Children's Views of the Learning Environment:
A Study Exploring the Reggio Emilia Principle of the Environment as the Third Teacher

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Abstract

The purpose of this research study was to explore the concept of the *environment as the third teacher* and how students in a Reggio Emilia inspired school view their classroom and its ability to help them learn. The research design chosen for this study was a qualitative phenomenological approach and was chosen to give power to the participant's voice—namely the child. The participants in the study were sixteen students from a senior kindergarten classroom. Data were collected using observational field notes, photo elicitation, and photo interviewing analysis with the children. The children served as both researchers and participants in this study as they selected what is deemed valuable and necessary in the environment to help them learn. Data analysis was done using inductive reasoning through photo interviewing analysis in small focus groups. After careful analysis of the research data, it is evident that the children in this study perceive that their environment helps them learn and therefore acts as a third teacher in the classroom. Twenty of the 85 photographs in the study were taken in the math center, this tells us that there was a strong association with the group that the math center helps them to learn followed by 15 of the photos taken of the communication and building centers, 11 of the art center, 10 of the light and lastly 6 of the drama center. The remaining 8 photos were taken of other areas of the room that did not fit into the pre-existing centers and include: the nature center, the resting center, the office, and reading. The children described that within the centers they were able to learn by using the materials provided, engaging in imaginative or pretend play, making real-life connections, communicating with their peers, and by exploring the documentation on the walls of their classroom.

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My Grandmother. Your strength and love for your family inspires me to pursue my dreams on a daily basis.

My Papa. I wish I could tell you I made it, but I know you are proud regardless.

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Chapter 1 – Introduction

The early years of life are when the development and education of a child occurs the fastest (Arseven, 2014). The experiences a child has early in life have an immense impact on their lifelong development (ELECT, 2006). More specifically, a stimulating learning environment leads to higher levels of thoughtful learning experiences for children which in turn better prepares them for adulthood (Steglin, 2005). Strong-Wilson and Ellis (2007) explain that, "childhood is often the first place where we begin to see and use the environment imaginatively [and where] we can begin to notice how our surroundings can take on a life of their own that contributes to children's learning" (p. 40). Makin (2003) defines the term "environment" in early education settings as "an aggregate of conditions and influences on learning, including both the physical environment (layout, range of resources, access and use) and the psychosocial environment (interactions between staff and children, among peers, and between the setting and its wider context of homes and communities)" (p.327).

It is well documented that a high quality, positive environment successfully supports students' learning and their holistic development (Makin, 2003; Hewes, 2006; Shipley, 2008; Sylva et al, 2006). Shenk (2010) supports the idea of high quality learning environments and explains that, "children develop only as the environment demands development" (p. 35). When preparing the school environment, Rinaldi (2001) stresses that it cannot be copied, only created, as it needs to reflect the children, families, educators, and community encompassing the school. She believes that the learning environment should become more than just a space--it should become a part of life, which does not substitute family but creates a new place for culture. It is believed that the physical characteristics of an educational environment reflect the educator's philosophical beliefs about how children are regarded and the value put on the process of

teaching and learning (Makin, 2003; New, 1998). The environment is so entwined in a child's development that it is presumed that "the metamorphosis of childhood can be understood as a dynamic dance between children and their environments" (ELECT, 2006, p.20).

The Reggio Emilia approach to education supports the importance of the learning environment and describes it as the "third teacher" in the classroom alongside the teacher and children (Strong-Wilson & Ellis, 2007). Reggio Emilia school settings are well-known for their rich environments that foster student learning because they are both aesthetically and intellectually stimulating while respecting the rights, interests, and need of the individuals who use the space (New, 1998). To create a learning space that acts as a third teacher, there needs to be invitations for learning that do not require teacher intervention (Fraser, 2012). "A classroom that is functioning successfully as a third teacher will respond to the children's interests, provide opportunities for children to make their thinking visible and then foster further learning and engagement" (Fraser, 2012, p.67). Educators in the Reggio approach can spark their students' interest in learning by introducing "provocations" meant to excite students and spark discussion (Strong-Wilson & Ellis, 2007). Some examples of provocations could be bringing in realistic objects for children to use, positioning small mirrors around the classroom, or placing easels close to windows for natural sunlight and inspiration from the outdoors (Strong-Wilson & Ellis, 2007).

The Reggio learning environment is unique in how the space is co-created by both the students and the educators in the classroom. This collaborative relationship consists of reciprocal exchanges between the children and adults about appropriate adjustments that can be made to ensure optimal growth and learning within the classroom setting (Hewett, 2001). In conversation with Gandini (2011), Malaguzzi compares the relationship between the teacher and the children

to a game of ping-pong. He explains that both of the players need to make contributions in the game in order to allow for optimal growth and learning otherwise a single player would be unable to participate in the game (Gandini, 2011). Respecting the children who make up the learning environment is essential because when they feel safe in their learning community they are more likely to take risks and extend their learning (Ontario Ministry of Education, 2012).

Problem Statement

As the world continues to evolve and the pace of life accelerates, educators need to be aware of the increasingly diverse population of students that are in the education system and ensure they are providing education that is responsive to the demands of the 21st century (Cook-Sather, 2002; Ontario Ministry of Education, 2012). As changes and enhancements are made to the approaches used in education, such as the emphasis on child-centered learning approaches and inquiry based education, one needs to ensure the learning environments provided support these approaches to education. The Ministry of Education (2012) developed a resource for educators called *The Third Teacher* which explains that when planning the learning environment one must involve all of the individuals working in that space: teachers, administrators, parents and most importantly, the students. Research argues that children's perspectives on their education are rarely explored which is troubling because they are most directly affected by the education system (Cook-Sather, 2002; Montandon & Osiek, 1998).

In order to create learning environments responsive to the 21st century, researchers and educators need to collaborate with students to ensure they are meeting their needs. Students feel empowered and motivated to engage in their education when they are taken seriously and are seen as knowledgeable participants in issues affecting them (Cook-Sather, 2002). By listening to and learning from student perspectives, teachers are better able see the world from their students'

perspective (Cook-Sather, 2002). This allows educators to create a collaborative partnership with their students, which in turn makes teaching and learning more accessible (Cook-Sather, 2002). Without students' unique perspectives on the daily occurrences in the classroom, there will always be an incomplete picture of the culture of the school community (Cook-Sather, 2002). A reconceptualization of children as powerful social agents is needed (Stephenson, 2009) along with a perspective whereby they "are regarded as experts on their own subjective experience" (Grover, 2004, p.91).

Purpose of the Study

This study empowers children's voice in matters that directly affect them--namely their learning environment. The focus of this study was to explore children's views on their learning environment in order to develop a deeper understanding of children's perspectives on their physical learning environment and if they view their environment as the *third teacher*. The aim of this research was to unpack how a child's classroom can support their learning by sparking their natural curiosity to explore.

This qualitative research study explored the following research question:

- Which areas within the classroom do children believe help them learn? How?

Background

There is a growing amount of research stressing the importance of children's voice in the research process (Grover, 2004; Lansdown, 2004; Lansdown, 2011; Schiller & Einarsdottir, 2009) and their perspectives on their education (Cook-Sather, 2002; Einarsdottir, 2005; Montandon & Osiek, 1998; Smith, Duncan & Marshall, 2005). Smith et al (2005) explain that

children's perspectives are missing in a large amount of psychological and educational research. When educators and researchers take the time to listen to children's perspectives they are better able to support their learning and thus improve their development (Cook-Sather, 2002). Article 12 of the Convention on the Rights of the Child which was ratified by Canada in 1991 states that, "when adults are making decisions that affect children, children have the right to say what they think should happen and have their opinions taken into account" (UNICEF, 2014, p.2). Over the past 15 years older children have been increasingly involved in research through the work of NGO's but they tend to have less contact with children under the age of eight (Lansdown 2004). Lansdown (2004) explains:

> The convention extends participation rights to all children capable of expressing a view. It embodies no age restrictions. There is a pressing need, therefore, to explore approaches which address the rights of younger children to participate, and in so doing, to review the culture, attitudes and practices prevailing in those environments where young children spend their time (p. 4).

Children are important participants in research but surprisingly few attempts have been made to understand their perspectives on the quality of their education even though they are most affected by the environments they learn within (Einarsdottir, 2005). Research stresses that engaging learning environments are essential to children's cognitive, physical, social and emotional development and "allow children to connect concepts and ideas as they create new schema" (Klefstad, 2015, p. 147). The responsibility of an engaging learning environment lies in the hands of both the adult and the child (Ontario Ministry of Education, 2012) and without the views of children, teachers will find it challenging to provide them with the most effective learning opportunities.

Chapter 2: Literature Review

The literature review begins with an exploration of the Reggio Emilia approach to education focusing on its history and guiding principles. Secondly, the Reggio principle of the *environment as the third teacher* is examined in greater depth by explaining its importance to children's learning and the eight principles that guide the development of the classroom. This principle suggests that the learning environment can be shaped in ways that invite learning without teacher intervention (Wien, 2008). The importance of a high quality early learning environment for young children is then reviewed with a focus on child development and materials that support a high quality environment. Lastly, I reviewed the literature about the voices of young children, exploring their rights to participation, along with past studies that have utilized young children in the research creation process.

Reggio Emilia

In the past decade, the Reggio Emilia approach to learning has significantly influenced the world of Early Childhood Education with its holistic approach to the education of young children (Wexler, 2004). The first Reggio Emilia School was built in Italy after WW2 in 1945-1946 (Fraser 2012). The town of Reggio Emilia had been devastated during the war and a group of women came together to create new schools for their children where they could partake in quality learning experiences (Fraser 2012). A young teacher named Loris Malaguzzi discovered what the women of Reggio Emilia were trying to do and offered to help them with aspirations of a new, stimulating school for their children (Fraser, 2012). Malaguzzi tells a story about a group of parents who came together to build the Reggio Schools and how they sold abandoned tanks, trucks and horses left by the Germans after the war to help raise money for their children's education (Gandini, 2011). Malaguzzi became an influential figure in Reggio Emilia schools and

helped develop their outstanding philosophy of education that has continued to evolve over the years (Fraser 2012).

Fraser (2012) outlines twelve guiding principles of the Reggio Emilia approach to learning which include: collaboration, the image of the child, environment as a third teacher, relationships, transparency, documentation, pedagogical documentation, provocation, progettazione, one hundred languages of children, respect, and reciprocity. Since the beginning of Reggio Emilia, classrooms have been set up to support highly collaborative partnerships among parents, educators and children (Edwards, Gandini & Forman, 2011). Collaboration is achieved by having the teachers, students, families and community working together at every level of education (Fraser, 2012). To ensure collaboration when working with children with special rights in the Reggio approach, a "Declaration of Intent" is jointly composed after a long period of observation and documentation of the child that is a "written agreement among the school, parents, and health service team to ensure collaboration" (Soncini, 2011, p.194). Edwards, Gandini & Nimmo (1994) describe that using a collaborative approach to structuring children's learning experiences provides an alternative view of the image of the child.

The image of the child as capable, powerful, and resourceful is essential to the Reggio approach because children are seen as competent and capable of highly complex ideas (Wexler, 2004) and their image is deeply rooted in the culture, society and family values of the people involved in the program (Fraser, 2012). Fyfe (2011) explains that a strong image of the child in Reggio is someone whose ideas are worth listening to, and whose comments are intelligent efforts to make sense of the world. In order to achieve this, teachers need to develop a pedagogy of listening, which requires them to slow down and listen to the children's ideas, opinions and comments (Fyfe, 2011). Edwards (2011) defines the learning child as "powerful, active,

competent *protagonists* of their own growth" who deserve the right to be listened to. Each child is unique and seeks to explore their identity and make their voice heard, and it is the role of the teacher to aid in this process (Edwards, 2011).

The environment in the Reggio approach is seen as the third educator in the classroom, next to the teacher and children, and is thoughtfully arranged to spark children's interests through intentional provocations (Strong-Wilson & Ellis, 2007). Gandini (2011) describes the environment as a space that teaches and explains that it needs to be flexible and undergo frequent modification to remain up-to-date and responsive to the children's needs. In the words of Loris Malaguzzi (personal communication, 1984; as cited in Gandini, 2011)

> We value space because of its power to organize and promote pleasant relationships among people of different ages, create a handsome environment, provide changes, promote choices and activity, and its potential for sparking all kinds of social, affective, and cognitive learning. All of this contributes to a sense of well-being and security in children. We also think it has been said that the space has to be a sort of aquarium that mirrors the ideas, values, attitudes, and cultures of the people who live within it. (p.339).

In conversation with Gandini (2011), Malaguzzi explains relationships as a "dynamic conjunction of forces and elements interacting toward a common purpose" (p. 45). There are three important relationships in the Reggio approach to learning and they include: physical relationships with the classroom, social relationships between the people in the environment, and intellectual relationships (Fraser, 2012). Relationships are the primary connecting dimension of the Reggio approach and it is the responsibility of the educator to set up the learning environment to initiate face-to-face interactions (Gandini, 2011). These relationships can be enhanced by initiating small group activities of 2-4 children to promote conversation as well as

by having teachers respond to the children by asking questions or modifying the intensity of their interactions to help build their relationships (Gandini, 2011).

Transparency is used as a guiding principle because of the vast amount of transparent materials used in the learning space such as mirrors, windows and glass containers that catch and reflect light throughout the classroom (Fraser, 2012). Metaphorically, transparency can be used to explain the openness of the Reggio approach to the ideas and theories from other parts of the world (Fraser, 2012). In terms of documentation, transparency can be used metaphorically to explain the availability of information for parents and visitors when they visit the center. Children's work and information about the center is made available for the visitors and parents by being posted on the walls in the entrance way as well as on the walls of the learning spaces (Fraser, 2012).

Forman and Fyfe (2011) describe documentation as "any record of performance that contains sufficient detail to help others understand the behaviour recorded" (p. 250). Documentation is more than the finished product from a child. For example, a drawing is all about the performance during the exercise as well as the documenter's interpretation of that performance (Forman & Fyfe, 2011). Documentation provides "a verbal and visual trace of the children's experiences and work" (Fraser, 2012, p. 9). An example of this type of documentation could be a panel of photographs with text explaining the learning process displayed publically in the classroom (Forman & Fyfe, 2011). This type of documentation is described in the Reggio field as pedagogical documentation and can be defined as "a process for making pedagogical (or other) work visible and subject to dialogue, interpretation, contestation, and transformation" (Dahlberg, 2011, p. 225). Pedagogical documentation is achieved by having teachers examine

their work from multiple perspectives and becoming researchers of their own teaching methods (Fraser, 2012).

