Drawing as Social Play: Shared Meaning-Making and Creative Development in Young Children's Collective Drawing Activities

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ABSTRACT

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This study conceptualizes collective drawing as a form of play in early childhood that provides opportunities for social and creative growth through peer interactions. Research has suggested that as children draw together, they develop narratives and stimulate each other's imagination (Coates & Coates, 2006; Papandreou, 2014). However, no studies have specifically explored play within open-ended group drawing with the aim of identifying processes for shared meaning-making and shared creative development.

The present study investigated instances of group play that occurred within young children's open-ended drawing activities and how this encouraged the development of shared meaning and shared creativity. One preschool class of 16 four- to five-year-old children was observed over eight 1-hour free play sessions. During each session, the children were presented with a variety of drawing materials and large drawing surfaces. No restrictions were placed on the number of children that could participate, or the subject matter of the drawings.

The overall findings of this study add to the literature on shared meaning and children's play through drawing, and support the integration of open-ended drawing activities in early childhood environments. The children employed various strategies to create and maintain a shared understanding while drawing, and developed creativity through peer learning and observation. Materials were noted as a possible motivating factor for encouraging group play.

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" Red lights?"
"Yeah."
"I know the red lights. There's the fire! [takes a yellow pastel and makes vertical lines over his drawing] Red lights [takes red pastel and starts colouring]. Red lights…the red lights is over here, Ian."

-Two boys drawing together

Introduction

Statement of the Problem

There are few things more captivating than a young child's drawing. There exists a "freshness, boldness and sense of purpose" (Coates & Coates, 2006, p. 221) in children's artwork that cannot be easily replicated by even the most experienced artist. Even Picasso was known to be an admirer of children's work, and commented that it took him "a whole lifetime to learn to draw like children" (see Gardner, 1980, p. 8). Despite this, young children's drawings are often undervalued by adults in educational settings and perceived as mere scribbles that only begin to have significance once children learn to create "socially acceptable" (Anning, 1999, p. 164) and realistic imagery (Wood & Hall, 2011).

Traditionally, psychologists have used drawing as a means of assessing cognitive development and intelligence (Gardner, 1982; Golomb, 2002; Kellogg, 1969; Wood & Hall, 2011), as well as using it as a tool for investigating the inner workings of the child (Gardner, 1980; Golomb, 2002). Recent research has turned its attention to the communicative potential of children's drawings, particularly how they can be used by adults to understand children's experiences and perceptions of the world around them (e.g., Ahn & Filipenko, 2007; MacDonald, 2009). There also appears to be an educational interest in drawing as a way to promote learning in other subject areas, such as narrative writing and reading comprehension (e.g., Moore & Caldwell, 1993; Paquette, Fello, & Jalongo, 2007). Previous studies have also examined the forms of speech and play that occur while children draw (e.g., Coates & Coates, 2006; Wood &

Hall, 2011), as well as the stories that children create through drawing and art (e.g., Ahn & Filipenko, 2007). However, many art educators feel that using drawing merely as a tool in research and education can detract from the value of art as an activity in its own right, or "art for art's sake" (Caldwell & Moore, 1991; Eliason & Jenkins, 2008).

Young children are not concerned with the outcomes of drawing, as most adults are, but rather the enjoyment and satisfaction that they receive from the process (Eliason & Jenkins, 2008; Gardner, 1990). There is evidence to suggest that when drawing becomes too product-oriented and adult-directed, children lose interest and/or get discouraged, often resulting in an abandonment of art in later childhood and adolescence (Anning, 1999; Anning, 2002; Ring, 2009).

Research suggests that when children are provided with playful and open drawing experiences, they become more focused and captivated by the activity (Coates & Coates, 2006; Ring, 2009; Wood & Hall, 2011). For example, Coates and Coates (2006) observed children participating in a free drawing activity and found that children remained engaged in the drawing activity for long periods of time as a result of being allowed to choose their own subject matter and interact with their peers.

Göncü (1993b) further recognizes the importance of creating shared meaning in childhood activities as it allows for the participants to learn from each other and develop various communicative skills that can be applied to new situations. For instance, in social play, "children must communicate with each other so that everyone knows what is happening" (Frost, Wortham, & Reifel, 2012, p. 33), which is why social play is important for the development of shared meaning. Previous research on the development of intersubjectivity has focused on social pretend play and the strategies that children use to communicate shared meaning in play, with little or no mention of other activities that might promote intersubjectivity. Göncü (1993b) suggests that in

order to "better understand how children make and share meaning with their peers" (p. 195), it is essential to investigate the development of intersubjectivity across different childhood activities.

Collective drawing has been studied with the purpose of investigating speech, narrative, and artistic development (e.g., Coates & Coates, 2006; Frisch, 2006), but there has been very little focus on drawing as a form of social play and how children create shared meaning through drawing. It is with this in mind that this study's primary aim was to examine group play within collective drawing activities in order to investigate the processes children use to create shared meaning within this context, as well as consider the implications of play through open-ended drawing on shared creative development, as certain studies (e.g., Coates & Coates, 2006) have briefly mentioned that cooperative drawing can enhance concept development and allow children to build on each other's ideas.

Research Questions

This study was guided by the following exploratory questions:

1. What instances and evidence of group play are observed in children's open-ended drawing activities?
2. Based on the instances of group play found, what are the implications of collective drawing on children's development of shared meaning?
3. Based on the instances of group play found, what are the implications of collective drawing on children's development of shared creativity?

Personal Motivation

As an art specialist, I have had the opportunity to work with children from preschool through high school. I have witnessed how teachers repeatedly neglect the significance of early art-making experiences and how this can affect children's artistic practices. For instance, I have observed many early childhood educators who emphasize using step-by-step methods for

creating art with young children, mostly with the aim of creating decorations for the classroom. Often when using this method, teachers will correct children if they deviate from the established steps, leading children to believe that there is a right and wrong way to create art. One consequence of this appears to be that children do not develop the confidence to explore their artistic and creative potential, as they always look to adults to guide them.

I have spent a lot of time in early childhood settings, and based on my observations, it seems as though there is more care put into planning pretend play centers and other areas of the curriculum, with very little attention given to setting up drawing stations and observing children as they draw. I chose to pursue this research project because I have witnessed firsthand the spontaneous and creative imagery that is produced when children are allowed to draw freely with materials that are exciting and engaging for them.

One anecdote in particular stands out as the motivation for this project. For several summers, I worked as an art instructor at a fine arts day camp. Each week, I had to lead special art workshops for small groups of children. During one of these workshops, I allowed some children to draw freely at the end of the session using materials of their choosing. Two boys, around the age of six, started making drawings beside each other. At first, they simply shared the materials and focused on making individual drawings. As the drawings progressed, they started discussing the content of the imagery (both drawings were centered around *Pokémon*) and sharing their knowledge of the theme. Eventually, they started creating a collaborative story involving the *Pokémon* characters, while simultaneously drawing the actions of the characters on their papers. I was amazed at how the story evolved through the use of discussion and drawing, and how it seemed that they were engaged in an episode of pretend play, except on paper.

I strongly feel that practitioners would benefit from more research that examines young children's playful and collective drawing practices, as there are many ways that drawing can

benefit young children, aside from simply developing motor skills and pre-writing ability. Like pretend play, which has received much attention, drawing has the potential to help children develop socially and creatively.

Chapter 1

Review of the Literature

This chapter will provide perspectives on drawing development in childhood, teacher and adult beliefs about drawing, and discuss art education practices in ECE settings. It will also present empirical research that lends itself to the potential of drawing as a social activity where children can play together, develop shared meaning, and stimulate each other's creativity. Finally, studies that have manipulated play and drawing materials to encourage social play and creative development will briefly be discussed.

The Development of Drawing in Childhood

Drawing has been practiced for thousands of years and is an activity that is unique to human beings (Golomb, 2002). It appears that humans have always had a need to express themselves through visual imagery, perhaps explaining why all children, regardless of geographical location or cultural background, engage in some form of mark-making from an early age (Gardner, 1980; 1990; Vygotsky, 1967/2004). There are various advantages associated with drawing, including "the facilitation of visualization, observation, concentration and problem solving skills…and [as] a means of encouraging imagination and creativity" (Jolley & Zhang, 2012, p. 31). However, young children are not aware of these developmental benefits; they draw because they want to, because it is enjoyable, and perhaps because it allows them to express what is important to them in a manner that does not require language or literacy skills (Gardner, 1980; 1990; Vygotsky, 1967/2004).

Research has shown that children worldwide pass through different 'stages' of drawing, starting with scribbling at age two, and moving progressively toward conventional and realistic drawing around age seven (Gardner, 1990). Gardner (1982) wrote that the preschool years are the "golden age of creativity, where every child sparkles with artistry" (p. 86) and that between the

ages of four and seven, children's drawings are more colourful, lively, and expressive than at any other age (Gardner, 1980). They spend hours drawing eagerly, often without any incentive from adults, suggesting that drawing is an important and favourite pastime of this age group (Vygotsky, 1967/2004).

During elementary school there appears to be a shift in the expressive quality of children's drawings (Gardner, 1980). The drawings of older children are described as being more technically advanced, but lack the flexibility and creativity of preschool children's drawings (Gardner, 1980). Over the years, several possible explanations as to why this may be have been suggested, including the theory that drawing development is linked to cognitive development (Golomb, 2002; Kellogg, 1969; Pariser, 1995). Kellogg (1969) mentions that for many years, the notion that "a child's drawing somehow reflects his precise mental capacity" (p. 178) was an accepted and reputable idea among educators and psychologists. These practitioners believed that a child's drawing of a man "reveals what his mind has perceived and conceived about human males" (Kellogg, 1969, p. 179), thus communicating his intellectual maturity. It is for this reason that several measures of intelligence have traditionally included some form of drawing test as part of their procedures (Golomb, 2002; Kellogg, 1969).

Similar justification can be found in Piagetian views of child development. According to Piaget, children pass through four different stages of cognitive development, known as sensorimotor, preoperational, concrete operational, and formal operational (Piaget, 1964; Singer & Revenson, 1996). In essence, children are expected to evolve from sensory exploration to symbolic thought and more concrete forms of reasoning, with the ultimate goal being the capacity for abstract thinking (Bhroin, 2007; Singer & Revenson, 1996). From this viewpoint, it is suggested that as children acquire more skills, such as planning, problem solving, and spatial-

mathematical reasoning, they also develop the ability and desire to produce visual imagery that is logically organized and adheres to realism (Gentle, 1985; Golomb, 2002; Pariser, 1995).

These theories, however, have been challenged in several ways. Pariser (1995) argues that a focus on realism as the "single endpoint to graphic development" (p. 95) promotes the unrealistic notion of a "direct and uncomplicated relationship" (p. 95) between drawing ability and other cognitive skills. There is evidence to suggest that individuals with various cognitive impairments, such as autism, can show advanced artistic and spatial ability from a very young age, suggesting that drawing ability and cognitive ability do not actually develop in tandem (Gardner, 1982; 1983). Furthermore, as Kellogg (1969) mentions, children learn to draw by observing other drawings rather than attempting to achieve graphic likeness of real-life objects. This means that their drawings may not be accurate representations of what they actually perceive. In addition, the majority of fully matured and intelligent adults are not capable of drawing a human being in a way that would achieve a high score on a drawing test, but that does not mean that they have a weak understanding of the features of a man or woman (Kellogg, 1969).

Another possible explanation for the discrepancy between preschoolers' and older children's drawings can be found in play theory, as children's drawings appear to evolve in a similar manner as their play. Piaget (1962) suggested that children pass through different stages of play known as practice play, symbolic play, and games-with-rules. Practice play is present during infancy and is characterized by repeated sensorimotor actions. At around age two, symbolic play emerges as the child learns to use language and gains symbolic thought. At this stage, children are able to create mental representations of absent objects and engage in make-believe play. This is the stage where children begin to experiment with mark-making and develop the ability to draw (Gardner, 1980). Drawings at this stage are generally expressive and free-

flowing (Gardner, 1980), much like make-believe play. The final stage of play that develops in the later preschool and elementary years is games-with-rules, in which children are able to follow predetermined sets of rules. Throughout the preschool years, symbolic play is the dominant form of play, whereas in elementary school, games-with-rules are more prominent, as children begin to adopt "regulations imposed by the group" (Piaget, 1962, p. 112-113) for their games (e.g., sitting out after being tagged). In art, they similarly develop their own criteria for what constitutes a "good" drawing (e.g., colouring inside the lines) based on the judgments or aesthetic "rules" of their peers and adults, which causes them to adhere to convention and take fewer risks in their art-making (Richards, 2003).

It is important to note that stage views of drawing development can be limiting in some respects and have been criticized as offering a "sterile, static view of the child drawer" (Gardner, 1980, p. 12), as well as undervaluing the many benefits associated with artistic practice. Furthermore, the notion of universal stages ignores the influence of culture on drawing development, and does not address the expressive and narrative intentions behind children's drawings (Golomb, 2002). Golomb (2002) mentions that "developmental changes in pictorial differentiation are not strictly age related but also depend on talent, motivation, familial support, and cultural values" (p. 133). Therefore, in order to understand fully how children develop artistically, it is pertinent to consider the environmental, educational, and cultural factors that affect children's drawing experiences.

The Effects of the School Environment and Culture on Children's Drawing Practices

It is a widely documented fact that as children get older, namely after the preschool years, their drawing habits begin to wane and by adolescence, the majority of children remain arrested in their early drawing abilities or abandon drawing altogether (Anning, 1999; Anning, 2002; Gardner, 1980; 1982; 1990; Vygotsky, 1967/2004). Some people attribute this decline to the fact

that children's interests simply change as they grow older, and that perhaps drawing does not provide the same kind of emotional outlet for older children as it does for preschoolers (Gardner, 1980). Although this may be true for some children, there still exist several documented educational and environmental barriers that may hinder children's development through the arts, including the academic values of the culture, teachers' understanding of drawing, and the learning environment (Anning, 2002; Gardner, 1980; 1983; Ring, 2009; Rose, Jolley, & Burkitt, 2006; Wardle, 1999).

Academic values. According to Gardner (1983), Western schools value logical-mathematical skills and the ability to express "oneself properly through the written word" (p. 95). Despite the fact that the arts (e.g., drawing, music, drama) require equally sophisticated cognitive abilities as science, math, and language, they appear to always be emphasized as leisure activities instead of credible academic pursuits (Gardner, 1982; 1983). Only children that are labeled as more "gifted" or "creative" than the norm are encouraged to pursue the arts seriously (Golomb, 2002; Vygotsky, 1967/2004). Vygotsky (1967/2004), however, writes that "the creative activity of the imagination depends directly on the richness and variety of a person's previous experience" (p. 14) and that creativity can be fostered in every child, regardless of talent, by broadening their learning experiences. Gardner (1983) furthers this notion by proposing that there is no 'one size fits all' model of education, meaning that individuals possess different aptitudes and prefer different ways of learning, and therefore should be provided with instructional methods that meet their interests and needs. An educational system that only values logical-mathematical and linguistic skills is likely to focus on advancement in these areas and deprive children of opportunities to grow artistically. Therefore, schools need to consider how to adapt teaching methods to allow children to experiment equally within all subject areas (Gardner, 1983).

In the Western world, preschool is generally the time when children are starting to learn to read and write. Many preschool curricula focus on teaching literacy skills in order to prepare children for kindergarten (Anning, 2002). In these settings, drawing is often viewed as an activity that supports fine motor development, but ceases to be important "once children are able to form letters" (Ring, 2009, p. 21). Frisch (2006) mentions that preschool is a sensitive time in children's development "because the child depends on the pedagogical actions of adults" (p. 25). If drawing is not valued for anything except promoting sensorimotor or academic skills within the preschool setting, children will quickly learn to perceive it as insignificant, as compared with "real" work (Anning, 1999).

A study by Wong (2007) examined the perspectives of 5- and 6-year-old children in relation to their experiences with art. One theme that emerged from conversations with the children was the conception of art as a "task", meaning that children perceived art as "an activity offered by the teacher to occupy their time…[and] prevent them from playing with toys" (Wong, 2007, p. 32). In these cases, art was not seen as free play because the teachers instructed the children to draw and/or it was emphasized as a learning activity. As a result, the children expressed that art was not their first choice when given the opportunity to choose any classroom activity. Other children viewed art as less important than other subjects, and pointed out that children in primary school have to study more and do not have time to engage in art-making. Research shows that this attitude toward art only intensifies as children enter elementary school, where less time is allocated to free play and art and the program is more structured toward adult-led activities (Anning, 1999; Anning, 2002; Rose et al., 2006).

Teachers' understanding of drawing. Teachers' backgrounds and experiences with the arts play a major role in children's drawing development. General subject teachers and early childhood educators often do not have sufficient training in the arts, and so they lack confidence

in supporting and responding to children's drawings (Anning, 2002; Gardner, 1990). Gentle (1985) further mentions that "a lack of expertise or experience" (p. 74) will inhibit teachers from accepting, discussing, and developing the artistic interests and ideas that children bring to the school environment. For instance, before entering school, children develop strategies for drawing at home, which they then bring with them to the classroom environment (Anning, 1999; 2002). Often these strategies include "action drawing," which Ring (2009) defines as lines on a page that "reflect children's own body movements and the sounds and movements of objects around them" (p. 22). These drawings are usually perceived by practitioners as mere scribbles that are devoid of any meaning (Ring, 2009); however, if one takes the time to listen to children as they draw, it becomes evident that these 'scribbles' are in fact "representations of possible actions and events in time and space" (Kolbe, 2005, p. 15), be they imagined or remembered from some experience.

Kolbe (2005) provides an example of a young child who drew a 'scribble' using a circular motion and then labeled the drawing "fish going round". Before creating the drawing, the child had been rolling on the floor pretending to be a fish, so it is possible that her drawing was a representation of her movements from the pretend play episode (Kolbe, 2005). This drawing could have easily been misinterpreted as nothing more than a scribble if the adult had not been observant of the events prior to the drawing episode or listened to the explanation that the child gave. Coates and Coates (2006) mention that it is difficult for teachers to interpret children's drawings because they are viewing them through adult eyes that have been trained to look for symbols and recognizable representations of real world forms and objects. Adults appear to be more comfortable with neat drawings that are easy to understand and label (Anning, 2002), which may account for the fact that children's drawings become increasingly "wooden and lifeless" (Gardner, 1980, p. 143) as they get older. In order to retain and encourage children's creativity

and freedom of expression, adults should allow young children to draw as they please and be more observant of their actions and words throughout the drawing process.

The learning environment. Several articles that have examined children's drawing practices across different learning environments (e.g., Anning, 2002; Burkitt, Jolley, & Rose, 2010; Ring, 2009) have concluded that children generally produce more energetic drawings and are more motivated to draw at home than at school. For example, Anning (2002) conducted a 3-year longitudinal study of two children (one boy and one girl) to investigate the influences on their drawing practices in their home, preschool, and school environments. At home, both children drew eagerly and enthusiastically, but in the preschool and school environments, where drawing was viewed as a pre-writing skill or as "decoration" (Anning, 2002, p. 202) for the classroom, the children became frustrated and lost interest in drawing. Anning (2002) attributes this loss of interest to the "restrictions placed upon them within school contexts" (p. 208), as the children were only allowed to create art that was teacher-directed or that had a specific purpose (e.g., learning to write letters). Ring (2009) provides a similar example of a young boy who, at age three, drew excitedly at home and produced drawings that were vivid and thoughtful, but gradually began to reject drawing once he started attending preschool because there was too much adult intervention. At age five, however, he was placed in a classroom that provided a "stress-free atmosphere" (Ring, 2009, p. 25) where he was given the time and freedom to draw without any expectations from adults. As a result, he regained his motivation and enjoyment of drawing. These anecdotes suggest that stressful environments where adults direct children toward specific artistic expectations may cause children to refrain from drawing.

Children enjoy drawing at home because they can create freely without the constant focus of keeping a timeframe, drawing what is "appropriate", and tidying up (Ring, 2009). Furthermore—as Burkitt, Jolley, and Rose (2010) found in their investigation of teachers' and

parents' attitudes towards drawing—parents tend to focus more on children's creativity, imagination, and enjoyment of drawing, as opposed to teachers' focus on effort and a sense of realism. If children are constantly forced to keep a schedule and follow guidelines for art-making, it is likely that they will not be able to engage fully and commit to the activity as they would in activities that are intrinsically motivating, such as free play, because the focus is not on the enjoyment of making art, but rather the end product.

Wardle (1999) posits that "the environment is the basic building block of the curriculum" (p. 245) and that the teacher's main role is to create a learning atmosphere that promotes risk-taking and experimentation. In light of this, teachers in ECE, as well as other levels, need strategies for creating stress-free drawing environments that allow children to have fun and explore the medium without being pressured to conform to adult standards and schedules. One potential approach to this may be to encourage children to explore art materials freely in groups, as this may emphasize the playful nature of the activity and allow children to develop their own conceptions of art.

Drawing as a Social Activity That Promotes the Development of Intersubjectivity and Creativity

There exists a strong link between drawing and play, particularly in early childhood, as both activities allow children to experiment, use creativity, manipulate meaning, and make sense of the world around them (Wood & Hall, 2011). Research has shown that children often exhibit similar behaviour while drawing as they would in play (Coates & Coates, 2006; Wood & Hall, 2011). For instance, Wood and Hall (2011) examined the relationship between drawing and play with 4- to 6-year-old children and found that children's free drawing activities—similar to play—involve the use of imagination and socializing, among other things. However, the anecdotal examples provided in the study mainly described children who made drawings alone or at home,

as opposed to in groups or in social settings. It appears that drawing is more often than not emphasized as a solitary form of play (e.g., Wright, 2007) that does not require negotiation between children. Although solitary drawing can be enjoyable and beneficial, there are also several benefits of engaging in group drawing (e.g., drawing in pairs, or in groups of three or more). Much like social pretend play, group drawing activities have the potential to encourage the development of various social and creative abilities.

Communication and shared meaning-making. It is a widely known fact that young children like to talk and make noises as they draw (Coates & Coates, 2006; Gardner, 1980; Vygotsky, 1967/2004). Children will often describe what they are drawing to other people, narrate stories through their drawings, or make utterances and sounds that hint at what they are creating (Coates & Coates, 2006; Gardner, 1980; Kolbe, 2005). Coates and Coates (2006) investigated the role of speech in the drawing processes of young children and found that children use different types of talk as they draw. For instance, children were observed creating narratives, engaging in discussions about subject matter, singing songs that related to their drawings, and talking about matters that were unrelated to the drawings, but still served a social purpose. Wood and Hall (2011) similarly observed that when children draw in the vicinity of their peers, they share jokes and communicate their thoughts with each other. These conversations and utterances are important for practitioners seeking to understand the meaning-making process that occurs as children draw, as well as the significance of the drawings themselves (Cox, 2005; Einarsdottir, Dockett, & Perry, 2009).

Göncü (1993b) highlights the importance of creating shared meaning, or "intersubjectivity," through play, as it enhances children's social, cognitive, and communicative abilities. Previous research has focused extensively on how children create shared meaning through social pretend play (e.g., Farver, 1992; Göncü, 1993a; Howe, Petrakos, Rinaldi, &

LeFebvre, 2005), as it is a major activity in early childhood where "sophisticated language may be used, roles are negotiated, and information may be exchanged about real-life activities" (Smith, 2005, p. 188). However, there is limited research that examines the development of shared meaning across other childhood activities, including drawing.

Göncü (1993b) states that in order to develop intersubjectivity, children must first have a shared focus of attention and then engage in metacommunication (the process of reaching an agreement on the nature of the activity) and communication (the coordination of intentions throughout the activity). This process requires children to set clear goals and provide each other with immediate feedback throughout the activity. Wood and Hall (2011) observed two young girls drawing pictures of family and friends together and found that they "discussed the drawings in detail, eliciting each other's opinions on desirable clothing, hairstyles and facial features" (p. 274). This example suggests that the children created shared meaning through drawing by first establishing a theme for the drawings (metacommunication) and then discussing strategies and features throughout the activity (communication). Cox (2005) provides a similar example of two children who "commented on, and responded to, each other's drawings" (p. 119) in such a way that they were actually conversing through drawing. In other words, the children were building on each other's ideas and extending them. In this example, the drawings changed and evolved as the children gave each other feedback, suggesting that the drawings were a way of communicating shared meaning.

In order to promote the development of shared meaning and play within drawing activities, it is important to allow children to draw freely and choose the content of their drawings, otherwise the playful nature of the activity is lost, which may affect their social interactions, and it is likely that children will simply draw what is expected of them and nothing more. For example, Wright (2007) conducted a study that investigated how children engage in

and create meaning through graphic-narrative play, which is defined as "a personal fantasy-based experience depicted on paper" (p. 2). The children selected for this study ranged from preschool to grade three and were asked to draw a picture of their view of the future. Each child was taken outside of the classroom to draw with an interviewer who would ask questions about their drawing. It was concluded that graphic-narrative play is an individual form of play in which children take on roles, shape characters, and develop plots, without any need to "collaboratively shape the direction and flow of the content" (Wright, 2007, p. 2) with others. However, this study was limited in that the children were taken aside and told what to draw, as opposed to being observed naturally in the classroom environment in the presence of their peers. Had the children been encouraged to draw together and decide on their own subject matter, it is possible that a more spontaneous and social form of graphic-narrative play would have emerged, such as in the study by Coates and Coates (2006). Coates and Coates observed children (aged 3-5) drawing during free play in the classroom and there was no limit to the number of children who could draw at the same time; in other words, the children were able to choose what they wanted to draw, who they wanted to draw with, and how long they wanted to draw. Under these conditions, the researchers were able to witness instances of children playing together through drawing.

Two children in particular, Sophie and Andrew, were observed playing Peter Pan through their drawings. Coates and Coates (2006) mention that their "involvement was so strong that their voices became animated and there were shrieks, battle cries and singing" (p. 228). This suggests that when children engage in collective drawing that is spontaneous and self-motivated, they not only have the opportunity to develop shared meaning, but are also able to remain "fully engaged and focused" and "experience a sense of satisfaction" (Fromberg, 2002, p. 11), as one would in other forms of play.

Developing creativity and drawing skills through peer interactions. According to Vygotsky and socio-cultural theory, children learn skills and develop imagination through interactions with more experienced members of the culture, such as peers, parents, and siblings (Anning, 2002; Frisch, 2006; John-Steiner, Connery, & Marjanovic-Shane, 2010; Vygotsky, 1967/2004). Vygotsky further suggests through his theory of the "zone of proximal development" that a learner can achieve beyond his/her current abilities in any given task with the assistance of a more experienced individual (John Steiner et al., 2010). Particularly in play activities, children often exhibit more advanced forms of thinking that are above their usual capabilities (Vygotsky, 1966). Taking these theories into account, it is reasonable to propose that children can enhance their creative and drawing abilities through collaborative and playful drawing experiences with skilled peers and/or knowledgeable adults. This is supported by Wilson and Wilson (2009), who note that "by modeling drawings upon those that are more advanced—thus representing a level that has not yet been reached—the child can more easily reach the desired level" (p. 69).

Some might say that the downside of collaborative drawing is the likelihood of children copying each other's pictures. Copying between children in educational settings is particularly frowned upon by teachers because it is viewed as a form of cheating, especially in the older grades (Holzman, 2010). It is believed by some art education theorists that artistic skills develop naturally without "interference from the surrounding environment" (Gardner, 1980, p. 167), which is why adult-directed activities and templates are often perceived as unfavourable methods of teaching, as discussed earlier. Frisch (2006) mentions, however, that "the learning processes in drawing [are] based on social interaction" (p. 76), as children learn to draw from each other. A child's repertoire of symbols in drawing is not acquired through individual exploration alone, but rather "grows from the shared symbol system of the group" (Eubanks, 1999, p. 111).

Research suggests that when children draw in collaboration with their peers and share strategies, they are able to produce more sophisticated drawings and—contrary to teacher-led activities—remain motivated to draw (Coates & Coates, 2006; Frisch, 2006; Pinto, Gamanossi, & Cameron, 2011). For example, Coates and Coates (2006) describe an episode involving two 4-year-old girls that demonstrates how collaborative art-making helps children expand the content and meaning of their drawings, which they define as creative development. One of the girls, Grace, was drawing a picture of a rowboat and simultaneously discussing her imagery with the other girl, Sophie. Sophie encouraged Grace as she drew and helped guide the content of her drawing by either agreeing with what was being drawn or by suggesting new ideas. This is not to say that Grace would not have been able to add additional elements to her drawing without Sophie's input, but it seemed as though Sophie's presence was a motivating and reassuring influence throughout the process.

Frisch (2006) provides another example of a young girl who drew a self-portrait using strategies she picked up from watching another girl draw a princess. In this instance, the girl used a "mental model" (Frisch, 2006, p. 80) that she remembered from a previous collaborative drawing experience, and was able to adapt it to suit her present needs. This fits in to Bandura's theory of social-cognition, which states that "children seek to reproduce what they observe" (Thomas, 2005, p. 150) and that the majority of skills are acquired from actively imitating and modeling others. Furthermore, this example demonstrates how "copying" can eventually lead to divergent thinking (another form of creativity), as children adapt the strategies they learn from observing others to different contexts.

Manipulating Play Materials to Encourage Group Play and Creative Development

In play research, it is a widely documented fact that the type, number, and arrangement of props can affect whether or not children play alone or with others (e.g., Petrakos & Howe, 1996).

Applying the theory that play and drawing are closely related, the materials presented during drawing activities may also be manipulated to encourage social interaction and creative development. In order to encourage children to draw/play together, it is possible to alter the materials and set-up of drawing centers to make drawing more playful. Swann (2009) examined the effects of incorporating play into the art curriculum of 4- and 5-year-old children and found that children were strongly motivated by the use of toys. The art specialist implementing the intervention first provided 6-foot lengths of white butcher paper, drawing markers, and a variety of small cars. Children were free to approach the drawing center as they pleased after their afternoon nap time. The children who first approached the center showed an interest in playing with cars and began rolling the cars on the large paper and making motor sounds. The art specialist then engaged them in a conversation about their personal experiences with driving in the family car. From there the project took off as more children joined and the art specialist guided them to draw roads and destinations for their cars (e.g., houses and restaurants). Not only did this help develop the students' creativity and symbolic abilities, the use of the large white paper encouraged children to share the drawing space, play collaboratively, and co-construct meaning, as Swann (2009) describes in the following excerpt:

> At times, sharing the drawing space was like a dance, with groups of two and three children working on the large paper… In a few instances, these [children] actually functioned as one group with their community of roads. ("The Progressive Development of the Roadways Activity," para. 5)

The use of the large paper is significant here, for if the art specialist had laid out only single pieces of paper, it is possible that the children would not have played in the same cooperative manner because they would not have been encouraged to share a drawing surface.

The type of toy and the art medium also appeared to be important factors in the children's play. Swann noted that when other toys (e.g., dinosaurs) and mediums (e.g., clay) were presented to the children, they were not as interested, possibly because the theme of cars and neighborhoods related more to the children's own experiences and the use of drawing allowed them "to control line quality and direction" in a manner that would not have been possible with other mediums (Swann, 2009, "Implementation Into the Curriculum," para. 1). In play research, familiar and realistic toys have been found to be more attractive to preschool children than those that do not relate to children's past experiences because they have seen and/or manipulated the objects frequently (McGee, Ethridge, & Benz, 1984; Smirnova, 2011). Similarly, as noted by Swann (2009), drawing with dry mediums, such as pencils or markers, is enticing and familiar to young children because they use these materials on a regular basis in both the home and school environments. Therefore, in order to encourage children initially to play through art, adults might consider using large surfaces that will promote collaborative drawing (e.g., covering a table with paper) and use drawing mediums that can be manipulated with minimal trouble (e.g., pencils, markers, and crayons) so that the children will be able to "easily contribute to the activity" (Swann, 2009, "Implementation Into the Curriculum," para. 1). Also, if children are able to easily manipulate the materials, it is possible that they may be able to focus more on developing and building the content of their drawings (i.e., creative development), rather than focusing on how to use the materials.

Chapter 2

Method

Research Design

This study used an exploratory qualitative method to investigate children's social interactions and creativity as they engaged in collective free drawing activities. According to Merriam (2009), the primary goal of qualitative research is to "uncover and interpret" (p. 24) how meaning is constructed. The study's design was based on the open-ended approach used by Coates and Coates (2006), where the "direction, content, and duration" (p. 225) of each drawing episode was dependent on the children who participated. The present study considered the utterances and verbal exchanges that occured between children as they draw, as Coates and Coates (2006) did, but differed in that the focus was solely on instances of group *play* through drawing and how this type of play encourages children to develop shared meaning and shared creativity. The following research questions were the focus of this study:

1. What instances and evidence of group play are observed in children's open-ended collective drawing activities?
2. Based on the instances of group play found, what are the implications of collective drawing on children's development of shared meaning?
3. Based on the instances of group play found, what are the implications of collective drawing on children's development of shared creativity?

Data were collected using a participant observer approach, where the researcher plays an active, albeit minimal, part in children's conversations (Coates & Coates, 2006). Coates and Coates carried out narrative observations and used audio recordings as the basis for their analysis, since their focus was on speech. For this study, however, the children were videotaped in addition to using an audio recording device, since it was believed that their gestures and body language

would play an important part in their social play and the development of intersubjectivity. The method used was also similar to Löfdahl (2005), who observed children's free play in two preschool classrooms using field notes, as well as video and audio recordings. She engaged in dialogue with the children during the play episodes, but remained primarily as an observer.

Participants

The participants consisted of one class of 16 preschool-aged children (ages 4-5). The early childhood center is located in the downtown Montreal area and is affiliated with one of the city's major universities. The classroom is culturally and linguistically diverse, as there are several children that speak a third language, in addition to French and English. At the time of the study, some of the children were still experiencing difficulty communicating in English, which is the primary language of instruction. French is also integrated into the curriculum regularly through the use of French storybooks and activities.

Ethical approval for the study was obtained from the university, and then permission to participate in the study was obtained from the parents of the children (see Appendix I), as well as the two cooperating teachers and director of the center (see Appendix J). Parents were informed that they had the right to withdraw their children from the study at any time without consequence. Only two parents declined to have their children participate in the study.

The researcher explained the study and materials to the children using terms that they would understand, and they were informed that they did not have to participate if they did not want to participate. Pseudonyms are used in this study to protect the identities of the children involved.

Free Play in the Classroom

The observations took place during morning free play. Morning free play happens after circle time, usually around 9:45 AM, and lasts until about 11:00 AM. When circle time is

finished, the teacher introduces each of the stations that are open for free play and then asks each child what he/she wants to do. The children then scatter to their stations and start to play. They are free to move between the stations, as long as the designated number of children for each station is not exceeded. The classroom set-up and free play stations are described in the following section in order to provide insight into the environmental context of this study.

Classroom set-up. The classroom is fairly large and is divided into different sections that each serve a different purpose during free play. In one corner of the room, there is an enclosed square floor space for circle time that is also used for free play with toys and includes a chalkboard on which the children can draw. Next to the circle time area, there is a book corner with two small blue couches and a shelf with books that are accessible to the children. In another corner, there is a dramatic play area, or "housekeeping" corner, that includes kitchen toys and costumes. Next to the dramatic play area, there is a space enclosed by two shelves that serves as the art area (*this is where the materials for the study were set up each day*). One of the shelves is full of plastic bins—all within the reach of the children—that contain art supplies (e.g., scissors, glue, scrap paper, markers, etc.). In the center of the room, there are two rectangular tables where the teachers set out specific games or toys for free play, depending on what they want the children to learn. For instance, they might put out worksheets to practice writing letters or board games to practice counting. In another corner of the room, there is a sink for washing hands and dishes, and this is also the area where the teachers set up the water play table or the sand table on certain days. Between the sink and the door, there are large shelves lined up against the wall that contain various toys and games. The children are only allowed to remove toys and games from these shelves during free play if they have permission from one of the teachers. A diagram of the classroom set-up can be seen in Figure 1:

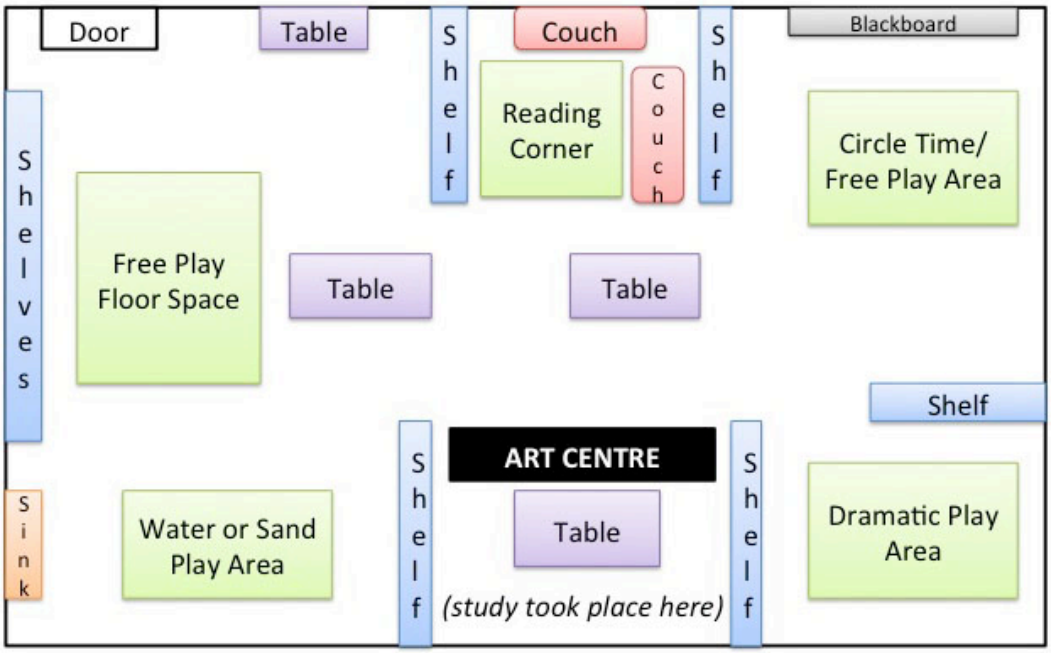

Figure 1. Classroom set-up.

Procedure

The children were observed twice a week for four weeks (total eight days), for a period of approximately one hour each day during their free play time.

The following procedure was used for each observation day:

- The researcher set up the drawing station and camera prior to each session. The camera was placed on a high tripod in the corner of the art area and was angled downward in such a way that only the drawing table was in view. The audio device was always placed in the middle or on the side of the drawing station, depending on the materials being used.
- The researcher explained to the children after circle time what materials would be available to them for free drawing, but did not demonstrate to the children how to use the materials.

- The researcher situated herself at the drawing station and waited for any interested children to approach the tables. No restrictions were placed on the number of children that could approach the tables and participate. However, it was noted during the first observation that the children often focused on conversing with the researcher instead of each other. Therefore, for the subsequent sessions, the researcher observed the table from further away, only approaching occasionally when the children were already engaged in play/drawing.
- As the children began to draw, the researcher took note of instances of shared discussion, what the children were drawing, what sorts of movements and gestures they used, and the time in minutes (recorded by the video camera) they spent engaged in drawing with other children.
- The researcher sometimes asked clarifying questions (e.g., "What have you drawn?" or "Why did you choose this colour?") and made comments about the drawings (e.g., "I like what you have drawn here" or "Great job!") without being directive, as noted in Coates and Coates (2006).
- Photographs were taken of the children's drawings during and after the session to use as a resource during the analysis of the data.
- Two children did not obtain permission to participate in the study. The same drawing materials were provided to these children in another area of the classroom so that they could still participate in the activity without being in view of the camera. If they did come too close to the camera, the researcher or the teacher would redirect them to another activity/area of the classroom.

Materials

The choice of appropriate and engaging materials played an important role in the realization of this study. For each session, new drawing mediums and surfaces were presented to the children in order to maintain their interest in the drawing station. The following describes the set-up of the drawing station and the materials for each observation session.

Observation Day 1

On the first day of observation, a main purpose was to help the children get acquainted with the recording equipment and accustomed to drawing freely in front of a camera. Therefore, simple and familiar drawing materials were chosen that consisted of multi-coloured cardstock paper, pencils, pencil crayons, and erasers.

Observation Day 2

For this observation, it was thought that Swann's (2009) suggestion of using long white paper would be appropriate in order to encourage social interaction. One rectangular table, measuring approximately 4 feet by 2 feet, was placed in the free drawing area and covered with long white poster paper. In the center of the table, the researcher placed a box of Crayola pencil crayons, a handful of HB pencils, and special multi-colored pencil crayons that create a rainbow effect.

Observation Day 3

After observing the children draw on the long white paper, it was noted that the children were very possessive of their individual drawing spaces, despite having to share a large surface. In light of this, the researcher decided to present the children with a white board (approximately 2'x 3') and dry erase markers for the second observation, as it was thought that the non-permanent nature of the materials would encourage children to be less possessive. The board was

placed in the center of the table in the art area; the markers (blue, red, black, and green), erasers, and audio device were placed on the sides of the board.

Observation Day 4

For this session, the table was removed from the art area. Six neon-colored Bristol boards (2 pink, 2 yellow, 2 green) were taped together on the floor to create a large, unified drawing surface. Regular Crayola markers were placed on the Bristol boards, and the audio device was placed in the center of the drawing area. The suggestion to have the children draw on the floor was given by the teachers, as they mentioned that sometimes they allow the children to draw on the floor on large papers and they seem to enjoy it. It was anticipated that the brightly colored paper would also help to attract the children to the area.

In addition, a box of plastic farm animals was left beside the drawing area for the children to use as they please. This idea was inspired by Swann (2009), who suggested that toys can be incorporated into drawing activities to motivate children.

Observation Day 5

For the fifth day of observation, the researcher decided to revisit the idea of using long white paper, but this time, the edges of the paper were cut in a wavy pattern to change the shape of the surface in order to make it more intriguing. As a drawing medium, special multi-colored Crayola crayons (e.g., rainbow, neon, sparkly) were placed on the table, as well as crayons that were shaped like crystals. The audio recording device was placed in the center of the paper.

Observation Day 6

For this session, two black Bristol boards were taped to the table in the art area. Two boxes of Crayola oil pastels were placed in the center of the table, along with the audio recording device. These materials were chosen for this observation because of the bright and striking effect of the pastels on black paper.

Observation Day 7

For this observation, long white poster paper was taped to the table in the art area. The drawing materials consisted of HB pencils and Crayola coloured pencils. In addition, approximately 30 multi-coloured foam building blocks (different shapes and sizes) were placed randomly on top of the paper. Again, it was presumed that the inclusion of colourful toys might attract children to the center, and perhaps inspire them to incorporate the blocks into their drawings/play. The audio device was placed in the center of the table.

Observation Day 8

For the final observation session, the researcher decided to reuse the white board and dry erase markers, as the children appeared to enjoy these materials the first time. Again, the board was placed in the middle of the table in the art area, and the markers, erasers, and audio device were placed at the sides of the board.

Data Collection and Analysis

Collection and transcription. Triangulation was achieved by collecting data from various sources, including written field notes, photographs of the children's work, videos of the children drawing, and audio recordings of their conversations. The time spent in collaborative drawing/play was also noted for each episode, as previous studies have suggested that collective drawing encourages children to remain focused for long periods of time (e.g., Wood & Hall, 2011), which may have implications for children's social and creative development.

Parten (1932) identified the various levels of social participation that young children exhibit during play, consisting of unoccupied behaviour, onlooker behaviour, solitary play, parallel play, associative play, and cooperative play. Originally, this study was to focus solely on instances of cooperative play, as it is the form of play where children are likely to play together and create shared meaning. In cooperative play, the "goals of play are shared and negotiated"

(Frost et al., 2012, p. 42) for the purpose of competition, dramatization, or the "making some material product" (Parten, 1932, p. 251). However, as Rubin (1977) notes, researchers have often found it difficult to distinguish between associative play, in which children play together and "engage in similar if not identical activity" (Parten, 1932, p. 251), and cooperative play. For this reason, Rubin suggests combining the categories of associative and cooperative play into one category known as *group play*. Therefore, instances of group play were transcribed (i.e., when children were seen working together to create a collaborative drawing or when they were creating similar drawings while simultaneously discussing the content). To partially respond to the first research question (i.e., what instances of group play are observed), instances of group play are presented in the findings section.

The start of a group play episode was determined by the initiation of a theme (e.g., princesses) by one of the children that was then built upon/expanded by other children. The termination of a play episode was determined by departures from social play, such as when children left the table, or started drawing individually and/or conversing about unrelated topics without reverting back to the shared theme. Instances where the children conversed about topics unrelated to their drawings were not considered group play for the purpose of this study, neither were instances where children simply discussed the content of their individual drawings without building on each other's ideas.

Analysis. To respond to the research questions (i.e., evidence of group play, and implications on the development of shared meaning and shared creativity), the transcribed instances of group play were interpreted in terms of thematic content, intersubjectivity, and creativity (definitions of terms provided below).

Content analysis, which focuses on "the communication of meaning" (Merriam, 2009, p. 205), was used to identify themes and, especially, shared themes, ideas and strategies. Narrative

analysis was used to analyze how stories evolved in the play episodes, as this method places emphasis on "the stories people tell and how these stories are communicated" (Merriam, 2009, p. 202).

The data were analyzed using Göncü's (1993b) theory of how children create shared meaning through the use of metacommunication and communication. As previously mentioned, metacommunication refers to the process of reaching an agreement on the nature of the activity (e.g., "Let's draw ponies"), and communication is the coordination of intentions throughout the activity (e.g., "You need to draw a tail" or "We need to draw a barn for the ponies to live in"). Similar to Whitington and Floyd (2009), who examined shared meaning-making in kindergarten children's socio-dramatic play, "intersubjectivity was accepted as present when meta-communication and communication preceded a joint focus" (p. 147).

This study also used Coates and Coates' (2006) definition of creative development to mean children expanding and building on the content of their drawings. Specifically, this is accomplished through the children's sharing of ideas and providing each other with feedback. For the purpose of this study, this type of creative development through group drawing was labeled as *shared creative development/creativity.* Therefore, the data were analyzed for shared creative development in group drawing (i.e., when children were influencing each other through the sharing of ideas, themes, and strategies). Examples: the direction/content of Child A's drawing changes as a result of something Child B said (e.g., Matthew started drawing a beehive after Amanda mentioned that her drawing is a beehive), or Child A observes a drawing strategy used by Child B and uses the same one in his/her own drawing, but perhaps takes it further or uses it in another way (e.g., Sabrina observed Matthew drawing bees, then used the same schema to draw a larger bee and added eyelashes to it, making it a "girl bee").

Chapter 3

Findings

Instances and episodes of group play that were observed across the eight days of observation are presented in this chapter.

Total Instances of Group Play

A total of 27 instances of group play were noted in the video data where children were observed sharing ideas, developing common themes, and playing through drawing for both brief and extended periods of time. The length of the play episodes varied between 15 seconds to just over 30 minutes. Due to the overlapping of group play episodes (i.e., two or more groups of children drawing at the same time), it was not possible to calculate the proportion of time spent in group play versus time not spent in group play (i.e., when children were drawing individually, conversing about other topics, etc.).

Specific Episodes of Play

For the purpose of addressing the research questions, five major instances of group play/drawing that were considered to be exemplary of the kinds of drawing themes and social interactions that were observed across the eight days of observation were drawn from the 27 instances of group play for analysis. Out of all the instances of group play, these five stood out in terms of the children sharing ideas, creating narratives, using imagination, and influencing each other's drawing practices. Some supporting evidence from three other minor instances will also be used. This approach of selecting specific episodes or cases of drawing has been used in previous exploratory studies on drawing in early childhood, including: Papandreou (2014), who presented three case studies of children creating drawings that supported her conceptualization of drawing as a meaning-making activity; and Coates and Coates (2006), who chose particular

instances of children talking while drawing that clearly illustrated the various roles of speech in children's drawing practices.

The following sections highlight the contextual information, themes, discussions, drawing content, and actions that occurred during each of the five episodes, with some interpretations of the imagery and actions. Full transcriptions of these episodes can be found in Appendices D through H, and descriptions of minor instances can be found in Appendix B. Descriptions of the children can be found in Appendix A.

Play Episode 1: Beehives and Bumblebees

Date: January 28, 2014 (observation day 3)

Children involved: Amanda (A), Sabrina (S), Matthew (M), Samantha (Sm)

Adult involved: Tiina (T)

Materials: Large white board, dry erase markers (red, green, blue, black), erasers

Length of play episode: Approximately 8 minutes

At the start of free play, Amanda, Sabrina, Matthew, and Samantha approach the drawing table. Each child claims one corner of the white board and starts drawing individually in their respective spaces. The girls experiment with colours and forms, keeping their drawings relatively small, whereas Matthew uses his whole right arm in quick, bold movements to create large forms that take up most of the board. Tiina observes the children drawing from a short distance, occasionally commenting on their images. After drawing a shape and colouring it in, Amanda explains her drawing:

A: Look! I did a beehouse.
T: Wow!
A: I did a beehouse. I did a bee… I did a beehive.
T: A beehive! Very nice.

Figure 2. Amanda's beehive.

Sabrina enters the conversation by asking questions and makes a connection to something she has seen before:

S: What's a beehive? What's it mean a beehive?
T: A beehive, it's where the bees live.
S: You know I saw Pooh even, he was going up to the tree so he could get the honey of the bees.

Matthew then starts drawing an image of a tree beside Sabrina and adds a vertical line with an oval shape at the end to the tree. After completing his drawing, he confirms what he has created:

M: That is a… a beehouse. It's like that one [points to Amanda's drawing]. It's another beehouse.

Figure 3. Matthew's beehive.

After observing Matthew drawing, Sabrina explains to Matthew that she is going to draw a tree, using hand gestures to help describe where and how she is going to draw her image:

S: So I'm going to draw a big giant tree and then it's going to fall down and I'm going to do it right here, and you draw where I was drawing. [extends left arm up in the air and moves her hand up and down, then lowers her arm and moves her hand side to side]
M: How about here? [points to blank area on the board]
S: No, I want to draw it right here.

Figure 4. Sabrina using gestures to explain her intentions.

Sabrina then proceeds to draw a fallen tree that crosses over Matthew's tree drawing. As Sabrina is drawing, Matthew draws what appears to be a bee above his tree.

Figure 5. Matthew's bee drawing.

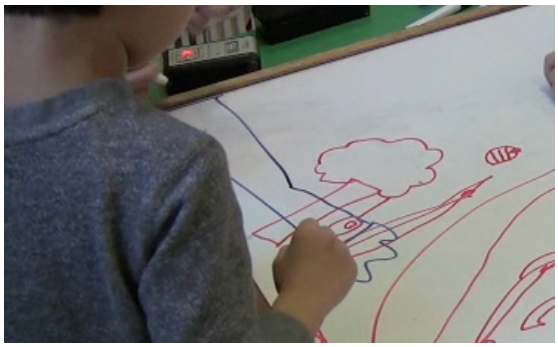

Figure 6. Sabrina's fallen tree.

Sabrina decides to erase her fallen tree and mentions that she wants to draw something different. She starts drawing what appears to be another tree that bears a resemblance to Matthew's tree/beehive. She pauses from her drawing, looks at Matthew, and giggles as she explains what she has made:

S: The baby tree!

Figure 7. Sabrina's and Matthew's tree drawings.

Matthew then starts making buzzing noises while shaking his arms and head. Sabrina seems curious about how to draw a bee:

S: How can you do the bee?
M: That is a bee [points with the marker to his drawing].
S: How can you do the bee?
M: A real bee is just like that. [points again to his drawing]
S: A bee looks like that?
M: Yeah.

Figure 8. Matthew using the marker to point to his bee drawing.

After observing Matthew's bee drawing, Sabrina starts drawing what appears to be a bee above her tree drawing. She pauses from her drawing and starts flapping her arms and makes buzzing sounds, similar to Matthew earlier. She then taps Matthew on the shoulder, points to her drawing,

and giggles. She continues drawing, and at the same time sings a tune:

S: *Bee! Bee! Bee! Bee! Bee!* [sings from a low tone to a progressively high tone]

Figure 9. Sabrina's bee drawing (in blue).

Amanda, who has been relatively quiet throughout the activity, abandons her drawing and walks over to Sabrina and observes as Sabrina erases her tree drawing. Sabrina continues inquire about drawing bees:

S: You know how to draw a bee?
M: I know how.
S: How?
A: I know how to draw a bee, look! [walks back to her place]
T: You're going to draw a bee now?
A: I can draw a bee.
S: I can draw a bee all day.
A: Look how I can draw a bee. [starts drawing]
S: I'm not looking at all, I don't want to look.
M: Look at my bee! [points to his drawing of a bee]

Figure 10. Amanda's bee drawing.

Sabrina decides to draw a much larger bee in the empty space left from her tree. The bee has an oval shape and multiple stripes. Matthew reaches over and adds wings to the bee, while Sabrina adds what appear to be eyelashes to the bee's eyes and says:

S: That's the mommy [points to her drawing]… She's a girl bee.

Meanwhile, Samantha continues to draw quietly at her place, but occasionally looks up to observe what the others are doing. She eventually abandons her previous drawing and draws a circle as the other children chatter. She adds what appears to be a face inside the circle, a body, and wing shapes. While she draws, she continues to look up and observe the other drawings on the board. She finally adds lines across the body of her figure.

After finishing her drawing, Samantha looks to Tiina, points to her drawing, and says:

"This is the bee."

Figure 11. Samantha drawing a bee.

Figure 12. Samantha adding horizontal lines across the body of her drawing.

After the bee drawings were completed, Matthew and Samantha continued to draw individually, while Amanda and Sabrina started to draw princesses together (see Play Episode 2 in the next section).

Play Episode 2: Good and Bad Princesses

Date: January 28, 2014 (observation day 3)

Children involved: Amanda (A) and Sabrina (S)

Adult involved: Tiina (T)

Materials: Large white board, dry erase markers (red, green, blue, black), erasers

Length of play episode: A little over 30 minutes

Amanda is drawing on one side of the table and Sabrina on the other side. Amanda draws a small circle and adds what appear to be eyes and a mouth. Sabrina is erasing a previous drawing. Amanda stops drawing, makes fists with her hands, and says:

A: *Errrr* I just cannot do a princess face! [makes fists with both her hands at her sides]
S: Well, that's not how a princess face look like. [observes Amanda's drawing]
A: Then how can I do a princess face?

Sabrina starts drawing what appears to be a female face (judging from the eyelashes and long hair) on her side of the board. Amanda observes what she is making and asks Sabrina for her help:

A: Can you do a princess for me like that one? [points to Sabrina's drawing]

Figure 13. Sabrina's drawing of a face.

Sabrina agrees to help and walks over to the other side of the table. Amanda makes it clear that she only wants help with the head:

A: Just do the face. Just do the head, I will actually do the dress. I know how to do dresses. A big one…make the same size like that one. [points to Sabrina's drawing of a face]

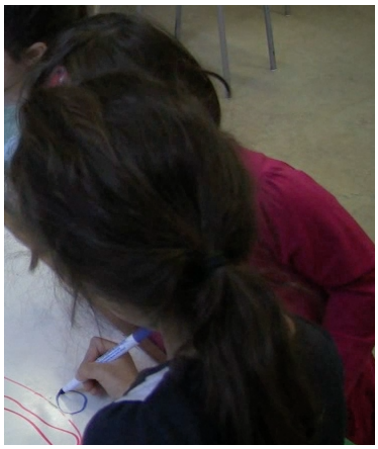

Figure 14. Sabrina helping Amanda draw a head.

After helping Amanda, Sabrina returns to her place and continues drawing her own princess, but then erases it. Amanda also continues drawing her princess, adding a dress with wavy horizontal lines across it. Sabrina considers what to draw next, and Amanda explains what she has made:

S: I'm going to draw… I would like to draw a princess. I will do a princess. I will do her castle first. [holds marker in her hand, moves it in a circular motion over the board before starting to draw]
A: I made a bad princess… and the bad princess will have magic to trap the nice princess.

Figure 15. Amanda's princess drawing.

Sabrina draws a shape that appears to be a castle, while Amanda continues her princess drawing. Amanda then initiates more conversation with Sabrina:

A: The princess is coming, she just needs to brush her hair!
S: But that's a bad princess. [observing Amanda's drawing]
A: What?
S: The princess that I'm going to do. She's a bad one and she's going to have potions. [makes claws with her hands]
A: Let me see the bad princess.
S: Well it's going to be next to yours. [walks over to Amanda]

Figure 16. Sabrina making claws with her hands as she explains what she intends to make.

Sabrina moves beside Amanda and starts drawing a figure. The girls decide that Amanda's princess will be the good one and Sabrina's will be the bad one. Sabrina adds downward slanted eyebrows to her princess' face. As they draw their princesses, they discuss the features and developing narrative:

S: I'm going to colour the hair, it's all black.
A: And mine is going to be all black too!
S: No, because that's her hair…You know, that when she was a baby, she would have green hair and then she growed up, she had green hair still, and then what happened, is that witch taked her in, so, so it changed to black.
A: Or maybe I'm drawing this girl black, because when she growed up she had red hair, but now, when you are doing the bad princess, the bad princess turned her hair black, the bad princess. And then the nice princess died when she had black hair.
S: What, the bad princess?
A: Yeah, when the bad princess puts black hair on the nice princess, then the bad… when the bad princess puts a magic potion…then she will die when she has black hair…the nice princess.
S: But she already put potion on her.
A: No, you have to…you actually have to colour the dress just like me. [points to her own drawing]
S: She will be all black 'cause she's the bad one.

Figure 17. Sabrina pointing at the drawings with her marker as she explains the narrative.

Figure 18. Girls colouring the hair black on their princess drawings.

The girls continue to colour in their princesses. Sabrina suddenly decides to erase the hair on her princess and turn her into "Elsa", making reference to the Disney movie *Frozen*:

S: Her hair's all white like Elsa, because I'm going to do her Elsa.

Figure 19. Sabrina re-draws the hair on her princess to turn her into Elsa.

However, Amanda seems intent on continuing the story they had started earlier:

A: I want to make her die. I want to make my princess die.
S: So we have to wipe her. [motions with the eraser over the drawing]
A: No, we have to make *this* girl, make *this* girl die. [points from one princess drawing to the other]

Figure 20. Sabrina motioning with the eraser.

The girls negotiate how they can make it seem as though one princess is killing the other. Amanda does not seem content with Sabrina's initial suggestion to simply erase the image. Sabrina comes up with the idea to draw a "magic potion" moving from princess to the other:

S: I will do the potions, okay? The potions will be red. [reaches for a red marker]
A: Alright. And then…
S: Then it goes to right…*vrooooo* [makes high pitched noise as she draws a red squiggly line from one princess to the other]…there.

Figure 21. The "magic" red potion moving from one princess to the other.

This idea seems to please Amanda. She now agrees to erase her princess and draw a new image to depict what happened to the princess once she was hit by the magic:

A: Alright, now we're going to wipe this princess off [points to her princess], and make a princess who lies down like *that* [gestures with her hands to indicate the direction she wants the princess to lie] so it can be died, alright?
S: K, let's wipe now! [starts erasing]
A: And then make the same girl lying down.
S: This is the same girl, this is going to be the same girl.

Figure 22. Amanda gesturing with her hands to indicate how she wants the princess to lie down.

Amanda continues building the story, suggesting more things they need to add:

A: We need to make the house too, when she's lying down, alright?
S: Why?
A: Because, remember, the witch brings the girl to her house, and then the witch makes her very, very bad to get the other people. Alright? Right?
S: Right. Then, when she does that, she will die. And when she gets up, she will be bad one, then she will get another nice girl. Then when they die her, she will get up, and she will be bad. Then all the nice girls are going to be bad. [uses body, arm, and hand gestures, and makes noises]
A: Yeah, *ding-ding-di-ding-ding!* [sings tune]
S: *Ding-ding-di-ding-ding!* [joins in, shakes her hips and dances]

Figure 23. Sabrina using hand/arm gestures while explaining the narrative.

The girls erase the princess who "died" and start drawing a new figure that is lying down, possibly to indicate the "death" phase that precedes her waking up as a "bad" princess. Sabrina starts by drawing a circle for the head, adds some features in the circle, and explains how she wants the eyes to be drawn:

S: Let's colour her eyes in because she's died.

Figure 24. Sabrina colouring in the eyes of the "dead" princess.

Amanda adds what appear to be eyelashes at the bottom of the eyes, perhaps to emphasize that the eyes are closed. The girls then take turns adding features to the new princess.

Figure 25. Amanda adding eyelashes to the bottom of the princess' eyes.

Figure 26. Both girls adding features to the princess' face.

Both girls agree that the new princess needs to have the same kind of dress as the previous drawing, since it is still the same girl. Amanda starts drawing the torso, but Sabrina does not approve of how it looks:

S: Not like this… a princess has a t-shirt like this… I mean like that, and this [gestures with the marker in the air, as if she were drawing]

Figure 27. Sabrina "drawing" in the air with the marker.

Amanda continues drawing and adds a body that curves down to the right, presumably to make it look as though the princess is lying down. The girls decide to colour the dress using the same alternating green and black pattern from the original drawing (see Figure 20). Once they finish the dress, Amanda suggests that the next step is to draw the hair and then make the princess wake up. Sabrina agrees, and suggests that the eyes need to be redrawn to show that the princess is awake and has turned evil:

A: We finished her! Now we just need to do her hair.
S: Now we need her hair to be cute, and then she's *baaad* [whispers]. The bad person died the nice person so when she wakes up she will be bad, then the nice person will not die.
A: She still has black hair.
S: Yes, she still has black hair.
A: And then when she actually wakes up, we need to make her wake up, right?
S: Yeah, we got to wipe her and then we got to do her eyes like this [gestures with her hands] and then do her angry, right?
A: Yes.

Figure 28. Amanda adding black hair to the new princess.

The girls decide to erase the whole figure and draw a new "bad" princess that is awake. The features are similar to the other bad princess (e.g., black dress, slanted eyebrows, crown). Both girls emphasize that the new drawing is a bad princess:

A: There we go, now she's bad! *Ah-ha-ha-ha-ha-ha!* [laughs]
[…]
S: She has a dress, like a bad dress.

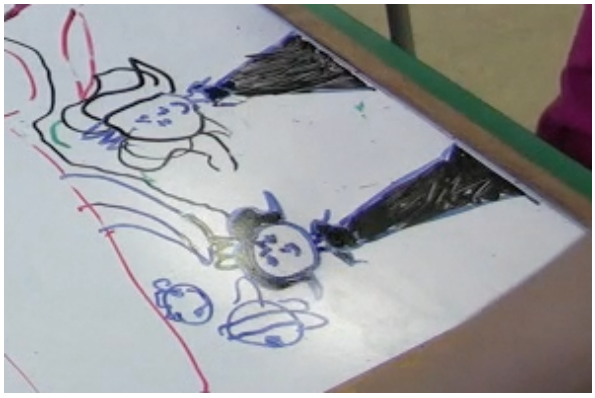

Figure 29. The completed "bad" princess.

Amanda then wants to add to the picture by making a king, but Sabrina wants to draw Elsa again. As Sabrina starts drawing a new figure beside their previous drawing, Amanda suggests a way to integrate the new Elsa drawing into the story:

A: This is the witch [points to bad princess on the right]. Now this girl is gonna make Elsa die. This is Elsa…
S: No, because Elsa has a lot of powers… she has ice…she's gonna froze this heart and this heart [points to drawings].

Sabrina erases part of the torso of their previous princess drawing and draws a heart and "ice" in the empty space. She then explains that Elsa has frozen the princess' heart:

S: See, now she frozed her. Elsa frozed her heart…But she is a nice girl, and she could froze anyone's heart.

Figure 30. Sabrina drawing a heart inside the torso of the bad princess.

The girls continue to add features to the new Elsa drawing, including a purple cape, facial features, and a dress. After completing the image, Sabrina decides that Elsa has "died", so she erases the drawing.

Figure 31. The girls drawing "Elsa".

Figure 32. Sabrina erasing Elsa.

Afterwards, the girls continue to add features to their other princess drawings, namely two "bad" crowns, until free play comes to an end.

Play Episode 3: Rainbow World

Date: February 6, 2014 (observation day 5)

Children involved: Nathan (N), Matthew (M), Ethan (E), Katie (K), Samantha (Sm)

Adult involved: Tiina (T)

Materials: Long white paper (edges cut in a wavy pattern), pencils, Crayola multi-coloured crayons, crystal-shaped crayons

Length of play episode: About 5 minutes

At the start of free play, Nathan, Matthew, Sabrina, Ethan, and Katie all approach the drawing table and inspect the materials. Samantha joins the table a few seconds later. Katie is the first to grab one of the multi-colour crayons and starts making large scribbles. After seeing the effect of the crayon, Katie makes a comment about the colours:

K: It's rainbow! You see it? [...] We're gonna cover the whole paper with these colours!

Figure 33. Katie scribbling with the crayon.

After observing Katie drawing, Matthew picks up a crayon and also makes scribbles on the opposite side of the paper. Samantha takes a crayon and starts drawing beside Katie, and Nathan observes the table. The children seem impressed by the effects:

M: I have so many colours! Whooooa! Whooooooa! Look at mine! Look at mine Nathan!
K: We're gonna colour all the paper.
N: She has a colour one! [looking at Samantha's crayon]
M: I have one! [shows Nathan his crayon]
Sm: I have a rainbow one.
E: Me too.

Figure 34. Matthew scribbling.

Ethan joins in on the scribbling with Matthew and Katie, and they quickly cover almost half of the paper. As Matthew draws, he continuously makes noises, sings tunes, and moves his feet. Ethan inspects his scribbles, and points out that the colours resemble a rainbow. He suggests that they are creating a "rainbow world":

E: This is like a rainbow!
M: Yeah!
E: Rainbow world! It is about a rainbow world!
K: Rainbow world, rainbow world.
[whispers as she continues scribbling]

Figure 35. The creation of the "rainbow world".

Katie seems committed to covering the entire paper. At one point, she asks Tiina to remove the audio device so that she may colour underneath it. She also continues to move other crayons out of the way as she scribbles. Ethan and Matthew smile widely as they draw, suggesting that they are enjoying the activity, and they continue to reiterate what they are creating:

M: Rainbow wooorld!
E: This is called fun world!
M: And this is called…rainbow world!
E: Fun world!

As the children continue to scribble around the paper, they use broad sweeping arm movements to create marks. Samantha remains quiet in her own corner, but appears to add to the collective drawing by making small scribbles overtop of the other colours.

Figure 36. Ethan using broad arm movements as he scribbles.

Figure 37. Samantha adding to the rainbow world drawing.

Once the paper is completely covered, the drawing is complete:

K: Yay we made a rainbow world! Rainbow world! *Yay-yay-ya-yay-yay*! [sings a tune]
E: *Yay-ya-yay-ya-yay-yay*! [sings the same tune]

Figure 38. The completed rainbow world drawing.

Afterwards, Tiina changes the paper and some of the children start making new drawings, while others move on to other free play activities.

Play Episode 4: Angry Birds

Date: February 10, 2014 (observation day 6)

Children involved: Nathan (N), Sadia (Sa), Kim (Km), and Matthew (M)

Adult involved: Tiina (T)

Materials: Two black Bristol boards taped together, oil pastels (various colours)

Length of play episode: The group interactions were interspersed between bouts of individual drawing, but overall the episode lasted approximately 19 minutes.

Kim, Nathan, and Sadia choose to participate in drawing at the start of free play. Kim is the first to take a purple pastel and scribbles on the paper. Sadia sits on a chair on the opposite side of the table and Nathan stands to the right of Kim. Kim puts the purple pastel back in the box and declares what she intends to make next:

K: I'm gonna draw Angry Bird.
Sa: Me too I'm going to draw Angry Bird.
N: What are you drawing?
Sa: Angry Biiiird.
K: I was drawing too. I'm gonna draw…
N: There's so many colours for Angry Birds. [picks a pastel from the box]

Figure 39. Kim starting to draw an Angry Bird.

The children continue to quietly draw their own individual Angry Birds. Nathan's drawing is small in size compared to the large birds being made by Sadia and Kim. After about a minute, Sadia looks up to see what Kim is making and leans over the table to get a closer look. Kim is in the midst of adding facial features to her bird. Sadia then directs a question at Kim:

Sa: How Angry Birds, their mouths look?
K: Just like that… I wanna draw another Angry Bird.

Figure 40. Sadia leaning over to see Kim's drawing.

Sadia then returns to her own drawing and adds a u-shape line to her bird that appears to be a mouth.

At this point, Matthew approaches the drawing table and chooses a light blue pastel from the box, but hesitates before making a mark on the paper. Kim abandons her original drawing and starts making a new one closer to Nathan's drawing. As she draws, Kim makes an assumption about what Matthew intends to draw:

K: Matthew is gonna draw an angry birdie.

Nathan then calls attention to his own drawing, and sparks a conversation about the theme:

N: Look I made a pig and a Angry Bird. Look at mine! [pointing to his drawing]… that's a piggy!
Sa: He take the, the, the, Angry Birds' eggs.
N: No, the Angry birds shoot the pigs!
Sa: Nooo, the pigs…
M: Yeah! Nathan is right! Nathan is right I know it! [puts left hand on his hip, points with his right finger upward and shakes his hand as he speaks]

Kim looks up from her drawing, inspects Sadia's drawing, and makes a comment about the mouth she has drawn:

K: Hey! You do my Angry… Angry Bird not like…Angry don't have this mouth! [points to Sadia's drawing)
M: Them have these! [draws a form on the paper] Them have like that, right?
Sa: I watch them and I see them like this.

Figure 41. Sadia's drawing of an Angry Bird.

Figure 42. Kim pointing at Sadia's drawing and commenting on the mouth.

Kim does not seem to approve of how Sadia has drawn the mouth. Matthew seems to agree that Sadia's chosen technique did not render a satisfactory mouth, and he tries to show her how to draw one. Sadia seems to defend her drawing, saying that she has watched Angry Birds and knows what they look like.

Matthew draws a rectangular shape with two dots inside and small box shapes on top, which seems to confuse Kim:

K: Is this a pig?
M: No.
K: A house?
M: It's a Angry Bird…is like that.
K: The black bird? Is this a black bird?
M: No.

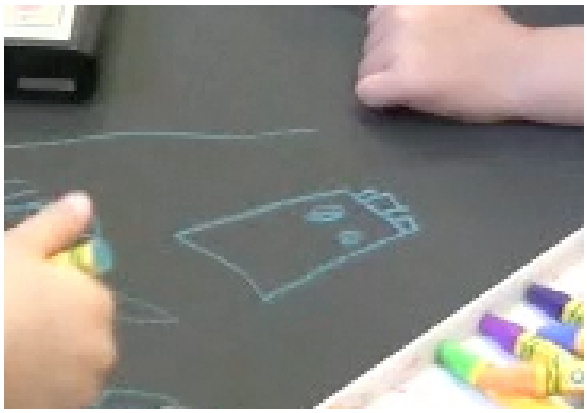

Figure 43. Matthew's drawing of a rectangular shape.

Matthew proceeds to explain his drawing to Kim in Mandarin and uses hand gestures to presumably emphasize the meaning of what he is saying.

Sadia leaves the drawing table and Nathan continues to draw his own images, occasionally explaining which Angry Birds he is making (he makes six small birds in total, all different colours). When he mentions that he wants to create "big red bird", Kim comments that he will not have place to make a big bird and that his angry birds do not resemble hers:

K: You don't have place, you need to do smaller. That's not like I made it. [points to Nathan's drawing]

N: All the Angry Birds crash into that pig! [points to his drawing of a pig]

The children continue to draw their Angry Birds, making the occasional comment about their pictures. Kim decides to make a drawing that is considerably smaller than her others. She chooses to draw the image right next to Nathan's Angry Bird drawings, and seems to draw a form that does not resemble her other Angry Birds. She eventually explains what she is making:

K: Look the piggy! [points to the drawing she has made, and continues adding to the image] This his hand. Look he takes three eggs! [looks up and points to her drawing]
N: Is that the pig?
K: Yeah, he takes three eggs. [pointing to the circular shapes she has drawn]
M: Look there's four! [reaches over the table and points to Kim's drawing]
K: No, this his hand. This his hand, takes the eggs.
N: I wanna see! [leans over to get a better look at Kim's drawing] One, two, three… [counting the circular shapes with his finger]

Figure 44. Nathan counting the "eggs" in Kim's drawing.

K: No, this his hand! One, two…this his hand, this is the eggs.
N: Angry Birds are shooting this pig.
K: I'm gonna make him green. [takes green pastel]

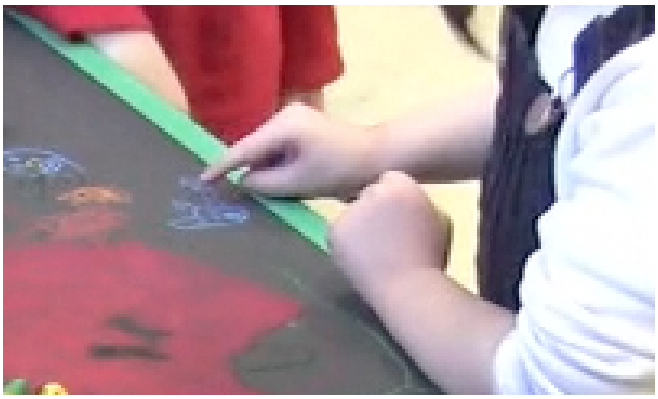

Figure 45. Kim pointing and counting to clarify each part of the image.

Kim seems to have drawn a pig that steals eggs from the Angry Birds. Matthew mistakes one of the pig's hands for an egg, so Kim clarifies which circles are eggs and which circle is the hand. Nathan appears to suggest that the Angry Birds that he drew earlier are shooting the pig that Kim has drawn, but Kim does not respond this this suggestion.

Afterwards, Nathan leaves the table, and Kim and Matthew focus more creating individual drawings as Andrew and Ian begin drawing together (see play episode 5).

Play Episode 5: Fire, Wheels, and a Train

Date: February 10, 2014 (observation day 6)

Children involved: Ian (I) and Andrew (A)

Adult involved: Tiina (T)

Materials: Two black Bristol boards taped together, oil pastels (various colours)

Length of play episode: A little over 11 minutes.

Andrew approaches the drawing table approximately 18 minutes into free play, observes and interacts minimally with the other children (Nathan, Matthew, and Kim). Nathan leaves the table, leaving Matthew and Kim, who are each drawing individual pictures on opposite sides of the Bristol board. Andrew observes what Kim and Matthew are drawing for a few seconds, then chooses a purple pastel from the box and starts drawing a figure in an empty space on the board beside Kim.

Ian approaches the table a few seconds later and stations himself next to Matthew. He chooses an orange pastel and starts drawing silently near the center of the board. After drawing a circle, he replaces the orange pastel with a red one and explains his thought process out loud:

I: I'm gonna use red, then I'm going to use some blue […] then I need some brown.

Meanwhile, Andrew chooses a red pastel, leans forward, and starts colouring in the middle of the Bristol board right next to Ian's drawing.

Figure 46. Ian and Andrew starting to draw.

Figure 47. Ian and Andrew drawing closer together.

Andrew stops colouring for a moment and walks around the table, situating himself next to Ian. Andrew has a blue pastel in his right hand and a red one in his left hand. He starts colouring

simultaneously with both hands in a circular motion. He stops, examines the ends of the pastels, then makes a fist with his left hand around the red pastel and starts colouring furiously over the blue marks he has just made.

Figure 48. Andrew drawing in a circular motion with both hands.

Figure 49. Andrew making a fist around the red pastel and colouring over his blue marks.

Ian continues to draw shapes and explains to Andrew what he has made:

I: Andrew, this is the bomb. [points to one of his shapes]
A: Which bomb? This is the bomb? [points to another shape on the board]
I: No, this one. [points to the same shape again]

Once Ian has pointed out the "bomb", Andrew uses the red pastel to colour up and down in the direction of the bomb drawing, possibly as an attempt to connect his drawing to Ian's. Ian observes what Andrew is doing, and makes a suggestion:
I: Andrew…put the fire *pssshhhhh.*

Andrew then grabs an orange pastel from the box, examines it, and makes a statement about the colour while colouring over his red marks with the orange:

A: That's orange.
I: Yeah, orange makes fire.
A: No, red and yellow. