served is 597.

### **Relevance of the Study**

The study has the potential to help the aforementioned Montessori school administrators better understand their parent population. Currently, the primary research setting recognizes that better communication to parents about the Montessori philosophy and principles is needed. The new President of the Board has called leadership together and asked them to engage in this collaborative research project. It is accepted by current leadership that a new direction with regard to parent education needs to be taken (H. Kite-Powell, personal communication, November 13, 2014). It also accepted by leadership that a good first place to start is with understanding the parent perspective. Although similar views of the Montessori method are likely carried nationwide, Bay Farm and the other area schools in particular stand to gain by taking the time to discern parent perception and persistence of Montessori education.

The schools need to successfully decipher parent perception and misconceptions of Montessori education to develop new methods and modes of parent education. By engaging in this exploratory research project, the schools involved in this study will be able to address parents' misconceptions about the value of the Montessori approach. By listening to the parents and families, leadership can identify ways to more effectively communicate the benefits of a Montessori-based education.

### **Definition of Terms**

*Absorbent mind:* an image Montessori used to describe the mind of children under age six. The child's intense mental activity absorbs or takes in everything in the environment to create himself or herself (Montessori, 1995).

*Auto-education:* The child's ability to self-correct and self-teach (Kilpatrick & Suzzallo, 1914).

*Disengagement:* the action or process of withdrawing from involvement in a particular activity, situation, or group (Crossman, 2015).

*Misconception:* A view or opinion that is incorrect because it is based on faulty thinking or understanding ("Misconception," 2014).

*Montessori method* is a comprehensive, child-centered developmentalist philosophy of education. It employs a concrete, pedagogical method that, while exceedingly well organized, still allows for a great deal of individual choice and freedom (Whitescarver & Cossentino, 2008). It utilizes multi-age classrooms, extended time blocks, and specific sets of didactic, hands-on materials that make it distinct from the traditional classroom (Wolf, 2009b).

*Perception:* A way of regarding, understanding, or interpreting something; a mental impression ("Perception," 2014).

*Preparatory or independent schools* are governed by a board of trustees and are not bound by state mandates with regard to curriculum and testing. They stress academics, hard work, leadership, personal responsibility, and good citizenship (National Association of Independent Schools, 2012).

*Sensitive period:* a period of time when children focus their attention on specific aspects of the environment to the exclusion of others (Seldin & Davies, 2006).

*Traditional or public schools* are financed through federal, state, and local taxes, and are part of a larger school system. Public Schools function as a part of the government and must follow the rules and regulations set by politicians (GreatSchools, 2014)

**Limitations to the Study**

A primary limitation to this study was the small geographic sample. Although the sample size was 597 student families and yielded valuable data, the geographic representation was eastern Massachusetts. This will make the data difficult to generalize to all Montessori schools in the U.S. That said, the data should yield results that are proximally similar for schools that largely follow the Montessori method and principles. Other Montessori schools should be able to utilize the findings and allow the data to help them with their parent education and training.

A second limitation was that the researcher is a parent at the primary research setting. Although this could be seen as a conflict of interest, the researcher is collecting data strictly about parent understanding and engagement in Montessori education and philosophy. All data were collected anonymously and confidentially. The researcher did not know the identity of any person's individual responses to any questions. All questions were administered through a web-based tool such as Survey Monkey or Qualtrix, and only identified which school the survey came from so that the researcher could see if the differences in parent understanding between schools. As the study was largely quantitative, and involved an outside rater for the qualitative portion, the fact that the researcher is a parent did not influence the data collection.

**Organization of the Remainder of the Study**

Chapter 2 provides a review of relevant literature detailing the Montessori method and approach to education. It provides a brief background of Maria Montessori and her philosophy and how the method was introduced in the U.S. It goes on to discuss the main principles of Montessori and how they are carried out in classrooms. Next, it discusses how Montessori has been understood and misunderstood in the U.S. It concludes with a review of the key research articles targeting benefits of Montessori education and public knowledge of the Montessori method.

Chapter 3 provides the research design and methodology of the study. Chapter 3 details the research questions and quantitative and qualitative methods for the research study. It goes on to describe the participants and the protection of human subjects as well as the role of the researcher and data collection strategies. It finally discusses the relevance and limitations of the study. Chapter 4 reports the study results and findings. Chapter 5 provides an additional discussion of the findings as well as practical implications and possibilities for future research.

## **Chapter 2: Literature Review**

This chapter provides an examination of the literature which supports the research questions stated in Chapter 1 and restated here:

1. What reasons do parents and guardians give for sending their children to Montessori schools?
2. What do parents and guardians understand about the Montessori principles of education? What do they misunderstand?
3. How do parents and guardians perceive implementation of the Montessori principles in the classroom?

The chapter begins with a review of Maria Montessori's core curriculum components and how her teaching methods came to the U.S. The next section discusses the founding principles of the Montessori philosophy, along with commonly shared critiques and misconceptions of Montessori education. Next, the chapter provides an overview of school choice, and contrast the different schooling options available to families in the U.S. It details the differences between the Montessori approach and the private and preparatory approaches to education. The chapter concludes by examining the few key research studies about Montessori education and the lack of research around parent understanding and knowledge of Montessori schooling.

### **Maria Montessori**

The first Montessori school was opened in Rome, Italy, in 1907 by Dr. Maria Montessori (1870-1952), an Italian educator. It was built on the premise that current educational approaches of the time were not effective (A. Lillard, 2007). Dr. Montessori is acclaimed for her child-centered approach, with specific emphasis on the way children naturally learn (American Montessori Society, 2013). Montessori's approach was considered radical for the era, as she believed that education needed to be more about the child than adult convenience (A. Lillard,

2007). Currently, there are over 22,000 Montessori schools in 110 countries worldwide (American Montessori Society, 2013).

Montessori created a system of and philosophy of education rooted in specific sets of didactic, hands-on materials (Whitescarver & Cossentino, 2008). The prepared environment includes both indoor and outdoor activities aimed at stimulating and encouraging positive brain development (Schmidt, 2009). Montessori believed that the secret of childhood was children involved in self-directed, purposeful activity.

Montessori's classroom materials are designed around six different focal areas: room care and practical life; art; geography; math and science; cultural; and sensorial (P. Lillard, 1997; Schmidt, 2009). Room care and practical life materials are designed to help children gain control and confidence over their environment. They are also meant to help children grasp the concept of order and that tasks happen sequentially. Art materials, while not great in number, are specifically chosen to heighten sensory awareness. Materials such as clay, color paddles, and collage trays are meant to allow for open-ended expression (P. Lillard, 1997). Geography is presented to students in relation to history and science. The Globe is made of sandpaper or painted, and control maps and labels are provided for children to paste.

Mathematics work is thought to begin with both the practical life and sensorial work. Montessori believed that children first perceive value from the length of an object rather than the number of objects (Schmidt, 2009). Her math materials start with red rods that increase in length, and then beaded materials that eventually help a child add, subtract, multiply, and divide all the way up to 9,999. The logic behind Montessori's science curriculum is that children should be presented with a total picture of what it means to live on the earth. Along with this is that children need to understand sustainability and human's responsibility to the environment (P. Lillard, 1997).

Cultural aspects are embedded in much of the curriculum. In art and music, for example, children can look at various works of art from around the globe and study different artists. They can also listen to the varying sounds of music from around the world (P. Lillard, 1997). Schools can also house day-long cultural events. Bay Farm, for example, celebrates diversity with an International Fair. The fair features exhibits with multicultural crafts, international cuisine, and live music performances from various cultural groups.

Sensorial exercises and materials are designed to help a child isolate one defining quality of an object from the next. The Montessori materials are meant to help children make distinctions such as color, weight, smell, sound, texture, and shape, and to help them better understand what they are perceiving (Wolf, 2009b). Key works such as the Baric tablets, smelling jars and the brown stairs are all designed to help children distinguish and categorize and reconcile new information with old.

### **Montessori in America**

Since the first published articles about the successes in Montessori's classrooms in 1911, her influence has been felt here in the U.S. (Whitescarver & Cossentino, 2008). There is debate about how marginal her influence has been, although elements of her curriculum and ideas can be found in many U.S. elementary classrooms, not just those in designated Montessori schools. In fact, the freedom and responsibility that comes with a Montessori education has been linked to the Bill of Rights (P. Lillard, 1996). Elementary Montessori teachers are taught not to violate any of these rights:

- To act by oneself and for oneself.
- To act without unnecessary help or interruption.
- To work and co concentrate.
- To act within limits that are determined by the environment and the group.



- To construct one's own potential by one's own effort.

Montessori embarked on a campaign to make her child-centered approach to education known worldwide. She held numerous lectures, published articles and book, and created a professional development program for teachers, training them in the Montessori method (American Montessori Society, 2013). The first, short-lived Montessori schools were introduced in the U.S. in 1911. Montessori's original entrance into the U.S. was met with both enthusiasm and excitement for her methods and teaching (Povell, 2010). However, a number of factors led to its failed introduction, including World War I and some powerful critics of the education and philosophy (Whitescarver & Cossentino, 2008). Prominent American educators, particularly John Dewey and William Herd Kilpatrick, actively discredited the Montessori method (Chertoff, 2012). They suggested Montessori's method and teaching stifled creativity and was too individually based.

A resurgence of Montessori schools occurred in the late 1950s and early 1960s, largely due to Nancy Rambusch, who rediscovered the Montessori method in Europe in the 1950s (Enright, 2014). Rambusch attempted to modernize the method (Chertoff, 2012), and Montessori's child-centered approach seemed to resonate with progressive middle class families in the U.S., creating a better alternative to traditional, teacher-led public classrooms (Whitescarver & Cossentino, 2008). The last two decades, in particular, have seen considerable growth and expansion in Montessori schools in the U.S. (Dohrmann, 2003).

**The Montessori schism.** Although Rambusch can be largely credited for reviving the Montessori method in the U.S. in the 1960s, she also is linked to the schism that exists in the Montessori movement today (Chertoff, 2012). Rambusch became the U.S. representative of Association Montessori International in 1959 and founded the American Montessori Society in 1960. Montessori's daughter, Mario, and Rambusch disagreed over any reforms to the

Montessori pedagogy, and the two parted ways in 1963 with AMS and AMI at odds with one another (Chertoff, 2012). Although the methodological wars largely ended in the 1990s, today the two governing bodies remain separate organizations, with AMI retaining 180 affiliated U.S. schools, and AMS being the larger of the two organizations with over 1,200 membership schools (Whitescarver, 2010).

Today, there are approximately 4,500 Montessori schools in the U.S. (NAMTA, 2014). In Massachusetts, where this research study is taking place, there are 99 Montessori schools. The majority of those schools service children in preschool through Kindergarten, with only 15 serving children through middle school. This research study is focusing on the Massachusetts area Montessori schools that currently have students through grade eight.

**Principles of Montessori education.** Stated here, and also found in Appendix A, is a summary of what appears to be the most commonly mentioned principles by authors, teachers, and schools:

The first principle, respect for child, is the cornerstone on which all other Montessori principles rest. Teachers show respect for children when they help them do things and learn for themselves. When children have choices, they are able to develop the skills and abilities necessary for effective learning autonomy, and positive self-esteem (Morrison, 2014). This principle is listed in almost every Montessori writing the researcher came across. Schmidt (2009) lists it as the first principle, quoting Montessori in emphasizing the miraculousness of a child and the need for educators to deeply sense this.

The second principle, the absorbent mind, refers to the idea that children can't help learning. Simply by living, children learn from their environment. Children are born to learn, and they are remarkable learning systems. Children learn because they are thinking beings. But what they learn depends greatly on their teachers, experiences, and environments (Morrison, 2014).

This principle is the title to one of Montessori's (1995) books. Montessori describes the absorbent mind as "intense and specialized sensitiveness in consequence of which the things about him awaken so much interest and so much enthusiasm that they become incorporated in his very existence. The child absorbs these impressions not with his mind but with his life itself" (Montessori, 1995, p. 22). The additional key piece to this is that teachers play a critical role in what children learn (Morrison, 2014). Essentially, the absorbent mind is unconscious, and can be likened to a sponge. Children are constantly soaking up and absorbing all of the information around them. The classroom materials that Montessori and Montessori classrooms utilize are meant to help a child soak up as many experiences as possible, heightening the learning experience.

The third principle, sensitive periods, indicates that there are certain periods of time when children focus their attention on specific aspects of the environment to the exclusion of others. It is a passion and a commitment, derived from the unconscious that guides children to conscious, creative activities (Seldin & Davies, 2006). Sensitive periods can be described as periods of time when a child dedicates their attention to a specific aspect of the environment to the exclusion of others. An example of this may be working with the math counting beads. A child may become so engrossed in the excitement of learning to count by 10s or 100s, that they work on this one task for a few weeks straight. Essentially the child seeks certain activities with immense intensity, ordinarily to mastery (Enright, 2014).

The fourth principle, auto-education, is the idea that children have a deep love and need for purposeful work. While adults generally work towards a goal, a child's objective is the work itself (Montessori Foundation, 2015). Children who are actively involved in a prepared environment and who exercise freedom of choice literally educate themselves. Montessori teachers prepare classrooms so that children educate themselves (Morrison, 2014). According to

Morrison (2014), auto-education is a logical extension of a sensitive period. As children engrossed in a sensitive period dedicate their focus and passion to one specific aspect of the classroom, auto-education is the phenomenon where children teach themselves. Montessori teachers prepare the classroom in such a manner that, while exercising freedom and choice, children literally educate themselves. The didactic materials are designed to control for errors and the child will learn to correct himself or herself (Kilpatrick & Suzzallo, 1914). Thus the work of the child, or the auto-correction as put by Kilpatrick and Suzzallo, is the auto-education in action.

