

**Prosocial Activity in a Montessori Primary Classroom:
A Case Study**

**by
Robyn F. Long**

M.S., State University of New York at Albany, 2011

B.A., State University of New York at Albany, 2005

Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy

in the
Faculty of Education

© Robyn F. Long
SIMON FRASER UNIVERSITY
Fall 2017

Copyright in this work rests with the author. Please ensure that any reproduction or re-use is done in accordance with the relevant national copyright legislation.

Approval

Name: **Robyn F. Long**
Degree: **Doctor of Philosophy**
Title: *Prosocial Activity in a Montessori Primary Classroom: A Case Study*

Examining Committee: **Chair: Cher Hill**
Clinical Professor

Margaret MacDonald
Senior Supervisor
Associate Professor

Lucy Le Mare
Supervisor
Professor

Jeff Sugarman
Supervisor
Professor

Danièle Moore
Internal Examiner
Professor

Kimberly Schonert-Reichl
External Examiner
Professor
Faculty of Education
The University of British Columbia

Date Defended/Approved: September 15, 2017

Ethics Statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

- a. human research ethics approval from the Simon Fraser University Office of Research Ethics

or

- b. advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University

or has conducted the research

- c. as a co-investigator, collaborator, or research assistant in a research project approved in advance.

A copy of the approval letter has been filed with the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library
Burnaby, British Columbia, Canada

Update Spring 2016

Abstract

The purpose of this study was to investigate young children's prosocial behaviour development in a Montessori classroom context. A longitudinal, single-case study design was employed, using qualitative methods to provide an in-depth understanding of the context and the participants' experiences. Using naturalistic observations, a group of children were observed for their two pre-kindergarten and one kindergarten years in a multiage classroom. A traditional Montessori primary classroom was selected for the program criteria of a larger class size and a small teacher-to-student ratio. Results demonstrated that the smaller teacher-to-student ratio contributed to the available opportunities and the perceived need for students to enact prosocial behaviour, particularly in helping each other with curricular materials. The teachers modeling concentration and precision while demonstrating use of the Montessori curricular materials led to students reproducing this activity, establishing a classroom work ethos that grew along with students' increased mastery of material work. The students also reproduced prosocial actions modeled by the teachers, becoming integral and effective contributors to classroom management. I explain the relationship between the children's increasing curricular mastery and their prosocial activity using a *community of practice* model. In this model, the students' progress is explained by their shifting membership and legitimate teaching experiences within their community of practice. These findings have implications for the social value of a well-planned and precisely delivered curriculum for pre-kindergarten and kindergarten aged students in a Montessori multiage classroom. Previously reported social and academic drawbacks of multiage classrooms were not found in this classroom. Additional practical and theoretical implications are discussed.

Keywords: prosocial; Montessori; multiage; modeling; preschool; kindergarten

To my parents, with love and gratitude.

Acknowledgements

I extend my sincere thanks to those who made this project and its completion possible. I have an overwhelming appreciation for the teachers and students of the classroom I studied and their larger school community. This project is humbled by their daily work.

My senior supervisor, Dr. Margaret MacDonald, was central to this work. From the earliest stages of development to completion, she demonstrated commitment and trust in this endeavor, providing timely support, guidance, feedback, and what appeared to be masterfully measured amounts of freedom, prodding, and critical challenges. I am grateful to have such a wise and dedicated teacher and mentor. Being your student has been a true privilege.

I would like to thank Dr. Lucy Le Mare and Dr. Jeff Sugarman for their involvement and particularly for their imperative feedback on prior drafts of this work, which helped it to become much improved. I also extend my thanks to Dr. Sugarman for his mentorship throughout my years as a student and a teaching assistant, which were both fun and enlightening.

I have been fortunate to have many other mentors, colleagues, and friends in the Faculty of Education and at the Student Learning Commons who have supported my work. My graduate studies have been perpetually enriched and encouraged by Dr. John Nesbit, for whom I worked as a research and teaching assistant, and whose professional and pedagogical styles have and will continue to inform my own. Thanks to Dr. Kieran Egan for greatly extending the scope of my knowledge and understanding about history and education. Thanks to the permanent staff of the SLC, in particular Renée McCallum and Dr. Amanda Goldrick-Jones, for their wisdom, encouragement, and happy suffering of all my questions, discussions, opinions, and pedagogical experimentation. The SLC community provided a vital sounding board and good company throughout my studies. Among the caring members of this community, Dr. Megan Robertson and Dr. Poh Tan provided necessary academic, professional, and social support for which I am thankful. A number of compatriots in my graduate studies program also helped to make this

undertaking feel possible through our fascinating and often humorous discussions of work and life, particularly Carlye Vroom, Michelle Beatch, Zahia Marzouk, and Dominic Trevisan. A special thanks to Erin Thrift, whose knowledge and encouragement allowed me to learn and accomplish much more than I would have otherwise.

I am deeply grateful for my family – immediate, extended, and in-law – for their ongoing love, support, understanding, and reminders of how to best enjoy life. I admire my parents, who instilled in my brother and me persistence, respect and care for others, a love of learning, and good humor. Here's to *being reasonably good*.

My relationship with Steve has been ineffably fortunate and dear. His love, sensibility, and steadfast conviction in my pursuits continue to guide me. Our daily discussions are indispensable and elevate the joy and insights I find in my work. Thank you for listening.

Table of Contents

Approval	ii
Ethics Statement.....	iii
Abstract.....	iv
Dedication.....	v
Acknowledgements.....	vi
Table of Contents.....	viii
Chapter 1. Introduction.....	1
Chapter 2. Literature Review: Defining and Considering Prosocial Behaviour in Relation to Early Childhood Contexts	3
2.1. The Term <i>Prosocial</i>	3
2.2. Altruism, Empathy, and Morality	4
2.3. Early Development: Biology and Socialization.....	8
2.4. Considerations for Early Childhood School Contexts.....	11
2.5. Prosocial Behaviour in Montessori Classrooms and Social Emotional Education	23
2.6. The Need for Further Research on Prosocial Behaviour in Montessori Primary Classrooms.....	29
2.7. Research Questions.....	35
Chapter 3. Methodology	37
3.1. Researcher Subjectivity	37
3.2. Research Design	41
3.3. Data Collection	47
3.4. Data Analysis.....	50
Chapter 4. The Teacher-to-Student Ratio in Relation to the Development of Prosocial Activity	53
4.1. Inhibition: Ignoring and Refraining from Helping	53
4.2. Correcting Others' Actions.....	61
4.3. Intervening in Peer Conflicts	65
4.4. The Relationship between Ratio and Modeling.....	68
Chapter 5. Change in Prosocial Activity over Time: Students' Work Orientation in the Classroom's Community of Practice.....	72
5.1. A Working Relationship.....	72
5.2. The Classroom as a Community of Practice.....	74
5.3. Students' Trajectory From Peripheral to Full Community Membership.....	77
5.4. The Classroom CoP Transformed Independent Work into Social Practice.....	91

Chapter 6. Final Discussion and Conclusion	95
6.1. Final Discussion.....	95
6.2. Conclusion	103
References	105
Appendix A. Checklist of Independent Learning Development (CHILD)	119
Appendix B. Teacher Interview Protocols.....	120
Appendix C. Montessori Classroom Time Sample Record (MCTSR).....	124
Appendix D. Reflective Memo Example	125
Appendix E. Analytic Memo Example.....	127
Appendix F. Interview Transcript Excerpt	130

Chapter 1.

Introduction

How individuals develop prosocial behaviour has long been of interest to psychologists, educators and families. Most view the importance of children developing social competencies in relation to their future emotional well-being and their potential for academic and professional success. Recently, there has been increasing focus on how Canadian schools can aid the development of children's social and emotional competencies (Hymel, Schonert-Reichl, & Miller, 2006). Some call for provincial teacher training programs to better assist teachers in achieving both provincial and national goals for the development of children's social and emotional skills in schools (e.g., Le Mare, 2011), while others have demonstrated that supplemental programs delivered in schools can help increase students' prosocial behaviour (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Emphasizing the need for schools to create caring and supportive environments speaks to the context-dependency of prosocial activity. It is because children's prosocial actions are context-dependent that more naturalistic school observation research is required to better understand their development.

Children's social development was a professional interest of mine as a Montessori teacher, and advancing my understanding of the environmental features of Montessori classrooms and programming led me to pursue research in this area. With the increasing demand for public education to adjust programming features to better nurture children's social skills, it appeared pertinent and timely to investigate how existing elements of Montessori classrooms may contribute to current understandings of children's prosocial development.

Montessori schools were founded with considerable goals for social and moral reform, the principles of which were to be achieved by carefully observing children's activities in a "natural" environment, and then adjusting that environment to fit children's physical and emotional needs (Montessori, 1912/2003). However, over 100 years later,

there has been far less empirical, social development research conducted in Montessori schools compared to more mainstream schools.

These factors led me to the present study, in which I investigate the development of children's prosocial activity in a Montessori primary classroom. Specifically, I chose to focus on features unique to the Montessori classroom to observe how elements that, on the surface, appear to contradict mainstream views about prosocial development but remain valued by traditional Montessori teachers as gateways to social and emotional development—namely, a larger class size, a smaller teacher-to-student ratio, and a structured pre-kindergarten and kindergarten academic curriculum in a multiage setting. The classroom I studied presented an opportunity to observe the social development of a group of children in relation to these Montessori elements over the course of three years.

I begin the present work by reviewing the literature on prosocial behaviour as it relates to young children (Chapter Two). I then discuss this literature in relation to existing research findings on Montessori education, followed by the statement of specific research questions addressed in my study. Next, I present the research design and its rationale in Chapter Three. In Chapters Four and Five, I present and discuss key findings, and in Chapter Six, I provide a final discussion and conclusion for the thesis, with recommendations for future research.

Chapter 2.

Literature Review: Defining and Considering Prosocial Behaviour in Relation to Early Childhood Contexts

Prosocial behaviour is most commonly defined in the literature as voluntary behaviour intended to benefit another person (Eisenberg, Fabes, & Spinrad, 2006), with more recent researchers focusing on—and urging others to focus on—the multidimensionality of prosocial behaviour (Eisenberg & Spinrad, 2014). The many dimensions of prosocial behaviour are reflected in a wide variety of perspectives on altruism, culture, morality, education, evolution, development, and the methods researchers use to investigate these perspectives. In this chapter, I will address a portion of the large body of work concerning prosocial behaviour in general, in early childhood education settings, and the related research concerning the social aspects of Montessori education.

2.1. The Term *Prosocial*

Our current understanding of prosocial behaviour is shaped in part by its historical origins. As an antonym of *anti-social* behaviour, the term *pro-social* originally characterized the process through which a person’s aggressive drives could be sublimated or “channel[ed]” into behaviour considered beneficial to society (Hart, 1948, p. 400). In light of Hart’s (1948) belief that “the greatest works of art, science, and literature” had been motivated by omnipotent desires and not through an “altruistic love for humanity” (p. 400), he argued that prosocial channels could transform an egoistic desire for achievement into occupation that, although may still include self-interest, would lead to societal contributions and acceptance. With a different meaning than the term denotes today, *pro-social* was overtly differentiated from *altruistic*, was valued as a means to a beneficial end rather than an end in itself, and referred only to societal—rather than individual—benefits.

While Hart's (1948) understanding of prosociality was related to aggressive drives or desires, Johnson (1951) and Bandura and Walters (1963) described prosocial *behaviour* as aggressive behaviour that would be socially acceptable (perhaps "institutionally sanctioned") and would help another person by shaping their behaviour (Wispé, 1972, p. 3). Several researchers point to a fatal 1964 event, during which onlooking bystanders failed to help a victim, as a prominent reason for psychology's increasing interest in studying prosocial behaviour, reasoning that understanding the determinants of acting prosocially could prevent similarly tragic outcomes (Penner, Dovidio, Piliavin, & Schroeder, 2005; Wispé, 1972). Shortly after, prosocial behaviour lost its meaning as a category of aggressive acts and instead came to describe any "positive form of social behaviour," or any behaviour not considered antisocial (Wispé, 1972, p. 3), which expanded the term's scope as well as its definitional issues.

Knafo and Plomin (2006) credit psychology's current interest in prosocial behaviour to Seligman and Csikszentmihalyi's (2000) research on positive human behaviour. In his 1998 APA presidential address, Seligman offered an immodest but compelling call for "a new science of human strengths," arguably defining *positive psychology* by suggesting a focus on "what actions lead to well-being, to positive individuals, to flourishing communities, and to a just society" (Fowler, Seligman, & Koocher, 1999, p. 560). Today's schools are also increasingly being called upon to address the "social and emotional" side of learning (Hymel, 2006; LeMare, 2011), leading more prosocial behaviour research to include children and investigations of how prosocial behaviour might be taught or supported in schools.

2.2. Altruism, Empathy, and Morality

Prosocial behaviour is closely tied to a number of factors that are believed to both motivate and define it. The most closely related concept in the psychology literature is *altruism*, the "unselfish concern for others or behaviour that provides benefit to others at some cost to the individual" (VandenBos, 2007, pp. 40-41). Altruism had been discussed by philosophers long before psychology began examining prosocial behaviour. For example, Plato's (trans. 1968) perception of justice was closely tied to visions of

altruistic, model citizens. The idea that altruism is universal and innate has early origins in Rousseau's (1762/1979) writings, which prescribe an educational focus on preventing society from corrupting children's inherent altruism. A belief in inherent altruistic tendencies is still prominent in some psychological research today (e.g., Batson 2011; Warneken & Tomasello, 2007, 2014). For some, the belief that humans are born altruistic appears to have been supplanted in psychological research by the idea that we are innately empathic, and certain empirical results largely support this belief (Batson, Sager, Garst, Kang, Rubchinsky, & Dawson, 1997; Knafo & Israel, 2010; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). *Empathy* can be defined as "an emotional reaction based on the comprehension of another's emotional state or condition that is identical or similar to that state" (Eisenberg & Fabes, 1998). A number of researchers argue that empathy is a key motive for prosocial behaviour (Batson, 2011; Hastings & Miller, 2014; Hoffman, 1982).

Although the concepts of altruism and prosocial behaviour share many characteristics in that both a prosocial and an altruistic act involve one person helping another *voluntarily* and *intentionally*, considering empathy or other possible motives for such acts introduces the difficulty of separating prosocial motives from behaviours. By definition, altruism only entails empathy-motivated prosocial behaviour (Hawley, 2014), or according to some, self-sacrificing motives (Schwartz & Howard, 1984), but prosocial behaviour can also be motivated by other factors like anticipating reciprocity, social desirability, or avoiding negative consequences (Chakroff & Young, 2014). Empathic emotions can also exist independently of behaviour or outcome.

Hawley (2014) makes a convincing and useful distinction between altruism and prosocial behaviour, and in the process elucidates an important difference between psychological and evolutionary perspectives (or proximate and ultimate levels, respectively). While social psychologists define altruism in terms of motivational determinants (like empathy), evolutionary theorists define it in terms of consequences or the effects of the behaviour regardless of motive (Hawley, 2014; Penner, Dovidio, Piliavin, & Schroeder, 2005). Clarifying these differences is important but does not simplify the present conceptual investigation, as an outcome-only (ultimate level)

orientation to prosocial behaviour ignores a large portion of research that refers to altruism. According to Hawley's (2014) assessment, many studies often mislabel prosocial behaviour as altruism. Possibly emphasizing the lure of focusing on behaviour only, Hay (1994) suggests that researchers shifted away from altruism toward prosocial behaviour ("a shift in emphasis from purpose to function") precisely because the acts themselves were simpler to study, especially in young children (p. 33). As with all empirical research, increased focus leads to a narrower perspective, necessitating omissions of sorts. On one hand, this shift paved the way for researching younger children's prosocial behaviour, an important step in understanding human development; on the other hand, it has the potential to encourage abandoning relevant inquiries into more nebulous concepts like altruism and morality.

The significance of this shift from focusing on purpose to function, or even from motivation to behaviour, was raised by Williams (1976) when he "noted how the twentieth-century change in the meaning of the word [behaviour] had been in the direction of supplying a morally neutral description of human actions" (as cited in Danziger, 1997, p. 12). Attempting to study prosocial behaviours as "morally neutral" phenomena would seem strange and perhaps impossible, and operational definitions designed to aid researchers in observing prosocial behaviours often give the impression of assuming such neutrality. But as Danziger (1997) emphasizes, "single terms are always embedded in a network of semantic relationships from which they derive their meaning and significance" (p. 13). This is perhaps why Wispé (1972), the person who is credited frequently, although mistakenly, for coining the term prosocial¹, declared "attempts at definition" to be "almost always thankless" (Wispé, 1972, p. 4). Overall, prosocial behaviour literature that clusters related terminology may either be failing to define prosocial behaviour operationally or surrendering to the term's embeddedness in relevant semantic networks (or both). Researchers from Wispé (1972) to Hawley (2014)

¹ For example, Hay, Castle, Davies, Demetriou, and Stimson (1999) explain that Lauren G. Wispé coined the term *prosocial*, but Wispé himself (1972) credits the unpublished doctoral dissertation of Elizabeth Z. Johnson (1951). Neither Wispé (1972) nor Hay et al. (1999) mention earlier usages of the term (e.g. Hart [1948]), although one might argue that Wispé's usage more closely resembles its current denotation.

directly state the need for authors to clarify the meanings and implications of their chosen language or terminology.

Common psychological conceptions of prosocial behaviour have been criticized as being morally restricted and within a moral domain that is infrequently specified or discussed (Campbell & Christopher, 1996). In addressing this critique, Eisenberg (1996) declares it “unrealistic, albeit highly ambitious” for all psychological research to *first* account for *all* moralistic views, but acknowledges that even when psychologists do not explicitly set out to study morality, they of course enter this realm (p. 57), and particularly so when examining prosocial behaviour. Throughout the literature on prosocial behaviour, it seems that the act of a child sharing a toy can be interpreted using multiple perspectives that may either be complimentary, supplementary, or conflicting; affective or cognitive; psychological, sociological or anthropological; Kantian or Meadian. Most relevant to the present discussion is that each perspective has its own influences, either explored or unexplored, that particularly affect how it is applied to educating children. To illustrate, in developing an early childhood curriculum, Maria Montessori frequently and overtly positioned her educational beliefs within the framework of Catholic morality, although she also explicitly drew upon other (and, at times, conflicting) philosophical influences including Aristotle, Nietzsche, Marx, and Gandhi; literary influences like Dante and Tolstoy; pedagogical influences like Seguin, Itard and Froebel; psychological influences, most notably Freud; biological and medical influences from her training as a medical doctor; and other more implicit influences, like Rousseau (Kramer, 1988; Montessori, 1912/2003, 1967/1995). These influences shaped both the purpose of her educational methods and the structure of her schools’ materials and practices. Historical underpinnings like these should also inform our understanding of research and those who undertake it, which similarly might help us better position prosocial behaviour research overtly within certain moralistic frameworks. However, the role of morality remains largely under the surface of prosocial research, its role perhaps being best summed up by Mussen and Eisenberg (2001): “Our view is that socializers’ practices and behaviours influence children’s prosocial behaviour and that socializers’ influence often is mediated by affective processes (e.g., empathy, sympathy, guilt) although the internalization of moral values *also* may be a mediating factor” (p. 106,

emphasis added). Similarly, “the internalization of moral values” also likely mediates, yet remains under the surface of, the ways research on prosocial behaviour is applied to educating young children, a concern that will receive some attention throughout my discussion of early schooling contexts, but one that is largely beyond the scope of the present work.

2.3. Early Development: Biology and Socialization

Related to discussions on altruism’s innate properties, psychologists have investigated the degree to which biology influences a person’s tendency to behave prosocially. In a large longitudinal twin study, Knafo and Plomin (2006) calculated that genetic effects strongly influence prosocial behaviour, as they do cognitive abilities, estimating that heritability for prosocial behaviour ranges from 26-37% at age two to 51-72% at age seven. This increase in heritability over time is understood to be a result of a gene-environment feedback loop, during which children’s opportunities for selecting environments that suit their genetic predispositions increase with age, and subsequently these environments reinforce the heritable factors that influenced their selection (Knafo & Jaffee, 2013). One should consider that in order to obtain large enough samples for adequate statistical power, studies researching the heritability of prosocial behaviour tend to measure behaviour with parent-rated questionnaires rather than by direct observation, resulting in higher heritability estimates due to parents perceiving more differences between dizygotic twins and more similarities of monozygotic twins compared to nonfamilial observers (Fortuna & Knafo, 2014). For instance, compared to the above heritability estimates, in a large longitudinal twin study using *observational* methods, Knafo, Zhan-Waxler, Van Hulle, Robinson, and Rhee (2008) found heritability of prosocial behaviour of 14-36 month-olds to be in the 9-24% range. Furthermore, even though genetic factors are thus assumed to play a role in prosocial behaviour, what specific genes are involved and how they influence this behaviour are largely unknown (Knafo & Israel, 2010).

Heritability has also been examined in relation to temperament, which is defined as “early emerging (and arguably biologically based) individual differences in emotional

and psychological reactivity and regulation” (Benish-Weisman, Steinberg, & Knafo, 2010, p. 145). Temperament is frequently cited as a possible, unaccounted-for mediating variable in prosocial behaviour studies, especially when the recipient of help is a strange adult. For example, Stanhope, Bell, and Parker-Cohen (1987) found that sociability was positively related to helping unfamiliar adults in a laboratory setting, and that children reported by their mothers to be “basically shy” were less likely to help strange adults but no less likely to help at home. Unsurprisingly, children who score higher on sociability ratings are less likely to feel inhibited from helping in an unfamiliar environment. It is also likely that children who are shy or less outgoing tend to help in ways that are indirect; for example, a toddler might point to an object dropped by a stranger but not approach the stranger to help pick it up, highlighting that certain types of prosocial behaviour may go unobserved or underrated depending on the restrictiveness of the measures used.

Temperament also may influence attachment security in a way that represents perhaps the earliest gene-environment interaction. Primary caregivers react to infants in ways that are influenced by the infant’s temperament (Kochanska, Friesenborg, Lange, & Martel, 2004), which can then have an effect on the developing attachment relationship. A *secure attachment* is characterized by caregiver sensitivity, responsiveness, a child’s exploratory behaviour in the caregiver’s presence, and the ease with which the child is comforted after a period of separation (Ranson & Urichuk, 2008). Children’s earliest attachment relationships play an important role in their subsequent social interactions, with attachment security having been positively associated with peer acceptance (Ranson & Urichuk, 2008; Szewczyk-Sokolowski, Bost, & Wainwright, 2005). It has also been theorized that appropriate maternal responses to children’s distress can help them learn to cope with their own distress, which can lead to being better able to help others in need (Eisenberg, Wentzel, & Harris, 1998). Similarly, Zahn-Waxler, Radke-Yarrow, and King (1979) found that maternal sensitivity and reasoning were positively associated with empathic, prosocial behaviours in children one to two years old.

Undoubtedly, children’s early relationships influence their behaviour in new social contexts, but new contexts also introduce new influences and perspectives on

prosocial behaviour. In one study, more authoritative maternal parenting predicted preschool-aged children's parent-rated sharing and turn-taking behaviour with unfamiliar peers, but not with familiar peers at preschool as reported by their teachers six months later (Hastings, McShane, Parker, & Ladha, 2007). This finding might reflect differences in teachers' and parents' perceptions and expectations of prosocial behaviour. It may also be explained by findings demonstrating that preschoolers become more selective about those with whom they share as they age (Warneken & Tomasello, 2013), suggesting that an overall decrease in instances of sharing could have occurred by the time teachers rated the students six months later. The difference in parent and teacher ratings highlights the importance of context, and perhaps sharing "targets," in children's demonstration of prosocial behaviours. As Fabes and colleagues (1999) found through naturalistic observations, differences in temperament are more likely to influence children's social behaviours in stressful contexts than unstressful ones. Similarly, Curby, Rudasill, Edwards, and Perez-Edgar (2011) found that "difficult" temperament was not a risk factor for first-graders' social outcomes in classrooms with high levels of emotional and instructional support.

It would be valuable to discover if high levels of emotional and instructional support likewise moderate how temperament relates to even younger students' behaviour in school environments. In conducting such research, it would be particularly appropriate to compare Montessori primary classrooms (with students ages three to six) to other preschool and kindergarten programs as Montessori primary programs adhere to a structured curricula, with high instructional support for both academic subjects and social matters. This is in contrast to traditional classrooms, particularly in preschools, which can vary widely in their types and organization of instructional support (Lillard, 2005). The Montessori curriculum includes a subject called *Grace and Courtesy*, a term that refers to a category of behaviour (similar to the concept of good manners) as well as a category of lessons demonstrating particular behaviours. These lessons lay the foundation for students' daily classroom procedures, which include common social scenarios like shaking hands/greeting people, saying "excuse me, please" and "thank you," and demonstrations of how to interrupt politely, how to serve food and beverages to oneself and others, and how to observe someone's work (Lillard, 2005). One goal of Grace and

Courtesy lessons is to provide instruction for such scenarios before they arise, and additional support is provided as needed. Because the association between temperament and children's prosocial behaviour is clearly moderated by context, providing instruction on all curricular areas including social ones could make Montessori primary environments a place where individual temperaments have less impact on social outcomes compared to other early childhood environments with less instructional support.

Myriad and complex socializing factors that contribute to the development of children's prosocial behaviour should cause researchers to question the educational utility of findings that mainly focus on increases and/or decreases in the amount of prosocial behaviour children enact. Different contexts with various types of either familiar or unfamiliar people affect children's responses to events, but this notion cannot be separated from the fact these contexts affect what it means to act prosocially to begin with. To illustrate how this is often overlooked or unacknowledged, Staub (1979) supposes that a decline in children's prosocial initiative must be "an unintended consequence of socialization," indicating that fewer instances of prosocial behaviour would be viewed as undesirable. However, Hay (1994) highlights that, when viewed as complying with standards and expectations, children's prosocial behaviour will grow to be less impulsive and more selective, which would mean that the number of these behaviours performed would decrease over time, and desirably so. Caplan (1993) postulates that caretakers likely inhibit children's prosocial responsiveness in subtle ways by modeling their own compliance of societal standards and expectations regarding how to act prosocially. Underscoring the functional adaptiveness of inhibiting sharing, helping, comforting, and cooperative behaviours at certain times, Caplan (1993) emphasizes the necessity to study both the meaning or social value of prosociality in specific contexts as well as children's enactment of such behaviour within those contexts.

2.4. Considerations for Early Childhood School Contexts

Many researchers emphasize the context-dependency of prosocial behaviours (e.g., Beirhoff, 2002; Caplan, 1993; Hawley, 2014; Hay et al., 1999; Mussen &

Eisenberg, 2001; Solomon et al., 1988), emphasizing the need for well-defined contextual parameters for prosocial research, and thick description of the setting along with suitable data collection methods to understand the environmental factors that contribute to findings. How context mediates children's prosocial behaviours should be a priority in prosocial behaviour research, as despite factors like temperament, parenting styles, and heritability, (and possibly "innate altruism"), educators can and do play an influential role in creating and sustaining settings that affect children's social development.

Teachers' roles. Just as it is well-documented that children of authoritative parents are friendlier, more cooperative and socially responsible than children raised by authoritarian, punitive, or permissive parents (Baumrind, 2013; Steinberg, 2001), authoritative teachers who are warm, child-centered, and use inductive discipline techniques support prosocial development in their students. Howes, Matheson, and Hamilton (1994) demonstrated that students who had secure attachments with their teachers were more sensitive and empathic. The Child Development Project (CDP), a school intervention designed to foster prosocial behaviour, led students to score higher on prosocial behaviour ratings, but the positive effects on concern for others, conflict resolution skills, and altruistic behaviours were mediated by the students' perception of the school as a caring environment (Battistich, Solomon, Watson, & Schaps, 1997), implying that caring teachers were imperative to successfully fostering these skills. Children are also understood to imitate prosocial behaviour when modeled by authoritative adults (Eisenberg & Fabes, 1998). One study found that the degree to which a teacher is perceived to be supportive to one student is more influential on how other children feel about him/her than how they ranked that same child's aggression (Hughes, Cavell, & Wilson, 2001). Even though there is ample evidence showing that the quality of teacher-student relationships influences children's prosocial behaviour with their peers, there are studies that lead one to question how *direct* the teacher's role is, either through overt promotion or reinforcement, in affecting this behaviour.