Provocations are used in the Reggio approach to surprise children and spark discussion (Strong-Wilson & Ellis, 2007) and can be brainstormed by the educators after listening closely to their students' interactions and interests (Fraser, 2012). Turner and Wilson (2009) explain that provocations can take many forms such as questions, variations on experiences, or the introduction of new materials and can come from both the teacher and the children. "A provocation refers to the moment when teachers introduce a new element, carefully chosen to entice children into further inquiry" (Turner & Wilson. 2009, p. 12). Provocations are an essential element in a Reggio Emilia learning environment and enhance student learning by sparking their natural curiosity to learn.

Progettazione, the name for curriculum in Reggio Emilia (Arseven, 2014), is a flexible approach to learning that encourages further investigation of ideas through the collaboration of the students, educators, and the environment (Fraser, 2012). The Reggio Emilia approach to education does not have a specific curriculum to follow but instead the curriculum emerges naturally through teacher and student interactions as well as interactions with the environment (Arseven, 2014). One way Forman and Fyfe (2011) describe curriculum is child-originated and teacher-framed rather than child-centered or teacher-directed. This type of curriculum emerges from children's ideas and interests and then is framed by the teachers into more general concepts (Forman & Fyfe, 2011). For example, children may be interested in making an amusement park for the birds that visit their outdoor learning space and teachers could direct this learning by asking how they could make the birds feel less anxious about being far away from home (Forman & Fyfe, 2011). Another type of curriculum proposed by Forman & Fyfe (2011) is

teacher-provoked and then child-engaged where the teachers propose a topic and then engage the children's minds. For example, the teacher may invite a small group of children to join them in observing squirrels playing outside their classroom window and ask probing questions to engage the children (Forman & Fyfe, 2011).

The hundred languages of children is an approach within the Reggio Emilia setting used to allow children to express, understand, interpret and communicate their learning using a variety of different media (Fraser, 2012; Wexler, 2004). Loris Malaguzzi's *Now way*: *A Hundred is There.* (Appendix A) (as cited in Edwards, Gandini,, & Forman, 2011), uses poetry to describe children and how they are made up of one hundred languages, hands, thoughts, ways of thinking, playing, and speaking etc. When preparing learning experiences it is essential for educators to allow children to express their learning in ways that are comfortable to them because "although children may not have 100 languages available to them, they certainly have more than the spoken words of their native tongue" (Forman & Fyfe, 2011, p. 257). For example, when asked to retell a story some children may use musical symbols such as tone, timber and rhythm to capture the action while others could capture the action by drawing stick figures crouching and pouncing across sequenced frames (Forman & Fyfe, 2011). It is essential for educators to understand that each child is unique and has their own strategies for learning therefore preparing a varied environment is important (Soncini, 2011).

Respect and reciprocity go hand in hand in the Reggio approach through the respectful atmosphere created by valued interaction and the exchange of ideas among children, families, educators and the environment (Fraser, 2012). Respect is fundamental to the Reggio Emilia philosophy, especially concerning the children of the program (Hawkins, 2011). Hawkins (2011) explains, "to have respect for children is more than recognizing their potentials in the abstract. It

is also about seeking out and valuing their accomplishments- however small these may appear by the normal standards of adults" (p. 80). Reciprocity is developed in the Reggio approach through the trusting relationships built among all members of the community, allowing them to open up and share their ideas comfortably (Fraser, 2012). Each of the twelve guiding principles described by Fraser (2012) guide the Reggio Emilia philosophy and are essential to the quality of education provided at the child care centers.

Firlik (1995) examines possible delimitations of executing the Reggio Emilia program in North America. Firlik (1995) explains that in order to effectively implement the Reggio philosophy outside of European roots, one must consider the differences in cultural determinants that may affect the degree in which the application can be effectively implemented. Firlik (1995) discusses that one must consider the differences in patterns of thinking, attitudes within macro society, and cultural conventions when attempting to transport the educational model.

The Importance of High Quality Early Learning Environments

An essential component to education is providing an environment that supports opportunities for children to explore and learn in a safe and challenging way. Evans (2006) explains that the quality of a physical learning environment, such as the room size, layout, furniture, lighting, and noise is linked to positive learning outcomes and enhancing learning and development. Makin (2003) describes that over the last few decades there has been increasing numbers of children in early learning environments due to social changes and financial pressures. With an increasing number of children attending early childhood education settings, it is important that educators still provide a rich learning space for children to grow and develop.

A high quality environment is developed by the way one shapes the space for exploration and by the attitudes of the supporting adults. As noted by Hewes (2006), "a well-designed environment meets multiple individual developmental needs simultaneously" (p. 6). A high quality learning environment will be rich in stimuli and offer the opportunity for exploration, learning through play, peer interaction and the development of social skills (Berris & Miller, 2011). When deciding on the materials to use in a high quality environment it is important to consider the integration of the outdoors in the indoor setting because natural play environments are regarded as better for children's cognitive and physical development (Barris & Miller, 2011). While preparing the environment, it is important that educators consult the children about how they envision the space and the different types of materials they would like to explore in the various centers, which ultimately leads to a co-created approach between the educators and children (Clark, 2007). It is important for educators to take time to listen to young children's ideas and understandings of their environment. Barris & Miller's (2011) study concluded that when children were asked to imagine their ideal learning space they described it as bright, open, soft, homely, friendly, inviting and colourful. Children should play an active role in the design and development of the space to ensure the environment meets their needs and interests (Clark, 2007).

Strong-Wilson & Ellis (2007) believe in the importance of high quality environments because they explain that the environments that children inhabit can limit the quality of their experiences. When preparing a high-quality learning environment, it is important to first identify the values you want reflected in the space and how you want children to experience their time in the environment (Carter, 2007). In a high quality environment children have the ability to express their thinking in a variety of ways made possible by providing a wide range of materials

(Brown, 2015). Educators in the Reggio approach view the different materials as languages the children can use to express their knowledge (Brown, 2015). An organized classroom is also essential to a high quality early learning environment because it enriches the teaching and learning process by ensuring all materials are accessible and available for the students to explore (Wexler, 2004). In a high quality environment, the students' work is documented and displayed on the classroom and corridor walls so that the children can revisit and reconstruct meaning and understanding (Brown, 2015).

The Environment as the Third Teacher

The way Reggio Emilia accomplishes a high quality environment is by considering the environment as the 3rd teacher. Reggio Emilia classrooms are designed and organized to be rich in possibilities and provocations that invite children and promote an atmosphere of playfulness and joy (Brown, 2015). I am intrigued by this approach because it allows children to be in charge of their learning and gives educators the time to observe and reflect on how the children are engaged in their learning and what they are interested in. The Reggio Emilia approach is built upon a socio-constructivist model that states knowledge is constructed through interactions with both people and the environment (Dodd-Nufrio, 2011). In Reggio Emilia inspired schools, the physical environment holds great importance because it reveals a lot about how children are regarded as well as the value assigned to the process of teaching and learning (New, 1998). In a Reggio Emilia setting the environment is the third teacher and it is believed that "the spaces that teachers create for children seem to hold enduring memories for them that have a powerful influence on what they value later in life" (Fraser, 2012, p. 112). Thus, when educators are planning an environment for young children they need to think about the effect it will have on their adult lives (Fraser, 2012).

When creating an environment that acts as the third teacher there are eight principles that need to be addressed: aesthetics, active learning, collaboration, transparency, bringing the outdoors in, flexibility, relationship, and reciprocity (Fraser, 2012). The *aesthetics* of a Reggio environment comes from the amount of detail put into the creation of every aspect of the space (Fraser, 2012). When choosing colour for the environment one should use a range of subtle colours, while accent colours can be used to emphasize different areas or objects (Zini, 2005). Lighting is important to the aesthetics of the Reggio environment and should be illuminated from a variety of sources such as incandescent, fluorescent, vapour, and halogen throughout the environment (Zini, 2005). The children and educators should be able to manipulate the lighting in the room using dimmers to change the intensity as well as change the colour of the light (Zini, 2005).

The principle of *active learning* can be achieved by providing a rich, stimulating environment that offers many choices and provokes children to discover a variety of materials while actively exploring, investigating and solving problems (Fraser, 2012). An active learning environment can be achieved by providing multiple sensorial experiences to help children construct their knowledge and memory (Gandini, 2011). Gandini (2011) describes that an active learning experience offered in a Reggio program where children are able to explore their senses could be allowing children to help prepare food in the kitchen giving them the opportunity to use multiple senses while cooking and tasting food. When designing a rich sensory environment it is essential to make use of colour, light, sound and smell because they correspond to young children's cognitive processes (Zini, 2005). The materials offered in the room should be rich and diverse with features that can change over a period of time (wood, stone, flowers, fabrics) as well as materials that will remain unchanged (glass, steel) (Zini, 2005).

Collaboration is achieved in a Reggio environment by providing opportunities for children to work individually as well as a part of a group with other children and adults (Fraser, 2012). Reggio Emilia classrooms are set up to inspire collaborative partnerships among parents, educators and children (Edwards, Gandini & Forman, 2011). This allows the children to learn the dynamics of group work and the importance of their individual contributions (Fraser, 2012). Creating large murals to be hung in the entrance of the school is an example of a project that allows children to work in collaboration with others to aid in the construction of knowledge (Fraser, 2012).

Transparency is achieved in the Reggio environment through the importance of transparent materials throughout the space such as mirrors, windows, internal glass walls, glass objects, transparent film, large plastic sheets etc. (Fraser, 2012). Transparent materials allow for light to flow more easily through the space which is an important aspect of the Reggio environment (Fraser, 2012). Materials are put into transparent containers to spark children's interest and add to the transparency of the room (Gandini, 2011). Transparency can be used metaphorically to describe the reason behind the documentation of children's work on the walls of the classroom and entranceways of the school (Fraser, 2012). This allows the children's learning to be "transparent" and available to the parents and the children to allow for continued growth and reflection (Fraser, 2012; Brown, 2015). Loris Malaguzzi explains that "throughout the school, the walls are used as spaces for both temporary and permanent exhibits about what the children and teachers have created: our walls speak and document" (Gandini, 2011, p. 41). Displaying the children's creations on the walls of the classroom and in the hallways of the school gives the students a sense of autonomy by seeing their work as important.

Bringing the outdoors in helps to connect children with their roots and helps them to build respect for their community by strengthening the children's sense of belonging in their world (Fraser, 2012). Natural materials such as pine cones, shells, or pebbles of varying size and colour contribute to creating a particular culture in the classroom such as an environment as a living, changing system (Gandini, 2011). Fraser (2012) explains that the windows in the classroom need to be low enough for the children to look out them so they can watch changes in the weather and the seasons. It is also important to give the children an opportunity to "bring the outdoors in" and have them contribute materials to the classroom (Fraser, 2012). This could be done by going on a nature walk and having the children collect elements from the outdoors, or encouraging children to bring natural elements in they found at home or from different places they have visited.

Flexibility can be achieved in a Reggio environment by being flexible with space, time and materials (Fraser, 2012). Creating a flexible Reggio environment requires educators to think differently and plan the classroom to ensure it allows for flexible use of the space and materials (Fraser 2012). For example, instead of creating separate centers for art and science materials, the materials need to be available for use wherever they may be needed within the classroom (Fraser, 2012). Gandini (2011) describes that the Reggio environment needs to be both flexible and adaptable to ensure the children and educators are able to manipulate the space as they use it.

Reciprocity is achieved in a Reggio environment by ensuring it is "open to change and responsive to the children, parents, and community" (Fraser, 2012. p. 129). Fraser (2012) explains that the concept of the environment acting as a third teacher gives it qualities of a living being which signifies that it needs to be responsive to the classroom community just as a good teacher would do. Educators will have to reflect critically on what kind of learning environment

they want to provide and examine each element they include to ensure it reflects their values (Fraser, 2012). In order for educators to create an environment that is responsive to the children of the classroom they need to actively listen to the children and provide learning experiences based on their interests (Edwards, 2011).

Lastly, *relationship* in the Reggio environment refers to how objects are shown in relation to other materials in the room. For example, Lego blocks could be laid out with pieces of driftwood on a large mirror to explore the relationship between the artificial and natural worlds (Fraser, 2012). The idea of relationship is also seen in the process of documentation because it is designed to observe the relationship between what children are doing and the underlying theories and principles of the program (Fraser, 2012). When setting up the Reggio learning environment it is important to provide spaces for children and adults to work in small groups to allow for more face-to-face interactions to build stronger relationships in the learning community (Gandini, 2011). When exploring the eight principles of creating an environment that acts as a third teacher it is essential to understand their interconnectedness within the classroom setting (Fraser, 2012).

Children's Voice

Pugh and Selleck (1996) explain that although children do not begin to speak until later on in their development, "their 'voices' are there for us to hear from birth" (p. 123). The Convention on the Rights of the Child states that children of all ages are capable of forming views on issues that affect them and they should be given the right to express themselves freely in all matters concerning them (Lansdown, 2004). It is essential that researchers value and respect children's knowledge and incorporate their voices in studies as research collaborators

(McTavish, Streelasky & Coles, 2012). Landsdown (2011) explains three approaches to participation when collaborating with children during the research process. The first approach is called consultative participation. Consultative participation is an adult initiated approach that seeks children's views to build understanding of their lives and experiences (Landsdown, 2011). There are many ways adults can consult with children about their ideas and lived experiences such as, online surveys, focus groups or nationally organized events, meetings or conferences (Landsdown, 2011). The second approach is called collaborative participation and allows for more partnership between adults and children (Landsdown, 2011). This type of participation could include children in the research process by giving them the opportunity to identify relevant questions or develop the methodology for the research (Landsdown, 2011). The third approach is child-led participation, which allows children to initiate activities and advocate for themselves with the help of adults as facilitators and resource providers (Landsdown, 2011). This type of participation allows children to initiate action as individuals such as establishing and managing their own organizations for the purpose of awareness-raising (Landsdown, 2011).

Moss & Clark (2011) developed a framework for listening to young children called the Mosaic approach. The framework uses a multi-method approach to allow for researchers to focus on the children's lived experiences while treating them like experts of their own lives (Moss & Clark, 2011). The Mosaic approach was developed in an early childhood setting with children aged three and four years old with the aim to find practical ways of listening to children's voices (Moss & Clark, 2011). The Mosaic approach established a new way of listening to children that is multi-method, participatory, reflexive and adaptable by having children take photographs and draw images to help explain their thinking (Moss & Clark, 2011).