The fifth principle, prepared environments, means that the environment is designed to facilitate maximum independent learning and exploration by the child. In the calm, ordered space of the Montessori-prepared environment, children work on activities of their own choice at their own pace. They experience a blend of freedom and self-discipline in a place especially designed to meet their developmental needs (NAMTA, 2014). The prepared environment developed by Montessori includes classroom materials intended to engage both the hands and the minds of the students. According to Schmidt (2009), “Science and research, especially in the past twenty years, have come to prove that Montessori’s observations accurately describe the learning needs of children and have shown as well that the principles Montessori envisioned do create joyful learners” (p. 85). Schmidt cites research done at the University of Minnesota Medical School, along with other studies in Milwaukee, Wisconsin, that advocate the benefits of the Montessori method and the prepared environment. A key characteristic of the prepared environment is the blend of student freedom and self-discipline that occurs as students work and chose materials at their own pace (NAMTA, 2014). The prepared environment maximizes independent learning and exploration by the child. According to Enright, the specially designed materials enable the

child to discover for himself or herself whether she is right or wrong. This encourages the child to be concerned about facts and truth, not just what the teacher tells them (Enright, 2014).

The sixth principle, called Directress, is that although teachers are thought of as directing the process in a traditional classroom, the directress (lead classroom teacher) is charged with keeping each child supplied with difficulties suitable to his or her strength. Thus, the teacher acts as protector of the child's right to learn and, thus, is charged with closely monitoring each child's development (Montessori, 1995). He or she is meant to keep the child supplied with materials and works suitable to the child's strengths (Montessori, 1995) It is thus the role of the teacher to put the child in touch with appropriate materials (Enright, 2014).

**Misconceptions about Montessori.** Although there is much research and fanfare to share about a Montessori classroom and teaching methods, equally important to discuss are the multitude of misconceptions surrounding Montessori and her teaching. One important and significant misconception is the misunderstanding that Montessori education and schools are for preschoolers only (NAMTA, 2014). Fifteen programs in Massachusetts, for example, teach toddlers through grade eight.

Another widely held misconception is that Montessori schooling is for special learners (NAMTA, 2014). Montessori's early work and first school opened to serve economically disadvantaged children and those who were mentally disabled (Lopata, Wallace, & Finn, 2005). As Montessori's initial programs and findings were based on these disadvantaged populations, many people still believe that her schools and methods of teaching are only meant for children that are not mainstream. Some people have suggested that Montessori is a cult; however, there are a growing number of graduate degree programs in the Montessori method, such as New York University and Cleveland State University, indicating wider acceptance of the method (NAMTA, 2014).

One other misconception worth discussion is the idea that Montessori classrooms are relatively unsupervised and children are free to do whatever they want (NAMTA, 2014). This is an interesting misconception when taken with another commonly held belief that the Montessori classroom is too structured. According to Chertoff (2012), Montessori education may be the least alternative of alternate methods to schooling. The students do play with carefully designed toys in the prepared environment; however, this occurs within an overall framework of freedom and choice, as is evidenced by the wide array of materials and the extended time blocks within which to work (P. Lillard, 1997). Children experience great freedom and independence in choosing what they work on, and in having long time blocks to carry out their works.

Two final common misconceptions center around money and religion. It is thought by some that Montessori schools carry with them a religious orientation. This stems from the fact that many private schools in the U.S. do have religious support (NAMTA, 2014). However, Montessori is not religiously based. With regard to finance, most Montessori schools in the U.S. are private and do charge tuition. There are, however, a growing number of public Montessori schools and scholarships are available at tuition charging schools.

### **School Choice**

Parents have a lot of choice when it comes to primary education for their children. Parents can chose from local public, charter, and magnet schools; private schools; homeschooling; and online learning. With regard to public education, generally speaking, a family's first option is their local neighborhood school (GreatSchools Staff, 2014). However, families who chose public education are also seeking out charter schools, which are subject to less rigorous state regulations. Public charter schools tend to be in high demand, and families wishing to enroll their children there often have to participate in a lottery. Public magnet schools

also are popular options. These typically have a particular focus, such as arts or a vocation, and tend to offer self-paced curriculum.

Private schools are revenue-generating schools that charge tuition and tend to maintain higher sets of graduation requirements and more curriculum requirements than public schools. (Kenned, 2013). Several different options are available within private schools. Private schools can be traditional preparatory schools, religion-based, or alternative, including such schools as Montessori and Waldorf schools. All of these schools have their own admissions criteria and determine their own academic structure. They are not subject to federal or state government regulations (GreatSchools Staff, 2014).

Parents also have the choice of educating their children at home (Commonwealth of Massachusetts, 2015). Each state has different sets of laws that govern the requirements of homeschooling and that help determine curriculum requirements for those parents who wish to educate at home (GreatSchools Staff, 2014). A component of homeschooling at the elementary level are online resources and educators. Massachusetts, for example, has tuition-free online public schools. These schools offer families individualized learning plans for each student and state-certified monitors work with each family (Massachusetts Virtual Academy, 2015).

**Private education compared to traditional public education.** The Montessori approach to education is based on the tenet that children learn best when they are exposed to specific, developmentally appropriate materials (Lopata et al., 2005). A hallmark of Montessori schooling is the mixed-age classrooms. Classrooms are designed around a three year cycle: ages 3-6 (preschool through Kindergarten); grades 1-3; grades 4-6; and middle school. It is thought that children's natural tendencies are better able to unfold in these specially designed, multi-age classrooms. The three-year cycle is also meant to allow for seamless transitions, keeping the upheaval of changing grades to a minimum. As one Montessori Head of School in Brooklyn,

New York, noted, “Imagine as an adult having to change your work environment and boss every ten months” (Peters, 2011, p. 128).

Equally important to the mixed-age classrooms are the special, specific sets of hands-on materials. Students chose their own works and are able to work in long time blocks (A. Lillard & Else-Quest, 2006). This set up allows children to work uninterrupted, ideally for 3-hour periods (Peters, 2011). Classrooms are meant to be collaborative spaces where both individual and group instruction takes place. Unique to the Montessori method is the absence of grades and tests (A. Lillard & Else-Quest, 2006).

The traditional classroom in America is a contrast to the Montessori classroom in several ways. To begin with, one of the greatest differences is that public schools are financed through local, federal, and state taxes. They are a part of a larger system that operates as a part of the government (GreatSchools Staff, 2014). This means that each year, the schools are subject to changing political landscapes and rules and regulations set by politicians and the federal government.

In general, public classrooms in the U.S. are teacher-led, with students as recipients of teacher knowledge. The current trend of standards-based curricula and test-based accountability favors the teacher-centered movement (Cuban, 2004). The average pupils per classroom in the U.S. in 2010 was 20 students per teacher at the elementary level and 23.4 pupils per teacher at the high school level (National Center for Education Statistics, 2015). In state-by-state pupils-per-classroom data, states such as Michigan and Utah rank among the highest, with 25.1 and 24.2 pupils per elementary classroom, respectively (National Center for Education Statistics, 2015). This summarized data does not account for the large discrepancies between teacher-student ratios in public schools in rural America versus urban settings. A 2011 *New York Times* article revealed that budget cuts and teacher reductions in cities such as Los Angeles have led to



classrooms upwards of 43 students per classroom in English and Math (Dillon, 2011). In that same article, a seventh grade math teacher in Charlotte, North Carolina, discussed the rising students per classroom trend, with her classroom now at 32 students. The article went on to discuss how the trend of reducing classroom size has indeed not only ceased, but has seen dramatic increases in classroom sizes across the nation.

In a Frontline interview aired on PBS, key leaders report similar concerns about the status of K-12 public education in the U.S. They cite a two-tiered system in the U.S. where public schools in wealthier areas perform better than public schools in urban areas. They further report concern over students in the U.S. being outperformed on standardized testing by students in Japan, Taiwan, Korea and other nations (WGBH Educational Foundation, 1995-2014).

A key distinction between private school and public school is standardized testing. No Child Left Behind was first passed in 2001. Under No Child Left Behind, each state is required to test students in grades 3 – 8 in both reading and math (U.S. Department of Education, 2014). States needed to develop state academic standards and a testing system meeting federal guidelines that measured student achievement in both reading and math.

Dane Peters, Head of School at Brooklyn Heights Montessori School in New York, states: “Learning is best when the student is motivated from within and not through extrinsic rewards” (Peters, 2011, p. 127). No Child Left Behind has created a culture where teachers need to focus on their students passing the state tests, leaving very little room for self-discovery and uninterrupted blocks of learning time, two hallmarks of the Montessori method of teaching. There is no mandatory testing at private schools, and private schools are not required to take part in the public state testing system (GreatSchools Staff, 2014).

**Montessori education versus preparatory (independent) schools.** Similar to private preparatory schools, Montessori schools rely on tuition and donations to operate. No public

funds are made available to private schools. Both types of private schools are governed by a board of trustees as opposed to a state-led public school board (National Association of Independent Schools, 2012). Neither type of private school is mandated to follow established state subject standards, nor are they required to administer standardized subject testing.

According to National Center for Education Statistics (2015), the average student teacher ratio in private schools in the U.S. is 12:1. Independent schools in New England, for example, tend to have very low student-teacher ratios. Milton Academy (2014), for example, has a student teacher ratio of 5:1, with an average class size of 14 students. Small class sizes are a trademark of independent schools, which is a bit of a contrast to Montessori schools. Montessori classrooms are on the larger side, given the mixed-age classrooms. For children above the toddler age range, classrooms typically have 20 to 30 students, spanning a 3-year age range (American Montessori Society, 2013). There are, however, more teachers in the room. Classrooms all have one lead teacher and at least one assistant (Dohrmann, 2003). The student-teacher ratio at Bay Farm, the primary research setting for this study, is 8:1; yet, each classroom has 22-24 children and three teachers (Bay Farm, 2015).

Montessori schools utilize mixed-age classrooms and students start school much earlier than in other independent schools. Montessori schools start at age 12 months. The first grouping of students is toddler age, including children 12 months to 2.9 years of age. The next age grouping for a Montessori school is ages 3–6. This grouping includes pre-school, pre-kindergarteners, and Kindergarten. The next two groupings are grades 1, 2, and 3, and then grades 4, 5, and 6 (American Montessori Society, 2014). Blended classrooms are in contrast to the one grade level at a time system used by both independent and public schools.

Finally, independent schools are often referred to as college preparatory schools. Many go through grade 12, can be co-educational or single-sex, and can have both day students and

boarders (National Association of Independent Schools, 2012). The majority of Montessori schools in the U.S. are preschool level and early elementary only. In Massachusetts, for example, there currently are no Montessori high schools.

### **Research on Montessori Education**

**Research on educational outcomes.** Early studies of Montessori education in the U.S. took place between the time period of the 1970s through the 1990s. These studies were largely focused on preschool age children and are of little research significance due to poor design, limited scope, and small sample sizes (Chattin-McNichols, 1992; A. Lillard & Else-Quest, 2006). Overall, there is a paucity of rigorous research on effectiveness of the Montessori method of education (Murray, 2010).

Since 2000, more rigorous research is surfacing about effectiveness of Montessori education, with five significant studies. One such study examined five Montessori middle schools representing four U.S. States and compared them with a similar subset of traditional middle schools. The study utilized similar variables with no statistically significant differences in the two samples (Rathunde, 2003). Students in both samples responded to the Experience Method Sampling. The purpose of the study was to compare Montessori and traditional middle schools in five main Experience Method Sampling measures: affect (mood), potency (energy level), salience (feelings of importance), intrinsic motivation (sense of enjoyment), and flow. Students filled out response forms eight times a day for seven consecutive days. Questions were asked about how they were feeling at the moment, what they were thinking about, and other experiences in that moment. The results of the study revealed that middle school Montessori students overall have a better quality experience than traditional middle school students. The study suggests that Montessori students have learned to enjoy working hard. The study further

acknowledged that Montessori students both like their teachers better and feel more connected to their classmates.

Dohrmann (2003) study compared academic outcomes for two groups of high school graduates ( $N = 201$ ) students who attended Milwaukee Public Schools during the years 1997–2001. The study included those who completed at least fifth grade in Montessori programs and those from the same high school who did not attend elementary Montessori school. The study assessed ACT scores, WKCE scores and GPA using structural equation modeling. Montessori students significantly outperformed the control group in math and science. English/social studies scores showed no statistical difference, and GPA approached significance favoring Montessori students.

Murray (2010) examined the social and academic impact of Montessori education for both primary and elementary level students at a Milwaukee area Montessori school. This study likely represents the most significant study to date on the benefits of Montessori education. The researchers compared achievement scores in both academic and behavioral tests for students ending the school's Children's House 3-year cycle (age 5) and students ending the school's elementary 2-cycle (12 year olds). Seven tests were administered to 5 year olds from the Woodcock-Johnson (WJ III) test battery. Significant differences favoring Montessori students were found in three of the tests: letter word identification, word attack, and math skills. Picture vocabulary, basic thinking, and concept skills showed no difference. Montessori students performed slightly better in executive function (A. Lillard & Else-Quest, 2006).

Results for 12-year olds found Montessori students had more sophisticated writing and language skills; yet, they did not score higher on the WJ tests. Montessori 12 year olds were, however, significantly more likely to chose positive assertive responses, and displayed more of a sense of community and caring for their peers (A. Lillard & Else-Quest, 2006).

A. Lillard (2012) examined preschool children's school readiness skills for Montessori students, supplemented Montessori classrooms, and traditional classrooms. The second part of the study examined children's use of Montessori materials in the classroom as a predictor of school readiness in the spring. Children aged 33 to 76 months participated ( $N = 172$ ), from three classic Montessori classrooms, nine supplemented classrooms, and six conventional classrooms. Measures included Ponitz et al.'s (2008) executive function/The Head-Toes-Knees-Shoulders task, Wellman and Liu's (2004) Theory of Mind Scale, Rubin's (1998) Social Problem Solving Task, and Woodcock, McGrew and Mather's (2001) WJ III (as cited by A. Lillard, 2012). Across a variety of outcomes, more significant gains were made by students in classic Montessori programs. The largest gains were in executive function and problem solving.

A final study examined academic achievement of 543 urban fourth and eighth grade students who attended either Montessori or traditional education programs in a large urban district in western New York (Lopata et al., 2005). Academic achievement was assessed using the New York State math and English/Language Arts exams and the math and language portions of the TerraNova published by McGraw Hill. At both grade levels, a MANCOVA tested whether or not students in Montessori schools had higher math and language arts achievement. Results appeared mixed and failed to support the hypotheses.

Despite existing for more than 100 years, there is a paucity of research that evaluates the effectiveness of the Montessori method of teaching in the U.S. Most research seems to center around the social context and the collaborative benefits of Montessori education. Very little achievement data exists, and the data that do exist are with smaller samples.

**Research on public knowledge.** In 2012, a national research firm conducted an online survey of a demographically representative sample of 1,520 adult panel members who answered questions about their understanding of Montessori education (Murray, 2012). Questions were

asked about awareness of Montessori education, knowledge of the Montessori method, what teachers and children do in a Montessori classroom, and what Montessori classrooms look like. This was the first large-scale study of its kind and provided researchers with strong evidence that public awareness of Montessori education is limited. One of the key findings was there is a lack of understanding regarding intrinsic motivation when learning an activity oneself. The general public seemed to think that external incentives such as grades and stickers were necessary rewards. The Montessori perspective, however, is that learning an activity that is its own reward (Hainstock, 1997a). Another key finding centered around the classroom environment. Adults in the survey seemed to lack knowledge and understanding of the design and structure of the classroom, especially concepts such as long blocks of uninterrupted work time (Murray, 2012).

In South Carolina, The Riley Institute for Education Policy at Furman University is in the midst of a 5-year-long research study examining how Montessori education impacts a range of various stakeholders (The Riley Institute, 2014). A key component in this study is the emphasis on parent satisfaction with Montessori programming. The study is in its second year, with 3 years remaining.

Overall, there is limited research and data about adult and parent understanding of the Montessori method and philosophy. There are a good number of books written for parents about Montessori classrooms and teaching, such as Schmidt's (2009) *Understanding Montessori: A Guide for Parents*, Wolf's (2009b) *A Parent's Guide to the Montessori Classroom*, and other books that discuss how to utilize and incorporate Montessori principles at home, such as P. Lillard's (1996) *Montessori Today* and Hainstock's (1997b) *Teaching Montessori in the Home*. However, few studies exist that have examined the effectiveness of the Montessori method and parent perception of and understanding of Montessori education.

## Conclusion

There are forty little beings—from three to seven years old, each one intent on his own work. One is going through the exercises for the senses; one is doing an arithmetical exercise; one is handling the letters, one is drawing, one is fastening and unfastening the pieces of cloth on one of our little wooden frames, still another is dusting. Some are seated at tables, some on rugs on the floor. There are muffled sounds of objects lightly moved about, of children tiptoeing. Once in a while comes a cry of joy only partly repressed, “Teacher! Teacher!” and eager call, “Look! See what ‘I’ve done’”. But as a rule, there is entire absorption in the work at hand.

(Maria Montessori, 1912/2013, p. 347)

In the above quote, Montessori describes what goes on in one of her classrooms. At the end of the passage, she mentions entire absorption in what the child is working on. Montessori created a system and philosophy of education meant to truly engage the learner. She believed that a child must educate herself, and that learning takes place long after departure from the classroom (Wolf, 2009a). She believed the goal of education should be about fostering natural curiosity and intrinsic motivation, not external rewards and curriculum based on pre-selected courses of study (Wolf, 2009b).

Montessori’s influence first reached the U.S. in the early 1900s. However, the method did not really capture the hearts and minds of educators in America until the 1960s. Her method and style of teaching offer a contrast and alternative to traditional methods of teaching. Her classrooms offer specific sets of developmentally appropriate curriculum materials (A. Lillard & Else-Quest, 2006); mixed-aged classrooms designed around a 3-year cycle (Lopata et al., 2005),

and long time blocks in which children can become fully engrossed in what they are working on (Peters, 2011).

Montessori's classroom and curriculum materials center around a number of key principles that guide her method. She strongly believed respect for the child is critical at all stages of learning (Schmidt, 2009). She also believed that children's minds are like sponges, ready to soak up all that is around them (Montessori, 1995). Much time and effort has been dedicated to her classroom design and teacher training in an effort to create the best possible environment from which children can expand their mind (Morrison, 2014). She described children as going through sensitive periods whereby they dedicate all of their time and energy to specific learning aspect in the classroom (Seldin & Davies, 2006). She further believed in the concept of auto-education, in which children possess the ability to teach themselves (Montessori Foundation, 2015). She proposed that all of her classrooms be prepared with specific sets of didactic, hands-on materials (P. Lillard, 1997), and that lead teachers play a critical role in helping the child help himself or herself (Montessori, 1995).

Although Montessori and the Montessori classroom have been widely researched, many misconceptions exist about what Montessori education is and is not. Misconceptions abound, from those concerning the age range of students (NAMTA, 2014) to it being only for special learners (Lopata et al., 2005), to it being of religious orientation or only for the rich (NAMTA, 2014). One of the biggest dichotomies facing public knowledge are the misconceptions that the Montessori classroom is either too structure or unsupervised, or that it allows for too great a freedom.

A big hurdle facing Montessori educators is the lack of rigorous research that exists around the effectiveness of the Montessori method of teaching. The early studies that took place in the 1970s to 1990s generally focused on preschool age children, were limited in scope, and,



included only small sample sizes (A. Lillard & Else-Quest, 2006). The more recent studies that have taken place prove more rigorous; yet, they were few in number and limited the ability to draw broad conclusions. When it comes to research about parent understanding, the pool of articles and papers is even smaller. A first of its kind study was conducted in 2012, aimed at trying to uncover general public knowledge regarding Montessori schooling (Murray, 2012). One other long-term study is currently underway in South Carolina, where researchers hope decipher parent satisfaction with Montessori programming. But generally speaking, a paucity of research exists around Montessori effectiveness and parent understanding.

It is hoped that by engaging lead teachers, administrators, and Board members, in the development of the survey instrument for this research project, that the data yielded will retain heightened significance to the wider Montessori community. The researcher has included a large sample size of parents from three different Montessori schools, representing both urban and suburban environments. As parent understanding and engagement in Montessori education seems to be a largely unexamined, it is hoped that this research project will help administrators gain greater perspective on their parent population.

The Montessori method and philosophy of education offer an alternative approach to public and independent schooling. Much research exists about Montessori and her classroom and philosophy. Much more research, however, is needed regarding outcomes and parent understanding. It is hoped that this study produces generalizable knowledge about parent perception and engagement in Montessori schooling.

### **Chapter 3: Methods**

This study involved a survey of parents at three different toddler through grade eight Montessori schools in eastern Massachusetts: Bay Farm Montessori Academy in Duxbury, Oak Meadow in Littleton, and Thacher Montessori School in Milton. The purpose was to learn more about parent understanding of the Montessori method and philosophy by surveying parents at the three schools about their understanding, perceptions and misconceptions about Montessori education. The study addressed where there are deficits or conflicting ideas in parent understanding of Montessori education and principles.

#### **Objectives and Research Questions**

The objective of this study was to design, implement, and analyze a survey that looks at parent perception of Montessori education at three Massachusetts toddler through grade eight Montessori schools. The head of the school, president of the board, and lead teachers at the primary research setting provided content validation for the development of the survey. The survey questions were designed to determine parent understanding of the key Montessori principles. The overall research objectives were to (a) determine the extent of parent understanding of the Montessori principles (see Appendix A) and (b) understand parent perception of classroom implementation of the principles. Three research questions guided this study:

1. What reasons do parents and guardians give for sending their children to Montessori schools?
2. What do parents and guardians understand about the Montessori principles of education? What do they misunderstand?
3. How do parents and guardians perceive implementation of the Montessori principles in the classroom?

The participants in this study completed a survey designed by the researcher, with assistance from the head of school, board president and lead teachers from Bay Farm Montessori Academy. The survey was administered to parents at the three named Massachusetts area Montessori schools in March of 2015. The quantitative and qualitative were analyzed by the researcher. This chapter outlines the study approach and design, the sampling procedures, the survey validation process, data collection strategies and procedures, protection of human subjects, the role of the researcher, and the relevance of the study.

### **Study Approach and Design**

The study utilized an exploratory mixed methods design, whereby the researcher collected and analyzed both qualitative and quantitative data (Creswell, 2003), to determine parent perception of the Montessori method of education at three area Montessori schools in eastern Massachusetts. Data were collected through the use of an online survey tool (see Appendix B). The study used concurrent analysis to synthesize data, whereby the researcher converges the qualitative and quantitative data to make it generalizable. This method helps provide a more comprehensive analysis of the research data and allows the researcher to gather and analyze both forms of data at the same time (Creswell, 2003).

### **Sampling Procedures**

The participants in the study were parents and guardians who send their children to one of three area toddler through grade eight Montessori schools in eastern Massachusetts: Bay Farm Montessori Academy in Duxbury, Oak Meadow in Littleton, or Thacher Montessori School in Milton. The three schools have a combined student population of 597 students from 375 families.

Parents and guardians from the three target schools received a email letter from the head of school inviting them to participate in the survey (see Appendix C). Both parents of a given child were invited to take part in the survey. They were provided with a link to the survey and

made aware that their participation was voluntary. This study utilized a convenience sample, based on voluntary responses to the survey. No other sampling procedures were used.

### **Survey Validation Process**

Validation is the process of testing whether a concept represents a valid measure (Bachman & Schutt, 2014). In this study, validity refers to whether or not the survey instrument covers the full range of meaning of the Montessori principles' meaning. The researcher took several steps to ensure validity. First, the researcher gathered and summarized data from various books and research articles which detailed the founding Montessori principles (see Appendix A). From that data, the researcher came up with six widely held founding principles upon which the Montessori philosophy and classroom are based. The researcher then met with the president of the board at Bay Farm to discuss the principles. Next, the researcher met with the head of school. Together, the head of the school and the researcher drafted a letter inviting the lead teachers at Bay Farm to a meeting to discuss, in their experience, the relevance and importance of the six principles.

The teacher meeting was held on July 10, 2014. Eight Bay Farm lead teachers, the director of admissions, the head of school, board president, and researcher attended. Each Montessori principle that the researcher had identified, along with its significance, were discussed in detail. After the large group discussion, participants broke out into two groups. Each group was charged with thinking through the principles and determining what types of questions both address the principles and get at parent understanding of that principle. The researcher took notes on an iPad during the meeting to capture all of the details that were discussed. Also, both small groups had a scribe who took notes and gave the researcher their small group notes. The meeting concluded with the large group reconvening and summarizing the questions that they arrived at to test a parent's knowledge of the Montessori principles.

Following the meeting, the researcher met again with the head of school and board president to discuss the findings and dialogue that occurred at the lead teacher meeting. Together, they developed the survey instrument that was administered to parents at Bay Farm and two other Massachusetts area Montessori schools. The questions were meant to be general enough that parents can understand what is being asked of them, but at the same time, were meant to address the specific content underscoring each principle. The survey went through multiple revisions. After receiving Institutional Review Board approval in February 2015, the survey instrument was piloted with 10 parents for clarity and ease of use.

Reliability is the process of testing a measurement instrument is performed to ensure that results do not fluctuate (Bachman & Schutt, 2014). In other, words reliability indicates the ability of a survey to elicit consistency of responses to the survey items. According to Creswell (2003), pilot testing of a survey instrument is important for establishing content validity. To ensure reliability, the researcher piloted the survey instrument in this study with 10 parents in the same community who do not have children attending any of the three Montessori schools taking part in the study. The purpose of the pilot was to ensure both reliability and consistency of the survey items. The pilot test further sought to ensure both clarity and ease of use of the technology component and the online survey website tool.

The parents in the pilot study successfully accessed the online surveys through Qualtrics, with all privacy functions enabled. The pilot testers were able to move from one question to the next without difficulty, and all stated that the questions were clear and easy to understand. The researcher then accessed the responses to the pilot survey, and could see the answers that each respondent chose. The results did not fluctuate. Overall, the pilot not only helped to determine the reliability of the questions, but also the ease of use of the survey instrument itself.

### **Data Collection Strategies and Procedures**

The survey had two distinct sections. The first section measured parent and guardian perception and knowledge of Montessori education by asking 28 questions with a five-point Likert-scale. In the second section, qualitative data were gathered through three open-ended questions which addressed parent choice, changes in parent understanding, and understanding of classroom materials.

**Qualitative methods.** In general, qualitative research is descriptive and attempts to reveal a range of behavior and perceptions within a target audience (Bachman & Schutt, 2014). According to Creswell (2003), qualitative methods are interactive, engaging, and emergent. Researchers interpret data based on themes or categories, attempt to explain social phenomenon holistically, and use systematic reflection. In this study, the qualitative questions were designed to allow parents and guardians the opportunity to elaborate on their understanding (or lack thereof) of the key Montessori principles. The researcher sought to give parents an opportunity to share their understanding in an open-ended manner.

The first step in analyzing the data from the qualitative questions was to organize and prepare the data for analysis (Creswell, 2003). The researcher exported all of the answers for each question from Qualtrics into an Excel database. Next, the researcher read through all of the responses for each question. This helped the researcher get a general sense of the information presented in the data, and helped the researcher to get a overall impression of the ideas as well as tone and depth of the data provided (Creswell, 2003).

Next, the researcher reviewed the data for common themes that could be turned into codes. Coding is a process whereby the researcher(s) organizes the material into chunks. This process helps translate the data into categories and labels those categories with a specific term (Creswell, 2003). The researcher then had the outside rater code the data for themes in order to

validate the codes determined by the researcher. The researcher then identified 22 codes for question 1, 17 codes for question 2, and 20 codes for question 3.

The next step involved the researcher and the outside rater using the codes developed by the researcher to analyze the data. Each response for each question was given a specific code or codes. When the researcher and the outside rater completed their coding, the researcher compared codes for areas of agreement and disagreement. The researcher and outside rater were in agreement among the codes. The researcher was then able to determine the most emergent themes and perspectives among the parents and guardians. The researcher was able to determine the number of times a specific theme was mentioned for each question, and therefore, able to assess the frequency of topics mentioned. The researcher counted frequencies, and calculated the mean, variance and standard deviation for each theme. Examples of categories that the researcher looked for are:

- Lack of understanding that children function largely independently in the Montessori classroom.
- Lack of understanding that children should attempt to resolve conflict on their own in a Montessori classroom.
- Lack of understanding that it is okay for a child in a Montessori classroom to be engrossed with one activity for weeks at a time.
- Parent understanding that in the Montessori philosophy motivation should come from within.
- Parent understanding that curriculum materials are largely chosen by the child in a Montessori classroom, and worked on at his or her own pace.

**Quantitative methods.** The quantitative portion of the survey resulted in 28 questions organized in 7 sections that focused on perceptions and knowledge of the Montessori method and

principles. Each question included multiple items asking the parent to rate the level of importance for that item. The items used a five-point response ranging from “not at all important in the classroom” to “very important” in the classroom. It was a balanced scale, with “neither important nor unimportant” as the center of the scale. This instrument was designed for ease of understanding, yet was complex enough to test parent understanding of the key Montessori principles. The questions tested parent understanding of a key principle’s presence and relevance in the classroom. The following steps were used to analyze the quantitative data:

1. Descriptive statistics, including frequency distributions, mean, and standard deviation were calculated for each of the seven quantitative questions included in the survey to determine how relevant the parent sees each principle in the Montessori classroom.
2. Data were also aggregated and analyzed by school to show any differences in parent understanding at the three participating schools.

**Survey administration.** The survey was administered in March 2015. The heads of the schools issued invitations to participate in the study to parents, which presented a link to the survey through a secure website. When clicking on the survey link, parents received a welcome note from the researcher, along with privacy information and the nature of the voluntary survey. Parents who chose to immediately opt out of the survey were brought to a “thank you for your consideration” page.

If a parent or guardian chose to voluntarily participate in the survey, they were brought to the first question of the survey. The survey started by asking parents and guardians what year they first enrolled a child in Montessori school. This question was followed by seven questions addressing the Montessori principles. The survey concluded with three-open ended questions addressing why the parent chose Montessori school; how or if their view of Montessori education has changed since first enrolling their child; and how they would describe the



curriculum materials in their child's classroom. Parents could choose whether or not to respond to a question and could skip as many as they like.

The researcher made the website available to parents for a 2-week period. Parents could log on to the secure website and complete the survey anytime during that timeframe. The survey was designed to take approximately 15 minutes to complete. The researcher sent out one reminder midway through the 2-week period, and one final reminder that the survey will be closing the following day. Both parents and guardians were invited to participate.

The data from the surveys were collected, reviewed, analyzed, and summarized by the researcher. Descriptive statistics were used to calculate the frequency, mean, and standard deviation. Closed-ended questions were tallied and open-ended questions were coded and summarized for common themes. For the open-ended questions, a second reader coded for topics and themes. Summary-level data were made available to the heads of school and boards of directors regarding both their specific school, and the overall results.

### **Protection of Human Subjects**

The study involved the use of human subjects and, therefore, required approval by Pepperdine University's Institutional Review Board. The researcher submitted a proposal to the IRB for exempt review. The researcher did not conduct any part of the pilot or survey until IRB approval was received in February 2015.

The participants' welfare and identity were managed in all aspects of the study. Parents from each school were invited to take part in the survey. They received a letter from their head of school (Appendix C), which outlined the details of the survey. The researcher received commitment letters from three Massachusetts Montessori schools: Bay Farm Montessori Academy in Duxbury, Oak Meadow in Littleton, and Thacher School in Milton.

Participants were given a link from their head of school to the anonymous survey website Qualtrics. At no point were they asked for their name or any form of identification. Their answers were submitted to a secure website. The researcher and outside rater were the only ones with access to the responses, and the researcher did not have any means by which to identify an individual respondent.

The researcher worked with the Pepperdine Institutional Review Board to ensure that all proper confidentiality and ethical procedures were observed. The researcher ensured that participants' privacy and welfare were protected throughout the course of the study. Anonymity was maintained, with no identifiers. Data is being stored on a password protected computer for three years. After that time, the data will be destroyed. The Institutional Review Board's approval letter can be found in Appendix D.

### **Role of the Researcher**

The researcher played a dual role as both a parent and a researcher. Although there were potential role conflicts, the researcher was not a permanent member of the workforce at any of the three schools. There were both challenges and advantages to this dual role (Adler & Shani, 2003). A researcher who plays a dual role can manage the role conflict along a continuum from being a highly integrated member of the school, in this case, to a highly segmented member. He or she can maintain a relationship at any level between these two extremes. The researcher in this study maintained a role at the segmented end of the spectrum. She is not on any parent or school committees and does not perform or carry out any duties for the school. The researcher took the following precautions to protect against any potential conflicts of interest.

First, the researcher eliminated any personal identifying information, making it impossible for the researcher to link any data to a particular parent, child, or family member. As the researcher has two children at Bay Farm, she has come to know many of the staff and parents

from the primary research setting and has made strong connections with some families. The researcher could potentially wish to see a particular outcomes from the research. By engaging an outside rater, the danger was mitigated and effect on the integrity of the survey was minimized.

Further, the researcher and her family were independent school educated, and hence had a bias towards believing that the traditional preparatory school method is best for children. In fact, while conducting this research, the researcher is still on the fence, so to speak, as to which educational method best supports the development of the whole child. Hence, any potential bias was mitigated by the uncertainty of the researcher's personal opinions. Because 7 of 10 survey questions were quantitative, any bias as a whole was mitigated through the use of quantitative analyses. Although the potential existed for bias when analyzing the qualitative data, the outside rater helped to safeguard against potential researcher biases in coding the qualitative data.

### **Relevance of the Study**

The Montessori method of education is relatively new in the U.S. After a failed introduction in the early 20<sup>th</sup> century, a resurgence occurred in the 1960s (Povell, 2011). Maria Montessori strongly believed that early education should be about cultivating an innate desire to learn. Montessori believed that a child must learn to educate himself or herself and developing a natural motivation and curiosity that cannot be developed in a traditional classroom (Wolf, 2009b). This philosophy is a stark contrast to the traditional view of education in the U.S. Traditional classrooms are teacher-directed, and use a pre-selected set of curricula. In many ways, the child is a passive recipient of information. The teacher is the information giver and the student is the receiver of a one way form of communication.

Much research and writing has taken place to identify what Montessori education is and what its many benefits are for the child. There has also been a lot of research around trying to create a Montessori-like classroom in the home. What remains unexamined is direct research that

tests Montessori parents' understanding of the Montessori philosophy and principles. This study is of heightened significance, particularly at a time when Montessori schools have seen a resurgence in the U.S. and some Massachusetts area Montessori schools now wish to understand parents' understanding of the method and principles.

This study took place at three different toddler through grade eight Montessori Schools in Massachusetts. By examining survey data from three different Montessori parent populations, the researcher had an excellent sample size and a data set drawn from more than one educational setting. By surveying parents at multiple Montessori locations, the data will be more applicable to a wider sampling of Montessori classrooms in the U.S.

Montessori schools are private, non-profit institutions. They rely on tuition and donations to fund all aspects of operations. As children can go to public school for free in the U.S., gaining a better insight into parent understanding of the Montessori method and philosophy can help Montessori schools identify how well they are communicating to parents the many benefits of Montessori education. Montessori schools are in competition not only with the local, free public school, but with parochial and traditional preparatory schools as well. By gaining better access to parent understanding, the schools will be able to more effectively market to and serve this population.

### **Chapter 4: Results**

This chapter presents the results and findings of a survey instrument that was administered to 145 parents at three Massachusetts area toddler through grade eight Montessori schools in March of 2015. The researcher, together with Bay Farm Montessori School head of school, board president, and lead teachers, developed a 10-item survey instrument to assess parents' understanding of Montessori principles and classroom practices. The survey utilized 28 Likert scale questions organized into 7 categories as well as three open-ended questions. The survey was designed to answer the following research questions:

1. What reasons do parents and guardians give for sending their children to Montessori schools?
2. What do parents and guardians understand about the Montessori principles of education? What do they misunderstand?
3. How do parents and guardians perceive implementation of the Montessori principles in the classroom?

A total of 145 parents and guardians responded to the survey. Bay Farm enrolls 172 students and 53 parents responded to the survey. Thacher school retains 200 students and 42 parents took part in the survey. Oak Meadow has a student body of 225 and 50 parents completed the survey.

#### **Quantitative Data Analysis**

Parents were presented with 7 sections of questions and asked to rate the level of importance on a 5 point scale for each of the 4 specified items within the question. Each scale contained four items. These items specifically addressed the second research question: What do parents and guardians understand about the Montessori principles of education and what do they misunderstand? The quantitative questions specifically addressed the six Montessori principles

and were designed to test a parents overall understanding of each principle. One of the items most clearly represented the Montessori method and one of the items represented a great departure from the Montessori method, with the other 2 items in-between. Responses ranged from a principle being not at all important to very important. Questions provided a balanced scale, with a neutral response in the middle of neither important nor unimportant. Frequency distributions were used to analyze scaled items from the 7 sections of questions. The item that most represents the Montessori principle is highlighted in grey in each table.

**Student self-direction.** The first survey item measured parent response to the Montessori principle of the role of the directress/lead teacher and asked parents and guardians questions about how self-directed or structured a Montessori classroom should be. In a Montessori classroom, the lead teacher's role is to allow the child the freedom to self-direct their own learning. A structured, teacher-led classroom would go against the Montessori philosophy (see Table 1).

Table 1

*Parent Responses to Question 1: Student Self-Direction (N = 136-139)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. Independent with much of the day self-directed	5	20	15	65	33	138
2. Semi-independent with the teacher facilitating part of the process	5	13	8	71	42	139
3. Semi-structured with teachers guiding a fair amount of the work and learning	35	29	25	36	13	138
4. Structured, teacher-led	70	37	13	12	4	136

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

A total of 138 parents answered this question. There were 42 parents (30%), who felt that it was very important that the child should be semi-independent, with the teacher facilitating the process. Further, 35 parents (29%) did not think that their child's day should be independent with much of the day self-directed. Thirty-three parents (26%) responded that it was important that the day be semi-structured with teachers guiding a fair amount of work. The majority of parents, 77%, agreed that structured, teacher-led was only slightly important or not important at all.

**Respect for the child.** The second scale measured parents' responses to the Montessori principle of respect for the child and how teachers show respect for a child by allowing children to do things and learn for themselves. A total of 140 parents answered these items (see Table 2). According to the Montessori principle of respect for the child, the response least tied to the principle is to help the child solve the problem. Next least reflective of the principle is to present the child with several solutions, and more desirable is to ask of the child would like a classmate to help. In a Montessori classroom, a teacher demonstrates respect for the child by allowing the child to resolve matters himself or herself. This question received a distribution of responses across the four statements. The chart above demonstrates that 32% of the parents felt it was very important to allow the child to resolve the problem on his or her own, and 24% said it was very important that the teacher present the child with several solutions. Although the data reveal that the most parents felt the child should be allowed to resolve the problem on their own, there was a wide range of responses to the other three responses, including 67% of parents who indicated that it was important to very important that the teacher ask the child if he or she would like a classmate to help resolve the problem. Parents responses to these statements seem varied, and some found all statements important.

Table 2

*Parent Responses to Question 2: Respect for the Child (N = 139-140)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. Present your child with several solutions	19	32	13	41	34	139
2. Help your child solve the problem	17	46	20	37	20	140
3. Allow your child to resolve it on his or her own	3	11	5	74	46	139
4. Ask your child if they would like a classmate to help	10	20	16	73	21	140

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Prepared environment.** The third question measured parent responses to the Montessori principle of prepared environments. The prepared environment allows children to work on activities of their own choice at their own pace. A total of 139 parents answered this question (see Table 3). According to the principle of the prepared environment, it is most important that children work on tasks themselves. It is next important that they read on their own, and next important that they collaborate with peers. It is least important in a Montessori classroom that a teacher present a lesson plan. An equal number of parents, 58%, answered both that it was very important that children collaborate with their peers and work on tasks by themselves. In contrast, only five respondents felt it was not at all important or slightly important for children to collaborate with peers. Additionally, 35% said it is very important that children read on their own in the Montessori classroom. However, 19% did not think that it was important for their child to read on their own. Finally, 23% reported that it was very important for a teacher to present a lesson plan and 16% reported that it was not important for a teacher to present a lesson



plan. In this set of questions, variations in responses indicate that parents held a range of contradictory opinions about the classroom environment.

Table 3

*Parent Responses to Question 3: Prepared Environments (N = 139)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. A teacher presents a lesson plan	22	28	22	35	32	139
2. Children read on their own	2	13	11	64	49	139
3. Children collaborate with peers	0	5	7	46	81	139
4. Children work on tasks themselves	0	4	6	48	81	139

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Sensitive periods.** The next question examined the Montessori principle of sensitive periods. A sensitive period can be described as a period of time when a child focuses their energy on a specific aspect(s) of the classroom to the exclusion of others. A total of 139 parents answered these items (see Table 4). In a Montessori classroom, when a child is experiencing a sensitive period, it is most important that a child be allowed to continue to work on whatever the child is engaged with until the child himself or herself decides that it is time to move on. It is next important to note how the child is progressing in that aspect of the curriculum. It is least important to shift the child's focus, and next least important to make sure that they are keeping pace with their peers. Montessori classrooms discourage comparisons to peers. Fifty-six percent of parents and guardians felt it was very important that the teacher take note of how the child is progressing in that aspect, compared to 20% who felt it was very important that the child be allowed to continue working on that aspect while 19% felt it was very important that the teacher make sure the child is still keeping pace with his or her classmates. The parent ratings in

response to the idea that the teacher make sure that the child is keeping pace with his or her classmates vary widely, with a nearly equal number of parents rating this statement as important. Further, 29% of parents felt that it was important to very important to try and shift the child's focus elsewhere.

Table 4

*Parent Responses to Question 4: Sensitive Periods (N = 138-139)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. Make sure your child is still keeping pace with his or her classmates	29	34	12	38	26	139
2. Try to shift your child's focus elsewhere	41	27	31	32	8	139
3. Take note of how your child is progressing in that aspect	0	3	1	56	79	139
4. Allow your child to continue working on that aspect	4	18	20	67	29	138

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Purposeful work.** The fifth scale measured parents' response to the Montessori principle of auto-education and how children have a love for and need for purposeful work. The range of answers spanned from intrinsic motivation to external rewards and homework. In a Montessori classroom, the principle of auto-education is least tied to external rewards and goals for the child to achieve. In the Montessori philosophy, goals run counter to a child's innate love of purposeful work. A total of 139 parents answered this question (see Table 5). Seventy-three percent of parents rated external rewards as not at all important in the Montessori classroom. Another 73%, cited intrinsic motivation as very important. At the same time there were 77% who ranked goals to achieve as important to very important. Thus, although nearly all parents indicated the importance of intrinsic motivation, nearly three-quarters of the parents also indicated that

external goals were important as well, indicating that parents held two apparently contradictory opinions about how their child should be motivated.

Table 5

*Parent Responses to Question 5: Purposeful Work (N = 139)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. External rewards (e.g. stickers, grades)	102	10	19	4	4	139
2. Goals to achieve	9	15	8	59	48	139
3. Intrinsic motivation	0	1	1	35	102	139
4. Homework	64	29	20	20	6	139

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Absorbent mind.** The sixth scale addressed the Montessori principle of the absorbent mind and the role of the teacher, the teacher's experience, and the classroom environment. The items asked how important is it in a Montessori classroom that the teacher be a role model, disciplinarian, parent figure, and/or help the child help himself or herself. A total of 139 parents answered this question (see Table 6). In a Montessori classroom, it is most important that a teacher help the child to help himself or herself, and next important to model good behavior for the children. It is least important that a teacher be a disciplinarian, and next least important that they be a parent figure. The data revealed that the majority, 79%, felt it was very important that the teacher help the child help himself or herself. But of near equal importance was the notion that the teacher be a role model for the children. Seventy-two percent of parents felt that this was very important. At the same time, 38% indicated that it was important or very important that the teacher act as a disciplinarian.

Table 6

*Parent Responses to Question 6: Absorbent Mind (N = 137-139)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. Be a role model for the children	0	5	3	31	100	139
2. Act as a disciplinarian	24	46	15	37	16	138
3. Be a parent figure	57	30	26	16	8	137
4. Help the child help himself or herself	0	5	1	23	110	139

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Auto-education and prepared environment.** The last scale addressed the two Montessori principles of auto-education and the prepared environment. Parents and guardians were asked about the curriculum materials, including how they should be presented and the pace at which they should be introduced to the child. A total of 140 parents answered this question (see Table 7). This question attempted to address both the Montessori philosophy of the child educating himself or herself, and how the prepared environment is designed to allow children to work at their own pace. It is least important in a Montessori classroom that the teacher present the lesson, and next least important that the child achieve mastery. It is most important the child choose the work and be allowed to work on it at his or her own pace. Starting with the statement that had the least correspondence to the Montessori principles, 78% of the parents indicated that it was important or very important the child work on a task until mastery. In addition, a nearly equal number of respondents felt that the curriculum should be presented by the teacher (36%), or chosen by the student and worked on at his or her own pace (43%). At the same time, 86% of parents felt that it was important or very important that their child chose their own works and work at their own pace. However, responses to the fourth item indicate that 46% of parents also want their child to keep pace with their classmates. Working at your own pace and keeping pace

with classmates do not align, and this highlights another set of conflicting ideas that are apparent in the data.

Table 7

*Parent Responses to Question 7: Auto-education and the Prepared Environment (N = 139-140)*

Question	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important	Total Responses
1. Presented by the teacher	4	19	18	48	51	140
2. Chosen by the student and worked on at his or her own pace	2	15	3	59	61	140
3. Presented for a limited amount of time then move on to the next focus	54	19	42	23	1	139
4. Worked on until mastery	5	10	15	56	53	139

<sup>a</sup>1 = not at all important, 5 = very important; Factor rated most important by parents is highlighted

**Summary of quantitative results.** Overall results from the quantitative portion of the survey show that many questions exhibited a wide range of parent responses, spanning the full spectrum from most Montessori-like to least Montessori-like beliefs. Further, the statements that most corresponded with the Montessori principle were not always cited as the most important. This was the case for the principle that supports the child self-directing their work and the principle that supports a child to continue to work on a specific curriculum for extended periods of time. Responses to the principles supporting sensitive periods, prepared environments, and respect for child, displayed the greatest range of answers for the important to very important categories, indicating that parents hold conflicting values with regard to these principles.

### **Qualitative Data Analysis**

The qualitative portion of the survey instrument utilized three open-ended, self-completed questions designed to reveal a range of parents' and guardians' perceptions about

Montessori education and classroom practices. The three open-ended questions were designed to answer all three research questions, but to do so in a format where parents could provide their own ideas rather than rating concepts determined by the researcher. The qualitative questions allowed parents and guardians to discuss and elaborate on:

1. Why did you decide to send your child to a Montessori school?
2. How has your understanding/appreciation of Montessori education changed since first enrolling a child in Montessori school?
3. How would you describe the materials in your child's classroom?

The first step in analyzing the data from the qualitative questions was to organize and prepare the data for analysis (Creswell, 2003). The researcher read through all of the responses for each question. Both the researcher and the outside rater reviewed the data separately to identify common themes that could be turned into codes. The researcher then determined 22 codes for question 1, 17 codes for question 2, and 20 codes for question 3 (see Table 8). The most common themes from each question are presented in the following sections.

**Reasons for sending child to Montessori.** Question 1 asked, “Why did you decide to send your child to a Montessori school?” The most commonly stated reason for choosing Montessori school was due to the individualized nature of the classroom (see Table 9). The most common reason parents stated for choosing Montessori school was because of the personalized attention the child receives, the emphasis on the whole person and individual needs, and the emphasis on learning at one's own pace. As one parent stated, “I wanted my child to learn at the pace dictated by their own abilities and not by a pre-set curriculum. My older child is extremely intellectually curious, and I was worried this would not be appreciated or nourished at our local public school.”

Table 8

*Qualitative Themes from Parents' Open-Ended Responses*

Question	Themes		
1. Why did you Choose Montessori school?	1. Academic environment, curriculum, hands-on approach, inquiry-based, depth of curriculum 2. Better offering than public school or daycare, child unhappy or bored at public school, not as pricey as private school 3. Reputation 4. Personalized attention, whole person, individual needs, learn at own pace 5. Self-sufficient, reliant, independent	6. Freedom to explore own interests 7. Respect for child and others, better behavior options that public school 8. Intrinsic motivation, self-motivation, love of learning, curiosity 9. nurturing, caring environment 10. Teachers 11. Student-led, collaborative environment	12. Mixed-age classrooms, peer mentoring, social skills 13. Other families, parent went 14. Proximity, convenience, full-day option 15. Structure 16. Diversity 17. Smaller class sizes 18. Not materially driven 19. Lack of grades 20. Creativity 21. Montessori principles 22. Outdoor time
2. How has your view changed?	1. View has not changed, already understood Montessori 2. Socialization, Collaboration 3. More structured than thought (positive) 4. Repetition of tasks, layering of concepts, progression of tasks (positive) 5. Independence of child, flexibility, children capable of more than thought (positive) 6. Mixed-ages (positive) 7. Deeper appreciation, has helped parent grow	8. Appreciate classroom materials, hands-on, visual elements, works for different learning styles (positive) 9. Child loves school, flourishing, thriving, confident, 10. School more varied than thought—teachers, traditional approach 11. Addresses unique learning styles, personal care and attention, works for all kinds of children, dev whole child	12. Better understanding of the process, outcomes 13. Mixed-age (negative) 14. Not enough structure (negative), child needs more help 15. unreached potential 16. Non-caring 17. Works for lower grades, but not older, worried about transitions
3. Describe the materials in the classroom:	1. Tactile, hands-on, multi-sensory, motor skills 2. Intuitive, logical 3. Love math works, fractions, geometry, tied to real life 4. Abundant 5. Creative, allows for creativity, interactive 6. Academic, Intellectual 7. Appropriate for varied learning styles, practical, teaches basics 8. Appealing, beautiful, fun, inviting, engaging 9. Diverse, varied, plentiful	10. Brilliant, amazing, great, perfect, clever 11. Allows for deeper thought, mastering a concept, applying concepts 12. Tried and true, tested 13. Simple, elegant, low-tech 14. Age-appropriate 15. Purposeful, thoughtfully placed, designed with care, rotated in classroom, organized and by category, topic	16. Self-correcting 17. Bland, adequate, want more modern 18. Allows for independence, student led, think on own, empowering 19. Confusing, mysterious, less structured 20. Mix of Montessori and traditional: more Montessori at lower levels

Table 9

*Themes and Frequency of Parents' Reasons for Sending Child to Montessori (N = 132)*

Response	Frequency
Personalized attention, whole person, individual needs, learn at own pace	58
Academic environment, curriculum, hands-on, inquiry-based approach	41
Self-sufficient, reliant	38
Intrinsic motivation, self-motivation, love of learning, curiosity	36
Better offering than public school, daycare, child bored, unhappy in public school	26
Mixed-age classrooms, peer mentoring, social skills	24
Montessori principles	23
Student-led, collaborative environment	20
Freedom to explore interests	19
Nurturing, caring environment	19
Other families, parents went	11
Respect for child and others, better behavior options than public school	10
Teachers	7
Proximity, convenience	6
Reputation	6
Structure	5
Smaller class sizes	5
Not materially driven	3
Diversity	2
Creativity	2
Outdoor time	2
Lack of grades	1

Another significant number of parents acknowledged that they chose Montessori school due to the curriculum, academic environment, and hands-on/inquiry-based approach. One parent remarked, "I like the fact that the curriculum is reinforced at all levels (art, math, language, Spanish). The way that they teach math and language is very intuitive and not just rote memory was also intriguing." The other most commented on reasons were the emphasis on independence,



intrinsic motivation, and that the Montessori school seemed a better option than public school or day care.

**Shifts in understanding.** Question 2 asked, “How has your understanding/appreciation of Montessori education changed since you first enrolled your child(s)?” The most commonly stated answer was that parents and guardians now have a greater appreciation of the Montessori philosophy and method of teaching (see Table 10). As one parent expressed this,

My understanding and appreciation of Montessori education has definitely been greater since I first enrolled my children. I realized that this education has been very good for my children. When my eldest graduated from Montessori school last year, I found that she was well prepared for high school. Montessori has helped her to be very independent and motivated to learn.

Table 10

*Themes and Frequency of Shifts in Parents' Understanding of Montessori (N = 129)*

Response	Frequency
Deeper Appreciation	55
Child loves school, thriving, flourishing, confident	25
View has not changed	20
Independence, flexibility of child, child capable of more than thought	18
Better understanding of the process	10
Socialization	9
Appreciate classroom materials, works for different learning styles	9
Not enough structure	9
School more varied than thought	8
Address unique learning styles, personal care, works for all kinds of children	8
Repetition of tasks, layering of concepts	7
Works for lower grades but not older, worried about transitions	6
More structured than thought	5
Like mixed-ages	4
Non-caring	3
Unreached potential	2
Do not like mixed-ages	1

**Description of Montessori materials.** Question 3 asked, “How would you describe the materials in your child’s classroom?” This question asked parents to discuss what they think of and how they view the Montessori curriculum. The largest portion of parents remarked that the materials are appealing, inviting, engaging and/or beautiful (see Table 11). One parent, for example, stated, “Fun and inviting. Wish I was schooled that way!” Another remarked, “Interesting, colorful, engaging, inviting, well organized, focused.” Another set of parents described the materials as tactile, hands-on, multisensory, and utilizing motor skills. One parent said of the materials, “They are very tactile and intuitive. I particularly love the math materials (Counting beads, etc) introduced at the Children’s House level. Skip-counting and multiplication have come so easily as a result of the foundation created the use of these materials.” Others commented on the purposeful nature of the curriculum and how they are designed with care around each category or topic, with one parent stating: “Well organized, purposeful, contributing to the understanding of concepts, encouraging independence and organization.”

A few other themes emerged from the three open-ended questions as well. They centered around the collaborative nature of the classroom and the benefits of peer mentoring from mixed-age classrooms. Some respondents noted the nurturing and caring environment of a Montessori classroom and their appreciation of the Montessori philosophy of teaching.

There were also some negative responses to the questions. Some parents mentioned that the classrooms tended to be a blend of both Montessori and traditional teaching styles, with more Montessori approaches used at the lower levels and more traditional approaches used at the older levels. There were also parents who felt that there was not enough structure in the classroom and that their children were not getting all of the help that they needed. Finally, there were parents who felt that the materials were bland and adequate, and that they wanted more modern approaches to teaching. But overall, parents report a positive, appreciative response to their

child's Montessori education. The factors mentioned are varied, and display parent priorities that both align and conflict with the six stated Montessori principles.

Table 11

*Themes and Frequency of Parents' Descriptions of Montessori Materials (N = 126)*

Response	Frequency
Appealing, fun, inviting, engaging	44
Tactile, hands-on, multi-sensory, motor skills	25
Purposeful, thoughtfully placed, designed with care, rotated, organized by topic	24
Brilliant, amazing, great, perfect, clever	16
Allows for deeper thought, mastering a concept	16
Intuitive, logical	13
Age appropriate	11
Diverse, varied	9
Allows for independence, student led, think on own, empowering	9
Appropriate for varied learning styles	8
Simple, low tech, elegant	8
Bland, adequate, want more modern	8
Mix of Montessori and traditional, more Montessori at lower level	8
Love math works, geometry, tied to real life	6
Academic, intellectual	6
Abundant	5
Creative, allow for creativity, interactive	5
Confusing, mysterious, less structured	4
Self correcting	3
Tried and true, tested	2

## Findings

**Findings from quantitative data.** The survey instrument yielded data about parent understanding of the Montessori principles:

*Parents lack understanding of the role of the lead teacher.* A significant number of parents do not fully understand the role of the lead teacher in the classroom. In a Montessori classroom, the teacher's main responsibility is to create a space and learning environment where a child can be independent, with much of the day self-directed. Only 24% of parents selected this as very important. A significant portion, 30%, felt that it was very important that the child be semi-independent, with the teacher facilitating part of the process. There were also parents who showed preference for a structured environment. Thirty-five percent felt that it was important or very important that the day be semi-structured with the teachers guiding a fair amount of the work and learning. This preference is contrary to the Montessori philosophy of teaching, and it is an important result for administrators to consider. There were also some differences between the schools, most notably, with the parents who indicated that that it was least important that the classroom be semi-structured. Of the Bay Farm parents and guardians who responded to the survey, 44% indicated that the classroom should be semi-structured. Thirty-five percent of Oak Meadow parents indicated this to be important, and 25% of Thacher parents indicated that teachers should guide a fair amount of the work.

*Parents do not see the importance of the principle of respect.* Parents do not give strong importance to the principle of respect and they hold opinions that are contradictory to this principle. In a Montessori classroom, it is preferable that children be allowed to resolve problems and conflict on their own. While 33% percent of parents and guardians agreed that it is very important to allow a child to solve a problem on their own, 24% percent felt it was necessary for the teacher to present the child with several solutions. Presenting the child with solutions runs counter to the Montessori principle of respect, which is based on a belief that not only should children resolve matters on their own, but that they are capable of doing it on their own as well. In addition, 15% of parents felt it would be best if the teacher asked if a classmate could help,

while another 15% felt it was the responsibility of the teacher to solve the problem for the child. These data offer insight into the range of parent understanding of the Montessori principle of respect. Parents gave ratings of “importance” to all four statements within this question. These results were consistent across all three of the participating schools.

***There is a deficit or confusion in parent understanding of the prepared environment.***

There is a large deficit or confusion in parent understanding of the prepared environment, how it works, and its intent. The main idea behind the prepared environment is that it is designed in such a way that the child has the freedom to choose their own works as well as work at their own pace. The potential responses for this question ranged from a teacher presenting a lesson plan to children working on tasks themselves. While the majority of parents (58%) agreed that it was very important that children work on tasks themselves and read on their own, 48% (still a significant percentage) felt that it was either important or very important that a teacher present a lesson plan. However, a teacher presenting lesson plans runs counter to the Montessori principle of the prepared environment where children are meant to guide their own learning process. Parents who rated both the independence of the child and prepared lesson plans as important, did not fully understand the principle of the prepared environment, or were not fully supportive of it. It is not clear which is the case. Data from the three school sites indicate that 61% Bay Farm parents felt it was important that a teacher present a lesson plan. Forty-three percent of Thacher parents and 40% of Oak Meadow parents felt that it was important. Thus, responses to this principle show that there is significant difference between parent understanding in the three schools.

***There is a deficit in parent understanding or endorsement of the sensitive periods.***

There is a deficit in parent understanding or endorsement of the sensitive periods and their role in Montessori education. In the Montessori classroom, children experience sensitive periods when

they seem to focus their attention on a specific aspect to the exclusion of others. A child may be experiencing a sensitive period if, for example, every day over several weeks, the child only wishes to work on math and the counting beads. The survey attempted to ascertain parent understanding of the sensitive periods by asking parents how they think teachers should react when a child devotes all his or her time to one learning component of the classroom. Potential responses ranged from the teacher allowing the child to continue working on that one aspect to trying to direct the child's focus elsewhere. Only 21% of parents responded that it was very important that the child be allowed to continue to work on that aspect. More parents, 29%, were concerned that the teacher should make sure that their child is keeping pace with his or her classmates. Twenty-seven percent of parents surveyed wanted the teacher to try and shift the child's attention elsewhere. This reveals that the majority of parents do not desire or endorse their child choosing to work on one curriculum component for extended lengths of time and that parents hold opinions that conflict with this tenet of a school's educational philosophy. Data for each school revealed similar beliefs across the range of answers, with Thacher having the largest percentage of parents (27%), who indicated a child should be allowed to continue working on a specific aspect over extended lengths of time. Nineteen percent of Oak Meadow parents felt the child should be allowed to continue, as did 18% of Bay Farm parents and guardians.

*There is parent confusion or disagreement regarding goals.* Parents from the three schools do not understand or concur with the Montessori tenet that children are not motivated by goals, but rather by the work itself. The Montessori principle of auto-education holds the belief that while adults generally work toward a goal, children do not. In this sense, a child experiences auto-education when they find deep meaning and motivation by merely engaging in a curriculum of work. From this perspective, a child's objective is not to master the work or complete the work. Instead, the act of simply engaging in the work is the true objective. The question

addressing this principle included a range of statements that included children being motivated by external rewards and goals and children responding to purely intrinsic motivation. These findings reveal that the large majority of parents, 73%, do indeed understand and value the importance of intrinsic motivation. A closer look at the data, however, also reveals that 77% of parents also believe that goals to achieve are important or very important, with 35% rating it as very important. These results indicate another area where parents have inconsistent and conflicting beliefs that both support and contradict a Montessori principle. Looking at the data by school, Bay Farm had the largest percent of parents (92%) who felt that goals were important. In contrast, 73% of Oak Meadow respondents and 63% of Thacher parents and guardians believed goals were important. The differences in school-specific data point to parents and guardians from Thacher either having more understanding or more supportive beliefs of the Montessori principles. Bay Farm parents seem to have the least understanding of shared beliefs regarding Montessori principles.

*There are varying parent values and perceptions of the teacher's role.* There is incongruence between parent values and perceptions and the Montessori philosophy of the teacher and his or her role in the classroom. The principle of the absorbent mind centers around the notion that children are born to learn and are remarkable learning systems. What children learn, though, greatly depends on the teachers, their experiences, and the classroom environment as presented by the teacher. The teacher is meant to create the space in the classroom where children learn to help themselves. The survey question targeting this principle asked parents to determine how important it is that a Montessori teacher be a disciplinarian at one extreme and to help the child learn to help himself or herself at the other extreme. The idea that the teacher should be a role model is in the middle of the spectrum. The data revealed that the majority of parents understand that a role of the teacher in a Montessori school is to help the child learn to

help himself or herself. But while 79% believe that teacher is meant to help the child help himself or herself, it is also true that 72% of parents felt that the teacher should be a role model. In addition, 38% of parents and guardians felt that it was important or very important that the teacher act as a disciplinarian. This again show parents expressing possibly conflicting ideas about the education of their children. Analyzing the school-specific data, with 55% of Bay Farm parents, 32% of Oak Meadow parents, and 25% of Thacher respondents reporting that the teacher should act as a disciplinarian. Again, differences in parent ratings among the three schools point to other intervening variables, such as differences in school culture or communication with parents that were not part of this study.

*Mastery of curriculum is important to parents.* Mastery of curriculum is important to parents, more so than the Montessori Principles of auto-education and the prepared environment. Parents were asked about the curriculum materials and how they should be offered and presented in the classroom. The data reveal that many parents believe a teacher should present a lesson plan and that a child needs to master a work or topic before putting it away. Seventy-eight percent of parents and guardians felt that mastering a curriculum material was important or very important. Further, while 45% of parents stated that it is very important that the child choose their own works and go at their own pace, it is also true that 37% indicated that the materials should be presented by the teacher, underscoring that parents hold conflicting views regarding the principle of auto-education. Thirty-eight percent also felt that it was very important that a task be worked on until mastery, and interestingly, 17% felt that curriculum should only be presented for a limited amount of time before continuing on to the next focus. In a Montessori classroom, all of the curriculum works are available to the student and are not “put away.” Mastery and moving children through the curriculum seemed more important to parents than allowing the child freedom to work at his/her own pace.



**Findings from the qualitative data.** The three open-ended questions shed light on why parents chose Montessori schooling, how their view of the Montessori method has changed or not since enrolling their child, and demonstrated parent understanding of Montessori classroom practices. The following findings were revealed in the qualitative data:

*Individual, whole person education is important to parents.* Parents stated individual, whole person education as the most common reason for choosing Montessori school. They appreciated the personalized nature of the classroom and stated that the schools were able to address individual needs, and allow the child to learn at his or her own pace. Parents also felt that this helped foster development of the whole child. As one parent stated: “My oldest was not thriving in a traditional environment. She was not being permitted to pursue what she was interested in and was often frustrated. . . . I chose Montessori because I wanted my children to be inspired and to love learning and for there to be respect for individual learning styles and interests as well as a real chance to explore new things at their own pace.”

*Parents report a deeper appreciation of Montessori education.* Parents have a deeper appreciation for Montessori schooling since enrolling their child. While parents stated various reason for initially sending their child to the Montessori school, nearly half stated that since their child has been enrolled, they have a much greater appreciation for what goes on in the classroom. One parent remarked: “My understanding and appreciation of Montessori education has definitely been greater since I first enrolled my children. When my eldest graduated from a Montessori school last year I found that she was well prepared for high school. Montessori education has helped her to be very independent and motivated to learn.”

*Parents state the Montessori curriculum is better than other schools.* Parents like the curriculum materials and hands-on approach of Montessori school better than the offerings of the local public school or day care. Parents emphasized the depth and breadth of the curriculum and

the inquiry-based approach to teaching. One parent proclaimed: “Originally because it was the nearest-by option for preschool. But we kept him there after experiencing the classrooms and materials ourselves. It felt like the kinds of environment I wish that I had as a child.”

*There is parent confusion regarding the structure of the classroom.* Parents express confusion over the structure of the classroom, and how the Montessori method works in the older grades. One parent, for example, mentioned: “I struggle with the trend in all grades so far of not pushing the kids to master critical skills such as reading. Our kids need extra tutors to learn these basic skills.” Another parent also stated: “Our child has to wait, sometimes a week, to get a lesson and then he can use the materials. This is a significant failure in the system.” Another small percentage of parents felt that the Montessori schooling system worked well at the lower grades, but not so well for the older elementary kids. One parent remarked: “We appreciate the Montessori model more for children who are younger; by the time they get to third grade, they don’t fit quite as easily into mainstream American educational models.” This could lead parents to believe that paying for Montessori school at the upper grades is not worth it if they believe the classroom to largely resemble a traditional, public school learning environment.

*Parents want their children to be intrinsically motivated.* As one parent stated, they chose Montessori school “To foster an early love of learning in a way that was self-motivating. To encourage independence from an early age (age 3).”

*Parents did not comment on diversity, class size and reputation.* Few parents cited diversity, small classroom sizes, or school reputation as reason for choosing Montessori school. Word of mouth marketing seems to be lacking in these three schools.

*There was a lack of positive feedback from parents.* Few parents and guardians offered that their child loves school, is thriving and is confident. This is not encouraging news for school

administrators would prefer to learn that a significantly higher percentage of parents have stated that their child loves going to school every day.

*The curriculum was not recognized as academic.* Few parents characterized the materials as academic. Only five percent of parents noted the intellectual level of the curriculum. Another small percentage noted the classroom materials to be just adequate or bland. One parent remarked: “It’s adequate. But I would expect newer and more modern materials be tried in the future.” As some parents cited choosing Montessori school for academic reasons, this view of the curriculum could be a source of concern for parents.

The quantitative and qualitative data reveal a number of important findings. The quantitative data underscore that there is much confusion or lack of understanding of many of the founding Montessori principles and how they are carried out in the classroom. The qualitative data highlight that parents want individual attention for their children and want them to be intrinsically motivated. The data also reveal, however, a lack of positive feedback regarding student happiness and school reputation.

### **Limitations to the Data**

A significant limitation to the data is related to the dual-roles of the parent-teacher. In each of the three schools there are a number of parents who are also teachers at the school. When interpreting the quantitative results, it would seem likely that the parents who are classroom teachers would have a full grasp of the Montessori principles and be able to rate each potential response appropriately or as most Montessori-like. This would likely skew the data toward the “very important” rating for the most appropriate answer for each Montessori principle. Bay Farm, for example, has 10 parent-teachers.

Although the researcher has no way of identifying the respondents, in reviewing some of the qualitative responses, it seems likely that they were written by a teacher. Some statements led

the researcher to believe that a parent would likely not state such an understanding. For example, one response read: “All build on skills the child will use later in more advanced materials. Some are tactile, others are interesting to look at, while some make interesting sounds. Each has a learning purpose and each is hands on so the child can take an active part in learning.” This type of response deviates from the types of responses from the majority of parents and guardians.

A second limitation is the sample composition and size. The researcher worked with only three eastern Massachusetts toddler through grade eight Montessori schools. One could question the generalizability of the data since the schools are located in one small region. The researcher had hoped to include two inner city Montessori schools but was unable to make a connection at those schools. Two of the schools surveyed are suburban, and one does retain a partial metropolitan student population. Thacher School in Milton rests right on the edge of Boston city limits and the school’s population includes a significant number of families who reside in the Boston area.

A third limitation is that the structure of the survey allows parents to equally rank conflicting ideas, making it unclear how much a parent understands or values a Montessori principle over other ideas. Parents can hold conflicting ideas about their children’s education and not all of them will be congruent with the Montessori philosophy. Because a parent can rate all four statements for importance, the data do not fully represent what a parent understands about the relevant Montessori principle.

## Chapter 5: Discussion

Parents have many choices when it comes to elementary and preschool education. There are local and regional public schools, charter and independent public schools, religious schools, private schools, homeschooling, and online learning. With the wide array of schooling options available, parents need a clear understanding of each option and its implications for their child. One such schooling option is private, Montessori education. Montessori schools in the U.S. start accepting children at 12 months of age.

This research study was conducted to measure what parents of children in Montessori schools know and understand about the founding Montessori principles and the curriculum materials that are used in Montessori classrooms.

### Montessori Philosophy and Current Research

**Maria Montessori.** Maria Montessori was an Italian born physician and educator who based her teaching on research. Her first school arose from an impoverished neighborhood in Rome, where she tested out her theories of demonstrating curriculum and learning. She crafted specific sets of didactic, hands-on materials that were designed to utilize all of the different sensorial functions. Her classrooms created an environment where the children controlled their learning and were free to learn without the structure of the traditional classroom. Montessori's educational philosophy and curriculum were introduced to the U.S. in 1911. After an unsuccessful introduction into the U.S. elementary school market and an ensuing quick departure, the Montessori movement experienced a resurgence in America in the 1960s. There has been a steady increase in the number of schools since. Today there are approximately 4,500 Montessori schools in the U.S.

**Montessori philosophy.** A literature review of Montessori education yields detailed information about the woman, her philosophy, her curriculum, and her teaching in Italy. There is

much information about the founding Montessori principles, her specific, didactic curriculum materials, and her multi-sensory approach to learners and learning. She emphasized six different focal areas: room care and practical life; art; geography; math and science; cultural; and sensorial. It was her belief that self-directed purposeful activity would ensue through the prepared environment. Less research exists about her teaching and classroom practices in the U.S. Although there have been a number of articles and publications about her and her theory, there is a paucity of research regarding the effectiveness of her education in America. Only four studies exist that look at the effectiveness of the method for first grade or above (Dohrmann, 2003; A. Lillard & Else-Quest, 2006; Lopata et al., 2005; Rathunde, 2003). There is even less research that centers on parents, specifically why parents chose Montessori education and what they understand about the Montessori principles and curriculum (Murray, 2012; The Riley Institute, 2014).

### **Study Focus, Design and Objectives**

The focus of this study was to learn what parents of children in Montessori schools do and do not understand about Montessori principles and classroom practices. The study targeted three toddler through grade eight Montessori schools in Eastern Massachusetts. The following research questions guided the study:

1. What reasons do parents and guardians give for sending their children to Montessori schools?
2. What do parents and guardians understand about the Montessori principles of education? What do they misunderstand?
3. How do parents and guardians perceive implementation of the Montessori principles in the classroom?

### **Further Interpretation of the Findings**

**Dissonance between parental preferences and Montessori principles.** The survey yielded extensive information related to parent understanding of the six main Montessori principles found in Appendix A. Each question uncovered a range of parent understanding about each principle and its significance in the classroom. Analysis of the data revealed that parents' beliefs and values often do not align with the Montessori principles. This conclusion leads to implications and recommendations for parents as well as Montessori administrators and teachers.

***Respect for child: Determining who solves problems.*** The first principle, respect for child is considered the foundation upon which all other Montessori principles are formed. Teachers display respect by allowing children to be autonomous and make decisions for themselves and solve problems on their own. If a child has encountered difficulty working with the math chains, for example, she should be given the freedom to try and work through it on her own, rather than be given the answer. Only 33% of parents and guardians surveyed determined that it was very important to allow children to solve problems on their own. Further, nearly one quarter of parents felt that the teacher should solve the problem for the child. There were also a range of answers in between, demonstrating that parent understanding of and agreement with this principle varies widely. The data raise several questions: Why don't parents think that it is important for their children to solve problems on their own? Did parents hold this belief when they chose and enrolled a child in Montessori school? How do parents understand and define autonomy? Looking at the range of answers, including ratings of "important" and "very important," 67% of parents gave a positive response to the idea that the children should have classmates help resolve a problem. Fifty-four percent of parents would like the child to be presented with several solutions to resolve the problem, and 41% of parents chose the option of having the teacher solve the problem for the child.

It is important for Montessori school administrators and teachers to consider the dissonance between parent beliefs and values and the Montessori principle of respect for the child. If Montessori educators assume this principle is understood and accepted by parents, there is a breach in understanding that needs to be addressed. For example, schools can demonstrate for parents how children resolving matters on their own is of greater benefit than being presented with several solutions, having the teacher resolve the matter, or asking peers for help. How and when this demonstration of this principle should occur presents a challenge for Montessori educators, and is a good basis for discussion with the professional Montessori community and for additional research.

*Absorbent mind: Determining the degree of self-direction.* The second Montessori principle centers around the concept of the absorbent mind. This principle bases its belief in the fact that children love to learn, and learn simply through their environment and surroundings. It is a Montessori teacher's responsibility to create the proper environment for the child. The question that addressed this principle presented various roles a teacher could play in the classroom. A large percentage of parents, 79%, indicated that it is important to very important that the teacher help the child help himself or herself. However, nearly 40% felt that it was also important that a teacher be a disciplinarian. This leads the researcher to believe that there is contradictory or inconsistent parent understanding about what it means to help a child help himself or herself and the role (or lack) of discipline in a Montessori classroom. Children are meant to be guided toward making positive choices on their own, rather than being disciplined when they do not make good choices. This is an area for further investigation and experimentation. A possible approach could be to have teachers discuss with parents how they handle and manage discipline in their Montessori classroom and to ask parents to discuss their views and their beliefs of the role of discipline in the classroom. A survey or focus group of



teachers might reveal differences in teacher discipline practices from classroom to classroom or even school to school.

*Sensitive periods: Determining a learning pace.* The third principle examined in the study was sensitive periods. A sensitive period is when a child devotes all of his or her time and energy to one focus in the classroom. For example, a child is learning to write and, hence, the child chooses writing works, such as tracing letters or numbers on a calendar, every day for a month and a half. The survey question that addressed this principle asked parents how a teacher should respond if their child seems intent on working on only one skill in the classroom for an extended period of time.

Twenty-one percent of parents seemed to agree with the intent of this principle by responding that it was important or very important in a Montessori classroom that a child be allowed to be engrossed with one topic for extended periods of time. The Montessori environment does not force children to move on, nor to keep a constant pace with their peers; however, 46% of parents indicated that it was important to very important that the child be at the same level as his or her classmates. The data from this question underscore the need to determine what parents understand about sensitive periods, as well as their significance to the learning process of the child. A parent, for example, might see a sensitive period as detracting from their child being comparable to their peers. If their child, for example, is spending weeks on writing, the parents may wonder if their child is falling behind in math, how far behind, and how to rectify that. Parental misunderstanding of the value of the child learning on his or her own time and individual way represent a challenge for Montessori educators.

Further, 97% of parents suggested that they want the teacher to take note of a child's progress. Understanding this could be the basis for further research. It could be that parents want to compare their child to their peers, or to track how long a child is taking to progress with a

certain concept, or to learn more about the focus of the child and the child's work habits.

Research could focus on whether or not parents want their children to be equal to their peers, or what role competition plays in the classroom. It also could be that parents have a hard time grasping the concept and meaning of the sensitive periods. Future research could also focus on the principles themselves and asking parents to define the principles in their own words. There is much to learn not just about parent understanding of the sensitive period, but also about parent views around competition and its place in the classroom.

*Auto education: Determining the degree of goal orientation.* The Montessori principle of auto education was addressed in two different questions. The researcher tried to determine parent knowledge of what motivates a child to learn and how a child chooses curriculum in the classroom. The large majority of parents, 99%, listed intrinsic motivation as important or very important for learning. However, 77% of parents also listed goals to achieve as an important or very important motivating factor. This presents another challenge to Montessori educators, because in a Montessori classroom, there is the belief that the motivation for the child should be the work itself, not a specific goal. However, 71% felt that it was important or very important that teachers present lesson plans and 78% felt it was important or very important to allow a child to work on a task until the child attains mastery. These two ideas run counter to the Montessori intent of auto education. Here again, there is a paradox in parent ratings. Parents want their children to be intrinsically motivated; yet, they also want them driven by goals and mastering activities. At the same time, how a school addresses the concept of goals has not been a part of this study. Are goals articulated? Disregarded? What importance does each school place on mastering concepts? How do the schools address Montessori theory versus actual practice in the classroom? Argyris and Schon (1974) have suggested that there is a difference between what

people intend to do (espoused theory) and what they actually do (theory in use). They state, for example,

The discrepancy between what people say and what they do is an old story. It is sometimes expressed in the saying, “Do as I say, not as I do.” But the distinction between espoused theory and theory-in-use goes beyond this common conception. It is true that what people often do differs from the theories they espouse. We are saying, however, that there is a theory that is consistent with what they do; and this we call their “theory-in-use.” (p. 82)

In other words, the school’s values and what they espouse may be in conflict with how a teacher behaves in the classroom. Understanding how teachers actually encourage or discourage self-motivation presents an area for further research.

***Prepared environment: Determining presentation of materials.*** The fifth principle the researcher addressed through her survey was the prepared environment. Two questions were aimed at parent understanding of how the curriculum materials are grouped and placed, and how the materials should be presented. In an ideal Montessori classroom, curriculum materials are chosen by the student and worked on at his or her own pace.

The responses to this question were high for each of the four statements. Forty-eight percent of parents think that it is important or very important that a teacher present a lesson, and 91% felt it was important or very important to collaborate with peers. Ninety-three percent think it is also important for children to work on tasks themselves. Further, 48% of parents indicated that it was important or very important that a teacher present the curriculum. These notions are counter to the Montessori philosophy of the prepared environment. Parents suggest that they want their child to work on tasks themselves; but, they also indicate that it is important for a teacher to present the materials. These would be two competing activities in a Montessori

classroom. This raises questions for possible further inquiry: Do teachers present lesson plans in these Montessori classrooms? If so, for how long? (Not clear. Do you mean how much time is covered by a lesson plan?) How much time do children spend working on their own?

Collaborating with peers was important to 91% of parents. How many opportunities are there during the day for children to work together? Are they required to? Further research could look into understanding the balance of student-led, teacher-led, and independent learning in the classroom.

***Role of the lead teacher or directress: Determining the degree of external direction.***

The last principle addressed in the survey looked at the role of the lead teacher or directress. In a Montessori classroom, there is one lead teacher and at least one assistant teacher, depending on the number of children. This question attempted to determine whether parents felt that the child's day should be more self-directed or more structured and teacher-led. In a Montessori classroom, the philosophy is that the lead teacher's role is to help the child learn to help himself or herself. In this sense, the most learning takes place when a child is independent with much of the day self-directed. Although 24% of parents did rate independent learning as important or very important, the largest percentage of parents, 30%, felt that it was also important or very important that their child should be semi-independent with the teacher facilitating part of the process. Only 11% of parents felt that it was important that the child's classroom should be structured and teacher-led. Further research could analyze how structured each classroom is. The qualitative data showed that some parents felt that their child was not receiving adequate support. This might lead parents to think that if the day is spent self-directed, then their child is not getting enough support from the teachers. It would be useful to test this possibility with additional research, just as it would be useful to measure what perceptions parents have of "unstructured" in order to better understand the results of this study.

**Differences in parental perceptions across schools.** An additional finding indicates that there is discernible differences in parent responses based on which of the three schools surveyed their children attended. This raises questions about what effects a specific school has on parents' perceptions and understanding of Montessori education as well as how much variation in teaching there is between schools. This finding also points to the fact that there is no clear understanding of the specific factors in a school environment that are affecting parent perceptions. These unanswered questions open up a wide range of issues for Montessori school administrators to investigate.

**Parental criticism and lack of clarity about benefits of Montessori methods.** The qualitative questions asked parents why they chose Montessori school for their child, how their view of Montessori has changed since first enrolling a child, and how they would describe the curriculum materials in their child's classroom. Analysis of parents' responses indicated some criticism about aspects of the curriculum—particularly for older children—and lack of clarity or recognition of the benefits of design elements such as small class sizes, mixed age classrooms,

1. Very few parents identified small class sizes or mixed age classrooms as determining factors for choosing Montessori school. Considering public school classrooms sizes, particularly in some jurisdictions, the 1:8 student-teacher ratio of a Montessori classroom would seem like a big selling point to parents. However, very few parents mentioned this as important. Additionally, few parents mentioned that the mixed age classrooms were a benefit to their child's learning. Multi-age classrooms are a hallmark of Montessori learning. These data could lead administrators to ask: What is drawing families to the school, if it is not small class sizes and not the blended age classrooms? It may be that parents simply did not state these factors; but, it also could mean that parents are not thinking the way administrators assume. Administrators

may wish to consider further research into how families view the teacher student ratio and the mixed-age classroom, and what they see as both benefits and drawbacks. One other way to look at this issue is to conduct additional research into why families do not chose Montessori schools.

2. The qualitative responses revealed a notable absence of praise for the Montessori curriculum as well as some criticisms. Few parents actively stated their children were thriving and loving school. Why are so few parents offering that their child is thriving and happy? This might indicate that parents are not satisfied or perhaps that parents and children are not satisfied. This should be investigated. Additionally, some parents suggested there is not enough structure, that the schools are non-caring, and that their children are not allowed to reach their full potential. While this survey did not ask parents to address specific concerns they had with either teachers or administrators, some parents still offered their concerns. This is an area that requires further attention and understanding by administrators so that the relationship between parent perceptions and the actual classroom structure and experience of the child can be better understood.
3. Very few parents detailed exactly how the curriculum materials were effective; rather, they most often simply stated that they were effective. Few parents identified the materials as allowing students to apply concepts, layer concepts, and strive toward deeper understanding. However, a key attribute of Maria Montessori's curriculum is that it allows the child multiple exposures to the same concept through different sensorial approaches. As most parents do not likely spend enough time in the classroom to see how the layering effect works, a question remains of how might the

schools convey this concept to parents. How can administrators display the benefits of the curriculum for parents in visible, tangible ways?

4. There is some confusion over how the Montessori curriculum materials are used at the older grade levels. Some parents stated that the materials seemed to work better for lower grades, and that there is not adequate support and that the curriculum is less effective at older grades. Notably, most parents offered no substantive comments for why or how Montessori did not work at the older grades, although some parents stated that the materials are more traditional at the older levels. As goal setting and achievement were questions highly rated in the quantitative portion of the survey, one could see a disconnect between the Montessori traditions of the schools and current norms and patterns of contemporary society. The Montessori method was developed over 100 years ago and was largely focused on children from disadvantaged circumstances. This area of speculation could yield further research if the schools are willing to question some of the founding theories of the Montessori philosophy. Moreover, the low percentage of responses from parents of older children could be masked by the fact that these schools suffer large attrition rates at both the 1st grade and 4th grade levels. There is likely a large percentage of parents who already pulled their children from the older grades and, thus, did not receive the survey. A recommended area for further research is to survey families that have left the school. Asking parents why they decided to send their child elsewhere can shed more light on the perceptions of the curriculum materials and classroom dynamic issues. An exit interview with parents when they withdraw a student from a school would also be a useful practice.

### **Recommendations for Further Research**

The results from the parent survey shed light on several areas where parents and guardians either experience confusion or have conflicting reasoning about the importance of a Montessori principle or classroom practice. The first area where the researcher sees a great need for more research is the curriculum in the upper elementary and middle school grades. Parents were able to discuss the curriculum at the lower grades, but were less specific and less certain about the materials in the older grades. Parents chose words like the curriculum seemed more “traditional” or “did not work as well at the older grades.” This leads the researcher to believe that parents are generally unaware of how the curriculum works at the older levels. Many statements were vague or general, which seems to indicate that parents and guardians may have been basing their opinion on limited real data. This ties in with another area of needed research: Do the classrooms become more traditional as students get older? In other words, what makes for a Montessori classroom at the lower levels may not be the same features that make for a Montessori classroom at the older levels. So what exactly does a true middle school Montessori classroom look like, and how is it different from traditional middle school?

Another needed area of research centers around the idea of classroom structure, specifically, what is a structured classroom, what is an unstructured classroom, and where does Montessori fit in the current continuum of classroom structure? Some parents who completed the qualitative portion of the survey stated that there was too much structure, others that there was not enough, others that were surprised with all of the structure, and others disappointed that their child was not getting enough support. This confusion was further evidenced in the quantitative survey question that addressed how the child’s day should be structured. The data revealed parent confusion about structure in the classroom and reflects a dichotomy between child freedom and independence and the structured environment. Some parents seem to get confused



and think that the self-reliant and self-directed features of the classroom equal a unstructured environment and a lack of support from the teachers.. Further research that addresses specifically how the classroom is structured, how the child's day is structured, and the role that teachers play in that process would help address these issues. These data could be contrasted with similar data from parents of children in traditional classrooms so that parents and guardians can understand the different views and benefits of each. This could also reveal, however, that parents generally do not understand Montessori language and description of the principles.

More research is also needed to determine student achievement and performance after exiting a Montessori school. A number of parents who responded to surveys discussed their concerns about what happens when their child transition from Montessori school to traditional school. Several mentioned things they had heard about an awkward transition, but the bases for these comments is not known. Less than a handful of studies (e.g. A. Lillard, 2012; A. Lillard & Else-Quest, 2006) exist that examine achievement differences between students who attended Montessori school and children who attend more traditional schools. The results are mixed, with one study showing no real differences in fourth and eighth grade achievement (Lopata et al., 2005), and another two showing that five-year-old and 12-year-old Montessori students performed better in three of seven tests, including letter word identification, word attack, and math skills.

It seems there is a great need for research that displays actual achievement data at the high school level. More test data from key subject areas are needed to show if many of the Montessori claims that Montessori students are better prepared is true. Data other than achievement results should be captured as well, such as: How well do Montessori students perform on emotional intelligence tests? How do they perform as leaders? Are they empathetic? Are they culturally aware and less biased? One can find many claims of what a Montessori

student is by reading through Montessori school websites. However, it is not evident who has tested these claims and where the results can be found. It is easy to say your child will be independent and a citizen of the world, but are they? How is that demonstrated?

A final recommended area for research centers on discipline and its role in the Montessori classroom. Twenty-eight percent of parents surveyed felt that it was important or very important that a Montessori teacher act as a disciplinarian. This leads the researcher to believe that there needs to be research that addresses how behavior is managed and handled in the Montessori environment. A place to start may even be with the term itself: What is discipline? What is its role in the classroom? Do Montessori teachers use disciplinary techniques, and, if so, what are they? The data in the surveys revealed a serious dichotomy in parental thinking. Parents suggested that they want their children to resolve conflict on their own, yet also felt that the Montessori classroom teacher needs to act as disciplinarian. This reveals to the researcher a disconnect between parent thinking and Montessori classroom practices that has implications for how and what a Montessori schools communicates with its parents.

### **Conclusion**

With nearly 4,500 Montessori schools in the U.S. and little research data about the effectiveness of a Montessori education, administrators in Montessori schools need to look for ways to support their claims that Montessori *works*. There are countless articles on the philosophy and the method (e.g., Povell, 2010; Whitescarver & Cossentino, 2008), but one can find very little research with empirical data that supports that the method is effective for educating children.

This research study surveyed parents from three different Massachusetts area toddler through grade eight Montessori schools. The survey attempted to reveal parents' perceptions and beliefs about the founding Montessori principles and the Montessori curriculum materials and

classroom practices through the integration of both quantitative and qualitative data. The study data revealed some dissonance between parental preferences and Montessori principles, differences in parental perceptions across schools, and some parental criticism and lack of clarity about benefits of Montessori methods. Specifically, what parents value and think about concepts such as goal setting, achievement, competition with peers, and teachers preparing and presenting lessons is in direct contrast with some of the Montessori founding principles and intentions. This leads the researcher to believe that there are paradoxes and confusion in what parents' value in their child's education.

Although the design of the survey did not result in exactly measuring parents' understanding of the Montessori principles, it did show very clearly parents' conflicting ideas and values about childhood education. Much possible future research could be undertaken to look more closely at these conflicting parent ideals, as well as at actual classroom practices and how they relate to the Montessori principles and educational outcomes for the child. This study makes it evident that parents have both espoused theories (stated values) about Montessori education principles and distinctly different theories in use when they think about their children's education. It also seems evident that Montessori educators have both espoused theories and theories in use and that what occurs in the classroom may not always correspond to the espoused Montessori principles. Finally, children have educational experiences and educational outcomes, and these outcomes are currently not well measured in Montessori schools.

This study displays that parents of today do value concepts such as intrinsic motivation and independence. But it also reveals that parents of today value discipline, competition amongst peers and goals. This leads the researcher to believe that parents hold beliefs that do not align with some of Montessori's founding principles. If Montessori schools wish to remain viable,

they will need to reconcile the Montessori principles with conflicting parent values, and further, determine how to better align their principles with parent views and desires for their children.

The researcher concludes that the three schools need to address and work on how parents view the Montessori method of teaching, and further, help parents gain a greater understanding of the learning process and materials in the classroom.

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## APPENDIX A

## Montessori Principles

1. Respect for child: the cornerstone on which all other Montessori principles rest. Teachers show respect for children when they help them do things and learn for themselves. When children have choices, they are able to develop the skills and abilities necessary for effective learning autonomy, and positive self-esteem. (Morrison, 2014)
2. Absorbent mind: children can't help learning. Simply by living, children learn from their environment. Children are born to learn, and they are remarkable learning systems. Children learn because they are thinking beings. But what they learn depends greatly on their teachers, experiences, and environments. (Morrison, 2014)
3. Sensitive Periods: a period of time when children focus their attention on specific aspects of the environment to the exclusion of others. It is a passion and a commitment, derived from the unconscious that guides children to conscious, creative activities. (Seldin & Davies, 2006)
4. Auto-education: children have a deep love and need for purposeful work. While adults generally work towards a goal, a child's objective is the work itself. (Montessori Foundation, 2015) Children who are actively involved in a prepared environment and who exercise freedom of choice literally educate themselves. Montessori teachers prepare classrooms so that children educate themselves. (Morrison, 2014)
5. Prepared environments: the environment is designed to facilitate maximum independent learning and exploration by the child. In the calm, ordered space of the Montessori prepared environment, children work on activities of their own choice at their own pace. They experience a blend of freedom and self-discipline in a place especially designed to meet their developmental needs. (NAMTA, 2014)
6. Directress: while teachers are thought of as directing the process in a traditional classroom, the directress is charged with keeping each child supplied with difficulties suitable to his or her strength – help the child help himself or herself. She is the protectress of the child's right to learn. (MMS, 2013)

## APPENDIX B

## Invitation to Parents

January 23, 2015

Dear Parents and guardians,

My name is Elisabeth Hiles and I am a doctoral candidate at the Pepperdine University Graduate School of Education and Psychology. My doctoral dissertation studies parent/guardian understanding of the Montessori Method of Teaching. The survey, for which you will find a link below, aims to determine parent perception and understanding of the Montessori principles and classroom practices. It will take you about 15 minutes to complete this survey.

The data generated from this survey will be completely anonymous, and participation is entirely voluntary. The survey will be administered through the survey website Qualtrics. There will be no method for linking a respondent to a specific answer. The survey responses from each question will be aggregated and summarized, and shared with the participating schools' Head of School and administration. Should you wish, you may also request to receive a summary of the research findings from the researcher or Head of School.

The findings of this research will help the participating schools get a better picture of what parents and guardians understand about the Montessori method of teaching and classroom practices. Should you have any questions about the survey, or about the data that will be generated, I am happy to answer them. Please contact me at: [ehiles@bu.edu](mailto:ehiles@bu.edu), or 617-290-4116.

Below is the link to the survey.

<<Insert link to survey here>>

Many thanks for your consideration and participation.

Sincerely,

Elisabeth Hiles, MA  
Graduate Student  
Graduate School of Education and Psychology  
Pepperdine University

**Parent/Guardian Survey Questions**

Dear Parent or Guardian,

This survey asks questions about your understanding and perception of the Montessori Method of education. Your responses to the survey are entirely anonymous and confidential, and they will be viewed only by the researcher. The researcher will present the research findings to the Head of School in an aggregated form, without any respondent identifiers, so that the school can use the information to serve parents and students more effectively. The survey contains seven questions which ask you to rate the importance of an educational concept. Choose one rating for each item. There are also three short answer questions. The survey will take approximately 15 minutes to complete, and you may skip a question or questions. Each parent or guardian in your household may complete a separate survey.

Thank you very much for your participation!

What year did you first enroll a child in a Montessori school?

**Rate the following on an Importance scale, with 1 being Least Important and 5 Most Important. Circle the most appropriate number:**

**1. How important is it in a Montessori classroom that your child be:**

Independent with much of the day self-directed	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Semi-independent with the teacher facilitating part of the process	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Semi-structured with teachers guiding a fair amount of the work and learning	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Structured, teacher-led	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**2. When your child is faced with a difficult problem in the Montessori classroom, how important is it that the teacher:**

Present your child with several solutions	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Help your child solve the problem	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Allow your child to resolve it on his or her own	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Ask your child if they would like a classmate to help	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**3. In a Montessori classroom, how important is it that:**

A teacher presents a lesson plan	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Children read on their own	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Children collaborate with peers	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Children work on tasks themselves	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**4. When your child is engrossed with one learning aspect of the classroom for several weeks, how important is it that the Montessori teacher:**

Make sure your child is still keeping pace with his or her classmates	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Try to shift your child's focus elsewhere	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Take note of how your child is progressing in that aspect	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Allow your child to continue working on that aspect	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**5. In the Montessori classroom, how important is it that your child be motivated by:**

External rewards (e.g. stickers, grades)	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Goals to achieve	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Intrinsic motivation	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Homework	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**6. How important is it in a Montessori classroom that the teacher:**

Be a role model for the children	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Act as a disciplinarian	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Be a parent figure	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Help the child help himself or herself	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**7. How important is it that the Montessori curriculum materials be:**

Presented by the teacher	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Chosen by the student and worked on at his or her own pace	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Presented for a limited amount of time then move on to the next focus	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important
Worked on until mastery	Not at all Important	Slightly Important	Neither Important nor Unimportant	Important	Very Important

**Short Answer Questions:**

1. Why did you decide to send your child to a Montessori school?

2. How has your understanding/appreciation of Montessori education changed since you first enrolled your child?
  
3. How would you describe the materials in your child's classroom?

## APPENDIX C

## Letters to Parents from Heads of Schools



February, 2015

Dear Oak Meadow Families,

Oak Meadow School, along with four other Montessori schools in Massachusetts, is working with a researcher from Pepperdine University who is doing her dissertation on the understanding that parents who enroll their children in Montessori schools have of Montessori education.

The research will be gathered by way of a survey, which will be administered online. The survey will be anonymous. While the survey will be voluntary, we hope that all parents and guardians will take part in it. The entire survey should take about fifteen minutes to complete.

As many of you know, Maria Montessori was a scientist who based her approach to education on research. The heads of the other participating schools and I are excited about this research as we hope to be better informed about our parents' perceptions of their children's education, with an eye to better communicating with our parents and beyond so that as many children as possible may benefit from a Montessori education.

I thank you, in advance, for continuing to help us make Bay Farm the best place it can be, for children.

Regards,

A handwritten signature in black ink that reads 'Bill Perrine'.

Bill Perrine  
Head of School



Dear Bay Farm Families,

Bay Farm Montessori Academy, along with four other Montessori schools in Massachusetts, is working with a researcher from Pepperdine University who is doing her dissertation on parent understanding and perception of Montessori education.

The research will be gathered by way of a survey, which will be administered online. The survey will be anonymous. While the survey will be voluntary, we hope that all parents and guardians will take part in it. The entire survey should take no more than fifteen minutes to complete.

As many of you know, Maria Montessori was a scientist who based her approach to education on research. The heads of the other participating schools and I are excited about this research as we hope to be better informed about our parents' perceptions of their children's education, with an eye to better communicating with our parents and others about the many benefits of a Montessori education.

I thank you, in advance, for continuing to help us make Bay Farm the best place it can be for children.

Warmest Regards,

A handwritten signature in black ink, appearing to read "K. Clark".

Kevin Clark  
Head of School





Dear Thacher Families,

Thacher Montessori School, along with four other Montessori schools in Massachusetts, is working with Elisabeth Hiles, a researcher from Pepperdine University who is doing her dissertation on how parents who enroll their children in Montessori schools understand Montessori education.

The research will be gathered by way of an anonymous online survey. While participation in the survey is voluntary, we hope that all parents and guardians will take part in it. The entire survey should take about fifteen minutes to complete. Please see the attached letter from Elisabeth to access the survey.

As many of you know, Maria Montessori was a scientist who based her approach to education on research. The heads of the other participating schools and I welcome the opportunity to better understand our parents' perceptions of their children's education through this research. We hope that this knowledge will enable us to better communicate with our parents and others, so that as many children as possible may benefit from a Montessori education.

Thank you in advance for your help in our ongoing efforts to improve communication with Thacher parents.

Best,

A handwritten signature in black ink, appearing to be the name 'Don'.

## APPENDIX D

## Ethics Board Approval Letter

## PEPPERDINE UNIVERSITY

## Graduate &amp; Professional Schools Institutional Review Board

February 26, 2015

Elisabeth Hiles  
[contact information omitted]

Protocol #: E0215D02  
Project Title: Understanding Parent Perception and Engagement in Montessori Education

Dear Ms. Hiles:

Thank you for submitting your application, *Understanding Parent Perception and Engagement in Montessori Education*, for exempt review to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your faculty advisor, Dr. Nero, have done on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations (45 CFR 46 - <http://www.nihtraining.com/ohsrsite/guidelines/45cfr46.html>) that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

(b) Unless otherwise required by Department or Agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

**Category (2) of 45 CFR 46.101**, research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

In addition, your application to waive documentation of informed consent has been **approved**.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Because your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the GPS IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at <http://www.pepperdine.edu/irb/graduate/>).