While earlier investigations demonstrated the positive influence of praise and rewards on children's prosocial behaviour (Gelfand & Hartmann, 1982), more recent studies show that the use of praise and rewards in relation to children's prosocial

behaviour appears unnecessary (Warneken, 2013) and at times is even related to lowered instances of prosocial behaviour (Roth et al., 2011; Warneken & Tomasello, 2013, 2014). One study revealed that it is unlikely that preschool teachers' feedback influenced prosocial behaviour (Eisenberg, Cameron, Tryon, & Dodez, 1981). With the majority of recent studies implying that adults' rewards, praise, or even general responses to prosocial behaviour either do not affect or adversely affect this behaviour, one might wonder why rewards continue to be used (other than being due to a more general disconnect between educational research and teaching practices). A major reason could be that rewards *are* effective in the immediate context (Fabes, Fultz, Eisenberg, May-Plumlee, & Christopher, 1989), effectively rewarding the *rewarder* by giving the impression that these tools "work," despite the likelihood that rewards will not lead to a long-term increase in prosocial behaviour, particularly if the provision of rewards ceases. For example, Fabes et al. (1989) found that children whose mothers feel positively about using rewards are less likely to help in situations where rewards were previously used and then removed. Research demonstrating that extrinsic rewards undermine intrinsic motivation (Deci, Ryan, & Koestner, 1999) supports this finding, as it has been shown that children as young as 22-months old (and adults) appear to find prosocial actions intrinsically rewarding (Aknin, Hamlin, & Dunn, 2012; Martin & Olson, 2015). And if empathy indeed largely motivates prosocial behaviour (Batson, 2011), one could speculate that certain types of extrinsic rewards for prosocial behaviour could undermine children's empathy. Different types of feedback appear to affect motivation differently (Deci et al., 1999) but there is evidence that withholding even subtle forms of attention and rewards, like saying "thanks," is associated with more prosocial behaviour in young children (Crockenberg & Bryant, 1978; Grusec, 1991). Overall, it seems that rewarding children's prosocial behaviour in certain ways, especially material ways, may communicate something antithetical about the purpose of helping others; namely, it seems to communicate that helping others is either not expected or even valued if there is no expectation of a reward.

Teachers' roles relate to students' prosocial behaviour in ways that go beyond praise and rewards. Specifically, teachers' helping behaviours appear to influence young children's understanding of their own obligations to perform helping duties. Caplan and

Hay (1989) found that preschool children do not believe it is their responsibility to help or comfort their peers in the classroom and instead largely believe it is the teacher's responsibility to do so. In the same study, it was observed that even though teachers frequently comforted or helped a distressed child, effectively modeling forms of prosocial behaviour, the children were unlikely to repeat the behaviour with peers, and were never encouraged to do so. In short, the authors found that prosocial "competence seemed high," as determined by the vast majority of children intervening to help a peer at least once, "but performance occurred at low rates" (p. 240). In a more recent study, Warneken and Tomasello (2013) found that "young children's helping appears to be driven mainly by the problem context of a person needing help, whereas adult guidance seems superfluous" (p. 361). Additional findings revealed that children as young as two years old demonstrated insight into situations that required assistance and helped "remedy unnoticed accidents" without cues regarding the need for help or prior modeling of the helping behaviour (Warneken, 2013, p. 106). Warneken (2013) suggests that this finding compliments studies that show that children rely on forms of affective perspective taking (reacting to the expressed emotions of the person in need) in order to figure out how to react in situations. In other words, children do not necessarily need to witness a person's need for help from an emotional standpoint in order to figure out that help is needed. This would also support Caplan and Hay's (1989) findings that young children help when they are needed and do not help when they are not needed, which leads teachers to an interesting paradox. In early childhood environments, none would question the importance of adults being available to help children, but if adults tend to instantly remedy most problems, children might believe that their help is never truly needed.

Sharing. Sharing materials is one of the most commonly examined types of children's prosocial behaviour (Mussen & Eisenberg, 2001), and exploring opportunities for and expectations regarding sharing in classroom contexts could magnify otherwise fleeting interactions between children. Expectations for children's classroom sharing might be viewed as to how materials are allocated—who temporarily is allowed to use any given material and what the rules or expectations are for the control of that resource. What is involved in the act of a child deciding to share or not share a resource in any given interaction? Hay (2009) stresses the dilemma that a young child faces in any given

sharing opportunity: an inequality of resources first must be recognized, after which the desire to keep the material must be overcome. From this perspective, a child giving a material to another could be considered a costly act or “high-cost” in ultimate terms (Hawley, 2014). But children do not necessarily view this one instance of sacrificing a resource as an isolated event in a school setting; instead this kind act could be a “prosocial strategy” (Hawley, 2014) to secure a reciprocal sharing act later, or to essentially form a relationship with the recipient in which reciprocity is assumed. From this standpoint, the motive for this act could be egoistic rather than altruistic. It is unclear to what extent children consciously make such calculations, though, and instead they may generally be sharing with those they like or with those by whom they want to be liked, as some speculate that sharing even in infancy (typically starting at 8 months of age) is motivated by attempts to sustain interaction with others (Hay, 1979; Hay & Cook, 2007). But the egoistic assumption is upheld by studies revealing that as children get older, they are less likely to share with individuals who have not reciprocated in the past, with this shift apparently beginning between 2.5 and three years of age (Warneken & Tomasello, 2013). Hawley (2014) points out that while many would view this selective sharing as social competence, others might see it as “barefaced manipulation” (p. 64), especially depending on the child and the context. Overall evidence points toward the accumulation of momentary sharing opportunities adding up to some knowledge of social negotiations, for children to learn that sharing begets sharing, and that so-called “natural consequences” will ensue from not sharing. The motives and questionable conscious awareness behind these social negotiations call into question the distinction of sharing as a definitively prosocial behaviour. For example, if sharing is motivated by expected reciprocity, this act instead might be better defined as turn-taking, which is not necessarily a prosocial act but instead a strategy that allows for continued collaboration (Melis, Grocke, Kalbitz, & Tomasello, 2016). By contrast, sharing as typically understood, requires the sacrifice of a material for another’s benefit (Kumru & Yağmurlu, 2014).

Because over time children are more likely to share with others who have shared with them in the past, selecting targets for sharing based on reciprocity could lead to children’s exclusivity in forming friendships, which is positively associated with

relational aggression in preschool students (Sebanc, 2003). Even if children are in a context where sharing is required (which in turn raises further questions about the ways and consistency with which sharing rules are enforced and reinforced), sharing recipients still have ample opportunities to experience simultaneous relational aggression. Because children still appear to understand others' intentions to share or not regardless of the eventual outcome (Dunfield & Kuhlmeier, 2010), a child who protests or resists sharing in the process of sacrificing a material still subjects recipients to her/his desire to not share, in turn opening the door for that recipient's future reluctance or refusals to reciprocate.

Hawley (2002) found that in play environments with limited resources where cooperative play is expected, preschoolers' "prosocial behaviours appeared to expedite resource control," which on the surface, appears to be a satisfactory "natural consequence" in that children inclined to share are rewarded with more access to materials (p. 174). However, in Hawley's (2002) study, coercive behaviours were associated with prosocial behaviours: "children who were engaging in prosocial behaviours such as suggesting, offering, and helping were also the children who were engaging in coercive behaviours, such as taking, thwarting, and insulting" (p. 174). The author goes on to say that for preschoolers, the constructs of prosocial strategies and coercive strategies lack discriminant validity, further problematizing a clear understanding of children's prosocial motives. She provides an illustrative anecdote from the study in which two children have been prompted and encouraged to complete a task cooperatively and then observed for demonstrations of resource competition:

A child announced to her partner that they should take turns catching a fish and that she would begin. With some effort she caught a fish and then delivered the fishing rod to the other child at his urging. After a few seconds, she began to physically guide his hand (i.e., unsolicited help) until she commandeered the fishing rod all together. She eventually caught a fish and announced, "we caught your fish, now it's my turn." After she caught a fish she offered in a friendly manner to catch "his" fish for him, and so on. In this way, she occupied the primary role 80% of the time. (p. 173)

This scene will not appear unfamiliar to any observer of child behaviour, and while seemingly harmless and perhaps even cooperative on some level, it should cause one to wonder about the “thwarted” child in this scenario. In the beginning of this scene, the *thwarting* child voices turn-taking intentions, which again, to some, is not considered prosocial but merely strategic means for cooperation. Here, coercion is constituted by the child’s unwillingness to sacrifice control of the resource for the other’s use, which would be a failure to share (and she appears to ultimately fail to take turns as well). This example highlights the complexity of both adults’ and children’s understanding of sharing and turn-taking, and causes concern for resource allocation in environments where children’s self-directed sharing and turn-taking are expected. In a classroom environment, are there frequently “victims” of prosocial strategies that leave some children with significantly less time to use materials? Perhaps this type of coercion helps provide an explanation for Hay and colleagues’ (1999) finding that children who shared at higher rates were also rated higher in contentiousness by their mothers than those who shared at lower rates.

Responsibilities for care of the material environment. Expectations for children’s responsibility for care of the material environment are also likely to influence prosocial behaviour. Grusec, Goodnow, and Cohen (1996) found that the types of household duties and the expectations for how those duties were completed affected the development of prosocial behaviour. While their study was conducted in home environments, two main findings are relevant to classrooms. First, when a child’s contributions to caring for the household environment were primarily for one’s self or one’s own belongings (cleaning one’s room, making one’s bed, etc.), this was negatively correlated with concern for others. Second, the authors found that household care that is expected to be done on a regular basis, or is routinized, contributes to the development of concern for others more than tasks done “on a request basis” (p. 1005). They speculate that the routinization of children’s household care likely communicates that “this kind of work belongs to the child” as opposed to belonging to the person making requests (p. 1005). Similarly, teachers’ expectations for children’s contributions to classroom care—whether or not they have a “managerial style” for which “children are expected to be self-regulating,” or a “request style,” which resembles designation of compliant prosocial

behaviour, and how other-oriented these tasks are (p. 1000)—could influence children’s prosocial behaviours.

As one classroom example, in Montessori environments, cleaning tasks and/or tasks that involve caring for the classroom environment are taught as part of the curriculum, and are elevated to other types of curricular work by means of the teacher providing in-depth, step-by-step lessons, and making those tasks available for children to perform as they would any other curricular activity. In this way, work that contributes to care of the environment is expected and routinized. In Montessori classrooms, expectations for cleaning are not only to clean up after oneself (this is expected as well), but include more communally oriented tasks like cleaning tables and chairs, cloth washing (laundry), patio sweeping, plant watering, and dusting shelves (Lillard, 2005; Montessori, 1912/2003). Cleaning appears not merely to be a functional remedy, but especially for the youngest students, it is also a choice of activity and serves as an object of concentration and a way of learning increasingly long series of steps in a procedure. Hatano and Inagaski (1992) argue that learning is more likely to remain context-dependent (less likely to transfer to other contexts) when both efficiency and the use of correct procedures are emphasized in the activity (as cited in Grusec et al., 1996). While efficiency is actually *discouraged* in Montessori classrooms, the use of correct procedures is directly taught and emphasized.

Currently, care for the environment is not often or clearly positioned within children’s prosocial behaviour research, calling into question whether these acts may be considered prosocial given that they are not enacted directly toward another person. As Eisenberg (1996) notes regarding prosocial behaviour, “benefits to society are not part of prevailing definitions” (p. 51), which could be due to the narrowed lens that accompanies operationalizing terminology for the specific research purposes or due to an increasingly individualistic focus in psychological research (Martin & McLellan, 2013), which reduces the view of social behaviours to an individual or dyadic level. Grusec and her colleagues’ (1996) findings open the door for similar environmental responsibility studies to be carried out in children’s classroom environments in association with developing concern for others. This communally oriented view of prosocial behaviour challenges the

current prevailing boundaries of how prosocial behaviour is defined, attending to its original usage, which encompassed societal contributions.

Perspective-taking. Self-awareness and perspective-taking are abilities that are believed to emerge along with empathy and prosocial behaviours (Zhan-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). *Inductions* are a common strategy for trying to induce a child's sympathy through reasoning (Mussen & Eisenberg, 2001) by suggesting perspective-taking. Encouraging perspective-taking with two-year-old children by asking questions like "Why do you think John is so sad?" has been associated with observed prosocial behaviour toward adults, but not toward peers at that age or at age five (Mussen & Eisenberg, 2001). Perhaps these interactions do more to communicate the parent's desires or feelings, causing the child to take the parent's perspective rather than the peer's, spurring a change in behaviour toward adults but not children. When mothers disciplined their one- to two-year-olds with emotionally-charged (but not with high degrees of anger) attempts to induce empathy for a peer they had wronged (e.g., "Don't you see you've hurt her? You mustn't bite anyone."), the toddlers showed more concern and reparation attempts than when emotionally neutral disciplinary statements were used (Zahn-Waxler, Radke-Yarrow, & King, 1979), perhaps because they were unable to interpret neutral statements as significant. However, it is unclear how reparation attempts relate to other types of prosocial behaviour (as they necessarily spring from initially negative or aggressive acts), and these findings also call into question how effectively a third party can encourage one child to take another child's perspective.

Perspective-taking is associated generally with increased potential for prosocial behaviours. However, this association appears to be largely explained by the role empathy is believed to play in perspective-taking abilities (Randall & Wenner, 2014). Some researchers appear to distinguish perspective-taking as a cognitively-based process apart from empathy as an affective process (Mussen & Eisenberg, 2001). Mussen and Eisenberg (2001) suggest that "sympathy may stem either from empathy or from cognitively-based processes such as perspective taking or drawing on information stored in memory that helps the child understand how the other person is feeling or the consequences of the situation" (p. 105). This suggests that *cognitively* understanding

another's feelings can be separated from *affectively* understanding another's feelings, but it is more than likely that cognitive and affective processes are not independent of one another (Pessoa, 2008; Vaish, Carpenter, & Tomasello, 2009). For example, in Vaish and colleagues' (2009) experiment, a situation designed to elicit children's affective perspective-taking in which a person in a "harm situation" (e.g. their necklace was broken by another adult) reacted either emotionally or not, still permits questions about cognitive processes the children may have used to assess the situation. Even the careful measures used to evaluate the toddlers' facial responses left the researchers questioning whether certain reactions should be interpreted as affective (sympathetic or empathic concern) or cognitive (trying to understand the situation, or *hypothesis testing*).

Batson, Sager, Garst, Kang, Rubchinsky, and Dawson (1997) discuss and empirically examine a unique theory regarding the relationship between empathy-induced helping and one's ability to view his or her *self* as distinctive from another in need, attempting to dispel the notion that empathy is a result of *self-other merging*, a form of strong identification with another. The authors explain self-other merging as a phenomenon during which identifying with another person creates "psychological indistinguishability," causing empathy (p. 496). The self-other merging theory they propose seems to support studies that reflect individuals' tendencies to help in-group members more than out-group members or to demonstrate helping behaviours directed towards those with whom they align (Eisenberg & Spinrad, 2014). However, Batson and his colleagues (1997) found the opposite to be true: empathy-induced helping was not due to perceived similarities or oneness with the person in need, nor did inducing empathy cause self-other merging or the helper to begin to identify with the person in need. The authors do openly question their measures for merging, noting that perceived similarity is necessary but not sufficient to cause merging, a sensible reservation. The study does, however, build a logical foundation for other theories that emphasize self-other distinctiveness as a necessary component of sympathy or empathy-related helping behaviours.

Gillespie and Martin's (2014) *Position Exchange Theory (PET)* provides a sociocultural framework through which we might view prosocial behaviour in early

childhood contexts. The authors suggest that moving in and out of various socio-institutional roles, with each containing its own “responsibilities, rights, and situational constraints [that] shape feelings, thought, and action” (p. 74), creates a layering effect in which an individual comes to understand and occupy each social position. The authors assert that PET explains the development of dialogicality in relation to social structure, building on previous theories concerning how individuals begin to acquire inter-personal dialogue (Gillespie & Martin, 2014). I would argue that PET, as a life-long developmental principle for gaining social competence, and so also perhaps for learning appropriate prosocial tendencies, encompasses both previously discussed notions of self-other differentiation and self-other merging. Gillespie (2012) notes that “social positions are relatively stable” and emphasizes how distanciation (“a movement out of one’s own situation to reflect upon one’s own situation”) and identification (“empathic participation in the situation of someone else”) are entailed in intersubjectivity and perspective taking (p. 41). While Gillespie and Martin (2014) explain children’s role-play behaviours in the context of PET, it would be valuable to further examine children’s opportunities for enacting prosocial behaviours in classroom contexts through the lens of perspective-taking or position exchanges.

Hoffman (1982) asserts that empathy through role-taking is a relatively sophisticated phenomenon and must be conscious or deliberate. He goes on to say that, as such, it “may be relatively infrequent” (p. 285), a position with which I disagree, given the frequency with which others suggest it can take place among children, for example, during role-playing games (Gillespie & Martin, 2014). In many ways, viewing perspective-taking abilities as a contributing factor to prosocial development helps integrate the numerous forms prosocial behaviour can take in early childhood classroom contexts—for example, induction, sympathetic responding, simultaneous self- and other-oriented responses, observational learning, and role-playing. Research examining enactments of children’s prosocial behaviour might be examined in school contexts through the lens of PET.

Multiage early childhood classroom environments. De Guzman, Carlo, and Edwards (2008) demonstrated that children across cultures display the most prosocial

behaviour toward infants, toddlers, and adults, and generally display high levels of prosociality toward younger children, which is consistent with research showing that older children display higher levels of prosocial behaviour in multiage classrooms than those in same-age classroom groupings (Urberg & Kaplan, 1986). However, while advocates for multiage groupings emphasize prosocial gains for older children (Derscheid, 1997; Katz, Evangelou, & Hartman, 1990; Urberg & Kaplan, 1986) and cognitive gains for younger children (Ansari, Purtell, & Gershoff, 2015; Rothenstein-Fisch & Howes, 1988), most support for same- or similar-age early childhood classrooms stems from concerns regarding the lack of appropriate academic or cognitive challenge for older children (Ansari et al., 2015; Moller, Forbes-Jones, & Hightower, 2008). Some multiage environments also appear to lack support for younger students' prosocial benefits (Ansari et al., 2015), with Urberg and Kaplan (1986) finding that in multiage classrooms with three- to five-year-olds, younger children received more cognitive and prosocial benefits *and* more hostility compared to those in same-age groupings. Urberg and Kaplan (1986) also allude to the teachers in multiage groupings having difficulty with classroom management (a factor that Moller et al. also questioned), which was posited as a contributing factor to older children being under-challenged academically.

Overall, the diversity in types and quality of early childhood programs is unclear throughout much of the multiage classroom literature. Some researchers specifically note the need for more variability in the programs studied, particularly for more variability in program quality (Ansari et al., 2015). Excepting research focusing on Head Start classrooms, which serve children in low-income families (Ansari et al., 2015), other pre-kindergarten programs were of unspecified types, leaving questions regarding variability and program structure. More research is needed on the social outcomes of multiage classrooms for children ages three to five in specified pre-kindergarten programs, as well as programs with children spanning three rather than two years' age differences.

2.5. Prosocial Behaviour in Montessori Classrooms and Social Emotional Education

There is little research to date explicitly examining children's prosocial behaviour in Montessori classrooms. To illustrate, a PsychINFO keyword search performed in May, 2017 using the keywords "Montessori" and "prosocial OR pro-social" resulted in five hits, entailing three theses, two book chapters, and no journal articles. Lillard's (2005) treatise on the "science" behind Montessori education employs existing research to explain and support its theory and current practices, although without empirical findings from Montessori classrooms or students. Although Whitescarver and Cossentino (2008) remark upon the "striking confirmation" that Lillard's work provides for the evidentiary basis for Montessori's claims, particularly "regarding sensorial learning, attention, and intrinsic versus extrinsic rewards" (p. 2592), empirical research on young children's prosocial behaviour in today's Montessori classrooms remains limited.

Lillard and Else-Quest (2006) found that five- and 12-year old Montessori students scored higher on certain social and emotional factors than students who attended other schools (a mixture of public, private, and charter schools), as determined by the Social Problem Solving Task and one 12-minute session of playground observation for each group. However, social and emotional factors were secondary to the study's focus on academic gains, and no naturalistic observations of the classroom were conducted. Ervin, Wash, and Mecca (2010) conducted a three-year longitudinal study focused on self-regulation, which compared kindergarten to second-grade Montessori students' self-regulation with that of students in five control schools. The Montessori students' scores were detectably higher on nine teacher-rated factors, three of which relate to social-emotional dynamics: "need less supervision to solve conflict"; "are more likely to exhibit feelings of happiness and contentment"; "recognize the good work of peers and use the knowledge for self-judgment of their own performance" (p. 28). The Montessori students also scored higher on their parent-rated ability to talk about the feelings of others. Most pertinent to prosocial behaviour were findings from student interviews revealing that the Montessori students helped others in a variety of ways as supported by the classroom environment, whereas non-Montessori students "primarily consider[ed] helpfulness as

aiding those who are injured or ill” (p. 26). However, the Montessori classroom in which the research was conducted spanned the kindergarten through second-grade years rather than beginning with two years of pre-kindergarten and one year of kindergarten, missing out on two earlier years of potential prosocial development.

While Montessori’s numerous texts resulted from naturalistic observation and classroom experimentation, designing her resultant pedagogical methods after performing what might today be considered laboratory studies followed by action research, her writings are seldom interpreted as empirical studies, especially outside the larger Montessori community. Her research findings perhaps appear largely obscured due to their embeddedness within her philosophical proclamations, appearing more anecdotal than methodologically rigorous; some assert that Montessori’s “romantic” rhetorical style further distanced her work from that of her academic contemporaries (Whitescarver & Cossentino, 2008, p. 2580). Prosocial behaviour observed in her early classrooms was explained through the concept of *normalization*, which she claimed preceded various social benefits. This state is achieved through: being in a caring, respectful environment with carefully designed pedagogical materials that attract, engage, and educate children; allowing children to exercise and develop their ability to make choices (developing their *will*) in the absence of rewards and punishments; and through repeated and sustained acts of spontaneous concentration (Montessori, 1912/2003, 1967/1995). Montessori’s concept of normalization is now often compared to self-regulation or executive control (Ervin et al., 2010; Lillard, 2005), although neither of these fully encapsulate its original meaning. Importantly, normalization is achieved through *work*—a construct described by Cossentino (2006) in a detailed rhetorical analysis as “heavily freighted with codes,” and as “the central act of Montessori practice, [...] entail[ing] intellectual, social, and moral/spiritual development” (pp. 69-71). She explains that while work and play “are not mutually exclusive phenomena,” they differ in effort and outcome² (p. 85). According to Montessori, “only ‘normalized’ children, aided by their environment, show in their

² Montessori deliberately distinguished the concept of work from play as well as the work of children from that of adults (1966), while others have incorrectly conflated children’s work and play in reference to Montessori education (e.g., Woolfolk, Winne, & Perry, 2012), or discussed important overlaps between the two (e.g., Cossentino, 2006; Lillard, 2005, 2013). Authors who emphasize practical and theoretical overlaps arguably do so to curb potential negative connotations of the word *work* (like “drudgery” [Cossentino, 2006, p. 77]) in understanding the work entailed in Montessori education.

subsequent development those wonderful powers that we describe: spontaneous discipline, continuous and happy work, social sentiments of help and sympathy for others” (1967/1995, pp. 206-207).

Facilitating the development of social and moral principles was an original aim and curricular component alongside typical academic subjects in Montessori classrooms. In a case study of the history of Montessori education, Cossentino and Whitcomb (2007) describe the integrated Montessori curriculum as one that “link[s] the moral and social aspects of development with the intellectual,” and one that was originally envisioned to “remake a world ravaged by war and injustice into a more peaceful, harmonious place” (Cossentino & Whitcomb, 2007, pp. 119, 124). In this sense, Montessori education was devised not only as a way of teaching and learning in schools, but as a way of living and being—a worldview centered on respect, lifelong learning, and citizenship. Viewing the separation of school from other aspects of life as problematic, Montessori (1912/2003, 1955/1989) intended to integrate school life with home life³, with all of the care, cultural and moral teachings one’s familial home might entail. Striving to achieve these aims was concurrent with attempting to cultivate a *scientific* pedagogy (Montessori, 1912/2003). These goals may seem far-reaching but not dissimilar from those psychologists and teachers are trying to achieve by adding social and emotional programming to Canadian schools today, with enhancing or promoting prosocial behaviour as popular objectives.

The Canadian school mandate known as Social and Emotional Education (SEE) can be explained using various terms, such as “moral education, character education, emotional intelligence, respect, citizenship, and social responsibility” (Le Mare, 2011, p. 182). SEE has become integral to some teacher training programs to assist teachers in fostering students’ positive social relationships and emotional development, as differentially defined among Canadian provinces (Le Mare, 2011). There appear to be degrees to which teachers can elect to complete their training with an SEE emphasis and go on to use SEE practices in schools. For example, universities in British Columbia offer Social Emotional Learning (SEL) as an optional program specialty in teacher education

³ Martin (1992) based her concept of the *Schoolhome* on Montessori’s *Casa de Bambini* (Italian for *Children’s Home*, or as it is often translated, *Children’s House*, although Martin reasons that the latter is an inadequate translation).

programs, in which teachers are trained to implement various curriculum-integrated and stand-alone SEL programs, many of which were developed in the United States (Le Mare, 2011).

A meta-analysis examining the outcomes of 213⁴ school-based SEL interventions provides support for such programs' capabilities to increase children's prosocial behaviour (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011, p. 412). The success of the programs was moderated by several factors including the programs' adherence to recommended practices (which the authors dub "sequenced, active, focused, and explicit" – "SAFE") and program fidelity. More recent SEL interventions have also demonstrated similarly positive outcomes (e.g., Schonert-Reichl, Oberle, Lawlor, Abbot, Thomson, Oberlander, & Diamond, 2015; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012).

However, none of these initiatives were implemented with children as young as three to five years of age and instead began in kindergarten or later. Seeds of Empathy is one SEL program for this age group, derived from Roots of Empathy (ROE), an internationally-adopted nine-month program during which program instructors facilitate monthly classroom visits from an infant and the infant's parent(s), fostering discussions around perspective taking and emotional awareness (Gordon, 2005). While research has demonstrated social gains for ROE students (Schonert-Reichl et al., 2012), similar research has not yet been conducted on Seeds of Empathy students to my knowledge. Methodological constraints may be preventing the extension of similar research to younger age groups to some extent. For example, Schonert-Reichl and colleagues (2012) found a lack of measurable increase in ROE participants' empathy "puzzling" when enhancing this quality was indeed the focus of the program, leading the authors to question theoretical and methodological issues concerning how age factors into the construct's parameters (p. 17).

Adding to such theoretical and methodological issues is the idea that "framing social responsibility in terms of performance standards" can be problematic when trying

⁴ 186 of the 213 programs were implemented in American schools, with 27 having taken place "outside the United States" (Durlak et al., 2011, p. 412).

to simultaneously instil teachers with a core understanding of the importance of fostering caring relationships and environments (Le Mare, 2011, p. 194). This points to the complications that arise in translating broadly-defined theories into measurable practices and outcomes—in particular, the difficulty in knowing what messages and skills teachers ultimately take away from their professionalization programs. Le Mare (2011) hypothesizes that this complexity is likely influencing many teachers and schools to favour a more structured approach to SEE, while in the process, overlooking crucial aspects of another, perhaps less structured approach. In discussing the less structured *relational approaches* to SEE, Le Mare (2011) evokes Noddings' (1992) and Rauner's (2000) notions of *caring* to explain the importance of developing caring school contexts for students' social, emotional, and academic development. In contrast to *cognitive-behavioural* or *competence promotion approaches*, which are structured to teach “discrete cognitive-behavioural skills,” the process of developing caring relationships and environments cannot be easily broken down into directly-taught and measurable units or outcomes (Le Mare, 2011, p. 189). However, it seems likely that teaching social and emotional skills could easily entail both competence promotion and caring elements, and Le Mare (2011) does emphasize their frequent overlap in practices.

Likewise, Montessori education contains what could be considered both relational and competence promotion approaches to teaching students social and emotional skills. Competence promotion approaches include Grace and Courtesy lessons, which directly teach discrete social skills, through the use of both scripts and impromptu teacher interventions. Teachers observe and record students' application of these skills in tandem with academic progress. Montessori also viewed some social and emotional advances for students as by-products of skills gained from academic work. In particular, she observed that gains in concentration and independent decision-making skills led to feelings of joy and acts of kindness (1912/2003), and so the didactic curricular materials were designed to attract and hold children's attention while also teaching academic skills (including what some call *pre-academic* skills [British Columbia Ministry of Health, 2008]).

Elements of Montessori theory and practice also resemble the goals and methods of relational SEE approaches, although as Martin (1992) suggests, the social and caring elements of a Montessori classroom could be ignored if one were to focus only on the

individualized instruction and children’s independent work, for example. Montessori teachers are trained to be advocates for children’s rights, needs, capabilities, and dignity, as Montessori understood these areas to be societal deficits. This advocacy begins with developing a caring classroom environment and teacher-student relationships. Lillard (2005) notes that Montessori teachers are trained to respond to children’s needs in ways that mirror adult-child interaction styles associated with secure attachment—ways that demonstrate warmth, sensitivity, and high expectations. Cossentino’s (2005, 2006) observational research in a Montessori school led her to connect Noddings’s *ethic of caring* to the practices observed in Montessori classrooms; more specifically, Cossentino (2005) regarded *love* as both a “process and product” of Montessori education and *caring* as having been demonstrated by “the manner in which the Montessori method teaches children to care for themselves, others, nature, ideas, and even objects” (p. 232). Montessori teachers also have prolonged relationships with students, as typically, students remain in the same classroom with the same teacher for three years, a duration that has been proposed to foster caring classrooms conducive to providing moral education (Noddings, 1988)⁵.

Montessori (1912/2003, 1967/1995) and more recent scholars (Cossentino, 2005, 2006; Lillard, 2005; Noddings, 1988) maintain that in order to foster caring learning environments, academic achievement—or at least academic activities and foci—need not be considered separately from caring relationships. As a “whole child” approach (Kramer, 1988), Montessori education deems academic growth inseparable from a child’s social, emotional, and physical development. To this end, it seemed that Montessori attempted to carefully link caring and academic work. For example, uninterrupted lessons between a teacher and individual student help to build and define caring relationships while these events also help to “illuminate the sociocultural context of schooling” as a caring one (Cossentino, 2005, p. 213). These individual lessons are selected according to individual students’ needs, abilities, and interests creating a mastery learning system in which students only progress after mastering prior work (Lillard, 2005). Mastery learning

⁵ Aslanian (2015) provides a discourse analysis on how the terms *love* and *care* have been used in past and more recent early childhood education texts, in which she discusses some similarities and differences between Montessori’s and Noddings’ use of these terms.

has been touted as a method likely to support students' positive perceptions of themselves and their schools (Bloom, 1971). On a larger scale, Montessori linked specific academic work and didactic materials to her goals of world peace. For example, geography lessons are sequenced by beginning with concepts of the earth/world, followed by continents, and then countries, and so on, in contrast to the typical curricular route from one's town, to one's state/province, to one's country, etc. (Seldin & Raymond, 1981). Montessori's "citizens of the Earth" approach was deliberately designed to combat nationalism, a traditional mindset she linked to prejudice and war (Brunold-Conesa, 2008)⁶.

Similar to the complexity of teaching and applying relational approaches to SEE (alongside the often blended-in competence promotion approaches), the complexity of the aims, practices and outcomes of Montessori education may be causing it to be largely ignored by educational psychologists researching possibilities for SEE approaches. Indeed, the "deeply textured culture" of Montessori classrooms can present challenges for researchers unfamiliar with the educational system's theory and practices (Cossentino, 2005).

2.6. The Need for Further Research on Prosocial Behaviour in Montessori Primary Classrooms

Investigations of contextualized understandings and demonstrations of young children's prosocial behaviour as well as in-depth, observational research on Montessori classrooms are needed. That these two bodies of literature are largely independent of one another is a notable gap in itself. The present study contributes to both research on prosocial behaviour and Montessori education communities, answering the recent calls for recognition of and research on the various dimensions of prosocial behaviour (e.g., Eisenberg & Spinrad, 2014).

⁶ Similarly, Egan (1997) denounces a *self-outward* approach to teaching children about the world (as championed by Dewey, particularly in American *social studies* curricula), arguing that this necessarily leads children to view their own locality and experiences "as the norm, as the proper, as the given, as 'natural,'" creating what he calls "a recipe for provincialism, for inflexibility, for ignorance" (p. 60).

Several studies have demonstrated the comparable effectiveness of Montessori education in relation to traditional or other types of schools regarding students' academic achievement and social and emotional development, mainly from a quantitative standpoint (Ansari & Winsler, 2014; Ervin, Wash, & Mecca, 2010; Lillard & Else-Quest, 2006). However, the findings are limited by a lack of detailed explanations of the social context of the groups, binding their authors to ambiguous speculation about the causes of the differences. For example, Lillard and Else-Quest (2006) found that five- and 12-year-old Montessori students scored higher on certain social and emotional factors than students who attended other schools (a sample of public, private, and charter schools), but they did not investigate or speculate about the reasons for these differences, which appeared beyond the scope of the study. The authors' explanation that "Montessori education has a fundamentally different structure from traditional education," was preceded by a call for further investigation of how "certain components of Montessori" are "associated with particular outcomes" (p. 1894). In the present study, I look specifically at components of the Montessori environment and how they relate to the students' prosocial behaviour.

Studies show that cultural values can mediate the relationship between socio-cognitive abilities (like perspective-taking) and prosocial behaviour (e.g., Carlo & de Guzman, 2009). Even though this mediation may in part be due to *social customs* being analytically entailed by the definition of *culture*, empirical studies have also demonstrated this connection. As one example, Rothbaum, Weisz, Pott, Miyake, and Morelli (2000) revealed that the concept of attachment is differentially influenced and defined by cultural norms, values, and expectations. Subsequently, others have used cross-cultural attachment research to suggested balancing views on universal attachment trends with understanding contextual determinants (van Ijzendoorn & Sagi-Schwartz, 2008). While research on the cultural contexts of children's social development tends to focus on cultural differences at national or ethnic levels (Carlo, Knight, Basilio, Davis, 2014; de Guzman, Carlo, & Edwards, 2008; de Guzman, Do, Kok, 2014) there is ample support demonstrating that Montessori classrooms encompass a cultural context of their own (Cossentino, 2005, 2006; Lillard, 2005), and so the norms and practices therein likely contribute to social behaviour in unique ways. Any "cross-cultural" comparisons

between the behaviour of Montessori and other students must be complimented with research that attempts to develop a deeper understanding of the material and sociocultural characteristics within each type of school that necessarily define what it means for young children to behave prosocially. One example of a contextually-specific view of prosocial behaviour that requires attention is adult expectations of children's sharing. For example, research on preschoolers' resource allocation revealed unique insights on the perceived benefits of sharing materials (Hawley, 2002), but more information is needed to understand how prosocial behaviour might be enabled in an early childhood school environment in which students are not expected or encouraged to share in a conventional sense, as in Montessori classrooms. Instead, a child can work with a material as long as s/he wishes until putting it away, establishing a temporary but fluid sense of work ownership among the students. This classroom protocol appears different from other early childhood classrooms studied (e.g., Hawley 2002). Further differentiating this expectation is that Montessori classrooms typically have only one of each material available, with a few exceptions—a feature that could appear on the surface to contribute to a greater need and expectation to share. However, some recognize this practice as one that embodies respectful values (Cossentino, 2005) and contributes to the development of self-control (Lillard, 2005). But further investigation is needed on how contextual expectations of resource control contribute to prosocial behaviour.

My study also responds to the calls for observations of prosocial behaviour enacted in naturalistic settings (e.g., Caplan, 1993; Martin & Olson, 2015), as there are clear differences between children's prosocial behaviour as it is observed rather than reported, for example, by children's parents (Knafo & Plomin, 2006). Additionally, while valuable observations of children's prosocial behaviour have taken place in lab settings (e.g., Warneken, & Tomasello, 2007, 2013, 2014), it is difficult to know what unique effects lab environments have on children's prosocial behaviours. After all, the lab is a context of its own and is not without its own contextual variables. An example of research that would be difficult to conduct in a lab setting is that which might help us better understand when a child who is *not* helping a peer might be considered prosocial, as there are reminders in the literature that higher rates of prosocial behaviours are not necessarily viewed positively (Hay et al., 1999). A gap persists between the seldom-cited

notion that “unneeded help can upset rather than benefit the recipient,” and empirical investigations of inhibition being considered as prosocial, perhaps because these instances are being recorded neither in lab settings nor in naturalistic observations (Staub, 1978, p. 2).

There is also a need for observations in naturalistic settings to be conducted by nonparticipant observers. Cossentino’s (2005, 2006) observational, grounded theory research has made important elucidations of current teaching practices and the construct of *work* in a Montessori environment, but because the level of involvement a researcher undertakes during observations can be problematic (Hatch, 2002), her role as a participant observer may have compromised the focus and systematization of her classroom observations. Nonparticipant observations could help minimize unaccounted-for researcher effects of Montessori students’ classroom behaviours.

A noted gap in the research on prosocial behaviour is the lack of longitudinal studies. Longitudinal studies are important given the evolving nature of prosocial behaviour over childhood (Martin & Olson, 2015), the lack of which prevents us from understanding the contributions to changes in prosocial behaviour over time (Carlo et al., 2014). Importantly, some believe that prosocial behaviour increases throughout the early childhood years, for example, in accordance with increasing cognitive abilities (Eisenberg & Fabes, 1998), while others argue that children’s prosocial acts become more selective and thus lessen over time (Hay, 1994; Warneken & Tomasello, 2009). Longitudinal research has not examined young children’s experiences of specific socializing factors alongside the development of prosocial behaviours. Longitudinal research in Montessori education is especially crucial given the touted social and academic benefits of the *three-year cycle* (Cossentino, 2006; Lillard, 2005; Lillard & Else-Quest, 2006), during which children remain in the same classroom for three years. For example, Lillard and Else-Quest’s (2006) study intentionally collected data from children who had just completed their kindergarten and third-grade years, which, for the Montessori school sample, marked the end of either their primary or lower elementary three-year cycle. Although the authors speculated how the results could have been

influenced by the different trajectories of the participants during those three years, no real inferences could be drawn without longitudinal methods.

Studies that reflect children's tendency to provide help when they perceive it is needed (Warneken, 2013; Warneken & Tomasello, 2013) and their beliefs that they are not supposed to help a peer when a teacher is available to help (Caplan & Hay, 1989) raise questions about class size and teacher-to-student ratios. In other words, with fewer teachers and more students, would students be more prone to help one another in that they might perceive that their help is needed? Traditional Montessori classrooms have large classes with few teachers—typically 30 to 35 children three to six years old with one lead teacher and one assistant teacher (Lillard, 2005). While Montessori and others (Lillard, 2005) have advocated the social benefits of this dynamic, this atypical teacher-to-student ratio contradicts influential research on the benefits of smaller class sizes in conventional classrooms (Word, Johnson, Bain, Fulton, Zaharias, Achilles, Lintz, Folger, & Breda, 1994). Also, most studies on children's prosocial behaviour focus on adult targets or recipients rather than peers (Eisenberg & Spinrad, 2014), the results of which are unlikely to be fully applicable to peer behaviour. Empirical research studying demonstrations of peer-to-peer helping is needed, particularly in unique school contexts that may provide more opportunities for this type of help.

With numerous ways to conceptualize and define prosocial behaviour, it is important to clarify the meaning and investigate the implications of certain terms used for my study. VandenBos (2007) defines *prosocial behaviour* as “any act that is socially constructive or in some way beneficial to another person or group” (p. 742). This description is broad and omits components of that which is used more commonly in research on children's prosocial behaviour (e.g., Eisenberg, Fabes, & Spinrad, 2006) as it does not stipulate voluntariness or intent. Concerns regarding our ability to understand others' intent and motives have received little attention in the present discussion. These and related issues can ignite a network of questions that deserve vast bodies of literature with which to address them. To briefly illustrate, Hawley (2014) highlights that individuals can consciously attend to intentions but not motives, and that intentions are often falsified. Furthermore, some claim that motives are loosely related to behaviour at

best and may or may not be accessible to one's awareness (Webb & Sheeran, 2006). The concept of voluntariness may be similarly problematic. VandenBos (2007) defines voluntary behaviour in opposition to reflex behaviours (and reflexive behaviour as involuntary), seeming to mark two ends of a spectrum that likely includes varying levels of intentionality, awareness, and possible compliance. For instance, the question of voluntariness has implications for children's prosocial behaviour in relation to their compliance with expectations, rules and requests that may direct prosocial behaviour. The term *helping*, on the other hand, *does* imply beneficial intentions (VandenBos, 2007) although does not necessarily stipulate that the recipient benefits from such help, meaning that helping does not necessarily lead to prosocial benefits.

Other concerns yet to be addressed are those regarding the word *behaviour*. In light of pertinent observations regarding the ways in which inhibiting behaviours, including helping, can have prosocial benefits (Caplan, 1993), I considered using the term *prosociality* rather than *prosocial behaviour* to highlight the inclusion of such events. However, because prosociality is often used to describe a dispositional trait and a dimension of temperament, suggesting that individuals can possess higher or lower levels of prosociality by (partly genetic) disposition (Lahey & Waldman, 2003; Mikolajewski, Chavarria, Moltisanti, Hart, & Taylor, 2014), adopting this term for the present study might encourage the reader to interpret findings along these terms. This issue may be compounded in relation to discussing inhibition, as both *inhibitory control* (or the capacity to suppress inappropriate responses) and *behavioural inhibition* (or *shyness*) are also considered aspects of temperament (Rothbart, 2007). Because dispositional traits and temperament are not this study's foci, the term prosociality will be avoided. In the present work, *inhibition* will refer to "the process of restraining one's impulses" (VandenBos, 2007, p. 481).

Because the purpose of my research is to undertake an investigation of phenomena in relation to a specific material and sociocultural context, the term *prosocial activity* appears more suitable for this undertaking than prosocial behaviour. In various instances, Montessori appears to favour the word activity over behaviour (although the translation of Montessori's books from Italian to English calls into question the precise

usage and original meaning entailed in certain terms). For example, Montessori (1967/1995) discards an assumption of fully biologically inherited behaviours and instead insists that any reasonably assumed “constructive possibilities” a child possesses “must unfold by activity in his environment” (p. 57). In her discussion, the word activity unites development with contextualized interactivity, whereas behaviour is more likely to imply biological predispositions or that which is only considered “objectively” observable. More recently, the words *action* and *activity* have been given preference over *behaviour* in theories emphasizing that *personhood* or *whole persons’* actions must be understood in relation to material and interpersonal contexts, with such actions also entailing reflections and deliberations (Martin, Sugarman, & Hickinbottom, 2010).

This is not to suggest that all authors’ usage of these terms have similar implications, nor do I suggest that the problem of “observing” intentionality is thusly solved. Rather, insofar as intentionality has appeared to have been presumed to be a *given* throughout the prosocial behaviour literature, in moving forward, I would like to follow the advice to consider such “givens [...] in the theoretical and empirical context of considering carefully what can be more readily evidenced through careful observation, reflection, and argument concerning our active coordinating within the biophysical and sociocultural world” (Martin, Sugarman, & Hickinbottom, 2010, p. 159). Therefore, I will use the term *prosocial activity* or *actions* to refer to those that are socially constructive or beneficial to another person or group, with careful observation, reflection, and argument used to understand potential *givens* in specific contextual situations.

2.7. Research Questions

The present study begins to respond to the previously discussed gaps in both prosocial development and Montessori education research by investigating the following questions:

1. How is prosocial activity manifested in a Montessori classroom?
2. How does the teacher-to-student ratio relate to prosocial activity?

3. How does the Montessori curriculum relate to students' prosocial activity?
4. How do Montessori students' prosocial actions change over time?

Chapter 3.

Methodology

This study uses a longitudinal, single-case study design to investigate children's prosocial activity in a Montessori primary classroom. The case for the study is constituted by the classroom environment, the classroom's teachers, and its students. The study's qualitative design is based on a worldview in which individuals understand and interpret their experiences using the knowledge gained from their interactions with others and the social and historical norms that function in their lives (Creswell, 2007). In this case, for example, the social and historical norms of Montessori theory are particularly salient when taking into account participants' interpretation of their experiences. Selection of the methods of data collection and analysis are also consistent with a Montessori worldview (Cossentino, 2005). The potential drawbacks and benefits of this methodology are discussed below, followed by the details of the research design.

3.1. Researcher Subjectivity

While some researchers using qualitative methods, and particularly observational methods, are concerned about becoming too closely involved with their participants, namely running the risk of potentially joining the cultural group they intend to study (Hatch, 2002), I recognized that I was a member of the cultural group under consideration before beginning this study. Being certified as a Montessori teacher and having taught in Montessori classrooms for five years before beginning my research brands me a *Montessorian* well "within the cultural and technical bounds of the Montessori worldview" (Cossentino, 2005, p. 212). In addition to being a Montessori teacher, I was also a Montessori primary student with parents who were knowledgeable and supportive of the educational method. In this sense, both my upbringing and my education predominantly position my conception of childhood within that worldview as well.

However, among Montessorians, there is arguably not simply one singular Montessori worldview, and instead it would be more accurate to consider different members representing various constellations of predominantly overlapping values and practices. What may appear to be hair-splitting in fact relates to a significant point of departure from my possible identification with the participants in this case study's classroom. Specifically, this school is affiliated with Association Montessori Internationale (AMI), whereas I was accredited under American Montessori Society (AMS) regulations, and have worked only in classrooms affiliated with this accrediting body. Typical AMI and AMS classrooms vary in several ways related to interpretations of Montessori theory. How these differences are disseminated through teacher training programs leads to practical differences between the classrooms (Whitescarver & Cossentino, 2006), including: how strictly students are expected to follow lesson procedures, which relates to teachers' protocols on correcting students' use of materials; class size and teacher-to-student ratio; some, but usually minor differences in available materials; and the timing, use, and duration of "circle times" or other class gatherings. Although these differences may seem minor compared to overall similarities, from an *in-group* perspective (Cossentino, 2005), they are considerable enough to have permitted me at least a partial outsider lens in perceiving the context I observed.

In qualitative studies, researcher subjectivity is not a property to be expelled as if it were tantamount to *bias* (Stake, 1995). Corbin and Strauss (2008) contrast the notion of researcher objectivity against *sensitivity* rather than subjectivity, and in doing so, emphasize how researcher sensitivity is strengthened by professional experience in ways that better allow for meaning and insights to be drawn from the data, more faithfully representing participants' experiences. Just as Corbin and Strauss note that lack of sensitivity can be a barrier for interpretation in cross-cultural studies, the knowledge gained from my Montessori teaching experiences both eased rapport building and sensitized me to the contextualized meaning of participants' actions and discussions. With this came recognizing the "complex tension" of balancing true, connected interest in participants' points of view with probing assumptions to seek clarity, and to generally trying to avoid taking understandings for granted (Seidman, 2013).

To exemplify my Montessori background as a strength of this study, I drew from prior teaching and observation experiences to design a time sampling instrument that represents more fine-tuned categories of actions than would otherwise be considered by someone with limited knowledge of Montessori classrooms, combining open-mindedness with ideas of what was likely to happen in the field (Stake, 1995). In my case, because I understand the Montessori curriculum and the basic scripts of how children carry out their morning work period in Montessori classrooms, I was able to interpret their activity more accurately. For example, instead of needing to focus attention on deciphering what material a child was using, I could recognize the material's purpose and place or level in the curriculum, which revealed what works and concepts the child had mastered or had yet to master. By quickly discerning these and similar embedded meanings, I was able to recognize the richness of the data collected.

Having said that, a researcher should be reflexive in order to scrutinize the integrity of these influences (Corbin & Strauss, 2008). Because qualitative researchers draw on “understandings whose derivation may be some hidden mix of personal experience, scholarship, assertions of other researchers” (Stake, 1995, p. 12), I used *bracketing* as one way of attempting to acknowledge assumptions, feelings, and early/initial interpretations during data collection and analysis (Hatch, 2002). Bracketing preconceptions or emotions and interrogating them through memoing can bring what otherwise might have been stifled into the foreground of the analytic process, helping the researcher sustain a reflexive stance (Glaser, 1998; Tufford & Newman, 2010). Below is a discussion of the bracketing techniques I adapted from Creswell (2007), Detmer (2013), Glaser (1998), Hatch (2002), and Tufford and Newman (2010).

For my study, the *Montessori teacher* lens through which I was inclined to interpret events was bracketed so that I could deliberately scrutinize these perceptions, helping to bolster a *researcher* standpoint. For example, when observing students' work, I was inclined to make brief assessments about their academic interests and skills, an observational habit necessarily shaped by my Montessori teaching experiences to inform the selection of subsequent lessons to present to them. This tendency was especially noticeable early in the study, having last taught in a Montessori classroom only a year

earlier, and I bracketed these interpretations during both data collection and throughout analysis. The following is a relevant example of bracketed text made during an observation in the study's first year—a note that resembles those I would make in my record-keeping journals as a Montessori teacher:

[This may not be a particularly challenging work for her, and aside from completing the red rods earlier, which she had lesson on yesterday, the other works she is choosing seem to be ones she is very well-acquainted with and perhaps not challenging for her either.] (observation, February 7, 2014)

I wrote reflective and analytic memos to examine bracketed material and discussed these processes and specific reflections with my senior supervisor. This practice enhanced my awareness and criticality of this viewpoint and helped me shift my feelings of responsibility for assessing the students, which carried over from my teaching, towards gaining a sense of researcher responsibilities. As another example, I also bracketed memories and emotions connected to being a Montessori student. At times I sensed my identification with individual students, perhaps due to my ongoing, extensive observation of several students in particular. This positionality had implications not only for my analyses of students' experiences but also of the teachers', as a student lens placed me outside of, and in some ways, opposite to the teachers' lens.

Of course, the degree to which bracketing one's preconceptions is possible should be scrutinized. I acknowledge criticisms about the impossibility of fully bracketing out one's preconceptions and accept the utility of personal understandings in interpretive processes (e.g., Cohen & Omery, 1994). But while I hold reservations about bracketing as a radical theory for completely moving past one's subjectivity in order to discover an object's or phenomenon's true essence (Detmer, 2013; Husserl, 1913/1931), ignoring these underlying viewpoints entirely or neglecting to identify and analyze them in their own right would have compromised the trustworthiness and the depth of my analyses. For instance, Corbin and Strauss (2008) understand that professional expertise benefits researcher sensitivity but point out that ignoring the relevance and influence that such knowledge has on the analytic process increases the risk that the researcher will believe that "it is only the data talking" rather than that data are interpreted necessarily through

various lenses (p. 33). Insofar as various bracketing techniques rest on a continuum for qualitative researchers (Tufford & Newman, 2010), this method provided opportunities to be both critical and open to a variety of interpretations without ascribing to extreme claims about the effectiveness or inadequacy of the bracketing process. Overall, developing a richer understanding of my viewpoints provided the freedom to move between and out of them more readily, supporting the development of my researcher lens.

As procedures that determine *qualitative validity*, in addition to acknowledging my positionality, *triangulating* my interpretations of classroom events by using multiple data sources and partaking in *prolonged engagement in the field* contribute to the study's credibility (Creswell & Miller, 2000).

3.2. Research Design

Given that Montessori primary students participate in a three-year cycle by remaining in the same class for three years, a longitudinal case-study design was selected to follow the same children through their three years. While a cross-sectional design also would have provided a perspective on how prosocial activity is differentially enacted by children of different ages, the longitudinal design allowed me to observe the changes in students' prosocial actions over time as well as individual differences in development.

The single-case design was *embedded* rather than *holistic*. Yin (2009) suggests that common issues associated with holistic designs account for the bulk of criticism against case study research due to their overly-abstract, unpredictable and shifting foci, which easily render a study's initial research questions inapplicable to the data collected. Instead, an embedded design can supply data on "specific phenomena in operational detail" on easily identifiable subunits of the case—for example, individual teachers and students—which then support an in-depth analysis of the larger unit (Yin, 2009, p. 50). Including embedded units also supported the longitudinal component of the study in that shifts in individuals' development did not contribute to more general "slippage" of research objectives (Yin, 2009, p. 50). I used naturalistic observations, teacher

interviews, and a time-sampling method to collect data. Data collection occurred from September 2013 to June 2016.

Setting and participants. As is often the case for qualitative research, the present study's use of a small sample requires a measured approach to protect the privacy of the participants (Hesse-Biber & Leavy, 2011; Morse, 2008). Particularly in consideration of the case's unique qualities, as discussed below, descriptions of the participants are aggregated rather than listed individually (Morse, 2008). The following information about the school and participants is reported in order to provide information regarding the sample's population while limiting the possibility that individual participants will be identifiable.

The study was conducted at an independent Montessori primary school consisting of a single classroom in Vancouver, British Columbia. The school is associated with an AMI-accredited Montessori training center and serves as a site for teachers-in-training to conduct observations and their qualifying practicum exams. This location was chosen for three reasons: (1) due to its function as a lab school, including quality control measures that are carried out routinely to ensure appropriate training for new teachers; (2) the school director had previously expressed interest to my senior supervisor, Dr. Margaret MacDonald, in participating in ongoing research; and (3) it is currently the only Montessori primary school in the region that has the provincial Child Care Licensing and Regulation teacher-to-student ratio requirement waived, giving the school permission to operate with 28 students, one lead teacher, and one assistant teacher in the classroom, with the stipulation that another teacher, director, or administrator is on site. This unique classroom composition allowed me to address my second research question regarding the relationship between ratio and the students' prosocial activity. While this classroom feature characterizes the classroom as a *unique case* compared to other BC schools, in comparison to the wider international Montessori community, it more closely exemplifies a *representative* or *typical case* (Yin, 2009) as verified by its AMI-recognition. It was important to conduct research on Montessori education at a site with recognized fidelity to Montessori education methods.

The school is located adjacent to a well-maintained, large municipal park. The surrounding area is a quiet, residential area consisting of mainly single-detached homes and several apartment buildings with fewer than five storeys. The school catchment in which the school was located reports that approximately 45% of their students speak languages other than English at home, with Mandarin being the most prevalent, and about 35% of entering kindergarten students understand little to no English (Vancouver School Board, 2016). Consistent with the school catchment area, Mandarin was the most prevalent language spoken by the school's students and families other than English. However, very few of the school's students had little to no understanding of English upon their initial attendance; the majority who spoke other languages also understood and spoke English. Of the 11 students in my study's cohort, 10 understood and spoke English fluently and one had little to no understanding of English upon beginning school attendance. Primary or additional languages spoken out of school among the cohort students included Mandarin, Spanish, and Portuguese. All of the teachers spoke fluent English. The teachers communicated with the students exclusively in English, but I observed three students in the class (over the course of three years) frequently conversing in Mandarin with each other, including the student in my study's cohort who was learning English as an additional language. The teachers put no language restrictions on peer conversations.

Parents of the school's students are required to sign an enrollment agreement, which includes a commitment to attending one parent education workshop prior to their child beginning school and monthly parent education meetings throughout their child's enrollment. As such, the families become well-informed about Montessori philosophy and practices. The multiage program is attended five days per week for all students, with half days for first- and second-year students and full days for third-year (kindergarten) students. Parents are asked to enroll their children with the (non-binding) intent of remaining enrolled for the duration of three years so that students may complete the typical Montessori three-year cycle. Total tuition costs for one child's three-year attendance is approximately \$20,000.

The participants were the enrolled students and the lead and assistant teachers. All of the teachers, Natalie, Hana, and Maryam, held AMI teaching credentials. In the third year, the original lead teacher left the school and a new one joined the class after transitioning in at the end of the second year. Of the school's 28 students, 11 students made up the incoming cohort in September 2013, with ages ranging from 33-46 months old at the start of their attendance at the school⁷. From this cohort, four *focal students* were selected as embedded or nested units of inquiry within the classroom unit. Selecting a small number of students for embedded units allowed a more in-depth analysis of the individual's development over time. Selecting more students would have dictated a more superficial analysis (Yin, 2011). Creswell (2007) also recommends that no more than four or five cases be selected (again, these students represent embedded cases) in order to identify and analyze themes.

The focal students were chosen using *purposeful sampling for maximum variation* in order to “document diverse variations” and “identify important common patterns” of the students' prosocial activity (Creswell, 2007, pp. 126-127). This selection strategy does not aim for a representative sample in that it is neither a goal of qualitative research nor is it possible for four students to represent their cohort or school. In order to maximize variation in sampling focal students, I administered the *checklist of independent learning development* (CHILD). Whitebread and colleagues (2009) developed this instrument for teachers of children ages three to five years to report on students' metacognitive and self-regulatory abilities. It is comprised of 22 statements describing children's behaviours with a four-point Likert-type scale for rating whether or not a child *always, usually, sometimes, or never* exhibits a given behaviour. Behaviours are categorized as *emotional, prosocial, cognitive, or motivational*, according to Bronson's (2000) self-regulation theory⁸. Because I used the survey merely for discussing sample selection with the teachers rather than to gain statistically testable data, I changed

⁷ The class's 28 students ranged from 33-64 months at the start of their attendance in September 2013, with 11 first-year students, 10 second-year students, and seven third-year students.

⁸ The instrument achieved a high level of internal consistency (Cronbach alpha = .97) and was overall determined to be a reliable instrument for teachers' accurate reporting on three- to five-year-olds' metacognitive abilities. The instrument also rated highly on an initial external validation tests (Perels, Merget-Kullmann, Wende, Schmitz, & Buchbinder, 2008).

one item and added three new items to make the prosocial items more appropriate for a Montessori context. For example, one item on the original prosocial subscale—“shares and takes turns independently”—was changed to “can wait for a turn independently” because while this is expected in Montessori classrooms, sharing typically is not. (The original item also problematically conflates sharing and turn-taking, a distinction discussed in the previous chapter.) The three added items targeted actions that, at the outset of this study, were understood to be prosocial in Montessori environments: (1) “restores materials when finished with work”; (2) “independently takes action to care for school/outdoor environment”; and (3) “respects others’ work/play space.” Changed and added items on the questionnaire have been marked with an asterisk for the reader’s consideration but these markings did not appear on the distributed copies (see Appendix A). While the prosocial scale on the CHLD survey did not factor into my subsequent analysis of prosocial development, it both aided my selection of focal students according to the teachers’ considerations, and helped to establish a collaborative relationship in which the participants were respected as co-constructors of knowledge (Hatch, 2002).

Both teachers completed a CHLD form for each student in the first-year cohort after their first month of attendance at the school. The survey’s purpose was to allow the teachers an opportunity to reflect systematically on their students’ abilities before we met to discuss the purposeful sampling of the focal students. After reviewing their completed forms, paying particular attention to their responses on the prosocial scale of the survey, I engaged in a dialogue with the teachers so that we could select four students with the widest variation in prosocial tendencies of interest to them and the study, within the parameters of selecting an equal number of males and females. The four focal students, Alice, Rowan, Olivia, and Max were 36, 33, 39, and 37 months old upon beginning their first year of the program (respectively). Alice, Olivia (females), and Rowan (male) spoke English fluently and Max (male) had little to no understanding of English upon the start of the cohort’s school attendance. Alice and Olivia spoke and/or were learning languages other than English outside of school. These students were chosen for maximum variation according to their disparate levels of sociability, rapidity of learning and meeting classroom expectations, and the typical quality of interactions with their peers.

Independent Montessori primary schools commonly have high attrition rates during students' third year when students become eligible for public kindergarten. In this case, families moving was a common cause of student attrition as well as other reasons about which I did not inquire. Nine of the original 11 remained in the second year. In the third year, only five remained after two students left to begin attending a Montessori elementary school, one left for unknown reasons, and one of the students' families moved out-of-province. Three of the four focal students remained enrolled in the third year. No students left mid-school year, and the classroom continued to have 28 students enrolled. As an amount of attrition was expected, it did not change the course of the study, as this was simply a component of the participants' lived experiences in the classroom.

Ethical considerations. Informed consent was obtained from the students' parents and from the teachers by means of signed consent forms, and pseudonyms are used for all participants in the present work. I did not seek assent from the students participating in this study for three main reasons: (1) fidelity of naturalistic observation; (2) following classroom expectations/norms; and (3) demonstrating respect for the students by not interrupting their daily routines. To elaborate, because the school regularly hosts unobtrusive observers in a designated area of the classroom, it was beneficial for me not to distinguish myself from other observers. Having direct interactions with the students regarding my observations would necessarily set me apart from other observers and would draw attention to myself, potentially distracting the children from their typical activity or alternately motivating certain actions. The teachers responded to student inquiries about my presence by providing the typical response: "She is here to watch everyone's work." I also provided this response to students in the occasional event of direct queries. I occasionally overheard teachers adding to this explanation: "but you see that she also has work to do [referring to my computer], so we shouldn't interrupt her." I chose not to film the classroom largely to remain as unobtrusive as possible both for the students and teachers. I also felt that repeatedly filming the classroom would place undue burden on the teachers, with whom I instead aimed to build rapport, particularly given the length of the study.

3.3. Data Collection

Naturalistic, non-participant observation (running records). I conducted naturalistic, non-participant observations of each focal student three times per school year (during October, February or March, and May) after scheduling particular dates with the school about one month in advance. During each observation, I used a laptop computer to chronicle the student's activity in narrative form from the time the student arrived in the classroom to the end of the morning work cycle (two and a half hours on average). I was positioned outside the designated children's work area (main classroom area) in a space set up specifically for adult observers – a row of chairs behind a line of short student shelves that face inward toward the classroom.

I recorded information relevant but not limited to the following categories (Yin, 2011): the students' characteristics, gestures, and nonverbal activity; their interpersonal interactions; and their physical surroundings, including possible visual and audio cues, as well as their observed affect. I also detailed their use of classroom materials, and conversations I was able to hear. After each observation, I was able to check in with a teacher regarding the typicality of the students' activity that day, noting any exceptions. For example, events that appeared to disrupt typical actions included recent changes in family structures/routines or returning to school after a prolonged illness. I wrote reflective memos after each observation. This method was integral to addressing all four research questions.

Observing one student closely per session was not only an effective way to address the problem of deciding where to focus attention (Hatch, 2002), but also provided fidelity in the presentation of participants' experiences. These records supply a narrative or storied context for each participant's activity for an extended period of time, helping me to better understand the observed phenomena from the perspective of the participants (Hatch, 2002), and becoming a corpus of primary data of the sort that Yin (2011) describes as one to "highly cherish" (p. 143). Hatch (2002) emphasizes several strengths of this method: a better understanding of social phenomena in the same context in which it regularly occurs, better knowledge of participants' understanding of the setting, and

being an opportunity to observe taken-for-granted occurrences or those that otherwise would not be reported for a number of reasons. To my knowledge, this level and amount of detail about single Montessori student's classroom experiences has not been previously recorded in narrative form.

While it appeared rare for the focal students to notice my targeted observations of them (for example, for us to make eye contact at all, much less repeatedly), I instead became concerned that other students sensed my heightened, unequally distributed interest in some students over others. Consequently, I made additional efforts to disguise the targets of my observation, deliberately looking at other students' work occasionally, while still trying to sustain neutral facial expressions so as not to encourage bids for attention. I recognized that the students noticed me—some more so than others—and I made deliberate efforts to limit and be mindful of potential interactions. For example, I regrettably declined several polite student invitations to stay for lunch or go on the playground while trying to quietly exit the classroom.

Semi-structured, in-depth interviews with teachers. In case study research, “the interview is the main road to multiple realities” (Stake, 1995, p. 64). Montessori teachers are trained observers and conducting brief, daily observations of their own classrooms is an ongoing goal for best practices in the field (Lillard, 2005). Semi-structured interviews with the teachers provided crucial information for the study as multiple informants of student activity, contributing to addressing all four research questions. The interview data were integral to understanding the teachers' expectations for students, how they defined being *prosocial* in their classroom, and the meaning they made of their lived experiences (Seidman, 2013).

I conducted separate one-hour interviews with the lead and assistant teachers following each of the three school years (six total interviews). The interviews took place in a private room in the building in which the school is located (as suggested and reserved by the lead teacher). I audio-recorded and later transcribed the interviews.

The interviews were semi-structured, relying on sets of questions while leaving room for participants to bring up and discuss points of interest to them (Hesse-Biber &

Leavy, 2011). The semi-structured nature allowed me to garner information on specific research questions and on each teacher's unique observations and reflections; I asked about "facts"—for example, details regarding students' curricular progress—as well as the teachers' opinions about events and insights on certain occurrences (Yin, 2009). The interview protocols I prepared aimed to reveal: (1) the teachers' expectations for students in a given school year and reflections on the cohort's social, emotional and academic activity; (2) reflections on each focal student's social, emotional, and academic activity and development; (3) interpretations of select observed events; and (4) more general reflections about concepts relevant to prosocial activity (see Appendix B).

Montessori classroom time sampling record (MCTSR). The purpose of developing and using the MCTSR was to systematically apply *magnitude coding* to my naturalistic observations in order to supplement and triangulate the running records and interview data. Designs for magnitude coding vary according to the purpose of the study (Saldana, 2013). For this study, I designed a record that would assist in indicating the frequency of each focal student's actions and the change in frequency of these actions over three years. Montessori philosophy asserts that the provision of independence—enough for a child to freely choose and concentrate on work, interact with peers and teachers, and interact with the environment in ways that provide feedback—is a fundamental antecedent for peace and kindness in the classroom (Montessori, 1912/2003). As shown in Appendix C, the MCTSR is devised of codes relating to how much time the students spent independently working, working with peers, observing peers, and receiving lessons from or working with teachers. I chose to apply a time sampling observation strategy as a form of *coding grammar* to triangulate my running records data, specifically to inform "suggestions of magnitude" (Saldana, 2013, p. 77). For example, Saldana (2013) explains that qualitative study reports include phrases such as "*most of the time*" and "*occurred frequently*," emphasizing that such terms and concepts "are not a liability, but instead an asset to enhance the 'approximate accuracy' and texture of the prose" (p. 77). As such, the resulting data provided a "quantitized" consideration of how actions described in more detail elsewhere changed in frequency over time, triangulating information sources while addressing my fourth research question (Saldana, 2013, p. 76).

The MCTSR was administered three times per school year (during October, February or March, and May) for two continuous hours at a time while observing the four focal students. With four participants, I was able to observe and code each student's activity for approximately 15 seconds before observing and coding that of the next student, subsequently returning to each student in the same ordered cycle.

3.4. Data Analysis

While Stake (1995) stresses the impossibility of pinpointing the beginning of analysis, I will describe the analytic tasks I completed beginning with data collection. I will first separately explain the processes undertaken to analyze each data source and then describe the subsequent, aggregating processes involved in developing categories and themes.

Running records. I first used reflective *memoing* to record initial impressions after each data collection session (Corbin & Strauss, 2008) (see Appendix D for example). The raw running records were stored in a password protected electronic file folder with corresponding reflective memos appropriately dated and stored separately. Raw running records were copied into new files and edited for typographical errors, during which I made marginal notes on events relevant to the research questions and other potential salient events. Additional memos, which I refer to as *analytic memos*, were written, using narrative to interrogate various marginal notes and questions. *Bracketed* notes made in the running records and in the reflective memos were also narratively interrogated in analytic memos created for that purpose. Yin (2011) notes that “certain feelings represent explicit data about the environment” and should not be ignored as potentially important components of data collection (p. 150).

By using writing as a method of inquiry into my data, much of my memoing employed narrative and/or literary analytic approaches (Hatch, 2002; Richardson, 1994). For instance, in interrogating bracketed material, I often constructed *narratives of the self* to describe past personal events incited from observed classroom events or interviews, and I occasionally made use of the storied nature of the student running records,

analogous to *ethnographic representations*, to analyze events and dialogue as I would a literary text (Richardson, 1994). In some cases, composing an analytic memo involved performing a *close reading* of a single event as a “principle technique of explicating” meaning that is “implicit or subtle” (Gardner, 2013, p. 56). For these techniques, my researcher *sensitivity* (Corbin & Strauss, 2008) was enhanced by my background in literary studies and my ongoing professional experiences as a writing facilitator.

In the recursive process of disassembling, reassembling, and interpreting the data (Yin, 2011), I used the paradigm Corbin and Strauss (2008) offer to specifically interrogate the context and process of events, including (1) identifying the conditions in which events occur, (2) “inter/actions” and emotions, and (3) the consequences of events (p. 89). Applying these three elements involved focusing on certain conditions under which prosocial acts occurred, particularly conditions related to teacher, peer, and environmental or curricular “inter/actions.” Outcome was also important in terms of identifying the relative success of a prosocial act (was another person indeed benefitted?). Patterns emerged and were described in analytic memos. While analyzing events and identifying patterns, I used additional analytic tools to enhance my sensitivity to different possible interpretations (Corbin & Strauss, 2008, pp. 67-85): (1) questioning data units to foster exploration and to help avoid making too-sudden or too-obvious interpretations; (2) looking at the language the participants used in the classroom and interviews, as well as the language I used to transcribe running records and memos; (3) making comparisons between different patterns involving the same and different participants, and comparing emerging concepts to concepts already entailed in the study’s focus (prosocial activity); and (4) looking for negative cases. The use of these tools helped me scrutinize the derivation and integrity of my resultant assertions (Corbin & Strauss, 2008; Stake, 1995). My senior supervisor also regularly assisted me in further scrutinizing interpretations throughout the analytic process.

Interviews. During and after interview transcription, I made marginal notes, giving way to additional analytic memos. The interviews following the first school year were coded using *in-vivo* coding in order to preserve specific language (“voice”) the participants used, and subsequently coded in a secondary cycle using *pattern* coding,

which later contributed to the creation of categories (Saldana, 2013). The interviews conducted after the two following years were coded directly with pattern codes, with these codes being occasionally simultaneously categorized. Analytic memoing was used throughout these stages in a practice comparable to Saldana's (2013) description of *coding memos* (see Appendix E for example).

Categories and themes. Patterns derived from observational and interview data were compared and categorized. Emergent categories included the following types of prosocial activity in the classroom: *Grace and Courtesy; remedying small accidents, early-emerging work-oriented help, or comforting; help with work; inhibition (refraining from helping, waiting, or ignoring); correcting others' actions; care for the classroom environment; and intervening in peer conflicts.* These categories are valuable for understanding the contextual nature of prosocial activity enacted in this classroom and will be illuminated in the following chapters.

Themes derived from these categories allowed me to make generalizations and assertions about the case both in response to my research questions and in relation to existing literature (Creswell, 2007). Two major resultant themes were *modeling and prosocial activity in relation to (1) teacher-to-student ratio, and (2) classroom work orientation.* These themes are discussed in Chapters 4 and 5, respectively.

Chapter 4.

The Teacher-to-Student Ratio in Relation to the Development of Prosocial Activity

The smaller teacher-to-student ratio appeared to support students' prosocial activity in several unexpected and counterintuitive ways. During my first round of observations, I mentioned to Natalie that the larger classroom and the smaller teacher-to-student ratio were new to me. She responded: "I can't get to everything—and even better that I can't" (personal communication, October 7, 2013). This initiated my understanding of the teachers' unique perspectives of their roles, what it means to help a child, and the benefits of the teachers' outward limitations. In this chapter, I will describe the association between the classroom's teacher-to-student ratio and the students' prosocial activity, including how *not helping* in some circumstances was prosocial—a notion integral to Montessori philosophy and evident in the teachers' practice.

4.1. Inhibition: Ignoring and Refraining from Helping

Defying mainstream reasoning regarding smaller class sizes and higher teacher-to-student ratio, the smaller ratio established in this context is a result of careful and deliberate decision making⁹. The teachers were highly conscious and protective of this ratio, so much so that when a teacher-in-training was working in the classroom as part of the practicum examinations, Hana would often leave the classroom proper to observe in the observation area, or to take care of tasks in the kitchen or just outside the classroom, intentionally minimizing the number of adults in the room. The purpose for this practice became clearer to me as I saw the beneficial outcomes, particularly related to the students' prosocial activity.

⁹ Perhaps it is also important to mention that the reasons for the smaller ratio are pedagogical and not financial.

In this classroom, strategic and practiced inhibition was a form of prosocial activity. Not trying to help or not interfering in many cases resulted in a number of positive student outcomes, of which the teachers were aware: to help a child remain concentrating on the task at hand (and so, *developing* in that moment), to allow children to learn from each other by not interrupting social interactions, to encourage individual and peer problem-solving, to encourage independence and persistence, to avoid delivering empty praise, and even to avoid interfering in student actions and interactions for selfish reasons, as in the need to feel needed or the need to demonstrate one's utility in the classroom. Refraining from interfering unnecessarily was central to the teachers' beliefs, as Maryam explained:

I like that attitude of, you know, being aware of others and to go for help and to be there, but... well, we need to know when. If they don't really want you to, it's not helping—it's interfering. It's interrupting. Just breaking their concentration, and not allowing them to come up with their own problem solving. So if you are *there* doing it *for them*, you won't allow them to be independent. Whereas helping is something that should be positive, so you just help them to be independent. (personal communication, June 22, 2016)

Each teacher repeatedly discussed the difficult, ever-present tension in questioning *whether to help or not* in many daily situations, a tension manifest in their desire to help children as effectively as possible without being excessive. Hence, as a school protocol designed to enhance the inhibition of adult interference, the ratio is a pragmatic consideration stipulating that having fewer teachers to question whether or not to help in any given circumstance results in having fewer unnecessary interruptions all together.

Benefitting others by not helping. While the teachers reflected on and practiced their own restraint, they similarly taught students the circumstances in which helping others was undesirable. In fact, the teachers had a more difficult time *preventing* than facilitating peer helping, and while teaching children to help others was never raised as an issue, teaching them to *stop helping so much* was raised repeatedly. Understanding that another child needs and wants help while simultaneously managing one's own desires to help requires self-control, as Maryam explained:

It has to do with control. It has to do with the development *of the will*. I think sometimes it's necessary to mention that explicitly to them. I talked with Max about that... in a very clear way. Like, "Max, I *know* that you have good intentions, I *know* that you want to help, and I appreciate that. But..." Because you know, we had an incident where he started to help Adam and Adam started to *scream*. And so, I said, "You see..." He was shocked. He looked like, "What? I'm helping you. Why are you screaming at me?" So I told him on the spot, "you see, this is it: some people, some children, they want to work on their own. They want to do it. If they come to you and ask for your help, go. If not, [whispering] *they don't need help*. They don't want help. (personal communication, June 22, 2016)

In addition to Maryam stepping in "on the spot" to point out when a student's help was not needed or wanted, this sentiment was built in to the Grace and Courtesy lesson on *how to watch another's work*, a lesson demonstrating restraint from interfering in another's work. The lesson entails purposefully standing with one's body near but not touching the table in use by the other child, and holding one's hands either to the sides or clasped behind the back, indicating a defined place to keep their hands other than touching another student's work. Similarly, when observing a work taking place on a rug, students' hands were expected to be in their laps. This was one way that restraint was directly taught *before* situations arise that would require this skill.

However, the question of when to help and when to refrain was decidedly complex for students and teachers alike. Natalie pensively said "it's a really hard question" and emphasized the just-in-time nature of these decisions, the variability of all possible circumstances, and understanding and managing individual personalities (personal communication, June 17, 2015). One point of clarity was that concentration was something they "have to protect" so intervening in situations in which a child's concentration could be broken by someone else is necessary (as was *facilitating* concentration by teachers electing to help a student find a work of interest when needed).

Adding another dimension to this struggle was when the teachers had to decide if and when to help by stopping one child from helping another. This involved deciding if particular instances of peer helping would be prosocial or not. Hana elucidates this conundrum:

I love to see them help each other. But sometimes I see they are just waiting for this opportunity to help someone even if they have [their own] work. [...] What should I do? How should I approach this child? Should I go and send them back [to their work]? [sigh] I love for them to go and say their thoughts, because sometimes there is conversation, but... I think I really want them to focus on their work. And I wish that they would just finish and then in between their works, then that's when they go and help or talk to somebody who also isn't working—[laughs] I guess to find this right moment. I think it's a very mature thought. At this age, it is very difficult for them to... how should I say it... to resist this temptation to go. "Oh I know this bow frame—I am going to help you right now! And I don't care about my work..." [laughs] Is this temptation? So what we want: we want them to focus on their work. But sometimes it's very normal for them to leave, help, and then go back to their work and focus again. (personal communication, June 16, 2014)

Her laughter seemed to admit an awareness of the impossibility of the children developing this perfect timing and restraint overnight, and she seemed to patiently accept this impossibility. Generally, the teachers were aware of their high expectations and demonstrated patience by understanding that learning can take time. This passage expresses a different concern about children helping too much, though; while Maryam focused on the concern of helping a child who does not want help, which would not be prosocial, Hana is concerned about children interrupting *their own* work to help others. Preventing interruptions for oneself and others were clearly both viewed as beneficial.

The development of the teachers' decision making regarding their own restraint highlights the similar if not identical skills that the students learned in navigating helping provisions in this classroom. After I mentioned to Hana that her struggle to know when not to help might have been similar for children wondering if they should help others, she said that understanding this was a part of the students' maturation, and without any facetiousness, that through her teaching experiences, she continued to "mature" in this way, too:

I am better, and better, and better every year about not going. At resisting. [...] Before, I thought, *I have to be there*, maybe even so that everybody who was watching could see me doing something. But now I say *no*— I feel that it is okay. Yes, I have matured. I feel it so much. (personal communication, June 22, 2016)

Maryam summed up this difficult balance of helping and not helping by saying that the students should be “not interrupting, but at the same time helping and learning from each other. Being cooperative. They learn from each other more than they learn from me” (personal communication, June 22, 2016). This would require the students to learn when helping another student would be prosocial in that it would be truly beneficial for that student.

In some ways, recording instances of *not helping* was more difficult, but the students did demonstrate this restraint in visible ways, as in this event:

Rowan (a first-year student) can hardly reach the hook to hang up the mop by the loop at the end of it. He reaches his arms up high and stands on his toes. An older, nearby girl comes over and points to the hook, looking at Rowan, and continuing to point, as if this indication will help. It’s as if she’s marshalling an airplane. He finally reaches it on his own, the girl walks away, and he makes sure that the head of the mop is hanging over the bucket underneath it. (observation, February 13, 2014)

In this case the girl, who was older and taller than Rowan, could have easily taken the mop from him and replaced it on the hook herself. In fact, as this was occurring, I expected her to do this as she watched him struggle with the task for an amount of time I felt no typical adult would. Her pointing may have served as encouragement, benefitting him in some way, but she benefitted him largely by abstaining from helping him, showing restraint. He *could* do it himself, and allowing him to in this environment was prosocial.

Just as various factors helped teachers decide when to intervene in particular occasions, many factors similarly affected the children’s decision making. Did they have the knowledge or skills to help? Did the other person need or want help? Were they *allowed* to help? At times it seemed that either they were not allowed to, or sensed that they were not allowed to, and in some of these cases, they opposed the expectation for them to refrain and proceeded to engage in covert helping missions.

From the teachers’ perspectives, *not helping* was one of the most difficult prosocial activities for students to acquire. Such activity was modeled by the teachers and aided by the small ratio. Max especially tended to get carried away with helping others

with their work, sometimes against their will and amidst their protests, which further demonstrated how refraining from helping was often prosocial.

Helping by ignoring. Ignoring potentially negative or antagonistic social interactions, possibly by inhibiting negative responses, was another action I repeatedly observed, as in the following example:

Alice (a first-year student) takes out a work and puts it on a table, then goes back to the shelf and starts touching a shell that's on the shelf. A (second-year) girl reading a book in the reading corner says, "Alice, don't touch that." Alice then picks it up while making eye contact with the girl and says antagonistically, "I'm touching it!" The girl ignores her and looks back to her book. Then Alice goes to stand in front of her and stomps loudly. The girl looks up and then back down, back to her book. Alice goes back to her table but then looks up at the girl again and goes over to her, holding the shell again, stomping in the girl's face, looking at her. The girl looks up slowly and calmly and says "why are you doing that?" Alice says, calmer now, "because I wanted to touch the shell." The girl looks back down at her book. Alice puts the shell back and goes back to her work. (observation, May 21, 2014)

In this event, one student begins by reacting to an act she thinks is inappropriate by correcting Alice verbally. (It was unclear to me whether or not Alice actually *should not* be touching this shell, or perhaps she *was* allowed to but the girl thought she was handling the fragile object inappropriately.) Then, when Alice reacts meanly, the older girl calmly ignores her instead of reacting or getting drawn into an argument. She refuses to engage twice, and then after Alice's third antagonistic bid for a response, the girl responds calmly in a way that effectively defuses the situation, and Alice subsequently goes back to her work—the ultimate goal for acting appropriately in the classroom.

Here is an example of a teacher exercising a form of inhibition, effectively modeling this prosocial activity:

A glass breaks in the snack area (near the bathroom) and Hana rushes over to sweep it up, just rushing (but still walking) to make sure everyone is out of the way and not touching the broken glass, but no one says anything to the child who broke it. The boy who broke it and a couple other children watch it get cleaned up. I hear one of the observing children say, "it was an accident," in a certain, definitive tone, like an announcement to no one in particular. Otherwise nothing is said about the accident, no reminders to

hold anything more carefully, but the child who broke it seems in awe, watching the whole process. (observation, Feb 13, 2014)

This is a good example of a teacher adhering to trust in the environment's *control of error*. Montessori's concept of control of error in the curricular materials is a feature that allows materials themselves to provide feedback to a student, rendering similar or additional feedback from adults unnecessary. For example, when the last piece of a puzzle does not fit into its frame, this error is apparent and is "controlled" by the material itself, so there is no need for an adult to let the child know s/he has done the puzzle incorrectly. Montessori provides a detailed explanation and examples of control of error along with the idea that self-correction contributes to the strengthening of decision-making skills and confidence (1967/1995), a portion of her philosophy that guides Montessori teachers' dedication to avoiding unnecessary corrections. In this case, the broken glass was the control of error. This accident communicated to the child who broke it something about the way he was handling it, and arguably prompted more care in handling glassware in the future. In addition to the children enjoying the use of "real" materials, this illustrates an important reason that real glasses and other breakable materials are used in the classroom: there is hardly reason to be careful with plastic objects.

An adult might have responded to this situation by saying something to the effect of "be more careful next time," so the absence or inhibition of this or any similar comments is notable. There was no blame, scolding, or benign reminders—the teacher did not even seek out the culprit. Her only job was to keep the children safe from the broken glass. This is another instance of a teacher modelling inhibition:

Rowan gets up quickly and trips over a leg of the chair and stumbles toward the floor, catching himself in squat instead of fully falling. Natalie, walking past, sees, but continues helping another child with finding work. Rowan recovers his body, stands, pushes his chair in, not seeming bothered by it at all. (observation, February 13, 2014)

Similar to the previous event, Natalie appears to refrain from making any comment to Rowan about tripping over a chair, while remarks like "try to walk more carefully/slowly" or even "are you okay?" felt forthcoming as I watched. My expectation

of a comparable reminder was likely supported by the teachers' frequent reminders provided to some first-year students to not run inside the classroom. As in the previous excerpt, I recorded the teacher's lack of response. I suspect if she had said anything to him, he would have been embarrassed, as especially in his first year, Rowan did not want to "be in trouble" (Hana, personal communication, June 17, 2015). The fact that this was Rowan, who was normally very careful in the classroom, walking instead of running, and generally controlling his body, seemed to be a factor in the teacher refraining from commenting. From tripping, he may have learned something about how the legs of the chairs splay out slightly from the seat, and if Natalie had said something, he might have learned a very different lesson from this incident. I observed many similar situations in which the teachers appeared to be determining how or whether to approach or correct a child. Inhibiting reactions to these situations helped the environment speak for itself, another reason why having fewer adults in the room was beneficial to the students' progress.

One of the few times I interfered with the classroom proceedings was to whisper to Natalie as she passed by me that I could see that a girl doing a paper-cutting work at a table was using the scissors to cut the ends off her long hair. Natalie laughed, shook her head, and glanced in the girl's direction before resuming her attention to a different matter. I later realized that my urge to tell Natalie was influenced by my past experiences of my students' parents calling me with solemn concern that their daughters had cut off pieces of their hair with a pair of scissors at school (typically just as the student was mastering scissor use). In notifying Natalie, I was voicing potential concerns for parents—not for children. Of course this act is harmless and is quite possibly a learning opportunity (will the hair grow back?), and it in no way prompted Natalie to interfere or interrupt the child's work; in fact, the student was demonstrating a noted interest and a certain mastery over the material, and a transfer of learned knowledge. This event helps to signify the unique perception of children's work and independence the teachers hold and how that perception directs their reaction to and management of events.

There are many reasons the teachers would intervene to correct a child's "incorrect" use of materials, though—using materials in a way that could damage them,

that was disruptive to others, that was dangerous, and ways related to what the material was designed to teach, like if the student was skipping important steps, or using materials in a way that demonstrated some misunderstanding that needed to be explained. Generally, the materials should not be used outside the bounds of their intended purpose. These limits are not always clear, can be interpreted variously, and are widely debated in the larger Montessori community (often at length about certain works). My interference in this situation is a good example of two different interpretations on the limits of the paper-cutting work. I now believe the discrepancy to be a function of both Natalie's overall superior expertise and already having clear boundaries set for herself for this particular material, which she set based on reflecting on the child's best interest (and not necessarily the parents', for instance), the value of the child's concentration, the desire to avoid unnecessary corrections, and likely interpreting the child's activity as a productive and valid extension of the work.

This event was pivotal in my analysis of the value the teachers placed on not interrupting unnecessarily. This type of restraint was effortful for teachers and students alike, and the teachers' inhibitive acts helped to model when children's actions should be corrected and when they should not.

4.2. Correcting Others' Actions

The students often corrected others' actions by using similar or identical strategies as the teachers. For example, redirecting children back to their work was the most common way for a teacher to correct a child's actions, reinforcing what was expected of them rather than focusing on what was unwanted. (I was taught in my training that the first stage of intervening in unwanted actions should usually be to ask: "Where is your work?") The students used this strategy on each other as well, which resulted in the students' active participation in classroom management.

Rowan stacks the cards up carefully on the table, then stands next to his pushed-in chair, arranging the cards on the table, standing to have a better reach across the table. Vince, who was at the chalkboard, comes over to Rowan and leans over the table he's working on. Rowan starts shaking his head and says, "This is my work." He's calm but serious and continues

shaking his head for a moment. Vince starts to touch the cards, which are neatly arranged in rows, asking about them. Rowan says, “no no, don’t touch it, Vince,” and then repeats this a couple of times. Vince stands and looks at the cards, not touching them now. Rowan points to the chalkboard where Vince had been working and says, “This is your work, Vince.” Vince looks back to the chalkboard and returns to it. (observation, October 23, 2014)

The above example involved one child trying to protect his work from another, as he seemed to fear the other child would botch his neatly arranged materials. In redirecting Vince back to his work, and with his calm head-shaking, he seemed to *become* one of the teachers, perfectly enacting their redirection technique, and eventually succeeding in the redirection. Below, the same boy corrects another child for a different reason, but he does so playfully and with more personal and less teacher-like flair, as the organization of his work is not being threatened:

Rowan sits down at the snack table and takes a glass pitcher of water and so slowly and carefully pours the water into his glass, saying something to the girl sitting across from him. He starts eating his crackers and talking to the girl. He now says to her, referring to her glass, “that’s too much water.” She responds by using her fork to point to the level of water in his glass, investigating it. He then uses his finger to point to the water level of his glass and explains, “you should have it this high.” Then he puts his hand over his head and shakes his head, smiling. “Not this high,” he says. She drinks some of the water from her glass and then inspects the water level again. They both inspect it and nod in agreement. He smiles and they go on eating and talking. (observation, February 13, 2014)

Several months after this snack event above, I learned from Hana that earlier in the school year, Rowan had broken a water glass at snack, which she suspected prevented him from having snack for some time for fear of breaking another glass. Here he was quite careful in pouring his own water (although this did not seem unusual for him as he was typically conscientious). There is not necessarily a link between the two events, as how the previous glass was broken is unknown; it’s unclear if and how it could have been a result of an over-filled glass, although a full glass would be more difficult to manage, certainly requiring the a strong grip of both hands as I often observed at this snack table, making it more susceptible to accidents. It is possible, though, that this accident may have extended Rowan’s conscientiousness in using glassware altogether, and here he was

attending to details that would not just prevent objects from breaking, but also water from spilling, etc. He extended his concern for future mistakes in this realm to his peer, not wanting her to presumably make the same mistake he did, or at least correcting action he viewed as correctable.

Like the teachers, at times the students gauged the tone of their corrections to the demeanor of the offender, how pressing the situation seemed to be, or to who the offender was. For example, Rowan might have suspected that the girl would oblige his suggestion, and/or did not feel that the offense of having too much water in the glass was so dire that he had to be forceful or overly stern. Instead he was playful with his gesture of mimicking how the water level should not be *over his head* while smiling, although in the event of directing Vince back to his work, Rowan's work was in danger of being botched, and Vince did not respond to initial requests to leave his work alone. The established relationship between peers also likely played a part in how corrections were provided. Vince's tendencies to be less compliant with initial instructions seemed to prompt the children to be more stern in their directions to him. The teachers were also more likely to provide stern directions to him. With his inclination to not follow directions the first time they are given, his peers were cautiously serious when directing him rather than risk a miscommunication through playfulness. Here, a third-year girl is giving a serious (but kind) correction for a potentially dangerous action:

A boy nearby starts to climb on a table and an older girl is immediately there and says his name nicely and then says, "you can't climb up on the table," and he pauses and looks at her. She waves her finger a bit and he stops. She looks at him, she nods, and she goes back to her work and he gets off the table goes back to his work. (observation, February 5, 2015)

Impressively, in instances like these, the students respected their peer's authority. The practice of giving a direction and then walking away without additional or prolonged surveillance to make sure the direction is heeded was also modeled by the teachers, and at one point, Hana mentioned directly teaching it to students as well. This technique was also included in my own Montessori training as a habit that demonstrates trust and courtesy.

The effectiveness of peer corrections makes it clear that the authority in the classroom was shared and dispersed in complex networks. Woods' (2016) scholarship in Educational Leadership helps to explain this distributed authority. To elaborate, Woods (2016) explores the role of *social authority* in communities with distributed leadership, emphasizing authority as a construct that is “continually made and remade over time,” through ongoing interactions, coordinated and agentic actions and decisions, and the recognition of that authority by the community's members (p. 156). In this classroom, students gained authority over their peers through continued interactions that demonstrated it. For example, they had the ability and the *permission* to take and lead initiatives—a characteristic of Woods' (2016) notion of social authority—through work, helping others with work, interventions, corrections, and problem-solving, the latter of which occasionally proved to be elaborate enough to require higher levels of domain-specific expertise (e.g., in mathematical operations).

Although it escapes the scope of the present project, an in-depth examination of this classroom's authority structure through this framework, specifically surrounding peer authority, would be fruitful and enlightening. Even a rudimentary application points toward the legitimacy of the students' authority being borne out of multiple, ongoing, varied interactions and negotiations, built on the perpetually emphasized “principles of mutual respect [...], self-development, collaborative learning, and holistic growth” (Woods, 2016, p. 157), as valued and communicated by the teachers. While discussing students gaining peer authority, Hana expressed happiness in both children taking initiative to correct others while the teachers backed them up, as well as the children *backing up the teachers* when the teachers corrected a child, essentially ascribing to and appreciating the concept of the classroom's distributed authority. She also respected that children had relationships with and responsibilities to each other, which is why the teachers worked to give students the tools to work out problems on their own. When I asked Hana if there were ways students helped each other with their social activity, she replied:

It happens often. They see it [something undesirable happening] and they tell me, and I tell them that they can go and talk to them, or tell them *this*, so that they can learn how to handle it—how to communicate, how to say

it. “You say it once and then you go—you don’t need to repeat it”—and hopefully the other child will understand. I think sometimes if they say it to each other, it is different than if a teacher says it to a child. I think it is different because it supports the teacher’s words—that’s different. Like, somebody else can see it, not just the teacher or an adult. So it’s definitely helpful for the teachers [laughs] and I like it when they say it. And you know, it’s not only the [older children], it’s like “Oh, even my [same-aged peer] knows these rules so I have to really make sure I do it.” (personal communication, June 16, 2014)

She points out that the students were supporting and helping the teachers by correcting others’ undesirable actions. Knowing that the teachers welcomed or perhaps needed this help likely encouraged it, as Caplan and Hay (1989) found that, in perceiving that their help was not needed, young students did not help others typically. Hana went on to say that if a child wronged another child, it was important for the transgressor to be given a chance to redeem him/herself to the one that was offended before a teacher stepped in, since ultimately “it’s their friendship—it’s between them” (personal communication, June 16, 2014). Then she elaborated by saying that after students knew that they had the teachers’ support in solving these conflicts independently, they felt confident in doing so. She added: “We back each other up.”¹⁰

4.3. Intervening in Peer Conflicts

There were many successful interventions in which students tried to help others stop arguing. Here is a brief example:

Rowan walks over to Max and June having a conversation. Somehow it seems to escalate into a disagreement—I can hear June say, “Yes you were, Max!” Rowan takes a step closer to them and holds his index finger in the air. June somehow seems pacified immediately and goes back to her work. Max returns to his. (observation, February 23, 2016)

¹⁰ This discussion of “backing each other up” relates to Woods’ (2016) use of the notion of *tributary* authorities from Weber’s (1978) typology of authority: “[Weber’s] article suggests that the greater the extent of leadership distribution, the more it makes sense to view the organization as being characterized by social authority in perpetual construction. Such a social authority is formed by the interplay of multiple negotiated and contending ‘tributary’ authorities arising from the interactions of groups and individuals” (p. 155).

Students had many unsuccessful intervention attempts as well. In each “failed” attempt, though, I saw conviction and determination to help, many times to stick up for the child who seemed to be the victim of injustice or harassment from another student. In the following example, a first-year girl who is happily folding cloths with second-year Max, tries to defend him from Olivia, another second-year student, who is not heeding his indications that he does not want to leave his current work to go and work with her. Olivia frequently seemed sensitive about separating from a student after having worked with him or her; in this case, Max and Olivia had been working together on a lengthy math work earlier in the morning. I noted that when Olivia first approached Max while he was folding cloths with the younger girl that she appeared jealous that he was working with someone else and it seemed like she wanted to take him away from this other student. The teachers corroborated that this was a social grace she was working on.

Olivia returns, puts her arm around Max, standing with him like this and watching him work. She talks to him and he slouches and responds verbally. I think she is asking him to work with her but he wants to continue folding. It seems like she is trying to convince him and he says something and then goes back to folding. Olivia stays and watches with her hand around Max’s back. Olivia starts to lean on him with her hip and tries to take his hand like she is going to lead him away. He wiggles away from her as passively as possible. [...] She keeps trying to take him by the hand and he is sort of trying to push her away now. The younger girl he is working with stands up and walks around the table and goes to stand in front of them. She just stands there with her head high, looking over them, as if trying to quietly assert her presence in a way that will make a difference here. They both see her but Olivia persists and Hana comes over and says, “Olivia, come with me and I will help you.” (observation, February 4, 2015)

Hana had been observing the incident for some time before intervening; around the time the younger girl stepped in, I expected Hana to enter the scene. Instead, she waited to see if the girl’s intervention would be effective, and before that, to see if Olivia would respect Max’s refusal to go with her. When Hana did approach the group, it was very slowly and pleasantly, and she did not confront Olivia about the incident. Instead, I suspect that by this time, Olivia understood in some form that Max did not want to go with her and wanted to continue with his own work. To explain this would have been redundant.

Importantly, if either Max or the younger girl had been successful in convincing Olivia to stop, Hana would not have come to help.

In addition to the timing and style of Hana's intervention, also striking about the incident was the method in which the younger child tried to stand up for Max. Many times the first steps to a teacher intervening were simply standing nearby and making her presence known. Next, she might have ensured they saw her looking at them, and then would proceed to intervene verbally or physically if necessary. There were many events that included the students applying this first step of placing their bodies near the "offender" in an assertive way, using insistent body language (straight back, chest out, sometimes with crossed arms or with hands on hips, with a serious expression). Sometimes it was successful, and many times it was not. In this situation, even though this first-year girl's gesture was not successful in stopping Olivia from pestering Max, it was not meaningless in that Max noticed her gesture and seemed to appreciate the attempt. After returning to their work, he moved his chair closer to her, which of course could have been related to accessing the materials on the table from a different angle, but in the moment it seemed to be a reflection of a closeness he felt for her after she supported him.

In the following example, a third-year girl effectively intervenes in a situation before it escalates and ultimately requires teacher assistance:

Vince is getting a little loud in an altercation with another boy, and a third-year girl comes over and says "stop it" with a scowl on her face. She goes back to her work. It sounds like he says to her teasingly, "I'm not stopping," and when she ignores him, he repeats it, more angrily this time. He goes back to talking sternly to this nearby boy, who is now ignoring him—returned to his work. Everyone nearby keeps working and ignores him. [It seems so mature to react this way, to not get involved.] Natalie sees but doesn't go over. He walks over to another girl and takes something out of her hand. With this, Natalie swiftly goes over, reaches her hand out, and says, "come with me," and she leads him over to sit next to her where she was observing. (observation, October 22, 2014)

During the interviews, the teachers were not asked and did not discuss students stepping in to help solve disputes that they were not directly involved in. However, when

I asked Maryam about students avoiding involvement in conflict, she was not aware of this as an issue. Because these events were so fleeting and often resolved between the children, it was possible that the teachers hardly took notice of such incidents. It was as if because the teachers were not needed in these cases, this was not something that required or even caught their attention. It is understandable not to notice “non-events”, and like refraining from helping, many of the students’ prosocial actions were reflected in altercations they helped defuse by either deciding not to become involved, or by silently enacting gestures that reminded others to stop what they were doing.

4.4. The Relationship between Ratio and Modeling

The smaller teacher-to-student ratio is relevant to both students intervening in issues and their refrain from engaging in potentially problematic or negative situations by examining the roles and activity of the teachers. Each of the three adults at the school had relatively clearly defined roles, and the students repeated the modeled activity of those who inhabited these roles. For example the assistant teacher spent more time observing than intervening, and the need to intervene typically decreased throughout any given school year. To illustrate, in several of my observations toward the end of the second school year of my study, the assistant teacher spent the majority of the work period observing and taking notes on student activity, a task traditionally expected of AMI-credentialed assistant teachers. Her daily activity included exercising skillful *withitness*—an awareness of everything happening in the classroom (Kounin, 1970)—while carefully differentiating between events that needed intervention and those that did not. I observed the majority of students increasingly enacting this activity, including the three focal students who remained at the school in the third year, as they behaved with striking resemblance to the assistant teacher—observing disruptions, weighing whether or not to step in, and then stepping in and using the same strategies. In short, while having the responsibility of assisting all of the children as they worked independently, the assistant teacher refrained from meddling; rather, she was an excellent model for *minding one’s own business*, perhaps a difficult skill to directly teach children.

Another unique feature of the smaller ratio that emerged was the role of the school's on-site administrator, a trained Montessori teacher who performed mainly administrative duties but also served as a substitute in cases of teacher absences. Individual students would periodically wander over to share something with her or ask for help, but these interactions were typically brief and usually ended with the administrator explaining to the student that she had to return to her work. This third adult on-site may have represented a certain Montessori ideal in that she was a teacher who always helped a child when needed, and *never* interfered when she was not. She was doing her own work in the office area, "where *administration* is happening," as Maryam told me that she explained this person's role to the children (personal communication, June 22, 2016). And because she was performing administration rather than focusing on the classroom, she did not face the ongoing tension of when to help and when not to in the same way the other teachers had to; instead, she was alerted by a teacher or student if her help was needed. Furthermore, she was ceaselessly modeling the act of doing independent work. I discussed this special modeling role with Maryam:

M: [pretending to say to a student] "Yeah, she's working. That's what it looks like." [laughs] Exactly. And she needs concentration and respect.

RL: And interrupting her is maybe the same as interrupting another child?

M: Exactly. The rules are the same. Yeah. We are not allowed to interrupt. (personal communication, June 22, 2016)

Both lead and assistant teachers agreed that while this person's role was to focus on administration, that it was also welcome for the students to "have these little moments" with her (Hana, June 22, 2016), like greeting her in the morning just as they did with the other teachers, and to go to her when they would like to get help from her. Overall, having this third adult on-site was beneficial for her proclivity for modeling desirable actions (working independently, not interrupting others, and helping only when needed), largely without disrupting the two-teacher classroom.

The presence of more adults distracted the students. The teachers explained that having more adults in the room was a distraction for students, a phenomenon I

observed on several occasions when a teacher-in-training was in the classroom at the same time as both teachers. In an interview, Hana provided some pertinent insight on the matter by describing how a version of *social referencing*¹¹ was at play at all times and for some students more than others (personal communication, June 17, 2015). As she explained, throughout their independent work, students connected with the teachers through eye contact for reassurance that they were on the right track, in case they needed help, and importantly, to check that everything was alright and going well in the classroom (as if checking if anyone needed help, including the teachers). Hana described this connection between teacher and students with their eyes—this “checking”—and how important it was for the students to feel connected to the teacher and for the teacher to feel connected to the students (see Appendix F for transcript excerpt). Then she described the scenario of having more adults in the room: suddenly, a student would try to “check in” visually with each adult, and then because the child is looking around, their attention on their own work was lost in the desire to achieve this check-in that was now taking longer to occur. And perhaps if one teacher was not “on the same page” as the others, that dissonance created longer and perhaps repeated “checking in” actions. I noticed that if a teacher-in-training was giving lessons in the classroom during his or her practicum, some students would seem to frequently check *on* (rather than check *in with*) him or her. At one point, a student even corrected a teacher-in-training for interfering in another student’s situation, and she heeded the correction.

The event of a teacher-in-training being aptly corrected by a student helped to highlight the students’ growing sense of responsibility and ownership over the classroom, which in part was made possible by the smaller ratio. The presence of more teachers could easily cause a shift in this sense of responsibility. As Hana pointed out, she would sometimes go and help for the sake of feeling like she was *doing something* and for the sake of being seen as *doing something* by other adults. She reflected that she felt less of this as time went on, or as she became better at preventing herself from acting on this

¹¹ The term *social referencing* is used typically to refer to an infant or child checking or referencing the facial expression of an adult (usually a parent or caretaker) to determine something about an ambiguous situation and/or possibly the adult’s intentions (Sigman & Kasari, 1995; Tomasello, 1995).

impulse. With additional teachers in the room, it is likely that this impulse would have been multiplied.

Chapter 5.

Change in Prosocial Activity over Time: Students' Work Orientation in the Classroom's Community of Practice

While refraining from unnecessary helping was a crucial consideration for being prosocial in this Montessori classroom, the students often did provide sanctioned help to each other in appropriate and increasingly context-specific ways. Helping each other with work became the most common way for students to socialize during the morning work period. These interactions aided learning rather than distracting from it. Consequently, the teachers were happy to permit them, recognizing the value of peer helping and teaching. As the children proceeded through the curriculum, they advanced in their ability to help others with work, with some students even being motivated to practice and master certain works independently for (pro)social gains, as Hana pointed out.

Curricular work shaped the structure and opportunities for modeling and intersubjective exchanges, facilitating students' development of prosocial activity by forming the classroom into a *community of practice*. In this chapter, I first explain the suitability of using a community of practice model and how the students developed as members of this Montessori community. Subsequently, I discuss more specific components of the students learning prosocial activity based on their modeling and work-oriented participation in the community.

5.1. A Working Relationship

The following is an abbreviated excerpt from one hour of running record data of Rowan in his third year as he receives just enough support from two of his fellow third-year colleagues. He is working on the United States puzzle map¹² by placing individual

¹² There is one puzzle map for each continent (except for Antarctica), which is divided into single pieces by country, and one of Canada and the United States, divided into provinces and states. In addition to the steps Rowan demonstrated, countries can additionally be labeled with their corresponding flags, and students can

pieces onto a work rug, labeling the disarranged states with their names printed on small, laminated labels, and then puts the pieces back together. Considering the work and social interactions that take place in this event will help to contextualize the discussion that follows regarding the classroom's community of practice.

Max has abandoned his work momentarily to watch Rowan work on the United States puzzle. Now June comes over to look. She and Max talk about it, pointing to it. She leans down to straighten something. I can hear her say, "very good," in serious, evaluative tone before returning to her work. Max returns to his work. Rowan continues labeling the states with their names. [...] A first-year student strolls by and stops to watch for a few minutes. He's wide-eyed, paralyzed with interest. [...] Rowan removes the labels and stacks them up on the side of the rug. He begins building the puzzle on the rug outside of its frame. [...] The Northeastern states are not connected to the Midwest yet, with a big gap near the Great Lakes. He pauses, studying the configuration. He stands and studies it from a farther distance. He scratches his head. He looks over at the atlas for a moment as if thinking about referring to it, but instead sits down to try again. [...] He looks over at Max, who is doing a subtraction work at table, composing and completing equations. Rowan stands and walks half way to him. Max gets up to get a different pencil from the shelf, and as he's reaching for it, Rowan catches his eye. Rowan waves him over with a serious expression. Max finishes choosing his pencil and then goes to Rowan's rug. Rowan points to the work and says, "I need help with this part (near Missouri)." Max puts his hands on his hips, studying the work. He goes to the atlas, flips to the appropriate page, looks at it, replaces it, goes back to Rowan's rug and looks at the work. Max says, "Oh!" and points to something. Rowan moves to make the correction but before he does, Max is already walking back to his work, satisfied, smiling so proudly to himself. Rowan looks up, and says loudly to no one and everyone, "Max solved the problem!" He completes the puzzle quickly now, after which he springs up, beaming with a big smile. He turns to June. At Rowan's glance toward her, she looks at the work—another evaluation—raises her eyebrows and nods, as if to say, "very good" again, only with an air of being impressed and holding it back. [An uncannily similar demeanor as one of the teachers.] Rowan nods back in acceptance, still smiling, and looks over to Maryam who is surrounded by several younger students. He doesn't wait for her attention, though, and instead takes the puzzle apart to begin again, this time, beginning from Missouri outward. (observation, February 23, 2016)

also write their own labels. Students can also work with corresponding materials with information and illustrations on international cultures.

5.2. The Classroom as a Community of Practice

Lave and Wenger's (1991) *community of practice* (CoP) model of organizational learning integrates the various phenomena observed related to the students' work-oriented social dynamics. As an extension of the apprenticeship model, in which novices and masters work together at different levels within a community, communities of practice are commonly understood to be effective means for organizational innovation; however, they share important features with this classroom, particularly in their goal to "develop members' capabilities" and to "build and exchange knowledge" (Wenger & Snyder, 2000, p. 142). The CoP model helps to unify previous understandings of the Montessori curriculum, the three-year cycle in a multiage classroom, and peer modeling, while further illustrating the collective aspect of the students' prosocial activity development.

Communities of practice share three common characteristics: (1) domain, or area of shared interest; (2) community, or a group of people who form relationships along with a sense of membership; and (3) practice, or a shared repertoire of skills using common resources, which can be a result of learning or learning itself (Wenger, 1998; Wenger, McDermott, & Snyder, 2002). The whole classroom established a community of practice, within which, smaller communities of practice formed around specific works or areas of interest. For example, certain materials like the geography puzzle maps formed communities of the children who are either working on or interested in those works. The puzzle maps have many levels to be mastered, of which Rowan demonstrated several in the above excerpt. Those works which contain layers of potential mastery allowed students with a range of abilities to be working on them periodically for periods of weeks, months, or even years. Members of these particular work communities could be using the materials independently, collaboratively, observing a more advanced student or helping a less advanced student. It was not uncommon for someone using a puzzle map to draw many observers—some sustained and some in passing, some giving advice and some asking questions, including the teachers—throughout the duration of a single use, which could last for several hours. In the math area, the bead chains formed similar

communities for the same reasons, as did the moveable alphabet in language, and the trinomial cube in the sensorial area.

Membership mobility as a CoP feature. Both the classroom-wide CoP and individual work communities fluctuated in membership as students either joined or left the school, began to take interest in a particular work, or moved on from a work in favour of more advanced materials. The CoP model describes this as an “emergent structure,” which is “neither inherently stable nor randomly changeable” (Wenger, 1998, p. 49).

Membership in a community involves a range of both participation and non-participation (Wenger, 1998). The nature of a member’s participation helps determine one’s “inbound trajectory” from outside the community toward the center, with various possibilities for that trajectory ranging from peripheral to full participation. The CoP model I envisioned for the whole classroom placed the teachers at the center, as full-participating members with full mastery of all classroom works. The first-year students entered on the periphery, exercising *legitimate peripheral participation*, during which they began interacting with their new environment (Lave & Wenger, 1991), observing others’ work and actions, and learning both “explicit and tacit” components of the community (Wenger, 1998, p. 47). In this classroom, most of these components were made explicit via lessons on both work materials and Grace and Courtesy actions, arguably accelerating students’ sense of membership by enabling community-specific participation. Throughout their second and third years, students approached the center of the classroom CoP as they began to more closely resemble the teachers with their levels of mastery and authority. Students’ development of prosocial activity ran along this trajectory.

Modeling and position exchanges. Trajectories toward full membership were enabled by modeling, with novices and masters actively working in close proximity on the same curriculum. The act of modeling was routinized by the lead teacher carefully modeling the procedures for using each material to individual students, completing the work in the way that would be expected of the student. After the lesson was presented, the student took over the role of using the work. While practicing and eventually

mastering each material, a working student became a model in that other students could and often did observe their work process, to the point that student modeling occasionally fully stood in for the teacher's lesson. In this way, modeling became routinized through repeated curriculum-driven position exchanges. The lesson format created both guided and independent opportunities for students to inhabit roles previously modeled to them.

Related to Gillespie and Martin's (2014) assertion that developing intersubjectivity through position exchanges establishes a basis for empathy, in this classroom, the students' position exchanges contributed to their prosocial activity development. The role boundaries established in the classroom supported these exchanges. To elaborate, there appeared to be three main curriculum-focused roles in the classroom—worker, observer, and helper—with both teachers and students moving in and out of all three positions. When a teacher presented a lesson to a student, she focused on the materials as if they represented *her work*, using minimum verbal communication with the student. Meanwhile, the student receiving the lesson was an *observer*. Then the student took the role of worker, sometimes independently, and sometimes with the teacher as a *helper* or an *observer*. While not occupied giving lessons, the teacher was either observing or helping. When not acting as a worker, students could still participate in the community's practice by either observing or helping as well.

Because most of the works students learned in their first year were designed to be used and completed independently, first-year students gained a sense of the boundaries of these roles, helping to define the roles that could be embodied. The potential for clear position exchanges also resulted from the students' accumulated curricular mastery. Once a child had mastered a material, s/he could then help or even present others with that work with the same authority and ability as the teacher would. With these exchanges, novices became masters.

In viewing the children's CoP development as a result of their perpetual and distinct position exchanges, I suggest here that the curricular materials served as a force to not only establish the roles of worker, helper, and observer, but also to encourage the

children to freely inhabit them, directing and enabling their prosocial activity in relation to their work orientation.

5.3. Students' Trajectory From Peripheral to Full Community Membership

New members entered the community on (1) the periphery. At this level, their prosocial acts reflected both pre-CoP and gaining CoP knowledge. As novices, young students moved toward full-membership by observing and interacting with models, primarily inhabiting observer or worker roles. Through observation and work, they gained (2) the mastery required to help others with work, (3) the conditional knowledge that informed their understanding of when help would be appropriate, and (4) a sense of authority over others and the environment. I will explain the students' prosocial development in these terms.

(1) Novices on the periphery. Students' earliest demonstrations of prosocial activity were those that were not necessarily particular to this classroom context, and these acts revealed their desire and tendencies to help others, allowing them to do so before gaining more understanding of the community's practices. The teachers' steadfast belief that the children's desire to help others was natural and instinctual was supported by the early first-year students helping others with acts they had likely exercised before coming to the classroom. For example, prior research (e.g., Warneken & Tomasello, 2014) would suggest that the students had picked up dropped objects or tried to comfort someone at home or in an alternate setting as toddlers, and Natalie's top-of-mind description of being prosocial included these very actions:

Let's think of an example. Say somebody drops something. *All* the children come to the rescue—to help that child, and it's just like an instinct. They go and they do it. Or somebody cries and they take a tissue and bring the tissue to that child because they *feel* for that child. (personal communication, June 16, 2014).

The novice students' tendencies to help “without even thinking” (Natalie, personal communication, June 16, 2014) began to be shaped into help that was increasingly particular to the community. For instance, Grace and Courtesy lessons taught students

how to use classroom-specific language or materials in ways that demonstrated respect to others. They learned to say, “I would like to work alone,” rather than, “go away,” and were shown how to avoid stepping on a rug that someone was using for work.

Early work-oriented help. Even the youngest children in the classroom demonstrated prosocial activity toward others who did not necessarily know they needed help, supporting earlier findings of young children’s ability to infer others’ goals in the absence of overt cues for help (Warneken & Tomasello, 2013). These small “remedies” (Warneken & Tomasello, 2013) occurred frequently, and even beginning in their first year, students’ prosocial activity became increasingly contextualized and nuanced. While laboratory studies tend to focus on tasks like picking up dropped objects, the variety of these students’ actions expands the understanding of what sort of small remedies children are capable of providing. Other forms of simple, unsolicited (but still welcome) helping were evident, as in this event: “A (first-year) girl comes over and helps Olivia (also in her first year) push her chair in closer to the table she is working on and nods at her smiling. Then Olivia smiles and nods back” (observation, February 7, 2014). This example supports Warneken and Tomasello’s (2013) discovery that children are motivated to help as a result of assessing a problem in context—not because of adult direction. The girl gently tucking in her friend closer to the table was an action frequently displayed by the teachers as a small, nonverbal gesture to see if a student needs help or refocusing. This helper seemed to *become* a teacher while reproducing this modeled gesture, inhabiting a CoP-defined helper role. This is an example of legitimate peripheral participation, having contributed to the community’s practice, in some, even small way. These kinds of help facilitated practice-oriented social interactions before students gained the mastery required to help with the contents of others’ work. The following event shows a first-year similarly participating in practice while remedying an initially unnoticed accident as a result of having had a *mopping* lesson:

Rowan starts mopping right next to the snack table [...]. A girl walking past him is bringing a full watering can outside, and she is spilling little drops of water as she walks across the room. Rowan is following her with the mop, mopping up all the drops as she goes. The girl doesn’t notice him. A girl working at a table en route points to another drop and Rowan quickly mops it up. (observation, February 13, 2014)

This action was prosocial in both preventing the floor from being slippery and allowing the girl watering the plants to carry on with her work, stay on task, and not break from concentration.

The abundance of this type of helping was not due to teachers insisting upon it nor was it actively reinforced. In fact, I never observed a child being praised for helping nor scolded for not helping. The lack of praising or rewarding prosocial acts in this classroom did not appear to diminish students' desire to help others. Instead, clearly modeling helping roles and providing authentic opportunities for young students to inhabit these positions appeared to determine how they acted prosocially. The students even reproduced a similar lack of responses to prosocial actions, with some bits of help even appearing to go unrecognized by the receiver, or at least unacknowledged, without any apparent need for recognition by the helper. Helping in these ways, with a mixture of casual practicality and generosity, was the norm in this community.

(2) Mastery. Moving from the CoP periphery as novices toward full membership in this community entailed gaining work mastery. Novices learned work procedures by receiving individual lessons from the lead teacher, by observing more advanced students use their work, and by practicing work largely independently in their first year.

Because the central *practice* of the classroom CoP was curricular work, social interactions, including help given and received, mainly centered around work. While help with work was by far the most common form of prosocial activity in the classroom, in order for a student to help another with the procedures entailed in using work materials, the helper must have previously mastered that work. Essentially, the ability to help others with work needed to be earned; mastery “unlocked” this privilege. In the following event, two second-year students help set up a work, which they had previously mastered, for a first-year student who is just beginning to learn it:

Max and Mia lay out a polishing work on a table where a first year boy is sitting with an apron on, watching them. They set the work up in perfect concert, cooperating without speaking, both knowing exactly how the

materials are to be laid out. Then Max goes away and then Mia goes to the shelf to get a little hand mirror, carrying it to the boy's table, smiling. She presents it to him and checks the table, seeing that everything is just so, and smiles to him and then leaves him to it, walking away beaming. The boy begins trying to polish the mirror. (observation, October 23, 2014)

As for many works, the materials for polishing works are to be arranged on the table in the order in which they will be used (from left to right), as presented in the lesson procedures. These helpers ordering the materials on the table were helping the novice remember how to proceed from one step to the next. Masters of a work could step in to help a struggling student on their own, but it was also common for a teacher to ask a student known to have mastered a work to help, or as in the event above, to set up a work for a novice in order to help him or her begin a task.

Requiring mastery as a prerequisite for helping others with work benefited both helpers and help recipients. It ensured that students receiving peer help would have a better chance to succeed, and it reified the master role for the helper. When Natalie first began to discuss prosocial activity in the classroom, she emphasized the validity of student help: "Of course because of the mixed-age group, it's easier because then the older children know more and they know the work that the younger children are doing—they *are* helping them." Here, she emphasized that they *are* helping, and later that "they *do* help each other" (personal communication, June 16, 2014). I suspect that this was to emphasize that the children were helping because help was needed, rather than the possibility that they were pretending to help, or that the teachers were humouring them while the children pretended to help, or that the teachers were setting up contrived scenarios for which the children could "help." Hana similarly pointed out that a teacher would step in if a child was not properly presenting a work to another child. The legitimacy of children's help was an important point for these Montessori teachers—a point made clear by Standing (1957/1998) in his biography of Montessori:

It is important to notice, in passing, that these are real, not make-believe activities and that they are carried out in a real and not make-believe environment. The child who is washing dusters is washing real dusters because they are dirty; the children who are laying the table are laying a real table with real knives and forks and plates, etc., for a real meal—not a doll's table in a doll's house for a doll's tea party. Where you see a child

swabbing up the water spilt on the floor there has been a real accident, and she is reestablishing order in a real world. This is a matter of great importance. (p. 214)

Mastery was therefore a cornerstone of work-oriented prosocial activity in this class, for if the children were allowed to help others indiscriminately with the materials, the validity of the assistance would dissolve for both the helper and the one in need, subsequently blurring the lines between novice and master. The students also had to recognize the validity of their own help toward others in order to gain a sense of authority and full membership in the classroom. CoP members began accumulating mastery on curricular works early in their first year and continued throughout all three years. First-year students spent the majority of their time engaged in independent curricular work. Work time with others was spent mainly observing their work, talking to them, or asking questions, with momentary opportunities for helping in small ways (like picking up dropped objects, for example). Hana would also periodically gather the first-years for short “circle-times” in the reading corner for a story or fingerplay song, as the teachers pointed out that first-year students’ concentration is not often developed enough to remain working for the whole morning work period. These gatherings provided a socially structured way to spend non-working time while not interrupting others’ work.

(3) Conditional knowledge. Learning when it was acceptable or appropriate to help others with their work was another skill students gained in this classroom—a form of conditional knowledge (Paris & Cross, 1983) and a skill rarely discussed in existing literature on children’s prosocial behaviour. Chapter Four highlighted both the importance and the complexity of children learning this conditional knowledge. Particularly in their second year, students gained this knowledge by learning explicit and tacit social practices.

Explicit and tacit social practices. Wenger (1998) explains the explicit and tacit components of communities’ social practices, which are particularly relevant to students’ appropriate use of prosocial actions in the classroom:

It includes what is said and what is left unsaid; what is represented and what is assumed. It includes the language, tools, documents, images,

symbols, well-defined roles, specified criteria, codified procedures, regulations, and contracts that various practices make explicit for a variety of purposes. But it also includes all the implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognizable intuitions, specific perceptions, well-tuned sensitivities, embodied understandings, underlying assumptions, and shared world views. Most of these may never be articulated, yet they are unmistakable signs of membership in communities of practice and are crucial to the success of their enterprises. (p. 47)

While many prosocial actions were explicitly taught to younger students in the classroom and repeatedly modeled, older students developed subtle gestures and “well-tuned sensitivities” that demonstrated “embodied understandings” of more tacit elements of the classroom culture. For example, third-year students would carefully observe struggling students or altercations before deciding to intervene, demonstrating the same patience, reasoning, and even tension the teachers described as part of their own classroom management. Students would signal to each other using nothing but a glance that *another child* needed help, and with that glance, effectively ask that child to come and help, as the one who noticed the situation was occupied. These meaningful and well-understood glances were the same as those the teachers would occasionally pass back and forth throughout the morning, as their understanding of the community’s aims and roles meant that they rarely needed to communicate any other way during the morning work periods.

Students demonstrated advances in their CoP trajectories by helping others in ways that showed their growing understanding of the community’s tacit elements, including the conditional knowledge of when to help others. For example, in understanding the exact procedural step another student was on for a certain work and being familiar with each other’s ability levels and areas of difficulty, one student could step in to help another at the exact moment they needed help. Students demonstrated gains in conditional knowledge by understanding and enacting these implicit practices, some of which were apparent in the excerpt in which Rowan waited for a convenient moment to ask Max for help, after which, Max provided just the right amount of help on account of his knowledge of the material, and then quietly left—exactly as a teacher would. As another example, each time I saw Olivia practice a sewing work (e.g., sewing a button onto a swatch of fabric), she struggled to cut the thread while also keeping a

handle on the spool and the strand of thread. One day in their third year, Max stepped up to her table at the very moment she had finished measuring her length of thread, took the scissors, cut the thread, put the scissors down, and left to return to his work without either of them saying a word to each other. Moments like these showed the closeness of the relationships established within this work-focused context, as Max understood not only that she needed help, but that his help would be gladly received.

Explicit and tacit prosocial practices took time to learn. In their second year, after having mastered between one- and two-thirds of the curriculum, students began to try out their helping skills largely through trial and error—attempts that were demonstrated differently by individual students. For example, Rowan’s lack of conditional knowledge tended to prevent him from intervening in others’ work at all except to observe or only to help when explicitly asked, while Max and Alice tended toward over-helping, and Olivia did both. Knowing *when* to help after knowing that one has the *ability* to was a tacit component of this CoP, and the complex process of learning it possibly led to questionable reasons for helping.

As discussed in Chapter Two, Hawley (2002) found that frequently preschoolers’ helping behaviours can be coercive or used to “expedite resource control” (p. 174). While I did observe second-year students helping for what appeared to be the sake of sharing others’ work or gaining “resource control,” it was limited in this environment due to corrections of these actions from teachers and peers, the prerequisite of mastery, and given that most materials for younger students have been designed to be completed independently. When Hana mentioned students’ “temptation” to go and help others with their work, she may have been referring in part to children’s desire to use certain materials while in another child’s possession, although it was difficult to pinpoint whether they were motivated to help or simply gain control of resources.

To illustrate, in his second year, Max was particularly interested in one material he had just mastered (the trinomial cube) and would frequently irresistibly help any student who chose it. These cases seemed material-driven, perhaps being more coercive than helpful, or these interruptions may have been chances for Max to demonstrate his

mastery of the material, a common motive to which Hana alluded. In contrast, Rowan also loved doing the trinomial cube and would be aware of anyone using it, visually checking on them periodically, but he only helped when another appeared to need it.

Helping that Hawley (2002) might deem coercive or attempting to gain control of resources in this classroom instead was the result of mainly second-year students still learning the tacit conventions of when and when not to apply their curricular knowledge. During such tryouts, Max's exuberant helping practices proved more overenthusiastic than coercive, although without contextual knowledge, the following event appears ambiguous:

Walking back to the table, Max sees a girl push all of the aprons on hangers to the right side of the rack so they are now packed together. He watches and waits for her to finish. Then when she walks away, he spreads them out again as they were. He now turns to where another girl is taking an apron and putting it on a table to prepare to put it on. He commandeers the act of her taking the apron off the hanger and she battles him to do this task on her own. They are both tugging on the apron and a nearby girl stands next to them and says, "don't fight about it – no!" They don't listen and the tugging continues. The girl who initially tried to stop them walks over to Hana and meanwhile another boy has come over and is trying to stop them. Hana arrives. While they were tugging on the apron, three different children tried to stop them before Hana got there. Hana takes the apron and sends everyone back to their work. (observation, February 4, 2015)

First, instead of stopping the girl from disordering the apron rack, Max simply watched and waited for her to be finished *and* for her to go away before correcting the situation, which showed some level of inhibition and conditional knowledge as he considered her independence even if she was disordering the classroom in his view. After this demonstration of seeming maturity, he turned to grab a hanger from another girl to "help" her put the apron on her or to put the hanger away. After just having fixed the hangers, his focus might have been on replacing this hanger in way he found suitable, or it might have been an attempt to reproduce the help Hana modeled minutes earlier during which she helped a first-year student put on an apron. In either case, this is help the student neither needed nor wanted, and he refused to cede to her rightful possession of the material.

This occurrence demonstrated Max's gaining CoP-specific knowledge and sense of authority (regarding the order of the apron rack and his ability to help another) along with *some* knowledge of the correct conditions in which to help, followed by some remaining confusion about it. It is possible that Max was misapplying a freshly modeled action and was trying inappropriately to inhabit the recently-observed helper role. However, his actions do show concern for and a growing sense of authority over the classroom environment. This event also displays several other children stepping into helper roles by correcting undesirable activity.

Second-year students' acquisition of conditional knowledge through trial and error highlights the freedom they were allowed in order to do so. The teachers' supported the students' autonomy, wanting them to learn to *choose* the right actions, taking a patient, non-punitive perspective to this process. Again, the most common teacher interventions to scenarios like the one above involved gently asking a student, "Where is your work?" or saying, "I can help you," or even extending a hand for the student to hold while smiling, indicating she would help the student find something on which s/he wanted to work. Hana alluded to using inductions after some conflicts to try to help students with perspective-taking, but she emphasized that it was not to make them *feel sorry* immediately (and the teachers never required apologies to be given), but instead to slowly build their understanding of taking others' perspectives:

If we prepare them, or if we try to help them understand the feeling, then it would probably create this feeling of being sorry for *later*, for later. Like even maybe when they are older than six. [pauses] Yes, it takes more time to learn some things. (personal communication, June 17, 2015)

The teachers' patience for students' learning meant that they recognized the possibility of never seeing certain results of their teachings, as these results might not take effect until after students leave the school. This patience contributed to their belief and support of students' learning through independence and autonomy, even though it created the perpetual tension for their own classroom management decisions, as discussed in the previous chapter. Corso, Martini, and Balocco (2008) emphasize that a community of practice "is difficult to manage in a conventional way. It must be given a good deal of autonomy" (p. 6).

(4) Authority and responsibility. The students' provision of autonomy contributed to their continual role exchanges. In students' third year, their prosocial activity was characterized by the fluidity with which they moved into helping roles, demonstrating their mastery, conditional knowledge of when to help, and their sense of authority.

Like mastery, students began accumulating authority in their first year. However, younger children demonstrated their gaining sense of authority over the classroom's material environment before having a sense of authority over others. In the following event, a first-year student appears to lack a sense of authority over the environment:

Rowan looks at the table and goes over to Hana, saying her name. He gets her to follow him over to the snack table and he points to a spill. Hana says "you can wipe it up," smiling and nodding. He rushes over to get the yellow towel and wipes the spill, checking the table to see if he got it all. (observation, February 13, 2014).

Here, Rowan felt the need to ask for permission to fix something out of place in the environment even though he knew the procedural steps. The following interaction also takes place in the snack area, during which a first-year student appears uncertain as to whether or not he is allowed to rearrange an element of the environment, and second-year Max helps him, having an already-established environmental authority:

A younger boy is serving himself a snack and is trying to work around a vase of daisies another student has placed there (during the flower arranging work). Now he picks the vase up, seeming to consider moving it out of the way, but he looks unsure or confused. Max sees him, puts down the chair he was carrying to another location, and says, smiling, "put it right here," pointing to a nearby shelf. The boy makes a joke of pretending to put it in a different place and Max laughs and then says, "no, put it right here," and the boy does, both of them smiling. (observation, May 21, 2015)

This shows Max's ability to effect changes to the environment in novel ways that helped others. Even in an environment with structured roles and lessons, the students gained this flexible, practical authority.

Third-year students demonstrated their authority over both other students and their environment with a wide variety of helping activities. For example, I observed third-year students quietly “making the rounds” in between their own works, checking to see if anyone needed help. They even assumed the authority of approving others’ work, as June did for Rowan after he finished his puzzle map, and as I witnessed third-years doing for younger students who sought them out for approval of completed work. They also took responsibility for tidying the classroom and for helping others during the process of transitioning between the morning work period and going outside, as shown here by third-years Rowan, Peggy, Olivia, Max, and June:

Rowan goes to help a boy put away a big work. [...] Now he starts a lap around the room. He sees a rug left out, rolls it, and starts to put it away, but unrolls and rerolls it to make the edges neater. Some children are ready to go outside and are lining up at the door. Peggy leaves this line to go over to the chalkboard and erases it clean. Rowan continues his rounds. He goes to a boy putting some math work away and helps put the small numerals back into the wooden box. The boy, seeming eager to go outside, smiles at him and they do it together, talking. The boy puts the work back on the shelf. June is putting a first-year’s boots on for him near the entranceway. Rowan catches Olivia’s eye as he walks toward the cloth washing set-up. She meets him there, as does Max. The three of them begin working together to move the set-up out of the way with all its components to make room for some more children to join a circle time that’s going on while some others are getting ready to go outside. Max gathers the cloth-washing materials together to prepare the work for transit then holds one side and Olivia the other. They make eye contact and Olivia says “ready?” and they hoist it and move it a few feet over, smiling. The new space created quickly fills up with younger children who were waiting. (observation, February 23, 2016)

Third-years’ demonstrated an awareness of themselves as models, further associating their authority over others with the responsibility they felt towards them. In the following event, Alice and Max demonstrate this awareness at the end of their second year:

While working at a table, Alice catches Max’s eye and she starts making some funny noises. They giggle and then in a silly way start making faces and silly voices. A younger a first-year is watching, and Alice sees that the younger boy is distracted from his work and getting carried away with their infectious silliness. Now she becomes more serious and starts

signaling to Max with her eyes while sneakily pointing to the younger boy, as if saying, “we have to stop because he’s getting carried away.” She makes an “unfortunately I have to be serious now” face and goes back to her work, and Max understands and also returns to his work. Then the younger boy turns back to his work, too. (observation, May 20, 2015)

They recognized their responsibility to be perceived as appropriate models to the first-year student, and in alignment with CoP values, engaged in silliness in moderation before turning back to their works. There were many similar instances of older children redirecting their own actions after noticing a younger child observing them, and during their three years, the students became increasingly mindful of how much time seemed right to spend on “non-participation” CoP activities in the sense that these activities drew their focus away from work. The small teacher-to-student ratio, and teacher’s inhibitive practices toward intervening unnecessarily, provided the latitude for students to share these and similar experiences, while the presence of novices provided a check on “non-participation” activity. Having young observers was a feature of the environment’s control of error in that their presence provided feedback to those engaging in “non-participation” activity without the need for verbal redirection. In this way, younger students or peripheral members inadvertently helped older students by forcing them to continually define community membership through their work-oriented activity.

Because first-year students wanted to observe works that were more advanced than the ones they were working on, their genuine interest in watching one’s work was often enough to encourage a distracted child to return to focusing on work. Children who were habitually focused on their work had more frequent and sustained observers. Those who were more frequently distracted or seemed disinterested in using materials according to stipulated procedures had fewer observers, or could not sustain the attention of observers. For example, when one or several students were observing another child working and the working child either lost focus or intentionally began using the materials incorrectly, the observing child(ren) lost interest and went away. Largely, observers were interested in seeing how the work should be done, as these impromptu observations primed younger students for lessons they would later receive, and they could perhaps vicariously experience works they were not yet allowed to use. This phenomenon directly

supports the CoP model, as community membership is defined through common practice and relationships built on sustained interest and development of that practice.

Non-examples of this, which helped to confirm this explanation, were events in which an older student was tired, losing interest, or becoming frustrated, and generally seemed to have little interest in carrying on using a work for its intended purpose. In this state, the older student would reject the company of a younger observer, as if choosing between a clear dichotomy of being a model demonstrating mastery, or rebuffing a witness to less-than-optimal work performance. Younger students were typically confused in these exchanges, disappointed not to have their curiosity about an interesting work satisfied, and would occasionally seek help on the older student's behalf.

Accordingly, this attention gained from observers had a reinforcing effect for many in that they would stay focused on their work longer if another child was observing. Olivia and June would often lose focus after an observer left, and in her third year, June would frequently actively recruit younger observers, perhaps viewing all of her work as a modelling opportunity for novices.

It was more difficult for me to tell if those who were losing observers due to their own lack of focus understood this effect. Especially in their second year, students seemed unaware of the reasons observers left (when it seemed clear to me that they were leaving because they were not seeing a proper demonstration of the materials). For example, Alice often seemed disappointed to lose observers, but this did not necessarily encourage her to return to using the materials in the prescribed way. She often appeared to miss out on this common form of community participation, instead often trying means of non-participation to gain social attention without success (and being especially unsuccessful at gaining sustained attention by such means). Being slower to gain genuine interest in many materials translated into Alice's relatively longer stay on the community's periphery, a phenomenon that highlighted other students' more direct "inbound trajectory" to full participation through making strides in gaining domain-specific knowledge (Wenger, 1998, p. 166). Gillespie and Martin (2014) emphasize the importance of children "role-playing positions which are interdependent to the position of

being a child” (p. 75). In the classroom CoP structure, my less-frequent observations of Alice demonstrating prosocial actions compared to others in her cohort relates to her relative lack of success in inhabiting the master role in juxtaposition to novices. Alice’s non-participation activity also underscored how the teachers’ attempts to help students become immersed in work were, at the same time, attempts to bring them into full community membership along with its benefits of positive attention from other students and opportunities to help and be helped by others.

Parallel attention. Students also helped each other to refocus on their work more actively. It was common for one child to be distracted simply by way of a nearby child being distracted, and as a result, individuals would attempt to refocus their peers so that they themselves could refocus, forcing them to balance their worker and helper roles.

It was easier for students to focus on their work when others around them were also focusing, a phenomenon I call *parallel attention*: a combination of parallel play (or parallel activity), during which children are engaged in activities in close proximity without interacting (Parten, 1932), and joint attention, a form of social cognition during which two people focus attention on the same object (Tomasello, 1995). While these students were not sharing works, they were sharing the act of concentration on works within the same curriculum, providing proximate support even while engaged in different tasks. In this respect, the social connection built on their community membership further contributes to the assertion that even independently working on curricular materials prosocially benefitted others as one’s act of concentration could help those close by achieve their work goals as well.

Hana shared my perception about especially one student’s dedication to others concentrating, as she explains that “sometimes Max is not even into his work [...] and when I say to him ‘you need to go back to your work,’ he is explaining to me that he is going to *help another student* go back to work! [laughing]” (personal communication, June 17, 2015). To Hana, it seemed inconvenient for Max to interrupt his own work in order to help another child refocus, but based on my observations of these instances, Max would have already been interrupted and was doing his best to get both himself and a

classmate back on track. To illustrate, in the following event, Max successfully refocuses a younger boy through a combination of corrections and reorganizing the materials to make the problem's solution clearer:

Max sees Vince who is still working on the trinomial cube and he goes and watches for a moment. Vince is squatting on the floor, leaning on the chair as if with fatigue, and Max points to the chair as if Vince should sit in it. Vince shrugs, then Max adjusts the chair to the perfect distance away from the table and then points again in a gesture of presenting this seat to him. Vince shrugs again, and Max makes few adjustments to his work and then he walks away. Vince stands up and sits in the chair now and goes back to the work. By this time, Max is already back at his table. He checks back to see that things with Vince are going well. (observation, October 22, 2014)

Because this was a common way for teachers to help students—readjusting their work area including slightly scaffolding the materials—the students reproduced this modeled activity. The students' refocusing efforts to each other appeared to hold the same weight as if the redirections came from the teachers. Their clear work mastery also may have further contributed to their authority by granting them *expert power*, a concept introduced by French and Raven (1960), which Tauber (2007) recognizes as a frequently overlooked and useful source of classroom authority. Just as the teachers had high levels of expert power, so did the students with their increasing knowledge of the classroom materials, their abilities to teach and assist others with them, and their relevant “accumulation of lived experience” (Woods, 2016, p. 158).

5.4. The Classroom CoP Transformed Independent Work into Social Practice

Even as one of the youngest first-year students—not even three-years-old when he began attending the school—Rowan was highly independent throughout his first year. The teachers sometimes referred to him as “a man with a plan.” Earlier in the study, I was concerned that his focus on work materials might have been preventing him from forming social relationships. But, in his second year, his community participation through independent work transformed into increasingly close relationships with others through shared community interests. One moment of close observation validated that his

independence was not a form of isolation: He was once so engrossed in working on expert variations of the trinomial cube that I thought he did not notice or care that another student was observing him at length, as he did not look up at him. Suddenly something else in the room caught the observer's attention, and as soon as he looked away, Rowan paused—actually froze—until the other student's attention returned. When giving a lesson, the teachers would similarly pause and wait for a student's attention to return (typically without calling the student's attention back) before proceeding so that no steps would be missed. In this case, while I first believed that Rowan was simply completing a work essentially in a social vacuum, he was actually participating in a social position exchange by becoming the model who had demonstrated the lesson to him, possibly believing it was his duty to show all the steps to his observer.

If we view the students' independent work as inhabiting a position that they exchange with a teacher and other students, then even students' independent work is inherently social, reinforcing the value of the students' work-orientation in their prosocial development. This view supports my determination that the students who were best able to focus on independent work later became those who were also best able to collaborate by the time specific works in the curriculum required collaboration. Additionally, students who autonomously chose their work regularly without needing direction were also more successful collaborators. For example, Olivia frequently had difficulty choosing works independently in her first two years, often asking for teachers' suggestions before proceeding to another work. The teachers discussed this conundrum with me, as they wanted to both help students find engaging work, making sure they both feel supported and have opportunities for concentration, while also helping them build enough autonomy to make decisions more independently. In these cases, the teachers had to decide between fulfilling a student's request for help and considering not helping them in the immediate situation so as to aid the development of the child's autonomy. After receiving more direction toward work than her peers, albeit by request, Olivia began to *give* more direction in her third year, apparently moving into the role of a teacher helping others find work. However, her third-year peers often did not need this direction, preferring to choose work on their own. Throughout her third year, this activity resulted in fruitful and friendly collaborations with her peers (as they often enjoyed working

together per her suggestion) along with difficulties respecting their autonomy, as was demonstrated earlier in the event of Olivia not respecting Max's decline to work with her.

The association between successful individual focus and collaboration is already established in other fields like organizational psychology, although this association appears absent in early childhood education literature. As Heerwagen, Kampschroer, Powell, and Loftness (2004) explain, "effective collaboration entails both individual focused tasks and interactive group work. Accordingly, collaborative work environments require spaces, furnishings, and technologies that support both individual focus and group interaction, while also facilitating transitions between these activities" (p. 511). In this Montessori classroom, the "technologies" that supported both individual focus and group interaction were the curricular materials, as more works began to *require* collaboration as the students advanced through the curriculum, a shift that began around the middle of their second year, when they were approximately four and a half years old. Montessori wrote at length about the connection she observed between individual focus and social skill gains, as this was a main component of the phenomenon she called *normalization*. As she wrote, "No sooner has [the student] found his work than his defects disappear" (1967/1995, p. 202).

Overall, prosocial gains were made in this community of practice in which curricular work was the community's evident focus. Even though the teachers appeared to communicate that work was the community's primary focus, these same teachers valued prosocial gains even more highly than work progress, suggesting a sort of indirect effect in that prosocial gains became a byproduct of acting as though academic or curricular progress was the direct aim. To illustrate, while Hana's main role was to help children concentrate on and complete work, she expressly valued prosocial activity enabled by position exchanges over the importance of their academic achievement. She stated:

For me, if I look at this helping, for this older student to have this feeling that, "I can help"—of course they should have mastered [the work], too, and be able to present it beautifully—the feeling that now they can go and they can show it—[...] "Now I am the one." I think this is most valuable. [...] And this will make it so they will be motivated to practice and

practice more so that they can go and help with other things. [...] I think this is the most valuable skill they are going to learn in this community of children. (personal communication, June 17, 2015)

As the students became increasingly masterful and authoritative through position exchanges, and were able to collaborate and help others more as they progressed as a result of their individual work, we can view all practice within their CoP as necessarily social, as Wenger claims it is (1998), and as beneficial to others. With this, their activity benefitted others effectively, decisively, and authoritatively, bringing them to the center of the classroom's community of practice as fully participating members.

Chapter 6.

Final Discussion and Conclusion

This study's findings further highlight the need for young children's prosocial activity to be studied in naturalistic contexts. This study makes several key contributions to existing literature, some of which may lead the way toward further research as is discussed below.

6.1. Final Discussion

This study demonstrates that curricular work can facilitate the development of young children's prosocial activity in a Montessori primary classroom. Contextual parameters that contributed to this development included direct guidance and substantial modeling for appropriately navigating social interactions. Curricular work was also taught through precise and deliberate modeling (in this case, by both teachers and students) and provided ample opportunities for students to inhabit the role of the model. These opportunities were both routinized, as in the form of lessons, and permitted to occur spontaneously so that position exchanges took place frequently. The curricular work was both didactic and appropriately challenging within the range of students' abilities. This curriculum also remained visible to students as an indicator of their progress, including past and future accomplishments. While students became increasingly responsible for the upkeep of the material classroom, a responsibility partially learned through practical life lessons, they also gained authority among peers, allowing them to effectively contribute to classroom management.

Conceiving the Montessori classroom as a community of practice is a unique contribution to both Montessori research and young children's prosocial development literature. While the suggestion of indirect social benefits gained from work focus was an

inceptive aspect of the educational method¹³ (Montessori, 1912/2003, 1967/1995), explanatory models for such phenomena have remained elusive despite, for example, Cossentino's in-depth analyses of the "ritualized expertise" of Montessori lessons and of the Montessori work construct (2005, 2006). The CoP model connects the teachers' and students' work ethos to students' prosocial development. It also helps explain the smaller teacher-to-student ratio's relationship to prosocial activity in that the material work itself both structured student's activities and facilitated prosocial actions through modeling and position exchanges. The CoP model further advances previous efforts to communicate the legitimacy of Montessori students' work (Cossentino, 2005; Lillard, 2005) and the legitimacy of the help they provide to others (Standing, 1957/1998) for purposes other than curricular gains. While there is still much room to expand the Montessori CoP model, perhaps through deeper investigating of additional classroom components through a CoP lens, the present iteration asserts that the students' work is substantial, multi-layered and serious enough to comprise a community the likes of which are typically understood only in terms of adult professional work. This practice then explains the fluctuating formation of the classroom community, the smaller communities of practice that formed around specific materials, and how the students' autonomy contributed to a well-managed classroom.

A CoP model has been used to analyze second language acquisition in a first-grade classroom, which helped to explain how the classroom's physical arrangement and expectations of practice impacted social interactions and learning (Toohey, 1998). Toohey (1998) found that community stratification in the classroom led some students to have less access to social exchanges that could have benefitted their learning and language acquisition, and that this unequal access was further supported by the teacher's arrangement of the students' seats. However, in my study's classroom, children had the autonomy to move around the classroom, and stratification appeared to be structured by the staggered accumulation of work mastery, with everyone having the same

¹³ For example, Montessori (1966) immodestly claimed: "The most important discovery is that a child returns to a [normalized] state through work. Countless experiments made upon children of every race throughout the world have shown that this is the most certain datum that we have in the field of psychology and education" (pp. 185-186).

opportunities for membership mobility by moving through the same curriculum at different speeds. In this sense, stratification was expected rather than accidental, perhaps also having been clarified by the multiaged, rather than the first-grade's single-aged, composition. In the classroom Toohey (1998) studied, children helping each other and repeating what was modeled by other students was discouraged, particularly being "discouraged from explicit appropriation of others' words" (p. 80). In the present study, reproducing modeled actions and language was expected and routinized.

This research contributes new understanding of both social and curricular possibilities for multiage classrooms. While most apprehension toward multiage classrooms relates to a concern for the lack of cognitively challenging work for older children (Ansari et al., 2015; Moller et al., 2008), this was not observed in this Montessori classroom, largely because the curriculum is designed to span the students' three years' engagement. Affirming my observations of the cohort's progress, the teachers voiced satisfaction with the students' academic progress in their third year. For all of the cohort students, these academic achievements included reading and writing (for example, Maryam recalled Oliva "writing beautiful, beautiful stories"), knowledge of world geography, arithmetical abilities including adding, subtracting, multiplying, and dividing, understanding the decimal system, and regularly performing operations on four-digit numbers, to name only several (personal communication, June 22, 2016). In fact, this study demonstrates that the presence of younger students in the role of observing novices can help to direct older students' attention toward their work, arguably supporting their academic progress. Authors of prior multiage classroom research suggested that such classroom composition led to teachers having difficulty with classroom management (Moller et al., 2008; Urberg & Kaplan, 1986), which was not observed in this study's classroom.

This study supports Hay's (1994) finding that young children's prosocial actions become more selective over time in that these students' prosocial activities increasingly aligned with the classroom CoP's helping values and expectations. Because an increase in selectivity can result in fewer prosocial acts overall, as also suggested by Warneken and Tomasello (2013), context should be viewed as an important mediator when

interpreting children's inhibitions or what may have otherwise been considered a failure to act prosocially. The current study's findings on the increasing contextualized nature of children's helping do indicate that not approaching a given situation can be one legitimate way for children to act prosocially. This further problematizes how inhibition is perceived in relation to children's prosocial actions in laboratories, as laboratories are contexts of their own, with perhaps unknown, confusing, or conflicting contextual cues that can influence what children perceive to be helpful in such situations.

This study's findings further add to the understanding of how inhibition is related to prosocial activity by providing evidence that learning inhibition through a combination of direct instruction *and* modeling is possible. While the children received feedback from both teachers and other students regarding situations that required inhibition, the inhibiting activity students developed was remarkably similar to that practiced by the teachers—how they observed situations, the timing with which they approached those situations (waiting), and then the manner in which they approached situations needing intervention. Even these approaches still showed signs that they were repeating modeled inhibition, as students often first approached situations silently before adding necessary verbal remediation. At various times, the teachers emphasized the *exactness* with which students reproduced their own (teachers') actions, at one point calling it “a little bit frightening” (Maryam, personal communication, June 22, 2016). These were tacit features of the CoP that the students learned through modeling.

The smaller teacher-to-student ratio created real helping opportunities for the students. This speaks to the concerning paradox that resulted from Caplan and Hay's (1989) assertion that the infrequency of preschool children's prosocial actions could be explained by their perceived lack of necessity and responsibility to do so. This was despite the fact that helping and comforting behaviours were frequently modeled by teachers. My study demonstrates that effectively modeled prosocial activity should be paired with the allowance for students to perceive a need for their help. This allowance occurred by way of the smaller teacher-to-student ratio and trained and deliberate teacher inhibition. Caplan and Hay (1989) also noted that the teachers in their study never encouraged children to help others. This study's teachers voiced difficulty in *preventing*

children from helping others while also directly asking for their help in specific situations, which again reinforced the perception of their help being needed. In contrast to Caplan and Hay's (1989) finding that none of the three- to five-year-olds in their study believed they should comfort a classmate in distress (instead, 92% felt it was the teachers' responsibility, and "the remaining 8% reported that 'mom' is supposed to help" [p. 239]), the students in my study readily comforted each other, again, in increasingly context-specific ways. The following event takes place in Max's third year:

Max sees a first-year girl who looks sad, pouting, standing in place with her arms crossed and her face red. I didn't see what caused this state. Max approaches her, looking at her face, and puts his arms around her gently for a hug, then releases her while keeping a hand on her shoulder. He studies her face. Then he guides her with his hands on her shoulders over to Rowan's work table, where Max had been standing and watching him work on the stamp game (an advanced math work). He walks her slowly there—only about two yards away—and she goes along agreeably. He carefully positions the girl at the side of the table, angling her body toward Rowan so as to observe him. He studies her face again, which has softened, and he tries to unfold her arms now, as if trying to manually fix this mood by unfurling her tensed body. She giggles as she lets him unfold her arms and he smiles back and they both turn to watch Rowan's work. This method of comforting appeared to be a success. (observation, June 2, 2016)

His reproduction of teachers' modeled activity (albeit with added personal flare) is two-fold in that he redirected the girl toward community-related practice, and hugged her and kept her by his side, as the teachers would. This classroom's teachers even explicitly guided first-year students who showed concern for others' distress on how to carry out direct actions to help, like retrieving a tissue. Again, through directly teaching and modeling prosocial activity, students exhibited explicit and tacit community-specific prosocial practices.

The present findings also speak to contextual understandings of young children's control of available resources. Hawley's (2002) study demonstrated the possibilities for students to frequently thwart other children's material aims or to coerce them into sharing or giving up their materials. However, the control of resources in the present study's classroom was constituted by individual student's rights to use a material independently,

and by the staggering of their curricular mastery gains. For example, most first-year work is designed for independent use and expectations about works to be completed independently versus cooperatively are made clear, as are the stipulations for who can provide help (for example, masters help novices). This study's teachers actively taught children not to engage in thwarting or coercive actions and reinforced this by correcting such instances (for example, when a teacher knew a child could independently complete a work but was intervened upon by a child desiring to use those materials or help unnecessarily). These corrections resulted from the teachers' emphasis on independence and mastery as well as the more practical reason of being able to observe students' mastery on specific materials. Because of these corrections and expectations surrounding independent material use, I argue that concerns regarding the inequity of young children's resource use, or instances of thwarting, were largely mitigated in this classroom. Essentially, opportunities for resource control were leveled in that each child would eventually have a chance to use and practice each material in the classroom to his or her satisfaction and eventually to the point of achieving mastery (and any time beyond that point as well).

This study supports previous findings that praising or rewarding children's prosocial behaviour is unnecessary (Warneken, 2013). While deliberate external rewards for any actions in the classroom were clearly absent, any praise or even positive attention given from teachers for students' prosocial activity was remarkably negligible. Verbal thanks were occasionally given but mainly in instances during which a child was helping a teacher—for example, by carrying a freshly filled pitcher of water from the kitchen to the snack table. Still, in this example, the child's help would be needed in that unlatching the half door from the kitchen to open it would require the teacher to have a free hand, and she would avoid modeling carrying the pitcher with just one hand. Therefore, in the same way that children's help was provided when warranted, thanks were provided when warranted, but not disingenuously or exaggeratedly. Montessori (1912/2003) emphasized the punishing quality of rewards in that she viewed rewards and punishments to equally impede on children's liberty and the development of their ability to make decisions. This element of Montessori theory is an inclusive part of teacher training, the application of which was expertly demonstrated by these teachers. My findings cannot speak to the

causal relationship between lack of praise or rewards and prosocial activity, but students did not hesitate to provide help where needed, and they did not appear to expect attention, praise, or rewards in return.

Based on Gillespie and Martin's (2014) and Gillespie's (2012) discussion of the social development of agency, there is potential for their position exchange theory (PET) to illuminate how agency is developed in a Montessori community of practice through work-oriented modeling and helping, which enable and routinize position exchanges. For example, the Montessori work materials may be viewed as semiotic forms—as “fundamentally intersubjective” mediators between individuals (Gillespie, 2012, p. 34)—as it has already been suggested that their use is “formalized, symbolic activity” (Cossentino, 2005, p. 227). These materials enable clear and repeated position exchanges and allow young children to see and work toward distant goals, which Gillespie (2012) discusses as an integral component of agency. To illustrate, in the following event, two second-year students take a break from their current math work to ogle some more advanced math materials:

Max goes back to the rug where Rowan is standing. Rowan puts his arm around Max and then leads him over to the math shelf that has some more advanced math works on it. Rowan puts his hand out as if presenting the shelf to Max and says, “and then we will get to do this!” Max smiles and nods and they smile and nod together toward the shelf, then go back to their rug, arm in arm. (observation, February 4, 2015)

Because the classroom works are visibly organized based on successive levels of mastery, students were able to see the works they would master in the future, both while positioned on the shelves and while in use by older students. (They could also visibly take stock of the works already mastered.) It would also be beneficial to study how the authenticity of the students' position exchanges relates to the notion of their developing agency. In that Gillespie and Martin (2014) only discuss children's position exchanges in the form of “role-play” while asserting that “children cannot be mothers, fathers or teachers,” the notion that children did in fact become teachers each time they took the position of a teacher in this classroom compels additional research (p. 75).

CoP-specific position exchanges may also contribute to previous understandings of young children's perspective-taking development, which is believed to have implications for their empathic and prosocial abilities. Because a large portion of social exchanges for young children in this classroom revolved around inhabiting prescribed roles (like worker, observer, or helper), these relatively structured social opportunities may assist less socially-inclined students with peer interactions. This may help to address concerns stemming from Le Mare and Rubin's (1987) findings that either poor perspective-taking skills may hinder children's social abilities *or* that those who lack social skills may be prevented from developing perspective-taking abilities. Despite uncertainty surrounding the causal direction of such effects, both abilities may have been strengthened in the classroom I observed, as structured position exchanges may have contributed to learning both social skills and perspective-taking.

Future studies might also investigate the phenomenon of *parallel attention*, particularly within communities of practice. Considering this concept might shift notions of individuals completing independent work toward viewing such activities as socially beneficial events in that their practice is communal, despite members' simultaneous independent practices being focused on different materials. Parallel attention in a Montessori CoP could also raise further questions about the relationship of common stimuli and position exchanges, given that even when using different materials, these students are actually staggering the use of the same materials over time. For example, Gillespie poses the question: "How does the developing child know that they are moving between complementary social positions?" and then suggests that common stimuli can "cue the complimentary nature of the social positions" (p. 42). It is already likely that having clear and distinct roles (like worker/master or observer/novice) in relation to the same material facilitates exchanging positions, as previously discussed. Although, because all of the Montessori CoP students used the same materials, following the same procedures at different times, could their simultaneous and parallel use of different materials still somehow cue a form of intersubjectivity brought on by common, albeit asynchronous, stimuli? Once again, more focused research into this area, possibly using data collected for the present study, would be necessary to answer this question.

6.2. Conclusion

The present research represents only the first of many possible studies to be conducted using the large bank of data collected herein. As may be evident, this thesis explains only some of what I learned throughout my analysis, and the vignettes that I have included represent a small fraction of the fascinating and poignant events I witnessed over the years.

Because I conducted a single-case study, generalization of the findings to other populations or schools is limited. However, in-depth case studies such as this one allow for further expansion and analysis of theories pertaining to the findings rather than generalization to larger or other populations (Yin, 2009). I focused my analysis on issues in the literature requiring further research that could be best examined through a longitudinal, in-depth, qualitative investigation. As such, I reported on prosocial activity matters pertaining to inhibition and the conceptualization of prosocial development over time among three- to five-year-olds in a Montessori classroom. This process required me to stress patterns and themes across the embedded units of analysis as they compared to the case as a whole. However, the data for each of my focal students present a rich, storied unfolding of his or her learning and development, ensuring numerous possibilities for future projects. Each student's (or teacher's) data could constitute a case-study of its own.

The case being investigated was bounded by the classroom. However, if I had considered the students as individual cases only, it would have been fruitful to continue studying their experiences as they transitioned into their new schools. When the family of one of my focal students moved out-of-province, I considered traveling to conduct observations of her at her new school but instead remained focused on the case already defined. I was especially interested to learn that she would be attending another AMI-affiliated Montessori primary classroom. This raised noteworthy questions about joining a new Montessori community in the third year of a students' three-year cycle. Observing her transition, as well as those of students entering their first-year classrooms, could have been a valuable contribution to Montessori research. Lillard (2005) suggests that

students' transitions from Montessori schools to other types of schools is rarely problematic but bases this claim on anecdotal evidence. I would imagine that transitional experiences vary widely between individual students, families, and schools.

The inextricable connections between the provision of autonomy, the teachers' curricular focus, the children's work progress, and their prosocial development reveal a community structure that helps to instantiate, in the present day, the moral framework developed by Montessori and embraced by Montessori teachers for the last century. While other educational reforms tend to shift focus to and from various goals (Olson, 2003), the majority of Montessori education's social and moral aims have remained consistent. The coherent translation of these goals into practice support observable developments in young children's prosocial activity.

References

- Aknin, L., Hamlin, J. K., & Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS ONE* 7(6): e39211.
- Ansari, A., Purtell, K., & Gershoff, E. (2015). Classroom age composition and the school readiness of 3- and 4-year-olds in the Head Start program. *Psychological Science*, 27(1), 56-63.
- Ansari, A., & Winsler, A. (2014). Montessori public school pre-k programs and the school readiness of low-income Black and Latino children. *Journal of Educational Psychology* 106(4), 1066-1079.
- Aslanian, T. K. (2015). Getting behind discourses of love, care and maternalism in early childhood education. *Contemporary Issues in Early Childhood*, 16(2), 153-165.
- Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York: Holt, Rinehart, & Wilson.
- Batson, C. D. (2011). *Altruism in humans*. New York, NY: Oxford University Press, Inc.
- Batson, C. D., Sager, K., Garst, E., Kang, M., Rubchinsky, K., & Dawson, K. (1997). Is empathy-induced helping due to self-other merging? *Journal of Personality and Social Psychology*, 73(3), 495-509.
- Battistich, V., Solomon, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational Psychologist*, 32(3), 137-151.
- Baumrind, D. (2013). Authoritative parenting revisited: History and current status. In R. E. Larzelere, A. S. Morris, & A. W. Harrist (Eds.), *Authoritative parenting: Synthesizing nurturance and discipline for optimal child development*. Washington, DC: American Psychological Association.
- Beirhoff, H-W. (2002). *Prosocial Behavior*. New York, NY: Taylor & Francis Inc.
- Benish-Weisman, M., Steinberg, T., & Knafo, A. (2010). Genetic and environmental links between children's temperament and their problems with peers. *The Israel Journal of Psychiatry and Related Sciences*, 47(2), 144-151.
- Bloom, B. S. (1971). Mastery learning. In J. H. Block (Ed.), *Mastery learning: theory and practice* (pp. 47-64). New York: Holt, Rinehart and Winston, Inc.

- British Columbia Ministry of Health & the Ministry of Children and Family Development. (2008). *Early learning framework* (Publication No. C2008-960031-2).
- Bronson, M. B. (2000). *Self-regulation in early childhood*. New York: The Guilford.
- Brunold-Conesa, C. (2008). Reflections on the internationality of Montessori education. *Montessori Life*, 20(3), 40-44.
- Campbell, R. L., & Christopher, J. C. (1996). Moral development theory: A critique of its Kantian presuppositions. *Developmental Review*, 16, 1-47.
- Caplan, M. (1993). Inhibitory influences in development: The case of prosocial behavior. In D. F. Hay & A. Angold (Eds.), *Precursors and causes in development and psychopathology* (pp. 169-198).
- Caplan, M. Z., & Hay, D. F. (1989). Preschoolers' responses to peers' distress and beliefs about bystander intervention. *Journal of Child Psychology and Psychiatry*, 30(2), 231-242.
- Carlo, G., & de Guzman, M. R. T. (2009). Theories and research on prosocial competencies among US Latinos/as. In F. Villaruel, G. Carlo, M. Azmitia, J. Grau, N. Cabrera, & J. Chahin (Eds.), *Handbook of U.S. Latino psychology* (pp. 191-211). Los Angeles, CA: Sage.
- Carlo, G., Knight, G. P., Basilio, C. D., & Davis, A. N. (2014). Predicting prosocial tendencies among Mexican American youth: The intersection of cultural values, social cognitions, and social emotions. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 242-258). New York: Oxford University Press.
- Chakroff, A., & Young, L. (2014). The prosocial brain: Perceiving others in need and acting on it. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 90-112). New York: Oxford University Press.
- Cohen, M. Z., & Omery, A. (1994). Schools of phenomenology: Implications for research. In M. J. Morse (Ed.) *Critical issues in qualitative research methods*, (pp. 136-156). Thousand Oaks, CA: Sage.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist*, 55, 218-232.
- Corbin, J. M., & Strauss, A. L. (2008). *Basics of qualitative research: techniques and procedures for developing grounded theory* (3rd ed.). Los Angeles, CA: SAGE Publications.

- Corso, M., Martini, A., & Balocco, R. (2008). Organising for continuous innovation: The community of practice approach. *Int. J. Technology Management*, 44(3/4), 441-460.
- Cossentino, J. (2005). Ritualizing expertise: A non-Montessorian view of the Montessori method. *American Journal of Education*, 111, 211-244.
- Cossentino, J. M. (2006). Big work: Goodness, vocation, and engagement in the Montessori method. *Curriculum Inquiry*, 36(1), 63-92.
- Cossentino, J., & Whitcomb, J. A. (2007). Peace as a premise for learning: Maria Montessori's educational philosophy. In D. T. Hanson (Ed.), *Ethical visions of education: Philosophies in practice* (pp. 111-126). New York, NY: Teachers College Press.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications Inc.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *THEORY INTO PRACTICE*, 39(3), 124-130.
- Crockenberg, S. B., & Bryant, B. K. (1978). Socialization: The implicit curriculum of learning environments. *Journal of Research & Development in Education*, 12(1), 69-78.
- Curby, T. W., Rudasill, K. M., Edwards, T., & Perez-Edgar, K. (2011). The role of classroom quality in ameliorating the academic and social risks associated with difficult temperament. *Social Psychology Quarterly*, 26(2), 175-188.
- Danziger, K. (1997). *Naming the mind: How psychology found its language*. London: Sage Publications Ltd.
- Deci, E. L., Ryan, R. M., & Koestner, R. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125(6), 627-668.
- de Guzman, M. R. T., Carlo, G., & Edwards, C. P. (2008). Prosocial behaviors in context: Examining the role of children's social companions. *International Journal of Behavioral Development*, 32(6), 522-530.
- de Guzman, M. R. T., Do, K. A., & Kok, C. M. (2014). The cultural contexts of children's prosocial behaviors. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 221-242). New York: Oxford University Press.

- Derscheid, L. E. (1997). Mixed-age grouped preschoolers' moral behavior and understanding. *Journal of Research in Childhood Education, 11*(2), 147-151.
- Detmer, D. (2013). *Phenomenology explained: From experience to insight*. Chicago, IL: Open Court.
- Dunfield, K. A., & Kuhlmeier, V. A. (2010). Intention-mediated selective helping in infancy. *Psychological science, 21*(4), 523-527.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432.
- Egan, K. (1997). *The educated mind*. Chicago, IL: The University of Chicago Press.
- Eisenberg, N. (1996). Caught in a narrow Kantian perception of prosocial development: Reactions to Campbell and Christopher's critique of moral development theory. *Developmental Review, 16*(2), 48-68.
- Eisenberg, N. (2010). Empathy-related responding: Links with self-regulation, moral judgment, and moral behavior. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 129-148). Washington, DC: American Psychological Association.
- Eisenberg, N., & Fabes, R. A. (1992). Emotion, regulation, and the development of social competence. In M. Clark (Ed.), *Emotion and social behavior: Vol. 14. Review of personality and social psychology* (pp. 119-150). Newbury Park, CA: Sage
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol 3. Social emotional, and personality development* (5th ed.) (pp. 701-778). New York: Wiley.
- Eisenberg, N., Fabes, R., & Spinrad, T. L. (2006). Prosocial development. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 3, Social, emotional, and personality development* (6th ed.) (pp. 646-718). Hoboken, NJ: Wiley.
- Eisenberg, N., & Spinrad, T. L. (2014). Multidimensionality of prosocial behavior: Rethinking the conceptualization and development of prosocial behavior. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 17-39). New York, NY: Oxford University Press.

- Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review Clinical Psychology*, 6, 495-525.
- Eisenberg, N., Wentzel, M., & Harris, J. D. (1998). The role of emotionality and regulation in empathy-related responding. *School Psychology Review*, 27(4), 506-521.
- Ervin, B., Wash, P. D., & Mecca, M. E. (2010). A 3-year study of self-regulation in Montessori and non-Montessori classrooms. *Montessori Life*, 2, 22-31.
- Fabes, R. A., Eisenberg, N., Jones, S., Smith, M., Guthrie, I. K., Poulin, R., Shepard, S., & Friedman, J. (1999). Regulation, emotionality, and preschoolers' socially competent peer interactions. *Child Development*, 70, 432-442.
- Fabes, R. A., Fultz, J., Eisenberg, N., May-Plumlee, T & Christopher, F. S. (1989). Effects of rewards on children's prosocial motivation: A socialization study. *Developmental Psychology*, 25(4), 509-515.
- Fortuna, K., & Knafo, A. (2014). Parental and genetic contributions to prosocial behavior during childhood. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 70-90). New York, NY: Oxford University Press.
- Fowler, R. D., Seligman, M. E. P., & Koocher, G. P. (1999). The APA 1998 annual report. *American Psychologist*, Vol 54(8), 537-568
<http://dx.doi.org/10.1037/0003-066X.54.8.537>
- French, J.R.P., & Raven, B. (1960). The bases of social power. In D. Cartwright & A. Zander (Eds.), *Group dynamics* (3rd ed.) (pp. 259-269). New York: Harper & Row.
- Gardner, J. E. (2013). *Reading and writing about literature* (3rd ed.). Boston, MA: Bedford/St. Martin's.
- Gelfand, D. M., & Hartmann, D. P. (1982). Response consequences and attributions: Two contributors to prosocial behavior. In N. Eisenberg (Ed.), *The Development of Prosocial Behavior* (pp. 167-192). New York, NY: Academic Press, Inc.
- Gillespie, A. (2012). Position exchange: the social development of agency. *New Ideas in Psychology*, 30, 32-46.
- Gillespie, A., & Martin, J. (2014). Position exchange theory: A socio-material basis for discursive and psychological positioning. *New Ideas in Psychology*, 32, 73-79.

- Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.
- Gordon, M. (2005). *Roots of Empathy: Changing the world child by child*. Toronto, ON: Thomas Allen.
- Grusec, J. E. (1991). Socializing concern for others in the home. *Developmental Psychology*, 27, 338-42.
- Grusec, J. E., Goodnow, J. J., & Cohen, L. (1996). Household work and the development of concern for others. *Developmental Psychology*, 32(6), 999-1007.
- Hart, H. H. (1948). Sublimation and aggression. *Psychiatric Quarterly*, 22, 389-412.
- Hastings, P. D., McShane, K. E., Parker, R., & Ladha, F. (2007). Ready to make nice: Parental socialization of young sons' and daughters' prosocial behaviors with peers. *Journal of Genetic Psychology*, 168, 177-200.
- Hastings, P. D., Miller, J. G., & Troxel, N. R. (2015). Making good: The socialization of children's prosocial development. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of Socialization: Theory and Research* (2nd ed.). New York, NY: The Guilford Press.
- Hatch, J. A. (2002). *Doing qualitative research in educational settings*. Albany, NY: State University of New York Press.
- Hawley, P. H. (2002). Social dominance and prosocial and coercive strategies of resource control in preschoolers. *International Journal of Behavioral Development*, 26(2), 167-176.
- Hawley, P. H. (2014). Evolution, prosocial behavior, and altruism: A roadmap for understanding where the proximate meets the ultimate. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 43-70). New York: Oxford University Press.
- Hay, D. F. (1994). Prosocial development. *Journal of Child Psychology and Psychiatry*, 35(1), 29-71.
- Hay, D. F., Castle, J., Davies, L., Demetriou, H., & Stimson, C. A. (1999). Prosocial action in very early childhood. *Journal of Child Psychology and Psychiatry*, 40(6), 905-916.
- Heerwagen, J. H., Kampschroer, K., Powell, K. M., & Loftness, V. (2004). Collaborative knowledge work environments. *Building Research & Information*, 32(6), 510-528.

- Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). Los Angeles, CA: Sage.
- Hoffman, M. L. (1982). The development of prosocial motivation: Empathy and guilt. In N. Eisenberg (Ed.), *The Development of Prosocial Behavior* (pp. 281-311). New York, NY: Academic Press, Inc.
- Howes, C., Matheson, C. C., & Hamilton, C. E. (1994). Maternal, teacher, and child care history correlates of children's relationships with peers. *Child Development*, 65(1), 264-273.
- Hughes, J. N., Cavell, T. A., Wilson, V. (2001). Further support for the developmental significance of the quality of the teacher–student relationship. *Journal of School Psychology*, 39(4), 289-301.
- Hymel, S, Schonert-Reichl, K. A., & Miller, L. D. (2006). Reading, 'riting, 'rithmetic and relationships: Considering the social side of education. *Exceptionality Education Canada*, 16(3), 149-192.
- Husserl, E. (1931). *Ideas: General introduction to pure phenomenology*. (W. R. B. Gilson Trans.). New York: Humanities Press. (Original work published 1913)
- Johnson, E. (1951). *Attitudes of children toward authority as projected in their doll play at two age levels* (Unpublished doctoral dissertation). Harvard University, Cambridge, MA.
- Katz, L. G., Evangelou, D., & Hartman, J. A. (1990). *The case for mixed-age groupings in early childhood education*. Washington, DC: National Association for the Education of Young Children.
- Knafo, A., & Jaffee, S.R. (2013). Gene-environment correlations in developmental psychopathology. *Development and Psychopathology*, 25, 1-6.
- Knafo, A., & Plomin, R. (2006). Prosocial behavior from early to middle childhood: Genetic and environmental influences on stability and change. *Developmental Psychology*, 42(5), 771-786.
- Knafo, A., & Israel, S. (2010). Genetic and environmental influences on prosocial behavior. In A. C. Bohard & D. J. Stipek (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature*, (pp.149-167). Washington DC: American Psychological Association.
- Knafo, A., Zhan-Waxler, C., Van Hulle, C., Robinson, J. L., & Rhee, S. H. (2008). The developmental origins of a disposition toward empathy: Genetic and environmental contributions, *Emotion*, 8, 737-752.

- Kochanska, G., Friesenborg, A. E., Lange, L. A., & Martel, M. M. (2004). Parents' personality and infants' temperament as contributors to their emerging relationship. *Journal of Personality and Social Psychology*, 86(5), 744-759.
- Kounin, J. S. (1970). *Discipline and group management in classrooms*. New York: Holt, Rinehart & Wilson.
- Kramer, R. (1988). *Maria Montessori: A biography*. USA: Da Capo Press.
- Kumru, A., & Yağmurlu, B. (2014). Prosocial behavior towards siblings and grandparents. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 327-350). New York: Oxford University Press.
- Lahey, B. B., & Waldman, I. D. (2003). A developmental propensity model of the origins of conduct problems during childhood and adolescence. In B. B. Lahey, T. E. Moffitt, & A. Caspi (Eds.), *The causes of conduct disorder and serious juvenile delinquency* (pp. 76-117). New York, NY: Guilford Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Le Mare, L. (2011). Social emotional education in the Canadian context. In *Social and Emotional Education: An International Analysis*. Fundacion Marcelino Botin: Santander, Spain.
- Le Mare, L. J., & Rubin, K. H. (1987). Perspective taking and peer interaction: Structural and developmental analyses. *Child Development*, 58, 306-315.
- Lillard, A. S. (2005). *Montessori: The science behind the genius*. New York, NY: Oxford University Press.
- Lillard, A. S., & Else-Quest, N. (2006). Evaluating Montessori education. *Science*, 313(5795), 1893-1894.
- Martin, A., & Olson, K. R. (2015). Beyond good and evil: What motivations underlie children's prosocial behavior? *Perspectives on Psychological Science*, 10(2), 159-175.
- Martin, J., & McLellan, A.-M. (2013). *The education of selves: How psychology transformed students*. New York, NY: Oxford University Press.
- Martin, J., Sugarman, J. H., & Hickenbottom, S. (2010). *Persons: Understanding psychological selfhood and agency*. New York, NY: Springer.

- Martin, J. R. (1992). *The schoolhome: Rethinking schools for changing families*. Cambridge, MA: Harvard University Press.
- Melis, A. P., Grocke, P., Kalbitz, J., & Tomasello, M. (2016). One for you, one for me: Humans' unique turn-taking skills. *Psychological Science, 27*(7), 987-996.
- Mikolajewski, A. J., Chavarria, J., Moltisanti, A., Hart, S. A., & Taylor, J. (2014). Examining the factor structure and etiology of prosociality. *Psychological Assessment, 26*(4), 1259-1267.
- Montessori, M. (2003). *The Montessori method*. (A. E. George, Trans.). New York: Barnes & Noble, Inc. (Original work published 1912)
- Montessori, M. (1989). *The formation of man*. (A. M. Joosten Trans.). Oxford, UK: Clio Press. (Original work published 1955)
- Montessori, M. (1966). *The secret of childhood*. (M. J. Costelloe, S.J. Trans.). New York: Ballantine Books.
- Montessori, M. (1995). *The absorbent mind*. (C. A. Claremont Trans.). New York: Henry Holt and Company, LLC. (Original work published 1967)
- Morse, J. M. (2008). "What's your favourite color?" Reporting irrelevant demographics in qualitative research. *Qualitative Health Research, 18*(3), 299-300.
- Mussen, P., & Eisenberg, N. (2001). Prosocial development in context. In A. C. Bohard & D. J. Stipek (Eds.), *Constructive and destructive behavior: Implications for family, school, and society* (pp. 103-126). Washington DC: American Psychological Association.
- Noddings, N. (1988). An ethic of caring and its implications for instructional arrangements. *American Journal of Education, 96*(2), 215-230.
- Noddings, N. (1992). *The challenge to care in schools: An alternative approach to education*. New York: Teachers College Press.
- Olson, D. R. (2003). *Psychological theory and educational reform: How school remakes mind and society*. Cambridge, UK: Cambridge University Press.
- Padilla-Walker, L. M., & Carlo, G. (2014). The study of prosocial behavior: Past, present and future. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 3-17). New York, NY: Oxford University Press.

- Paris, S. G., & Cross, D. R. (1983). Ordinary learning: Pragmatic connections among children's beliefs, motives, and actions. In J. Bisanz, G. L. Bisanz, & R. Kail (Eds.), *Learning in children: Progress in cognitive development research* (pp. 137-163). New York: Springer-Verlag.
- Parten, M. B. (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology*, 27, 243-269.
- Penner, L.A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: multilevel perspectives. *Annual Review Psychology*, 56, 365-392.
- Pessoa, L. (2008). On the regulation between emotion and cognition. *Perspectives*, 9, 148-158.
- Plato. (1968). *The republic of Plato*. (F. M. Cornford, Trans.). New York: Oxford University Press.
- Randall, B. A., & Wenner, J. R. (2014). Adopting a multidimensional perspective on college students' prosocial behaviors. In L. M. Padilla-Walker & G. Carlo (Eds.), *Prosocial development: A multidimensional approach* (pp. 374-393). New York: Oxford University Press.
- Rauner, D. M. (2000). *They still pick me up when I fall: The role of caring in youth development and community life*. New York: Columbia University Press.
- Richardson, L. (1994). Writing: A method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (516-529). Thousand Oaks : Sage Publications.
- Roth, G., Kanat-Maymon, Y., & Bibi, U. (2011). Prevention of school bullying: The important role of autonomy-supportive teaching and internalization of pro-social values. *British Journal of Educational Psychology*, 81, 654-666.
- Rothbart, M. K., & Posner, M. I. (1985). Temperament and the development of self-regulation. In L. Hartlage & C. F. Telzrow (Eds.), *The neuropsychology of individual differences: A developmental perspective* (pp. 93-123). New York: Plenum.
- Rothbaum, F., Weisz, J., Pott, M., Miyake, K., & Morelli, G. (2000). Attachment and culture: Security in the United States and Japan. *American Psychologist* 55(10), 1093-1104.
- Rothenstein-Fisch, C., & Howes, C. (1988). Toddler peer interaction in mixed-age groups. *Journal of Applied Developmental Psychology*, 9(2), 211-218.

- Rousseau, J. J. (1979). *Emile: Or on education*. (A. Bloom Trans.). USA: Basic Books. (Original work published 1762)
- Saldana, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). London: Sage Publications Ltd.
- Sanson, A., Hemphill, S. A., & Smart, D. (2004). Connections between temperament and social development: A review. *Social Development, 13*(1), 142-170.
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Developmental Psychology, 51*(1), 52-66.
- Schonert-Reichl, K. A., Smith, V., Zaidman-Zait, A., & Hertzman, C. (2012). Promoting children's prosocial behaviors in school: Impact of the "Roots of Empathy" program on the social and emotional competence of school-aged children. *School Mental Health, 4*, 1-21.
- Schwartz, S. H., & Howard, J. A. (1984). Internalized values as motivators of altruism. In E. Staub, D. Bar-Tal, J. Karylowski, & J. Reykowski (Eds.), *International perspectives on positive development* (pp. 229-255). New York: Plenum Press.
- Sebanc, A. M. (2003). The friendship features of preschool children: Links with prosocial behavior and aggression. *Social Development, 12*(2), 249-268.
- Seidman, I. (2013). *Interviewing as qualitative research: A guide for researchers in education & the social sciences* (4th ed.). New York, NY: Teachers College Press.
- Seldin, T., & Raymond, D. (1981). *Geography and history for the young child*. Provo, Utah: Brigham Young University Press.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5-14.
- Sigman, M., & Kasari, C. (1995). Joint attention across contexts in normal and autistic children. In C. Moore, & P. J. Dunham (Eds.), *Joint attention: Its origins and role in development* (pp. 189-203). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Solomon, D., Watson, M. S., Delucchi, K. L., Schaps, E. & Battistich, V. (1988). Enhancing children's prosocial behavior in the classroom. *American Educational Research Journal, 25*(4), 527-554.

- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications, Inc.
- Standing, E. M. (1998). *Maria Montessori: Her life and work*. New York, NY: Penguin Group. (Original work published 1957)
- Stanhope, L., Bell, R. Q., & Parker-Cohen, N. Y. (1987). Temperament and helping behavior in preschool children. *Developmental Psychology*, 23(3), 347-353.
- Staub, E. (1979). *Positive social behavior and morality: Vol. 2. Socialization and development*. New York: Academic Press.
- Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11(1), 1–19.
- Szewczyk-Sokolowski, M., Bost, K. K., & Wainwright, A. B. (2005). Attachment, temperament, and preschool children’s peer acceptance. *Social Development*, 14(3), 379-397.
- Tauber, R. T. (2007). *Classroom management: Sound theory and effective practice* (4th ed.). Westport, CT: Praeger.
- Tomasello, M. (1995). Joint attention as social cognition. In C. Moore, & P. J. Dunham (Eds.), *Joint attention: Its origins and role in development* (pp. 103-131). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Toohey, K. (1998). “Breaking them up, taking them away”: ESL students in grade 1. *TESOL Quarterly*, 32(1), 61-84.
- Tufford, L., & Newman, P. (2010). Bracketing in qualitative research. *Qualitative Social Work*, 11(1), 80-96.
- Urberg, K. A., & Kaplan, M. G. (1986). Effects of classroom age composition on the play and social behaviors of preschool children. *Journal of Applied Developmental Psychology*, 7(4), 403–415.
- Vaish, A., Carpenter, M., & Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental Psychology*, 45(2), 534-543.
- Vancouver School Board (2016). *School plan: 2015-2016 summative review*. Retrieved from <http://www.vsb.bc.ca/sites/default/files/school-files/03939104.pdf>
- VandenBos, G. R. (Ed.). (2007). *APA dictionary of psychology*. Washington, DC: American Psychological Association.

- van Ijzendoorn, M. H., & Sagi-Schwartz, A. (2008). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.) (pp. 880-905). New York: Guilford Press.
- Vinik, J., Almas, A., & Grusec, J. (2011). Mothers' knowledge of what distresses and what comforts their children predicts children's coping, empathy, and prosocial behavior. *Parenting: Science and Practice, 11*, 56-71.
- Warneken, F. (2013). Young children proactively remedy unnoticed accidents. *Cognition, 126*, 101-108.
- Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy, 11*(3), 271-294.
- Warneken, F., & Tomasello, M. (2013). Parental presence and encouragement do not influence helping in young children. *Infancy, 18*(3), 345-368.
- Warneken, F., & Tomasello, M. (2014). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Motivational Science, 1*(S), 43-48.
- Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin, 132*, 249-268.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating communities of practice: Guide to managing knowledge*. Harvard Business School Press.
- Wenger, E.C., & Snyder, W.M. (2000). Communities of practice: the organizational frontier. *Harvard Business Review, January-February*, 139-145.
- Whitebread, D., Coltman, P., Pasternak, D. P., Sangster, C., Grau, V., Bingham, S., Almeqdad, Q., & Demetriou, D. (2009). The development of two observational tools for assessing metacognition and self-regulated learning in young children. *Metacognition and Learning, 4*, 63-85.
- Whitescarver, K., & Cossentino, J. (2006). Establishing an American Montessori movement: Another look at the early years. *Montessori Life, 2*, 44-49.
- Wispe, L. G. (1972). Positive forms of social behavior: An overview. *Journal of Social Issues 28*(3), 1-19.

- Woolfolk, A. E., Winne, P. H., & Perry, N. E. (2012). *Educational psychology* (5th Canadian ed.). Toronto: Pearson Prentice Hall.
- Woods, P. A. (2016). Authority, power and distributed leadership. *Management in Education, 30*(4), 155-160.
- Word, E., Johnson, J., Bain, H. P., Fulton, B. D., Zaharias, J. B., Achilles, C. M., Lintz, M. N., Folger, J., & Breda, C. (1994). The state of Tennessee's student teacher achievement ratio (STAR) project: Technical report 1985–1990. Nashville, TN: Tennessee State Department of Education
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: The Guilford Press.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Zhan-Waxler, C., Radke-Yarrow, M., & King, R. A. (1979). Child-rearing and children's prosocial initiations toward victims of distress. *Child Development, 50*, 319-330.
- Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). Development of concern for others. *Developmental Psychology, 28*, 126-136.

Appendix A.

Checklist of Independent Learning Development (CHILD) ages 3–5

Name of Child: _____ Name of Respondent: _____

Date: _____

For each item, please put an “X” in the column you believe best describes the child.

	Always	Usually	Sometimes	Never	Comments
Emotional					
Can speak about own and others behavior and consequences					
Tackles new tasks confidently					
Can control attention and resist distraction					
Monitors progress and seeks help appropriately					
Persists in the face of difficulties					
ProSocial					
Negotiates when and how to carry out tasks					
Can resolve social problems with peers					
*Can wait for a turn independently					
Engages in independent cooperative activities with peers					
Is aware of feelings of others and helps and comforts					
*Restores materials when finished with work					
*Independently takes action to care for home/school/outdoor environment					
*Respects others’ work/play space					
Cognitive					
Is aware of own strengths and weaknesses					
Can speak about how they have done something or what they have learnt					
Can speak about future planned activities					
Can make reasoned choices and decisions					
Asks questions and suggests answers					
Uses previously taught strategies					
Adopts previously heard language for own purposes					
Motivational					
Finds own resources without adult help					
Develops own ways of carrying out tasks					
Initiates activities					
Plans own tasks, targets and goals					
Enjoys solving problems					

Appendix B.

Teacher Interview Protocols

End of Year One

1. What are your goals for a first-year student?
2. Prosocial behavior generally means doing something that benefits somebody else, or simply “helping” somebody else. How would you describe what you think it means to be prosocial in your classroom? –Can you give some typical examples?
3. Are there any Montessori lessons that you might say teach prosocial behavior?
4. How is prosocial behavior reinforced in the classroom? In other words, beyond lessons, is there anything else in the environment that seems to support or strengthen this activity?
5. Are there ways that the children influence each other’s prosocial behaviors?

I want to ask you about specific students now:

6. How did Oliva seem to respond to Grace and Courtesy lessons? Did she tend to repeat these lessons or this behavior? Can you give an example? (What seemed to be the works she enjoyed the most/why do you think that is?)
7. Did you notice any changes in how Olivia interacted with her peers throughout the year?
8. In what ways do you think Olivia’s behavior was influenced by peers? --Can you give any examples?
9. Did you notice any changes in Olivia’s behavior that you think was more a result of peer influence than teacher influence?

10. Can you describe Olivia's behavior on the playground? How would you compare this to her behavior in the classroom?

*Repeat questions 6-10 for Max, Alice, and Rowan.

End of Year Two

1. Last year we talked about some of the goals you have for first year students -- do you have any general goals for second year students?
2. I know that the first year involves a lot of Grace and Courtesy lessons, but in the second year, you clearly still expect to see grace and courtesy behavior. Would you say there are any NEW grace and courtesy lessons for second-years or is there anything different you expect from them in terms of grace and courtesy? How is this this communicated to them?
3. In February, I started to noticed Max and Rowan working together with some math materials several times. Do all second-years begin doing works together? Is there anything you need to observe in their progress before this can happen?
4. In terms of the students learning to work together, the process appeared to me as though they learn that they will be dismissed from working together if they get too silly and completely lose focus on the work without being able to refocus themselves. Do some students learn to work together more easily than others? What is this process like for different second year students?
5. If a student needs help with a work, which student would be the most likely to help that student – for example, a much more advanced student or one who has just mastered (or has been working on) that material? Who would you send to help?
6. When children are talking to each other, what are the reasons you would intervene in any particular conversation? –In the cases that you do intervene, do you have a goal in mind? –What are some reasons that you would not intervene?

7. [I share the vignette in which I observed Rowan working on the trinomial cube and pausing while he waited for his observer's attention to return to his work before proceeding. Ask for the teacher's reflection on this story, particularly as it relates to their own procedures for what they do when a student becomes distracted during a lesson. Also as it relates to Rowan's social development.]
8. When there are additional teachers in the room, like the teachers-in-training doing their practicums, do you notice a difference in the children's behavior? –Why do you think that is?
9. Can you talk about the experience of having more adults in the room in general? How do you feel and do you think the children act differently?
10. What can you share about Rowan this year?

*Repeat question 10 for Alice, Max, and Olivia. [For each focal student, ask for the teacher's reflections on the student, share some of my own, and then ask for the teacher's response to my reflections.]

End of Year Three

1. How do you think having a new lead teacher was different for the third-years? In other words, everything is new for the first-years anyway, so how do you think the third-years have a different relationship with the new lead teacher than the other students do?
2. One thing I'm interested in for this study is the number of teachers and students – more students with only two teachers. But I also noticed that the children seem to have formed a relationship with this “third adult” outside the classroom also, like they care about her and know they can count on her if they need her for anything. This started to interest me more and more, like that she didn't really need to be *doing* anything in the classroom for the students to know her and care about her. What do you think of this role of the “third adult” outside the classroom and the students' relationship with her?

3. Sometimes I noticed a child trying to help another child and they didn't want their help and instead wanted help from a teacher, even if it was with a task that the other child could do. Do you think some children prefer help from teachers rather than help from other children? Who and why do you think that is? To me this appeared to be something that younger students would do – does this seem to depend on their age? What else does it depend on?
4. One challenge seems to be the children *resisting* helping others when they really want to. I'm especially thinking of Max here, and a little bit Olivia maybe, who always seemed really interested in helping others. This year I noticed a few times where Max seemed more restrained – where he possibly wanted to touch someone's work or help them with it and resisted or stopped himself. Can you talk a little bit about this "skill" – of how you think the children decide when to help and not to – does it depend on age? On the individual child?
5. Now I want to ask specifically about the third year students. In general, what do you expect from third-year students?
6. What kind of behaviors do third-years do that others don't? (How do they come to learn these things?)
7. What can you tell me about Max socially? Did you notice any changes in him throughout the year?

*Repeat question 7 for Rowan and Olivia. [For each focal student, ask for the teacher's reflections on the student, share some of my own, and then ask for the teacher's response to my reflections.]

Appendix C.

Montessori Classroom Time Sample Record (MCTSR)

Location: _____ Date: _____ Time Start: _____ Time End: _____

	With Teacher					Independent			
Student	Lesson /working together	Talking/ asking questions	Teacher helping or correcting work	Related to/correcting student behavior	Observe w/ teacher	Working	Choosing work	Obs. from dist.	Self care
1									
2									
3									
4									

Continued:

	With Peer						Independent		
Student	Helping or comforting	Talking/ asking questions*	Collaborating on work*	Related to/correcting peer behavior*	Observe w/peer	Snack	Tidying/ cleaning	Waiting	Other
1									
2									
3									
4									

Observe one student for 10 seconds, record his/her behavior for 5 seconds. Turn to next student.

*Can use + / - to characterize interaction.

Notes:

Appendix D.

Reflective Memo Example

Reflective Memo following Observation on October 24, 2014

Max seemed matured (including taller), and was joyfully (which he mostly always was) moving about the classroom productively.

An important part of this growth and his seeming comfort in knowing *how to be* in the classroom was his focus on work. As I saw him gaining on at the end of last year, he has seemed to solidify using work as the key to socializing. Almost all of his social interactions this time were work/material related. It was like watching a man surrounded by a room of colleagues in his occupation of choice. He helped refocus them, he encouraged them; while being serious about work, he didn't take himself too seriously. He took joy in their accomplishments. He allocated very little time to silliness initiated by others, seeming to allow just a bit before wanting to get back to work, but humoring them and not begrudging the other for the attempt. A natural ebb and flow of a day at work. While his English had waned a bit over the summer, I could still hear some important navigation words for the classroom: "My work," "Your work," "snack," "no," "stop," etc. in addition to his shared laughter with others, physical gestures, and overall comedy. I also notice him speaking Mandarin with two other students from time to time.

The scene where he redirected the girl working next to him was important and lovely to watch. He was working at table and she was working on a floor mat next to his table. He got up to get some piece of material for his work from the shelf and when he returned, she was distracted, looking out into the room. He was about to go back to work himself, but seemed distracted by her distraction (like when you are trying to work at the library and the person next to you is watching videos) so he stood in her line of vision and pointed to her rug but she leaned over to see around him to keep looking at something else. Not successful at getting her attention the first time, he started to be silly to get her attention, upping the ante until she finally looked at him and laughed, then they laughed together for a moment, then he pointed at her work eagerly, and she turned to it, still smiling, and he jumped back into his chair. They both resumed working with their respective materials, seeming refreshed from the laughter break, and more focused thanks to the other one focused nearby.

This scene is important for a number of reasons. (1)The first is the seeming joint attention they shared although on different works – what might look like "parallel play" but instead they are working – "parallel work." It was as if they were working for the other's sake as well as their own. There was also evidence of "joint distraction" in that he did not want to resume working while she was distracted. It also occurred to me that (2) if either teacher had seen Max trying to get the girl's attention in this silly way, he might have been stopped and redirected back to his work by a teacher. Not being stopped allowed him to carry through with his help to this girl – this help that was unique to both of them and the situation. Montessori teachers are deeply concerned with children's work not being interrupted, and this interaction showed the importance of a social interaction

not being interrupted either, as if it had been, it might have been misinterpreted. This is what the ratio protects from; the teachers themselves know that if there are fewer children or more teachers, the teachers will “help” when their help is not needed. They know it is human nature to go and “help” or even “correct” a child’s behavior. In many cases I see that they do see questionable social events occurring—a disagreement, etc.—and the tension they have in their urge to go and the questions of what will happen if they don’t go are clear to me in observation and from the interviews, and I remember the feeling well myself (*do they really need me—will they feel unsupported or will matters escalate if I don’t go?*). They make that decision a dozen or dozens of times a day – to go or not go, and as Hana put it “I am always in doubt—should I go?” This is the permanent tension of being a teacher in this classroom. The ratio partly protects the students from teachers’ unnecessary “going” and in a way perhaps picks up where the teachers’ decision making leaves off. This ratio and this type of decision making means fewer social interactions like this one of Max’s get interrupted, without a teacher necessarily having to actively decide not to interrupt it.

Appendix E.

Analytic Memo Example

Analytic Memo on *in vivo* coding interview transcripts

“ALWAYS HELPS EVERYBODY”

Whatever issues the teachers have with the students, getting them to help others does not seem to be one of them. Instead it seems something that can't be helped; in fact, Hana has to worry not about getting the children to help each other, but about how much helping she should allow or when she should stop. Helping each other with works one knows is the norm and a privilege.

“THERE WAS ALWAYS SOMEONE WHO TOLD ME” “SHE ALWAYS COMES WHEN SHE SEES SOMETHING WITH SOMEONE IS WRONG”

Both teachers talk about children telling them that something wrong has happened as an important event. They seem grateful that children are letting them know that something has happened. There doesn't seem to be any indication that it is a nuisance like “tattling” or that the things they tell them are unimportant, but that it is supporting the bond between teacher, student, and environment. In this moment of telling, it is because the student cannot handle the situation on their own and needs help righting a wrong. The teachers sound respectful of this support and the children's understanding of when to come to them.

“THE INTURRUPTING PART IS THE BIG ONE” “RESPECT IN A WAY THAT HE CAN SPEAK SOFTER RATHER THAN LOUDER” “CONCENTRATING”

Not interrupting is so important according to Montessori values. Concentration building is one thing, and also that the limit of freedom is respecting others, and to interrupt someone's work is to break their concentration, which could inhibit their growth. I could tell that this interrupting is seen as disrespectful as it could interrupt or undo another student's progress. Speaking too loudly can also interrupt work, which they say some students need to work on.

“BEAUTIFUL”

I realized that “beautiful” is a household term in Montessori culture, and the teachers in this classroom used it throughout the interviews. On the surface, Montessori teachers like beautiful objects and materials for their classrooms so that the children will be attracted to the materials (to choose to work with them) and will have an innate desire to respect and handle them carefully. It is also a form of showing the child respect: “I believe that you are capable and worthy of handling these beautiful things – I trust you.” When something breaks, there is no punishment or scolding, or even suggesting “be more careful next time...” since the beautiful object is broken and everyone is now at a loss.

On another level, for someone to be “beautiful” in the classroom is a comment on what Montessori would call normalization, but it could refer to so many things. The child understands what it means *to be in the classroom*; she is working, focused, joyful,

careful, observant, and motivated, graceful and courteous. Beautiful in that sense meant encompassing these necessary Montessori traits in the classroom.

When Natalie says, “They can do it beautifully...” she means that a child understands the sequential steps in a work and that he can do it with focus, precision, and joy/satisfaction. The word beautiful attests to the child getting the most out of the work – the work is fulfilling its purpose and the child is fulfilling his potential.

“THIS IS THE MATERIAL HE LOVES – LANGUAGE.” “BECAUSE HE *NEEDS* THAT” “HE JUST WANTS, WANTS, WANTS MORE”

This reinforces the Montessori belief that children will gravitate toward the work/materials they need the most. Suitably, the language curriculum embodies the notion of the curriculum being the key to socialization – some need this part of the curriculum to be able to communicate with others.

“EVERY SINGLE DAY!”

Students repeat the works they love on their own every single day. Love of repetition – “natural” desire to perfect, to become expert, to master.

“WAITED FOR US TO COME” “HE WILL WAIT FOR ME TO COME—
PATIENTLY”

These language works like the classified cards could be another instance of work/material/curriculum being the key or the pathway to social interaction (like how to help each other one must first know how to do a work). The children learn that doing work (especially the right way) will get them the attention and the one-on-one time with the teacher in a positive way. Rowan “wants to be good,” and he also loves these works in themselves, but he also wants to be social the right way according to classroom expectations. Waiting patiently is another certain way to positive social interaction with a teacher.

“LOGICAL SEQUENCE” “WHOLE SEQUENCE” “ALL THE LITTLE STEPS”

This was how Natalie described some of her goals for first year students. It’s important for them to get all the little steps down in works – she wants them to go through this logical sequence with early, practical life works, so that they can develop concentration and precision in their work to prepare for the larger, more “academic” works in later years. She also indicated that it was this whole process and all the steps that attracted the young students to doing these works –their motivation was process over product.

“BECOME GOOD MODELS” “ALMOST A PERFECT RATIO” “THEY WILL COPY – 100%” “FIVE IS NOT ENOUGH”

While in the first year the teachers might not necessarily see “helping each other” as a goal, their ultimate goal is for these students to become good models for the classroom in their third year. This is incredibly important to them – Natalie said that whatever the older children do, the others will do “100%.” She also stressed the importance of having a balanced number of first, second, and third year students. She was pleased to point out that next year they will have almost a perfect ratio (almost ten, ten, and ten).

“HOW THE CLASSROOM IS ORGANIZED” “EVERYTHING HAS A PLACE” “IT’S IN THE ENVIRONMENT”

The teachers see this organization as a form of respect to the children – the children know what to expect and where to find everything and they would never be asked to clean something up that wasn’t clean in the first place. Respect and prosocial behavior is “in the environment,” meaning it’s because of the environment.

“HE CAN *REALLY* CONCENTRATE” “HE WAS RIGHT *THERE*” “QUITE DEEP CONCENTRATION”

The teachers always remark upon the students’ ability to concentrate. Even for students still working on getting some of the grace and courtesy actions down, the teachers are quick to point out their strengths and love of work. When I asked about one student’s social activity, Natalie commented on this concentration, as if this is an important precursor to the development of certain social expectations.

Appendix F.

Interview Transcript Excerpt

RL: When there are more than two adults in the room, what's that feeling for *you* and then maybe what do you think it is for the children?

H: It's just more commotion, when there are tall people compared to children. Say, three people are in this environment, moving from one part of the classroom to the other... for [the other teacher], she cannot connect with all of the children with their eyes because there is this commotion. They cannot respond to *her* because they are looking at somebody else walking around. It's not... I think only one person, maybe two, should be able to connect with their eyes with all of the children. Do you know what I mean?

RL: Yeah.

H: So she is looking there, she is looking there, and they always look at [the teacher]. Of course. If she is in the classroom. They check. They do their work and then they look at her [enacting what the children do] and if she is connected, they will continue. If there is this distraction – walking here and walking there – they forgot to look at her, they looked somewhere else... the concentration goes down.

RL: Yeah, I see. So they're checking. Like, they look at her, they see her, and they see... what, like everything is going fine?

H: Yes. They see that everything is good. If she is good then everything in the classroom is good. They can continue working.

RL: But with more adults they have to look at her and then someone else and then maybe someone else...

H: Yes, yes. And it's harder for them to know what's going on in the room.

RL: I've seen Olivia like that – she seems the most... I don't want to say disrupted by additional adults, but she seems sensitive and she sees everything.

H: Yes, she observes everything. Yes, yes, you see. [smiling] Yes. I think Olivia likes to help children – there is probably another word, but she likes to *be helpful*. And if there is anything, she wants to be first. She wants to feel it – “I'm going to help you.” She wants to

be there. And she's just looking around... "Is anybody going to need my help?" Sometimes with another adult, she will look at them longer, like to see "do you need my help?" It's a distraction. She will also see if they are doing things the way we do things in the classroom.

RL: Like she feels responsible for what is going on in the classroom?

H: Yes, yes!