Einarsdottir (2005) explored different methods of collecting data with children such as interviews, children's drawings, children's photographs and questionnaires through a game approach. She values the constructivist view of childhood where children are respected as knowledgeable individuals and he conducted a study seeking to examine children's perspectives on the quality of their education. The results of his study revealed that children have strong opinions about their preschool experiences and are able to express them clearly because "children are experts at being children in their own lives" (p. 483). Smith et al (2005) conducted a study attempting to understand children's perspectives on what is engaging and challenging about their learning environments. Smith et al's (2005) ethnographic study used a variety of sources to investigate children's views such as photographs, children's work, observation records, transcripts of conversations and interviews. The findings of Smith et al's (2005) study supports children as key commentators on their learning who have useful and important ideas to share about their interactions and the competence to tell us about them. Stephenson (2009) also explored ways of enabling young children to share their thoughts and experiences about their lives. Their study found that the use of photography, prolonged involvement, and 'stepping back' were effective ways for children to communicate their ideas (Stephenson, 2009). Pyle (2013) engaged young children in research through the use of photo elicitation. Photo elicitation is a tool used with children whereby they communicate their ideas both visually and verbally on a topic by taking pictures and explaining the pictures to support their thoughts (Pyle, 2013). Pyle (2013) values the importance of active child participation in education research and set out to gain a deeper understanding of students' perspectives on their learning in an evolving curricular landscape. Pyle's study concluded that involving children in the data collection and analyses of

the study "unlocks key perspectives for truly understanding children's educational experiences" (p. 1556).

Conclusion

This literature review examines the Reggio Emilia approach to learning, the concept of the *environment as the third teacher*, the importance of high quality early learning environments and the power of children's voice in research. The Reggio Emilia approach to education supports the idea of children constructing their own knowledge while interacting with their environment through a socio-constructivist view of learning (Dodd-Nufrio, 2011). When constructing an environment that acts as the third teacher it is important to consider who will be using the space to ensure one is providing an environment with rich learning possibilities (Carter, 2007). It is important to consult with children because they have a unique perspective that cannot be explained by adults and that is essential when creating environments to meet their developmental needs (Cook-Sather, 2002).

Chapter 3: Methodology

The purpose of this study was to gain an in-depth understanding of how children view their learning environment and its ability to support their learning. The research design closely follows Pyle's (2013) study on *Engaging Young Children in Research through Photo Elicitation* and seeks to explore children's views on their environment using photographs as a data collection instrument. Children participated in both the data collection and data analysis part of the study. As a researcher, I view children as competent beings who should have a voice in their education and more importantly the environment they are engaged in. The research was collected from a Reggio Emilia inspired school to allow for a more in-depth understanding of "*the environment as the third teacher*".

Research design

The research design chosen for this study is qualitative. Qualitative research is used to provide a holistic description of people's experiences and their interactions with the surrounding environment (Springer, 2009). When conducting qualitative research the researcher studies a phenomenon in its natural setting as it occurs in everyday life (Johnson & Christensen, 2012; Pellegrini, Spodek & Saracho, 1998). The approach used in this qualitative research design is phenomenology. Phenomenology allows researchers to study the 'lived experiences' of the participants about a specific experience or event (Lichtman, 2012). Phenomenological researchers seek to find and understand a commonality in human experience which is called an essence (Johnson & Christensen, 2012). A phenomenological approach has been selected in this study to allow the participants to express their understandings without having their thinking altered in any way (Grover, 2004). Phenomenological research gives the participants power and voice in the study by allowing them to freely express their inner experiences (Grover, 2004).

The Mosaic Approach

This qualitative phenomenological research study followed a framework for listening and responding to young children's perspectives called The Mosaic Approach (Clark, 2007). The Mosaic approach was developed with children aged three and four and aims to contribute to the voice of a child and recognize young children's perspectives of their early childhood environment (Moss & Clark, 2011). It is a multi-method approach where children and adults work together to use children's photographs in conjunction with conversations and observations to gain a deeper understanding of the children's views (Moss & Clark, 2011). The process allows children and adults to be involved in "meaning making" together by giving them both a chance to step back and reflect on their experiences (Moss & Clark, 2011). The different methods (photographs, conversations, and observations) used in the Mosaic approach were chosen to help eliminate the power differential between adults and children and to enhance communication by allowing the children to choose methods that were comfortable to them (Moss & Clark, 2011). Photographs, conversations, and observations were used in the study to allow children the opportunity to explore their experiences through walking, talking, making, and reviewing within an early childhood setting (Moss & Clark, 2011). Moss and Clark (2011) developed the mosaic framework based on the following principles: a) Young children as 'experts in their own lives.' b) Young children as skillful communicators. c) Young children as rights holders. d) Young children as meaning makers. (p.6)

Site Selection

The sampling method chosen for this research study was purposeful theory sampling. Purposeful theory sampling is a sampling strategy that allows a researcher to select a site that gives them the opportunity to explore a theory and was chosen for this study because it allows

for an in-depth understanding of the concept of the Reggio Emilia approach to education (Creswell, 2012). Theory sampling allows a researcher to choose a site that helps them to discover specific concepts within a theory (Creswell, 2012). The site selected for this study was a Reggio Emilia school in a large city in Ontario and was chosen to allow for an in-depth understanding of the concept of the *environment as the third teacher* in the classroom setting.

The Reggio Emilia school is for female students only and the tuition for day students is $30, 000 per year. The school ranges from kindergarten to grade 12 and is divided into junior, middle and senior schools. Kindergarten to grade 6 belong to the junior school, grade 7-8 belong to the middle school, and grade 9-12 belong to senior school. The participating classroom was situated in the junior part of the school and had one full time educator and two part time educators in the classroom, all three were female. There were a total of 18 students in the classroom all at the SK age, 5-6 years old. The kindergarten section of the junior school is divided into a JK and SK level. The children travel with their educators when moving from the JK to the SK portion of kindergarten.

The selected site and participating classroom supported the Reggio principle of the environment as the third teacher. While working in the selected site, I used my observations, field notes, and children's dialogue and pictures to explore the setting and examine its ability to act as a third teacher. In order to design a classroom that acts as the third teacher, there are pre-determined elements that need to be addressed. Fraser (2012) defined eight principles that can be followed to ensure one is creating an environment that acts as the third teacher: aesthetics, active learning, collaboration, transparency, bringing the outdoors in, flexibility, reciprocity and relationship.

The subsequent sections explore each of Fraser's (2012) principles in relation to the selected site and the data collected throughout the study:

Aesthetics

Fraser (2012) discusses that the aesthetics of a Reggio environment comes from the amount of detail put into the creation of every aspect of the space. When coding for this principle I was looking for dialogue in my field notes and in the transcribed data where the amount of detail put into the setting was discussed and how the amount of detail enhanced the setting. Prior to working with the participants in this study, I was taken on a tour of the school grounds. The aesthetics of the building stood out immediately as I reflected in my journal. "While walking the hallways I am in awe over the buildings architecture and interesting layout. There are many big windows and beautiful archways and doors. When entering the junior school I am drawn to the open spaces and artwork from the students. I noticed the windows leading into the rooms and how the spaces were thoughtfully planned through a Reggio lens" (Personal communication, April 18, 2016). The children also referred to the aesthetics of the classroom while talking about the variety of detail put into the different areas of the room. Michelle (in focus group 4) talks about how it was fun to look at the details on the math shelves while examining a picture she took of the math center which shows the different math materials available to them on the shelves (Figure 1):

> *Michelle- It is really fun to look at the details on the math… what are they called, shelves, on the math shelves.*

Figure 1

The layout of the classroom and placement of materials also supports the aesthetics of a Reggio classroom. Amy discussed how the magnifying glass in the nature center helped her notice the different details of the flowers in the center:

> *Researcher- What can you learn about flowers?*
> *Amy- You can use the magnifying glass and see what they look like really up close. It helps you really notice the different details.*

The thoughtful placement of the magnifying glass at the nature center allowed the children to explore the natural elements deeply and in greater detail.

Active learning

Fraser (2012) explains that to achieve the principle of active learning one must provide a rich, stimulating environment that offers many choices and provokes children to discover a variety of materials while actively exploring, investigating and solving problems. When coding for this principle I was looking for dialogue in my field notes and in the transcribed data where it was commented that there are a variety of different materials and sensorial experiences available in the setting. An active learning environment was evident when observing the participating

classroom. There were a variety of materials in each of the centers in the classroom for children to explore and manipulate such as in the light center there was an over-head projector, a light table, x-rays, beads, magnets etc. The children identified many different materials in their classroom during the focus groups. Mandy discussed some materials that were added to enhance the math center:

> *Mandy- We do lots of math and we make all different things with tools and Lego.*

During focus group 3 Emma explained that there are also puzzles at the math center and during focus groups 4 Shannon explained how there are games in the math center with a variety of levels to support them in solving problems.

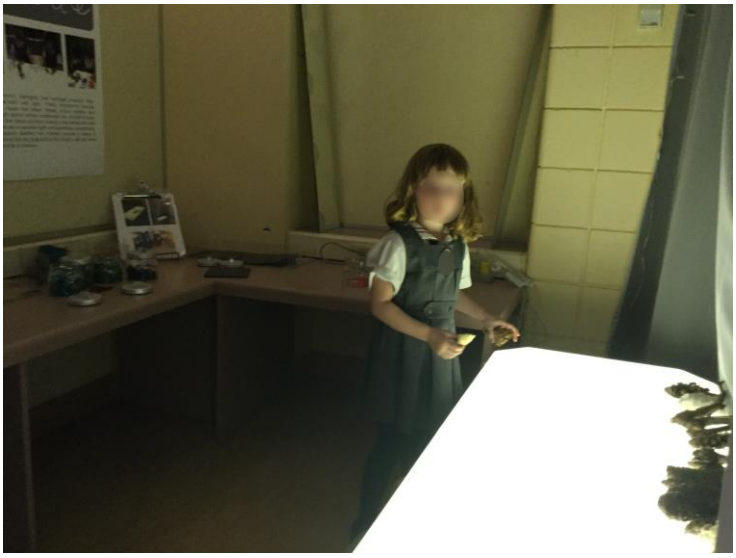
> *Shannon- Because when you are in math you get to figure out lots of things and sometimes there are games that are really hard and tricky and sometimes in the middle. [Shannon is describing the different difficulty levels of games in the math center].*

During the focus groups I noticed that the hundreds chart in the math center was an item that was commented on and photographed many times. The children discussed how they used it to count by 5's, 10's and 100's as well as how there are questions on the back of the numbers that help them learn.

Gandini (2011) explains that an active learning environment should have multiple sensorial experiences to help children construct their knowledge and memory. The light center in the classroom offers sensory opportunities for the children along with a variety of materials for them to manipulate. Elizabeth commented on the different degrees of light in the center (Figure 2).

> *Elizabeth- This light table helps you do shapes. It makes a big light because it is really dark in there.*

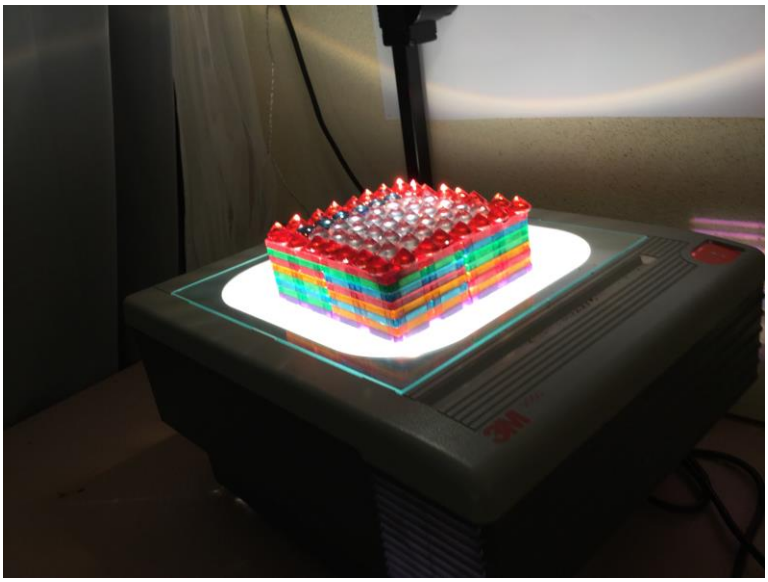
Figure 2



Mandy discussed some of the different materials you can use at the light center (Figure 3):

> *Mandy- [At the light table] we make different things with magnetics. Like you can see here that Nicole and Vanessa put different magnetics together and they put jewels on top.*

Figure 3



An active learning environment should provide the children with materials that can change as well as remain the same over a long span of time (Zini, 2005). During her time in the focus group, Amy discussed the nature center as another area in the classroom that offered sensorial

experiences as well as materials that can change over a period of time:

Researcher- What happens in the nature center?

Amy- You can go there no matter what center you are in. You can learn about different things.

Researcher- Like what?

Amy- Flowers, different plants, rocks.

Olivia- Shells.

Amy- Shells.

Collaboration

Collaboration is achieved in a Reggio setting by providing opportunities for children to work individually and as a part of a group. Fraser (2012) explains that by allowing children to work in collaboration with others it will aid in the construction of their knowledge. When coding for this principle I was looking for dialogue in my field notes and in the transcribed data where it was expressed that children were able to work together in small groups to complete a task or build on each others ideas. By observing the participating classroom I was able to surmise that collaboration is an important concept to the educators by the way the environment was constructed. There were six centers that divided the classroom into smaller areas that allowed the children to work in collaboration or independently and these included: math, communication, building, art, light and drama. When focus group 1 was asked if there were areas in the classroom where one can work with other people Andrea commented:

Andrea- Yeah, you can share painting. Yeah you can paint together.

When asked about an area where you can work alone she replied "in light."

During the discussion with the fourth focus group Addison described a structure that she built

collaboratively with some of her peers in the building center (Figure 4).

> *Addison- Because when I was building that structure with Shannon and Mackenzie I decided to put pillows in it and it looked like a tent so I really wanted to make a picture.*

Figure 4

Mandy discussed how you can work collaboratively by talking to other people while in the communication center:

> *Mandy: It's communication where we draw stuff and make stuff and different things. We talk to each other and we make different things.*

Transparency

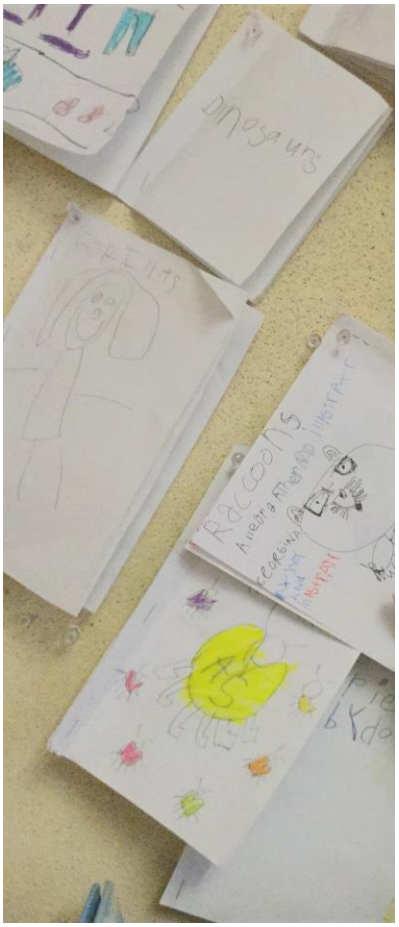
Transparency in the Reggio environment has a double meaning. Transparency can be seen in the learning environment by the use of transparent materials throughout the space such as mirrors, windows, internal glass walls, glass objects etc., which allow for light to flow more easily through the space (Fraser, 2012). When coding for this principle I was looking for dialogue in my field notes and in the transcribed data that discussed transparent elements in the classroom that allowed for materials and different areas to be viewed more clearly. When I entered the junior wing of the school I immediately noticed the glass walls separating the classrooms from the hallway, which made the classrooms more inviting and also allowed me to

observe the children before entering the room. Within the classroom, there was a large window looking out into the learning garden. When asked to photograph areas of the room that help them to learn, Melissa chose to photograph this large window to capture the learning garden. Gandini (2011) states that you can add transparency to your room by putting materials in transparent containers to spark children's interest. Transparent containers were used throughout the classroom such as in the art, light and communication centers to display the materials they were holding.

Transparency can also be used metaphorically in a Reggio setting to describe the reason behind documentation of children's work on the walls of the classroom and the school (Fraser, 2012). When coding for this part of the principle I was looking for dialogue that discussed how the walls of the setting communicated a message or aided in the children's learning. As mentioned earlier in my journal, when I entered the junior wing of the school I was drawn to the children's artwork that was displayed in the hallway. There was a clay sculpture of a tree and animals, wire sculptures of different athletes at the Olympics, and large murals. Inside the participating classroom there were also many different types of documentation of the children's work throughout the space. Zoe from focus group 2 talked about a picture she took of the wall in the communication center and discussed the display of the students' books they had created (Figure 5):

> *Zoe- It is all the stuff in communication [referring to the bulletin board displaying the children's work]. It's the books that people have written about their research.*

Figure 5



Bringing the Outdoors in

Bringing the outdoors in can be achieved in the classroom setting by providing natural materials within the classroom environment and is used to help strengthen the children's sense of belonging in the world (Fraser, 2012). When coding for this principle I was looking for dialogue in my field notes and in the transcribed data that talked about natural elements used within the setting. While spending time in the classroom I observed a variety of different natural materials such as wooden furniture, potted plants, and tree branches that were added throughout the classroom environment. In the nature center there were flowers, rocks, shells as well as a seed germinator. The seed germinator had a transparent top so that the children were able to watch the

seed go through the stages of germination. In the building center there were logs, sticks and rocks added to enhance the children's play. Most of the furniture in the classroom was made out of wood to add to the natural feel of the classroom as well as potted plants that were scattered around the classroom to aid in the earthy atmosphere.

Flexibility

Flexibility is achieved in a Reggio setting by being flexible with space, time and materials (Fraser, 2012) and ensuring the children and educators are able to manipulate the space as they use it (Gandini, 2011). When coding for this principle I was looking for dialogue in my field notes and in the transcribed data that talked about different uses of materials and learning centers within the room. This classroom setting shows the principle of flexibility by having centers with open-ended materials the children can manipulate as they use them. The block center is a flexible place in the classroom because the children can manipulate the blocks and supporting materials to create a variety of things. Michelle described some of the different things you can make in the block center:

> *Michelle- You can make castles and you can make a queen chair. You can make a road trip house and you can make a house.*

Addison talked about how the flexibility in the art center allows you to create a variety of different things:

> *Addison- You can learn how to make necklaces or bracelets and you can do handprints and also paint and learn how to paint different things.*

Although the space is divided into different centers, the children talked about how you can learn a range of different things at the centers. Nicole, who participated as a member in the third focus group, discussed why she likes light and how you can learn math while working in the light center:

Nicole- I think I like light because you get to put decorations on a big table that glows up.

Researcher- How does that help you to learn?

Nicole- Because you learn. You can write down numbers on it and count by tens backwards and stuff.

Elizabeth described how you can learn about shapes while in the light center.

Elizabeth- This light table helps you do shapes. It makes a big light because it is really dark in there.

Andrea, a child in the first focus group explained how you can learn math while working in the communication center:

Researcher- What about communication? How does it help you to learn?

Andrea- You can write math questions.

Reciprocity

Fraser (2012) explains that reciprocity is achieved in a Reggio environment by ensuring it is "open to change and responsive to the children, parents, and community" (p. 129). Edwards (2011) describes that in order to provide a responsive environment one must provide learning experiences based on the students interests. When coding for this principle I was looking for dialogue in my field notes and in the transcribed data that discussed how the setting was set up to enhance learning based on student interests. The educators in the participating classroom provided a responsive environment for their students by allowing them to direct their own learning based on their interests. Once the children chose a center to engage with, they proceeded to use the materials provided to create their own learning experiences. During the focus groups, the children shared multiple learning experiences they had within the classroom. Michelle explained how she uses the different aspects of the art center to help her learn how to be a kid artist:

> *Michelle- I learn my way of building stuff. I learn my way of keeping my poses good from when I draw or when I paint or when I cut or when I do whatever because I am learning to be a kid artist.*

Addison explained how the whole classroom is responsive to her learning:

> *Addison- I like everything about my classroom because every part of it helps you to learn, It helps you learn how to exercise. It helps you learn how to sing different songs. It helps you learn how to work with friends', helps you learn how to do math.*

Nicole described how she uses to the communication center to create her own learning experiences (Figure 6):

> *Communication. I was in that center yesterday and I was writing a message. You can communicate to other people who you love. [I can] make pictures that are rainbows, and use dark colours to cover over them and write their names and stuff.*

Figure 6

Relationship

Relationship in the Reggio setting is essential to ensure children feel that they are listened to and their ideas are valued (Fraser, 2012). In order to build stronger relationships in a Reggio setting educators need to provide spaces for children and adults to work in small groups and allow for more face-to-face interactions (Gandini, 2011). When coding for this principle I was

looking for dialogue in my field notes and in the transcribed data that talked about ways to build relationship within the classroom such as one-to-one interactions. The importance of relationship in the participating classroom was evident in the pictures the children took of their learning environment. Zoe took a picture of one of the educators reading with a child in the resting station and explained:

> *Zoe- Because when you are reading with our teacher and we are reading some stories it doesn't really help us learn but it does help us learn to read.*

Zoe also explained how the classroom has a section with picture books of all of the children's families which helps the children build relationships with each other because it allows them to better get to know each other.

> *Zoe- You can find out about every friends' life because there are picture books and you can look at them and find out fun stuff that other friends' did.*

The light center was also a popular place for relationship building in the classroom. Olivia explained in her focus group that she gets to see new people working in light. Michelle described how people come to see what you are doing while you are in light.

The children in this research study perceive their physical learning environment as a place that helps them to learn, or in Reggio terms, they perceive their environment as the third teacher. Amy explains this best when she commented:

> *Amy- I like everything about my classroom, because every part of it helps you learn. It helps you learn how to exercise. It helps you learn how to sing different songs. It helps you learn how to work with friends'. It helps you learn how to do math.*

Participant Selection

In phenomenological studies, the researcher seeks to describe the experiences of a group of people in a particular area (Johnson & Christensen, 2012). The research participants for this study were 16 female children in the senior kindergarten program at a Reggio-inspired school. Each participant was presented with an overview of the research and given the opportunity to partake in the research with the option to withdraw at any time. To ensure genuine child participation in this study, I followed the basic requirements for effective and ethical participation: transparent and informative, voluntary, respectful, relevant, facilitated with child-friendly environments and working methods, inclusive and safe, supported by training, and sensitive to risk (Lansdown, 2011). To adhere to the ethical requirements of this study, a consent form was given to: parent/guardian of the participants, educators in the classroom, and the principal of the school, outlining the study and their role within it (see appendices B, C & D). In addition to the consent forms, the children were given an outline of the study in small focus groups and were asked if they would like to take part with the option of leaving at any time. In reporting the findings, pseudonyms have been used to maintain the anonymity and confidentiality of each participant.

This research study relied on convenience sampling to choose the participants who partook in the research. Convenience sampling is used to include participants who are available or who volunteer and are willing to participate in the research (Johnson & Christensen, 2012). Consent forms went out to all of the students in the classroom selected to take part in the research and sixteen were returned. For the purpose of this study the convenience sample originated from the sixteen children who had parental permission and were willing to take part in

the study. The sixteen participants were divided into four focus groups each with four participants.

Procedure

This research study consisted of multiple visits where observations and focus groups took place with the participants. During the first visit to the school I was taken on a tour of the school grounds and participating classroom. After the tour of the school grounds I spent an hour in the classroom setting observing and interacting with the students prior to conducting the first focus groups. While in the classroom, I used the observation time to develop a rapport with the students and to strengthen my relationship with them so they felt more comfortable working with me during the subsequent visits. This time was also used to communicate with the educator about the study and to form the "focus groups" I used for photo elicitation and photo interviewing analysis. There were four focus groups created with four children in each group, for a total of 16 participants. At the beginning of each focus group I introduced myself and my research.

> *Hello, My name is Miss Robson and I am a student in university who is interested in understanding what you think about your classroom. I am here to collect research. Has anyone heard of research before? Do you know what it is? Research is information about something that you want to know more about. For my research I am hoping to learn more about what you think about your classroom and how it helps you to learn. I need your help with my research and was hoping you would be able to help me take pictures of your room. Would you like to help me? Does anyone have any questions?*

During the first visit to the classroom I collected data using photo elicitation with groups 1 and 2 of the four focus groups. I explained to the students that we will be working on creating a book

together using photographs they take of their classroom environment and the book would be called *how our classroom helps us learn*. Prior to taking the photos, we discussed different parts of the classroom and how they contribute to their learning. The students were then given a mini iPad and asked to photograph 5 areas of the classroom that help them learn. The amount of pictures was set at 5, to limit the amount of data and ensure that the children were thoughtfully thinking of the areas they wanted to photograph around the room.

> *Today you are going to take pictures of your classroom that will be included in a book entitled 'How our classroom helps us learn'. When taking your pictures I want you to think of places in your classroom that help you to learn. Who has any ideas of how your classroom can help you learn?*

After eliciting responses from the students I introduced them to the technology they would be using to take their photos.

> *Who has used a mini iPad that looks like this before? Each of you can take an iPad and practice taking pictures with it. Does anyone need help or have questions?*

I then proceeded to give them explicit instructions on the steps in the process.

> *You are all going to get the chance to take 5 photos of your classroom. Before you go and take the photos you can take a moment to walk around the room and think of the best places that help you learn. Does anyone have any questions? Okay you can go and take your five pictures.*

The students then went out into the classroom and photographed areas that help them to learn. When they returned with their IPads we went through the photos together to make sure they were

happy with the images they took then I thanked them for the participation and reminded them that I would be back the following day with their printed pictures.

During the second visit to the classroom I collected data using photo elicitation with the remaining two focus groups, group 3 and 4 and followed the same script used for groups 1 and 2 (see above). Prior to the second visit I printed the photographs groups 1 and 2 took during their photo elicitation period. During the second visit the photos taken by groups 1 and 2 were analysed using photo interviewing analysis in their respective groups. At the beginning of each focus group I recapped the purpose of the photos and explained how they are going to be a part of a book called *How our Classroom Helps us Learn*. I then placed the students' 4-7 photos out on the table as a group and opened the floor for a discussion among the whole group about the photos and how they are important to their learning. During this process the children identified which center in the classroom the photo was taken of and described how that center helps them to learn. See script below:

> *Hello again. I am excited to show you the wonderful pictures you took. Does anyone remember why we took these pictures? We are making a book about how your classroom helps you to learn and the pictures are of places in the room that you think are important to help you learn. It is important that only one person talks at a time while we are looking at the photos to make sure I am able to record your voices clearly.*
>
> *We are going to get a chance to look at everyone's pictures, however we are going to start with the person who actually took the photo. Can you tell me about your photos (author of photos)? Why are they important to your learning? Does anyone else have ideas about why these photos are important to your learning?*

During the photo elicitation process I asked some of the following open-ended questions as they fit into the conversation:

- *What do you think about your classroom?*
- *Where do you learn best in your classroom?*
- *Why is this picture important to you?*
- *Why did you choose to take a picture of this space?*
- *What part of the classroom is your favourite?*
- *If you could change one thing about your classroom what would it be?*
- *If you could keep one thing the same about your classroom what would it be?*
- *What do you think about the colours/materials/lighting in your room?*
- *Are there areas for you to work in groups/alone in the classroom?*

During the third visit to the classroom I met with groups 3 and 4 separately to analyze the photos they took using photo interviewing analysis. I also used this time to meet with one of the students from group 1 who was away for the photo interviewing analysis and analysed the photos they took. The script and questioning above was used during this visit as well.

Data Collection

There were three types of data collection used during this research study, informal observations, photo elicitation and photo interviewing analysis. Intermethod mixing, the use of more than one method of data collection, was used in this study to enrich the data that was collected (Johnson & Christensen, 2012). Intermethod mixing enriches the data by building off each of the methods strengths and weaknesses (Johnson & Christensen, 2012).

A method used in this study was informal observations in the school and classroom setting. While in the classroom throughout the study, I took on a participant observer role while interacting with the children in their learning environment (Wragg, 2013). During my time in the classroom I made informal observations and recorded field notes in a journal about the school, classroom environment, and the children. Field notes are notes taken by the observer and are based on what the researcher sees as important to the study (Johnson & Christensen, 2012).

Photo elicitation was used as a data collection instrument with the children in this study. I chose to involve the children in the data collection process to give them power and agency as social participants (Stephenson, 2009). The use of photo elicitation is a widely documented research strategy when working with young children (Clark, 2007; Cremin & Slatter, 2004; Moss & Clark, 2011; Pyle, 2013; Thomson, 2008). Photo elicitation is a tool used with children whereby they communicate their ideas both visually and verbally on a topic by first taking pictures and then explaining the pictures to support their thoughts (Pyle, 2013).

In this study small focus groups of four children were used to photograph areas of the classroom that help the children learn. The children were each given a mini IPad to document parts of their room that help them to learn. During this process I audio and video recorded the children taking photos of their room to allow me to further analyze the interactions and dialogue at a later time.

The last type of data collection used in this study was photo interviewing analysis. Photo interviewing analysis allows the participants to examine and analyze a set of visual images to construct meaning while the researcher records these descriptive findings as results (Johnston & Christensen, 2012).

The children analyzed the photos they took during photo elicitation in the same small focus groups used during photo elicitation. During this process the children labelled the photos into categories, the different learning centers in their room (mathematics, building, communication, art, light, and drama), based on their judgements of the photos and then explained how that area of the room helps them to learn. While the children were describing the photos they took I labeled the center they identified and jotted quick notes about how the center helps them to learn. During this process I audio and video recorded the children talking about the photos of their room to allow me to further analyze the interactions and dialogue at a later time.

Analysis

The data collected during this study was analyzed using inductive reasoning. Inductive reasoning allows for the researcher to analyze the data collected, moving from specific observations to a broader generalization and theory (Thorne, 2000). The data that was collected in this study came from observational field notes, photo elicitation and photo interviewing analysis. The video data collected from the photo elicitation and photo interviewing analysis was then transcribed. Transcription is a process in qualitative research that transforms research data into typed text (Johnston & Christensen, 2012).

The data collected in this study was analysed and inductively coded to support the research question: Which areas within classroom do children believe help them learn? How? Inductive coding allows for the researcher to condense data into a brief summary format and to establish links between the objectives of the study and the data (Creswell, 2002).

When coding for the research question, which areas within classroom do children believe help them learn? How?, I separated the children's photos into the categories (the different learning centers: mathematics, building, communication, art, light, and drama) that they

identified during the photo interviewing analysis part of the study. I then went through the transcribed video data and matched the child's photo with the dialogue during the focus groups on how that part of the classroom helps them to learn. I repeated this process for each of the categories (mathematics, building, communication, art, light, and drama) the children identified. The data was then mined for common themes that emerged from the children's dialogue.

Researcher Bias

Researcher bias in qualitative research studies is caused by selecting results consistent with what the researcher is looking for by allowing personal views and perspectives to affect their interpretation of the data and how the research is conducted (Johnson & Christensen, 2012). To understand and eliminate research bias from this study I used a strategy called reflexivity. Reflexivity forces the researcher to self-reflect on their bias and predispositions allowing them to monitor and control them, thus limiting their effect on the study (Johnson & Christensen, 2012). As an educator and researcher in the early years I am a firm believer in the Reggio Emilia approach to learning—a bias I was well aware of throughout the study. I come from an Early Childhood background with my ECE diploma and my Bachelor of ECE degree and have been involved in many education courses with topics surrounding the Reggio Emilia approach to learning. One strategy I used to address researcher bias was methods triangulation, which is the use of multiple research methods when conducting a study (Johnson & Christensen, 2012). This study used observational field notes, photo elicitation and photo interviewing analysis as methods to collect data. The data was also collected by child researchers and myself.

Chapter 4: Research Results

The objective of this study was to develop an understanding of how children perceive their classroom environment and identify areas of the classroom that children believe help them learn. In order to achieve an in-depth understanding of the children's view of their classroom and how it helps them learn, the children served as co-researchers in the study. The 16 SK children were part of the data collection and data analysis of this study by photographing areas of their classroom that help them to learn and then in focus groups analyzing the photos they took. This chapter addresses the following research question in relation to the data collected:

- Which areas in the classroom do children believe help them learn? How?

The research question, *Which areas in the classroom do children believe help them to learn? How?* was answered using the children's photographs and dialogue taken from the photo elicitation and photo interviewing analysis part of the study.

Which areas in the classroom do children believe help them to learn? How?

The research question in this study was "Which areas within the classroom do children believe help them learn? How?" In order to answer this question the children were asked to photograph areas in their classroom that help them learn. Prior to photographing the room I met with each focus group separately and we discussed different areas of the room they believed helped them to learn and also practiced using the camera on the mini iPads to ensure the children understood their task. I recorded the students discussing the different areas that could help them to learn and then followed them into the classroom and recorded them taking the 5 photographs of how their classroom helps them to learn. When the students finished taking their 5

photographs we went through them together to ensure they were happy with the photos and if they were not they went back out and photographed the room until they were content with their 5 photos. I returned the following day with each child's photos and we met in our focus groups and viewed the photos and discussed how the areas in the classroom helped the children to learn. There were a total of 85 photos taken of the classroom that were examined by the children in the four focus groups. When asked how their classroom helps them to learn the children chose to photograph the different centers within the room and then explained how each center can help them to learn. As a result, I coded their responses according to the centers they labeled and these centers included: math, communication, building, art, light, and drama.

Prior to taking the photographs I asked each group what areas of the classroom they believed help them to learn. Focus group 3 responded as follows:

> *Olivia - People learning how to do stuff.*
>
> *Amy- Like write different words, play different games, make different pictures, add up different numbers, build new things.*
>
> *Researcher- How can your classroom help you do that?*
>
> *Amy- Because there are different centers that help you, like math, communication, art, drama, and building.*

Of the 85 photos, 20 were taken of the math center, 15 were taken of the communication center, 15 were taken of the building center, 11 were taken of the art center, 10 were taken of the light center, 6 of the drama center and the remaining 8 photos were taken of various different spaces in the room such as the nature center, the resting station, the learning garden, reading, and the office. Each of the 16 children took between 4-7 photos of their room. During the first focus group Andrea commented on how the pictures are of the same centers but at different times:

> *Andrea- All the same pictures. Vanessa took the same center pictures but at different times. They are different pictures but they are the same centers as Mandy's.*

Math

The most photographed area of the classroom was the Math center. When asked why they took a picture of the math center the children had many different reasons. Addison explained: (Figure 7):

> *Addison- I thought I would take a picture of math because I thought it was a good thing to learn about math.*
>
> *Addison- Yeah, and count by 5's and 10's and things.*

Figure 7

Ava also talked about the importance of math:

> *Researcher- Why did you choose to take a picture of math?*
>
> *Ava- Because it helps you learn.*
>
> *Researcher- How?*
>
> *Ava- To build numbers and stuff.*

When I asked Amy why she took a picture of the math center the whole group started to join in.

> *Amy- This photo is math.*
>
> *Researcher- How does math help you to learn?*
>
> *Amy- It helps you learn different things, like math, like what 100+100 is 200 and it helps me learn how to count by 100's.*

Olivia- 10, 20, 30, 40, 50, 60, 70.

Olivia & Nicole- (Olivia pointing to 100 chart on photo) 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.

Amy- That's not counting by 100's.

Researcher- That's how you get to 100 but what is that counting by?

Amy- By tens, but this is how you count by 100's, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000.

I asked Vanessa how math helps her learn and she explained:

Vanessa- If you learn the math then you will be smart.

One of the most talked about items in the math center that helped the children to learn was the hundreds chart. The children had many different explanations of how the hundreds chart helps them to learn. Zoe chose to take a close up picture of the hundreds chart (Figure 8) and explained:

Researcher- Okay good, so let's hear from Zoe. What's this one?

Zoe- I took a picture of this because it helps you because you can count by 10's and you can also count by 5's. 5, 10

Zoe & Melissa- 15, 20, 25, 30

Zoe & Melissa & Sarah- 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100!

Zoe- I also did this because on the back of them there are questions and the answer to the question is the number.

Researcher- Wow, and what is this?

Sarah- (whispers to Zoe) It's a hundreds chart.

Zoe- It's a hundreds chart.

Figure 8

Elizabeth also took a picture of the hundreds chart (Figure 9) and commented:

> *Researcher- Okay, so why did you choose to take this photo?*
>
> *Elizabeth- Because this helps you with counting. I was only trying to take it because of this (points to hundreds chart) and this helps you count by 2's and 3's and 4's and stuff.*

Figure 9

When Olivia was taking pictures of the classroom she walked over to the hundreds chart, pulled out the number 100 and took a picture of it on the carpet. When asked about the picture (Figure 10) she stated:

Researcher- Why did you take a picture of this?
Olivia- Because I like the number 100
Researcher- And what center is this?
Olivia- Math
Researcher- Why do you like the number 100?
Olivia- Because it sounds cool.
Researcher- What else about 100?
Olivia- I can count by tens and when I am done it is 100.

Figure 10

The children also talked about the different materials in the math center and how they can help them to learn. The children in Focus Group 3 explained how puzzles helped them learn (Figure 11):

Researcher- What is this?
Amy- Math again.
Researcher- What is going on in this picture?

Emma- We can play puzzles.

Nicole- (whispers to Emma) Puzzles, yep.

Researcher- Play puzzles?

Emma- yeah

Researcher- And how does that help you learn?

Emma- Helps us learn lots of things and we know which way is the right way.

Amy- It helps you get smart and it helps you learn how to put things together. It's like putting different words together to make sentences except you are putting different pieces together.

Figure 11

Mandy also took a picture of the different materials in the math center (Figure 12) and talked about how you can use them to make things:

Researcher- Wonderful, and what is this one?

Mandy- Math.

Researcher- What happens in this center?

Mandy- We do lots of math and we make all different things with tools and Lego.

Figure 12

Lilly took a picture of a specific material in the math center that helps you learn (Figure 13) and explained:

> *Researcher- Why did you choose to take a picture of this?*
>
> *Elizabeth- Because this material helps you balance stuff [pointing to the yellow balance on the shelf].*

Figure 13

Communication

Communication and building tied for the second most photographed area in the classroom by the children. When asked why they took a picture of the communication center and how it helps them to learn the children had a variety of reasons. Nicole explained:

> *Nicole- Communication. I was in that center yesterday and I was writing a message. You can communicate to other people who you love. Like make pictures that are rainbows, and use dark colours to cover over them and write their names and stuff.*

Mandy also took a picture of the communication center and explained:

> *Researcher- Tell me about this picture.*
>
> *Mandy- It's communication where we draw stuff and make stuff, different things. We talk to each other and we make different things.*

When talking about the communication center some of the children talked about how they do research there. Zoe talked about the research children completed while in the communication center and choose to take a close up photo of the books the children had made of their research. Melissa photographed Zoe taking the close up picture and explained (Figure 14):

> *Melissa- Communication is research.*

Figure 14

Sarah also talked about the books in the communication center:

Researcher- Okay so let's move on to this one. What is this picture of?

Sarah- Communication. I like it because of research.

Researcher- How does that help you learn?

Sarah- Because of the books.

Some of the children commented that the communication center helps them learn how to print and do cursive writing. Michelle comments:

Researcher- What is this one?

Michelle- Communication.

Researcher- What do you learn in communication?

Michelle- I learn how to write, to do more hand printing and to do cursive.

Addison also talked about learning about writing at the communication center:

Researcher- What's happening in this photo Addison?

Addison- It's at communication.

Researcher- What happens at communication?

Addison- So, I just like learning. It helps me learn. It helps me learn how to do cursive and writing and things like writing books.

Samantha talked about how there is a computer at the communication center that you can use to help you learn (Figure 15):

Researcher- Oh and what is this one?

Samantha- Communication.

Researcher- Why did you take that picture?

Samantha- Because you can make rainbows in it and all kinds of stuff that you can also search and there is a computer that you can do games on.

Figure 15

Learning how to draw was talked about when examining the communication center. Emma explained: (Figure 16):

Researcher- Emma, why did you take this photo?

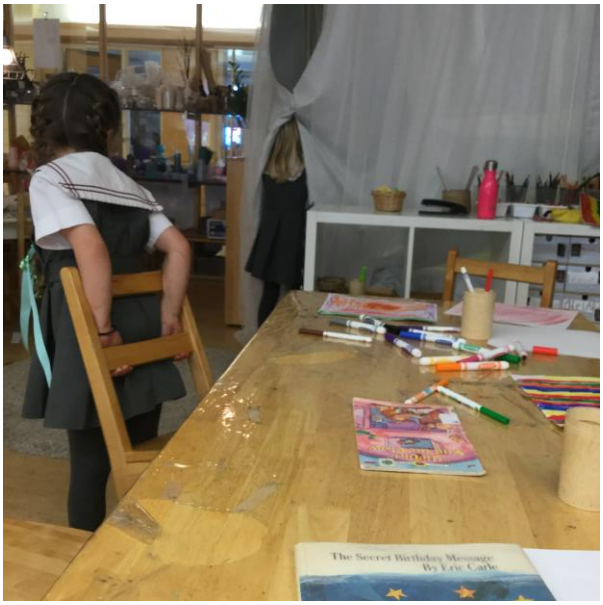
Emma- Because it helps me learn drawing.

Researcher- What space is this?

Olivia- Communication.

Emma- Communication.

Figure 16



Building

Building, along with communication, was also the second most photographed part of the room. When asking the children how building helps them to learn they had a variety of responses. Some of the children explained how they can make different things in the building center. Michelle responded: (Figure 17):

Researcher- What is this center?

Michelle- Building!

Researcher- Why is it your favourite?

Michelle- It's because when you get to build stuff and you can make castles and you can make a queen chair you can make a road trip house and you can make a house.

Figure 17

Ava reflected: (see Figure 18):

Researcher- What's this photo of?

Ava- Of building.

Researcher- Why did you choose to take a photo of building?

Ava- Because I just wanted to.

Researcher- How does building help you to learn?

Ava- To build houses.

Researcher- What else?

Ava- And build stuff.

Figure 18

Shannon explained: (Figure 19):

Researcher- What about this one. What is this?

Shannon- Building. I like building because you get to learn how to build stuff and soon if you practice so much you might be able to build a house.

Figure 19

Andrea also commented on the building center: (Figure 20):

Researcher- What is this one?

Andrea- That's building.

Researcher- And how does building help you to learn?

Andrea- I don't know.

Researcher- What do you think you could learn in building?

Andrea- You could build stuff.

Researcher- What can you build?

Andrea- You can build a house. You can build a boat.

Figure 20

Mandy described that in the building center they build different stuff and play different games like family:

> *Researcher- What about here? (pointing to one of Mandy's photographs (Figure 21)*
>
> *Mandy- In building we build different things and we use pillows to fill them inside to make it comfy and we play different games like family and we sleep on top of the pillows.*

Figure 21

Samantha also commented: (Figure 22):

Researcher- What is this one?

Samantha- That one is building and I like it because you can make some stuff that looks like different stuff.

Figure 22

Some of the children described that if you build in the building center you can grow up to be a builder. Emma explained:

Emma- This is the building center. It helps you build anything and then you can grow up to be a builder.

Researcher- Can you grow up to be a builder?

Emma- Yeah if you learn how to build these. That's [what] a builder does.

Nicole also discussed how the building center can help you learn to become a builder:

Researcher- What is this photo of?

Nicole- Building.

Researcher- How do you learn in building?

Nicole- I get to build stuff and when I grow up I might learn to be a builder.

Art

Art was the third most photographed area of the classroom and 11 of the 85 photos were of the art center. When I asked the children why they took a picture of the art center they responded with many different answers. Michelle answered:

Researcher- What is this one Michelle?

Michelle- Art is my least BFF center.

Researcher- Oh and what happens in art?

Michelle- I learn my way of building stuff. I learn my way of keeping my poses good from when I draw or when I paint or when I cut or when I do whatever because I am learning to be a kid artist and that's what you need. That makes me inspired of the art center.

Many of the children who reflected on the art center talked about the different things you could make at art. Addison and Michelle commented:

Researcher- What about this center?

Addison- It is art. You can learn how to make necklaces or bracelets and you can do handprints and also paint and learn how to paint different things.

Michelle- And you can use your imagination.

Samantha also explained: (Figure 23):

Researcher- Alright, what is this one?

Samantha- That one is art.

Researcher- How does art help you to learn?

Samantha- Because you can make different things at art.

Figure 23

Amy described that in the art center you can paint different thing: (Figure 24):

> *Researcher- What is this picture here? (Figure 24)*
>
> *Amy- It's a picture of art. It helps you paint different things and it helps you exercise your fingers and learn how to paint and draw new things.*

Figure 24

Olivia explained that in the art center she learns how to make stuff:

Researcher- Olivia, what's this one?

Olivia- I get to learn stuff. Like I learn to make crowns and stuff.

Researcher- To make crowns?

Olivia- Yeah and bracelets.

Researcher- What is this place?

Olivia- Art.

Andrea chose to take a close-up photo of someone cutting a piece of paper at the art center (Figure 25). When she was asked how art helps her learn she responded:

Researcher- And what's this one?

Andrea- Art.

Researcher- And how does art help you to learn?

Andrea- Um, you can make stuff.

Figure 25

When Nicole reflected on her picture of the art center she explained: (Figure 26):

Researcher- So what's going on in this picture?

Nicole- This is art.

Amy- You got a good picture of it? How did you do that?

Nicole- I just go kind of close. In art we get to cut and make new things that are different than communication.

Figure 26

Mandy explained that in the art center they make different things which they sometimes share with the class:

Researcher- And what is this here. How is this a part of your classroom?

Mandy- We make different things in art because that is where we always do art. At art we make different things and sometimes we share what we made with the class and we do stuff like making bracelets.

While observing the Art center I noticed that the children made a variety of different creations with the materials provided such as clay figures, necklaces and bracelets with beads and yarn, different drawings using many different mediums, and painted many different pictures.

Light

The light center was also an area that was photographed by the children. There were a total of 10 out of the 85 photos taken of the light center. There were many different explanations from the children of how the light center helps them to learn. Sarah explained: (See Figure 27)

Researcher- Sarah why did you take this photo? What is it of?

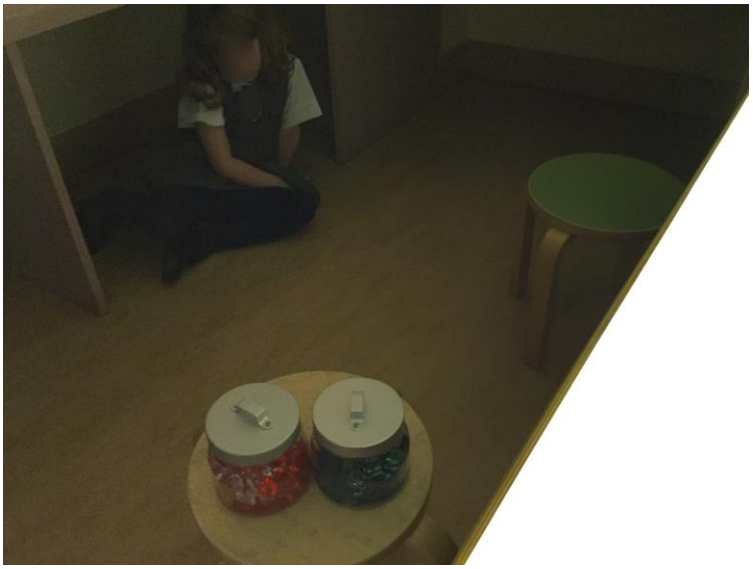
Sarah- It's too dark but it's light.

Researcher- Why did you take a photo of light?

Melissa- How could light, be dark? Seriously?

Sarah- It has the most lights in the classroom.

Figure 27



Some of the children commented that when you are working in light you work with x-rays.

Samantha talked about how you can learn from the x-rays (Figure 28):

Samantha- And this is the light center.

Researcher- Why did you choose to take a picture of light?

Samantha- Because light, you can learn x-rays in it and you can learn from those x-rays.

Figure 28

Melissa also talked about the x-rays: (Figure 29):

Researcher- What's this one Melissa?

Melissa- This is when you learn about different types of, what is it called again? X-rays.

Figure 29

Michelle explained:

Researcher- So tell me about light. What can you learn in light?

Michelle- People often come to the see light center to see what they are doing.

Researcher- What can you learn?

Michelle- We learn about how we play games in there.

Olivia took a picture of a creation on the light table (Figure 30). When asked how light helps her to learn she explained:

Olivia- That one is light.

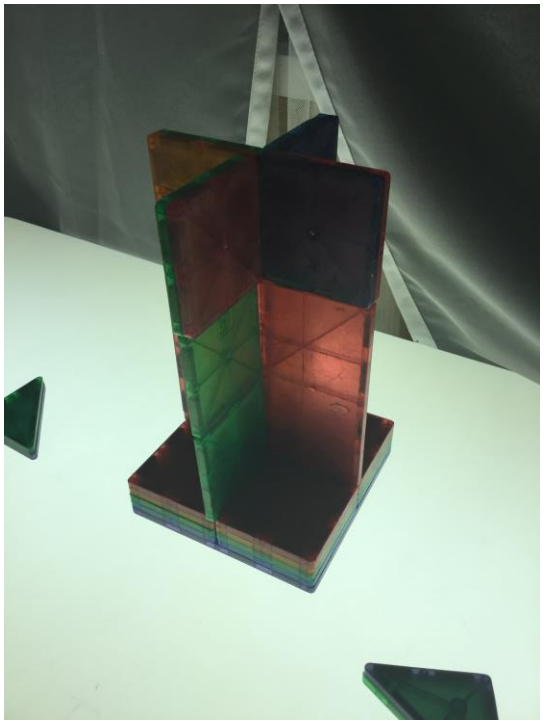
Researcher- What happens in light?

Olivia- I took a picture of Andrea pretending that was my cake.

Researcher- Any more about light that helps you to learn?

Olivia- I get to see new people working light and I was in that center with Amy.

Figure 30



Some of the children talked about how they can make decorations while at the light center.

Nicole commented:

Nicole- This one, its light. I think that I like light because you get to put decorations on a big table that glows up.

Researcher- How does that help you to learn?

Nicole- Because you learn. You can write down numbers on it and count by tens

backwards and stuff.

Vanessa also talked about learning new light things: (Figure 31):

Researcher- What is this one Vanessa?

Vanessa- Light.

Researcher- Is there anything you want to tell me about the light center that helps you to learn?

Vanessa- You get to learn new light things. You get to learn how to make new decorations.

Figure 31

Elizabeth explained that the light table helps you to learn:

Researcher- What about this one?

Elizabeth- This could help you do shapes and stuff if you don't really know.

Researcher- Wow! What's that place called?

Elizabeth- Light. This light table helps you do shapes. It makes a big light because it is really dark in there.

Drama

Drama was the least photographed center of the classroom by the students with only 6 students who chose to photograph the area. When asked how drama helps them to learn, some of the students had mixed opinions. One of the most common answers in the drama center was how pretend play can help you to learn. Mandy and Andrea from Focus Group 1 commented:

Andrea- Drama!

Researcher- Why did you take a picture of drama?

Andrea- Because you can dress up and play family.

Mandy- How to be a parent, and how it would work if you were a parent.

Andrea- How to take care of a baby!

Mandy- And how to take care of pets and babies and how when you're an adult you're not really interested in eating candy and that kind of stuff.

Nicole also talked about pretend play in drama:

Researcher- What's this photo here?

Nicole- Drama. I like drama because you get to pretend to be a baby and you get to pretend to have a family and different ages.

Ava explained: (Figure 32)

Researcher: How does drama help you to learn?

Ava- To build forts.

Researcher- What else can you learn in Drama?

Ava- To play.

Figure 32

Amy took a picture of the drama center and commented: (Figure 33):

Researcher- What about this photo Amy. What is this photo of (figure 33)

Amy- Drama.

Researcher- Can drama help you to learn as well?

Amy- Yeah, It helps you learn the least though.

Researcher- Why?

Amy- Because it's like, well its helps you learn how to make tents and how to do stuff on your own, just with friends.

Researcher- Like what?

Amy- Make a fort.

Figure 33

Shannon took a picture of the drama center and when asked how it helps her to learn she replied: (Figure 34):

Researcher- What is happening here (Figure 34)?

Shannon- It is drama and I like it because now they have this thing.

Researcher- What is that thing?

Shannon- It is a game. It's called Candy Land. It is really fun

Researcher- How does it help you to learn?

Shannon- Well it wasn't helping me to learn, it is just a fun game.

Figure 34

Other Areas

When discussing the photos with the children there were 8 photos that did not fit into the pre-existing centers. These photos are of other areas of the classroom that help the students to learn. One area photographed by a child was the learning garden. Melissa took a picture of the window in her classroom that looks out into the learning garden (Figure 29). When asked why she took the picture Melissa explained:

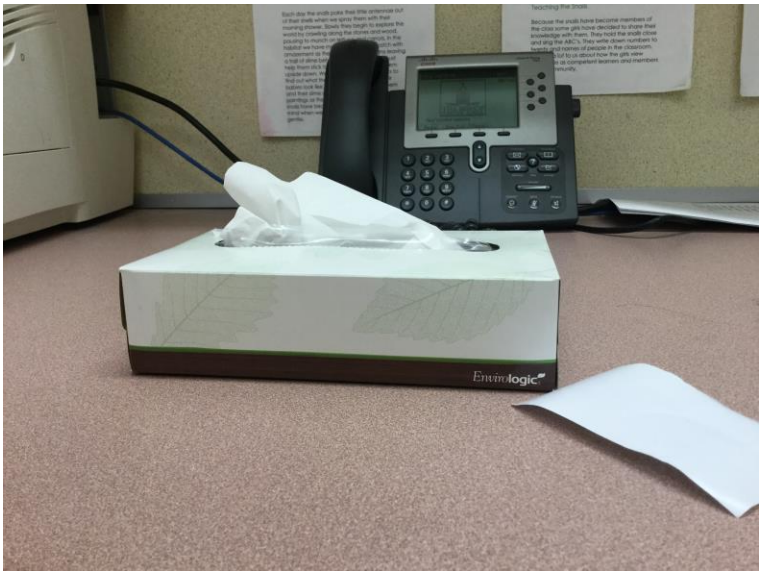
> *Researcher: What's this photo (refer to Figure 35)?*
>
> *Melissa- That photo is of the learning garden. To learn stuff about nature like what type of plant is which or like that worms can live forever because actually worms can live forever.*
>
> *Zoe- Of course we know that worms can live forever.*

Figure 35

Melissa also decided to take a picture of the office where we were meeting as a group. Prior to going out into the classroom to take pictures, Melissa stopped and explained that she learned in this room and took a picture (Figure 36). When asked why she took the picture she replied:

> *Zoe- Haha. You took a picture of a tissue box.*
>
> *Researcher: Why did you take this photo? Do you remember?*
>
> *Melissa- Yes, because I do stuff in here like my R's with the teachers here and it helps me learn how to make the sound.*
>
> *Zoe- Well then why did you take a picture of the tissue box?*
>
> *Melissa- Instead of moving it out of the way (explaining the photo is not of the tissue box but of the office).*
>
> *Researcher- Oh, and what is this room called?*
>
> *Melissa- I don't know. It's called the office.*
>
> *Sarah- It's called the office for people who don't have an office and they work here.*

Figure 36



Amy took a picture of the nature center in the middle of the classroom (Figure 37). She explained:

Researcher- What happens in the nature center?

Amy- You can go there no matter what center you are in.

Researcher- What can you learn here?

Amy- You can learn about different things.

Researcher- Like what?

Amy- Flowers, different plants, rocks.

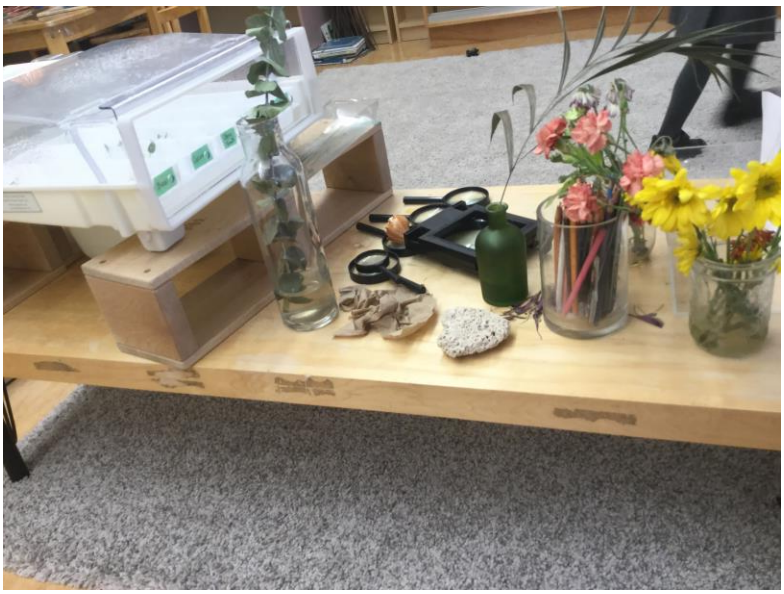
Olivia- Shells.

Amy- Shells.

Researcher- What can you learn about flowers?

Amy- You can use the magnifying glass and see what they look like really up close. It helps you really notice the different details.

Figure 37



Zoe took a picture of the resting station in the classroom (Figure 38). She explained that at this part of the classroom you can learn about your friend's lives:

> *Research- What's this one? Why did you take this photo?*
>
> *Zoe- You can find out about every friend's life because there are picture books and you can look at them and find out fun stuff that other friends did.*
>
> *Melissa- It's called the resting station. I don't have my book there because I took it home*

Figure 38

Zoe and Emma both chose to take pictures of their teacher reading with other children in the room. Zoe explained (Figure 39):

> *Researcher- So why did you take a picture of that (Figure 39)?*
>
> *Zoe- Because when you are reading with our teacher and we are reading some stories it doesn't really help us learn but it does help us learn to read.*

Figure 39

Emma talked about how reading helps her to learn (Image 40):

Researcher- What's happening in this picture?

Emma- Reading, it helps me learn.

Researcher- How?

Emma- Because if you learn anything then you can learn lots of things and then you know it.

Image 40

Shannon and Amy took pictures of a couple of centers in their classroom. Shannon explained that she wanted to see if all of them look the same or different (Figure 41)

> *Researcher- Why did you take that photo?*
>
> *Shannon- I wanted to take a picture of almost all the centers so I could see if all of them look different or the same.*
>
> *Researcher- Do all of the centers help you to learn?*
>
> *Shannon - Not really all. Light doesn't and I am in light right now. Usually people play doctor or family doctor. That's why I like it so much because you get to play so much and not learn.*

Image 41

Shannon didn't equate playing with learning while discussing the different centers in the room.

This idea will be further elaborated upon in the next chapter.

Amy talked about how everything in her classroom helps her to learn:

> *Amy- I like everything about my classroom because every part of it helps you learn. It helps you learn how to exercise. It helps you learn how to sing different songs. It helps you learn how to work with friends. It helps you learn how to do math.*

Chapter 5: Discussion

Summary of the Study

The aim of this present study was to document children's perspectives of their learning environment and identify areas in the classroom children believe help them to learn. The intent of this study was to give voice to children in the educational research field and to value their thoughts and ideas. To ensure children were given a voice in this study they were co-researchers and collected and analysed data alongside the adult researcher. There were 16 children who participated in the study and they were organized into four even focus groups. Data was collected in this qualitative research study through photo elicitation and photo interviewing analysis with the children and using a field journal where I recorded observations and notes while conducting the study. Data analysis of this study consisted of photo interviewing analysis with the children while examining the photos they took of their classroom and the categories they expressed and then further analyzing the photos and dialogue at a later date. The children took a total of 85 photos of various areas of the classroom environment that help them to learn.

How do Children Believe their Classroom Helps them to Learn?

When asked to identify areas of their classroom that help them to learn, the children categorized their responses based on the different learning centers that make up the classroom. The learning centers consisted of math, communication, building, art, light, and drama. There were 8 other areas of the room photographed that did not fit into these categories. Since the math center was emphasized during both the photo elicitation and the photo interviewing analysis, I conclude that there was a strong association with the group that the math center is an area in the

classroom that helps them to learn, followed by communication and building, art, light, and lastly drama.

In most cases, once a learning center was identified the children then went on to explain how different materials within that center aided in their learning. When asked how the math center helps them to learn, the children talked mainly about the supporting materials in the center such as: the hundreds chart, puzzles, tools, Lego, and "balancing stuff". Drew and Rankin (2004) also support the idea of materials enhancing children's learning and explain that "children extend and deepen their understanding through multiple, hands-on experiences with diverse materials" (p.3). The light center was another area in the room where the children identified different materials that helped them to learn such as a light table, x-rays, magnetics, and jewels. The children described how they manipulated the materials to build different "decorations" and "light things". The addition of open-ended materials such as tools, art materials, and blocks in the room enhances learning because they have no predetermined use (Drew, Ohlsen, & Pichierri, 2000). Drew and Rankin conclude that, "we can learn a lot from children who show a natural affinity for materials, gravitating to them without fear or intimidation" (p. 4).

Imaginative or pretend play was also a concept brought up by most of the children as a way they can learn in their classroom while others did not make a connection between playing and learning. The building center was an area where the children identified many different pretend play activities that helped them to learn such as building castles, houses, a boat, structures, and playing games like family. In the drama center the children talked about how they play family, pretend to be babies, take care of pets, and build forts with friends. In the light center the children talked about playing doctor or family doctor. Samuelsson and Carlsson (2008) explain that in the Reggio approach, play is integrated as a dimension of learning. What

was interesting about Shannon's response to the question "Do all the centers help you to learn?" was that she separated play and learning. She explained that not really all of the centers help you to learn, and she likes the light center because you get to play doctor and not learn. Although some of the children explained that they are playing and not learning, they actually are learning but are just separating the two ideas in speech. Samuelsson and Carlsson (2008) explain that, "when young children act they do not separate between play and learning, although they separate them in their talk" (p. 626). When asked how reading helps her to learn Zoe contradicted herself and explained that it doesn't help you learn, it helps you learn how to read. The idea of play and learning was supported when I asked group three how playing puzzles helps them to learn. Emma explained that playing puzzles helps her to learn lots of things, like which way is the right way. Amy added in that playing puzzles helps you get smart and learn how to put things together.

Samuelsson and Carlsson (2008) describe that when children talk about play and learning there are many similarities in the thoughts they share and they describe both play and learning as activities that are joyful and transformative.

A narrative that supports the idea of pretend play was when the children made real life connections about how their classroom can help them to learn to become different people in the community. In the building center, the children talked about how if they practice building they could become builders or learn how to build a house. In the art center Mandy talked about how she was learning to become a kid artist by practicing her poses. In drama, the children discussed how they can learn how to be a parent and how it would work if you were a parent. Vygotsky (1967) supports the idea of real-life connections in play and explains that, "as play develops, we see a movement toward the conscious realization of its purpose" (p. 17). He explains that play is

a "recollection" of a situation witnessed by a child which sparked their imagination and thus influenced their play.

The children also discussed the importance of how talking and working with their peers in the classroom environment helps them to learn. Mandy talked about how you can talk to one another while working at the communication center. Olivia explained that you get to meet new people while you are working at the light center. Michelle discussed that when you are in the light center people often come to see what you are doing. Malaguzzi in conversation with Gandini (2011) discusses the importance of building relationships and explains that it helps children build autonomy and to understand that they are individuals part of a larger group.

The children also spoke to how the documentation on the walls of their classroom helps them to learn. Melissa and Zoe took pictures of the books the children made that were displayed on the wall in the communication center. Zoe explained that the books were written by her peers and were about their research. Malaguzzi in conversation with Gandini (2011) explains that the walls of Reggio schools "speak and document" and can be used by children to revisit and expand on their pervious learning experiences.

This research paper set out to explore children's ideas and thoughts about their learning environment and how it helps them to learn. Although I was unable to engage in in-depth reciprocal conversation through my questions, the data that was collected throughout this study confirmed that the children believed their classroom helps them to learn. Epstein (2003) explains that children between the ages of 3-6 years old are able to make "keen observations about their environment" (p.1). The children in this study were able to effectively reflect on their environment and identify areas they believe help them to learn. Epstein (2003) comments there is empirical and practical evidence that you can promote the development of thinking and

reasoning in children through reflection, a "thoughtful activity that encourages children to consider what they are doing and that they are learning" (p.1)

Strengths of the Study

There were a number of strengths to this study. First, my experience as a registered early childhood educator and as a primary/junior teacher gave me an advantage when working in the classroom setting as well as with the children. I was able to use my prior knowledge of the Reggio approach and its image of the child when building a rapport with the children to help them feel more at ease while working with me. During my time in the small focus groups, I was able to use my previous experience in early childhood settings to direct and focus the children on the task at hand as well as spark interest in their role in the study. Another strength to this study was using the children as co-researchers. By inviting the children to be a part of the data collection and analysis, I was able to gain a deeper understanding of their views of the classroom and how it helps them to learn. In using a collaborative participation approach, this study empowered the children by having them partake in the collection of the data, discussion of the findings, and allowing them to share their thoughts and ideas freely (Lansdown, 2011). While observing the classroom, I noticed that the children were very strong academically with expansive vocabularies which also aided in the facilitation of our conversations. The children used descriptive words when talking about their classroom setting and were able to give insightful answers to the questions I asked. Without the children's valuable insight, this research would not have revealed such rich outcomes about how children perceive their learning environment and its ability to help them to learn.

Scope & Limitations

The scope of this study was to explore the environment as the third teacher, children's views on their learning environment and lastly how the environment sparks their natural learning curiosity. A limitation to this study was the size of the focus groups and the limited time allocated to spend with the children. Due to the busy daily schedule of the participants, there was limited time during the three days spent at the school when the children were in their classroom. A total of five hours and thirty minutes was spent in the classroom observing the children and conducting the focus groups over the three days at the school. Although the study adopted the mosaic approach (Moss & Clark, 2011) to listening and responding to children, there was insufficient time allotted by the school to engage in deeper conversations and provocations about the children's photographs. The children were divided into small focus groups of four, I found that the groups were too large to get through all of the photos and discussion questions I set out to explore. Parkinson (2001) explains that when working with young children small groups are necessary because children spend most of their day interacting with small groups of children. In order to interview children in context you need to ensure you are providing them a social setting that supports their memory. While conducting the focus groups, the children became restless waiting for all of their peers to get a chance to examine their photographs. Due to the restlessness of the children, some of them chose to leave the focus groups early, thus limiting the amount of group discussion. The restlessness of the children also limited the amount of discussion to only discussing the photos they took and how they contribute to their learning. Douglas (2009) explains that practical concerns can limit the amount you can measure during a study. Another limitation to this study was that the population of the school allowed for only female students to take part in the study and thus the differences between the genders could not be investigated.

Although a same-sex school limits the gendered variety of data collected in research, Mael (1998) explains that single-sex schooling leads to higher academic achievement and educational aspirations especially in female schools.

Conclusion

By employing a phenomenological approach to this qualitative study that involved children as co-researchers, the present study was able to give voice to children in research. This present study explored 16 children's thoughts and ideas about how they perceive their learning environment and the environment's ability to help them learn. The children were given voice in this study by having them first photograph the areas in their classroom that they believe help them to learn. Furthermore, I then used their photos to spark discussion during the photo interviewing analysis in small focus groups. After careful analysis of the research data, it is evident that the children in this study perceive that their learning environment helps them to learn and therefore acts as a third teacher in the classroom. The following headings summarize what the children expressed as important to their learning:

Learning Centers

During the focus groups, the children referred to the different learning centers within the room when discussing how different areas help them to learn. 20 of the 85 photographs in the study were taken in the math center, this tells us that there was a strong association with the group that the math center helps them to learn followed by 15 of the photos taken of the communication and building centers, 11 of the art center, 10 of the light and lastly 6 of the drama center. The remaining 8 photos were taken of other areas of the room that did not fit into the pre-existing centers. The children labelled these areas as: the nature center, the resting center, the

office, and reading. The children view the learning centers and the other identified areas within the classroom as important places that help them to learn.

Materials

The children explained that the materials within the various learning centers supported and enhanced their learning experiences. The children identified many different materials within the learning centers and how they manipulated the materials to help them learn. For example, in the math center the children highlighted the hundreds chart as an item that helps them to learn how to count by different intervals.

Pretend Play

Pretend play was seen as a learning experience by most of the children, while some of the children did not make the connection between play and learning. The children identified many different play experiences they had within the different learning centers (example: playing family in the drama center and building structures like boats, houses, and castles in the building center). When asked how these play experiences help them to learn, some of the children did not make the association between playing and learning. The children also connected their pretend play with real life learning experiences. They explained that when in the building center they can learn to become a builder and build a house when they are older and while in the drama center they learn how to be a parent while playing family. These are poignant examples of learning through play.

Communication

The children expressed the importance of communication in their classroom, such as talking and working with their peers, as part of their learning process. They explained that while

working in the different centers, they were able to talk to the other children in the center and also had the opportunity to share their work with the whole class. The reciprocal nature of conversations taking place in the centers supports the importance of building relationships during the learning process.

Documentation

The children confirmed that the Reggio idea of documentation on the walls aids in the learning process by allowing the children to revisit and expand on their previous learning opportunities. The children photographed the research books they made that were displayed on the walls in the communication center. They explained that they created the books based on their own research while working in the center.

Through observation of the classroom and interpretation of the children's responses during focus groups, I have concluded that the learning environment explored in this study supports all of Fraser's (2012) principles in achieving an environment that acts as the third teacher.

Lastly, I shared the research results with the children in this study by creating a scrapbook of the photos and quotations they shared in the focus groups and gifted it to the class as a way to thank them for their hard work throughout the research process. This book was also created as a conduit for the children to explore the findings because the final thesis would not be an assessable format for them. (See Figures 42-57)

Figure 42

Picture of the researcher sharing the book with the participating classroom

Figure 43

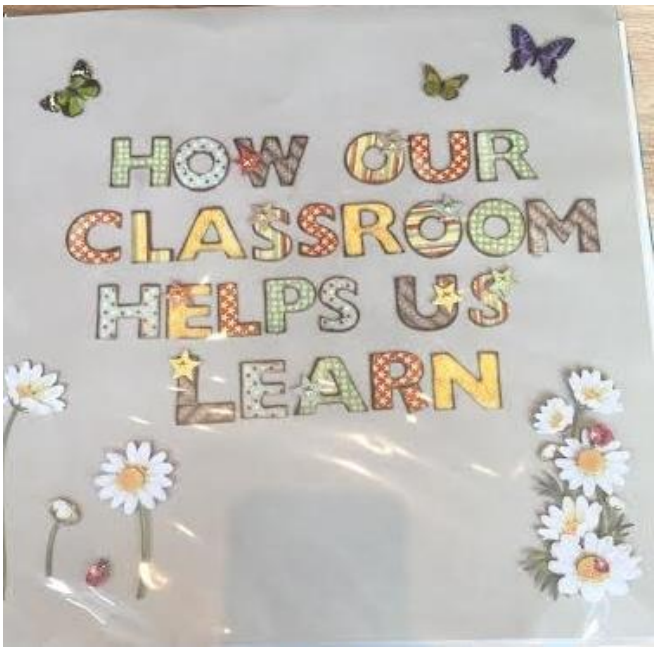


Figure 44

Figure 45

Figure 46

Figure 47

Figure 48

Figure 49

Figure 50

Figure 51

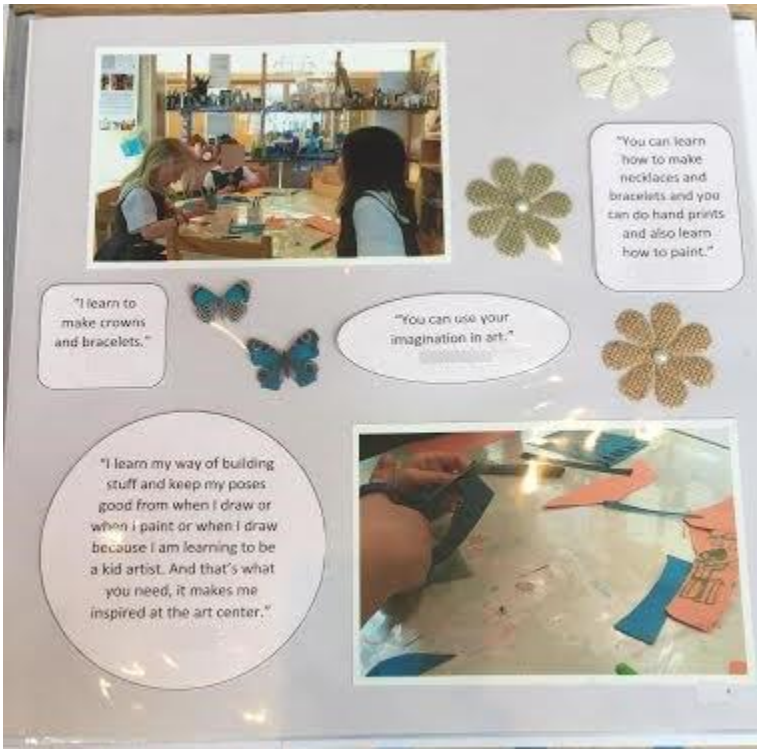


Figure 52

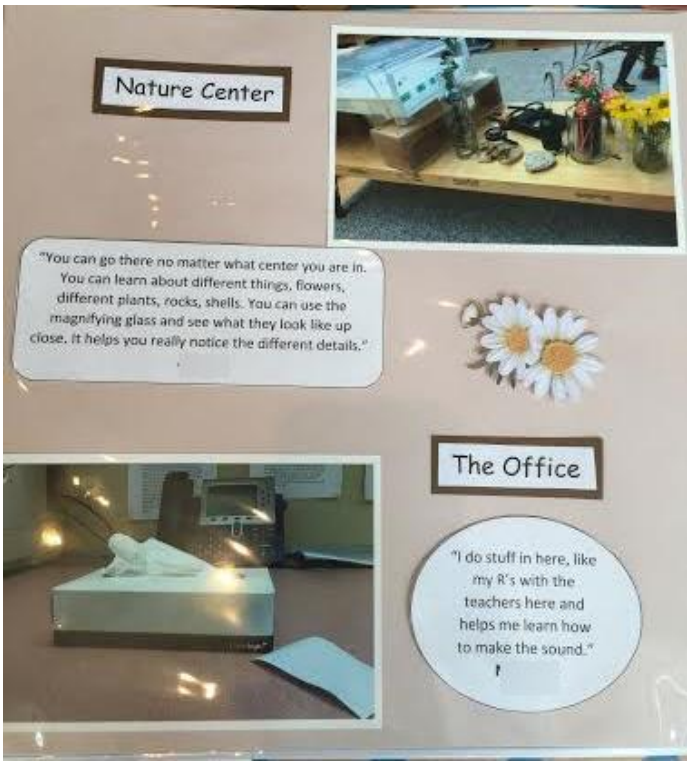
Figure 53

Figure 54

Figure 55

Figure 56

Figure 57



Appendix A

No Way. The Hundred is There.

The child
is made of one hundred.
The child has
a hundred languages
a hundred hands
a hundred thoughts
a hundred ways of thinking
of playing, of speaking.
A hundred always a hundred
ways of listening
of marveling, of loving
a hundred joys
for singing and understanding
a hundred worlds
to discover
a hundred worlds
to invent
a hundred worlds
to dream.
The child has
a hundred languages
(and a hundred hundred hundred more)
but they steal ninety-nine.
The school and the culture
separate the head from the body.
They tell the child:
to think without hands
to do without head
to listen and not to speak
to understand without joy
to love and to marvel
only at Easter and at Christmas.
They tell the child:
to discover the world already there
and of the hundred
they steal ninety-nine.
They tell the child:
that work and play
reality and fantasy
science and imagination
sky and earth
reason and dream
are things
that do not belong together.

And thus they tell the child
that the hundred is not there.
The child says:
No way. The hundred *is* there.

Loris Malaguzzi

(translated by Lella Gandini)

Appendix B

Parent Information Letter

January 2016

Dear Parent/Guardian & Potential Participant:

I am conducting a study on **A Child's View of the Learning Environment: A Study Exploring the Reggio Emilia Principle of the Environment as the Third Teacher** and would value your child's input. They are invited to participate in this research study as part of my Master's thesis requirement in the Faculty of Graduate Studies at Lakehead University.

The purpose of this research study is to explore the concept of the *environment as the third teacher* and how students in a Reggio Emilia inspired school view their classroom and its ability to spark their natural curiosity to learn. The research is being conducted over three visits to your child's classroom. During the first visit I will be observing your child in the classroom. During the second visit I will meet with five focus groups comprised of three students in each group. The children will be taking pictures of their classroom and sharing how it helps them to learn. During the third visit I will bring back the pictures they took and we will discuss them within the five focus groups and create a book using the pictures called "How our Classroom Helps us Learn". Each focus group will last for no longer than 20 minutes.

Dr. Sonia Mastrangelo, Associate Professor in the Faculty of Education (Orillia Campus) is my supervisor on this research project. I am a Master's student in the Faculty of Education and am the principal investigator on this research project. The research project has been approved by the Lakehead University Research Ethics Board which conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. Should you have any questions or concerns, please feel to contact me via email at karobson@lakeheadu.ca or Dr. Mastrangelo at smastran@lakeheadu.ca

Your child's participation in the study is completely voluntary and she may choose to stop participating at any time and for any reason. Should they choose to participate, they may skip any question they wish during my focus group and may choose to withdraw from the study at any point without penalty. Their decision to stop participating, or to refuse to answer particular questions, or to not participate whatsoever will not affect: their relationship with the researcher, Lakehead University, or any other group associated with this project either now, or in the future. In the event that they withdraw from the study, all associated data collected will be immediately destroyed wherever possible. For the classroom participating in the study the completed book will be provided on a fourth visit to the classroom as a token of my appreciation.

There is no foreseeable risk to participating in this study. The focus groups and interviews are intended to inform my research on early learning environments and understanding of the *environment as the third teacher*. This work will contribute to the available research on designing the early learning classroom environment and will also give voice to children in matters that directly impact them.

At no time will any participant in the research be identified and the raw data will only be seen by the project investigator and project team member listed above. Unless you choose otherwise, all information supplied by the teacher and students during the research study will be held in confidence and unless you specifically indicate consent, your child's name will not appear in any report or

publication of the research. The findings of this research may be presented at 1-2 conferences on early learning. Confidentiality will be provided to the fullest extent possible by law. The data will be collected both by hand written field notes and by audio/video camera and will be safely stored in a locked facility. Only the project investigator and project team member listed above will have access to this information. In line with the requirements of the Research Ethics Board, the data will be securely stored in the Faculty of Education for a minimum of 5 years once the project if complete. Attached to this letter is a consent form and by signing it you have given consent for your child to take part in the research and to be audio/video recorded for data collection and analysis purposes.

If you have any questions related to the ethics of this research project and would like to speak to someone outside the research team, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or research@lakeheadu.ca. If you are interested in receiving an electronic summary of the research results at the completion of the research study, please send an email to Miss. Kelsey Robson (karobson@lakeheadu.ca) with your request.

Please do not hesitate to contact us if you have any concerns.

Sincerely,

Kelsey Robson-karobson@lakeheadu.ca

Cc: Dr. Sonia Mastrangelo- smastran@lakeheadu.ca 705-330-4008 x 2635

LU Research Ethics Board- 807-343-8283

Appendix C

Teacher Information Letter

January 2016

Dear Teacher:

I am conducting a study on **A Child's View of the Learning Environment: A Study Exploring the Reggio Emilia Principle of the Environment as the Third Teacher** and would value the opportunity to work in your classroom. I am requesting permission to conduct research in your classroom as part of my Master's thesis requirement in the Faculty of Graduate Studies at Lakehead University.

The purpose of this research study is to explore the concept of the *environment as the third teacher* and how students in a Reggio Emilia inspired school view their classroom and its ability to spark their natural curiosity to learn. The research is being conducted over three visits to your classroom setting. During the first visit I will be observing your classroom. During the second visit I will meet with five small focus groups comprised of three students in each group. The children will be taking pictures of their classroom and sharing how it helps them to learn. During the third visit I will bring back the pictures they took and we will discuss them within the five focus groups and create a book using the pictures called "How our Classroom Helps us Learn". For the classroom participating in the study the completed book will be provided on a fourth visit to the classroom as a token of my appreciation. Each focus group will last for approximately 20 minutes.

Dr. Sonia Mastrangelo, Associate Professor in the Faculty of Education (Orillia Campus) is my supervisor on this research project. I am a Master's student in the Faculty of Education and am the principal investigator on this research project. The research project has been approved by the Lakehead University Research Ethics Board which conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. Should you have any questions or concerns, please feel to contact me via email at karobson@lakeheadu.ca or Dr. Mastrangelo at smastran@lakeheadu.ca

Your participation in the study is completely voluntary and you may choose to stop participating at any time and for any reason. Should you choose to participate, you may choose to withdraw from the study at any point without penalty. Your decision to stop participating, or to refuse to answer particular questions, or to not participate whatsoever will not affect: your relationship with the researcher, Lakehead University, or any other group associated with this project either now, or in the future. In the event that you withdraw from the study, all associated data collected will be immediately destroyed wherever possible.

There is no foreseeable risk to participating in this study. The focus groups and interviews are intended to inform my research on early learning environments and understanding of the *environment as the third teacher*. This work will contribute to the available research on designing early learning classroom environments and will give voice to children in matters that directly impact them.

At no time will any participant in the research be identified and the raw data will only be seen by the project investigator and project team member listed above. Unless you choose otherwise, all information supplied by you and the students during the research study will be held in confidence and unless you specifically indicate consent, your name will not appear in any report or publication of the research. The findings of this research may be presented at 1-2 conferences on early learning. Confidentiality will be provided to the fullest extent possible by law. The data will be collected both by hand written field notes and by audio/video camera and will be safely stored in a locked facility. Only the project investigator and project team member listed above will have access to this information. In line with the requirements of the Research Ethics Board, the data will be securely stored in the Faculty of Education for a minimum of 5 years once the project is complete. Attached to this letter is a consent form and by signing it you have given consent to take part in the research.

If you have any questions related to the ethics of the research and would like to speak to someone outside the research team, please contact Sue Wright at the Research Ethics Board at Lakehead University at 807-343-8283 or research@lakeheadu.ca. If you are interested in receiving an electronic summary of the research results at the completion of the research study, please send an email to Miss Kelsey Robson (karobson@lakeheadu.ca) with your request.

Thank you, please don't hesitate to contact us if you have any concerns.

Miss Kelsey Robson- karobson@lakeheadu.ca

Cc: Dr. Sonia Mastrangelo- 705-330-4008 x 2635

LU Research Ethics Board- 807-343-8283

Appendix D

Principal Information Letter

January 2016

Dear Principal:

I am conducting a study on **A Child's View of the Learning Environment: A Study Exploring the Reggio Emilia Principle of the Environment as the Third Teacher** and would value the opportunity to work in your school. I am requesting permission to conduct research in your school as part of my Master's thesis requirement in the Faculty of Graduate Studies at Lakehead University.

The purpose of this research study is to explore the concept of the *environment as the third teacher* and how students in a Reggio Emilia inspired school view their classroom and its ability to spark their natural curiosity to learn. The research is being conducted over three visits to your school. During the first visit I will be observing a kindergarten classroom within the school. During the second visit I will meet with five small focus groups comprised of three kindergarten students in each group. The children will be taking pictures of their classroom and sharing how it helps them to learn. During the third visit I will bring back the pictures they took and we will discuss them within the five focus groups and create a book using the pictures called "How our Classroom Helps us Learn". Each focus group will last for approximately 20 minutes.

Dr. Sonia Mastrangelo, Associate Professor in the Faculty of Education (Orillia Campus) is my supervisor on this research project. I am a Master's student in the Faculty of Education and am the principal investigator on this research project. The research project has been approved by the Lakehead University Research Ethics Board which conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. Should you have any questions or concerns, please feel to contact me via email at karobson@lakeheadu.ca or Dr. Mastrangelo at smastran@lakeheadu.ca

In the event that you withdraw from the study, all associated data collected will be immediately destroyed wherever possible. For the classroom participating in the study the completed book will be provided on a fourth visit to the classroom as a token of my appreciation.

There is no foreseeable risk to participating in this study. The focus groups and interviews are intended to inform my research on early learning environments and understanding of the *environment as the third teacher*. This work will contribute to the available research on designing early learning classroom environments and will give voice to children in matters that directly impact them.

At no time will any participant in the research be identified and the raw data will only be seen by the project investigator and project team member listed above. Unless you choose otherwise, all information supplied by the students during the research study will be held in confidence and unless you specifically indicate consent, your name will not appear in any report or publication of the research. The identity of the school will not be identified and will be referred to as "a Reggio Emilia school in Ontario" to ensure confidentiality. The findings of this research may be presented at 1-2 conferences on early learning. Confidentiality will be provided to the fullest extent possible by law. The data will be collected both by hand written field notes and by audio/video camera and will be safely stored in a locked facility. Only the project investigator and project team member listed above will have access to this information.

In line with the requirements of the Research Ethics Board, the data will be securely stored in the Faculty of Education for a minimum of 5 years once the project is complete. Attached to this letter is a consent form and by signing it you have given consent to take part in the research.

If you have any questions related to the ethics of the research and would like to speak to someone outside the research team, please contact Sue Wright at the Research Ethics Board at Lakehead University at 807-343-8283 or research@lakeheadu.ca. If you are interested in receiving an electronic summary of the research results at the completion of the research study, please send an email to Miss Kelsey Robson (karobson@lakeheadu.ca) with your request.

Thank you, please don't hesitate to contact us if you have any concerns.

Miss Kelsey Robson- karobson@lakeheadu.ca

Cc: Dr. Sonia Mastrangelo- 705-330-4008 x 2635

LU Research Ethics Board- 807-343-8283

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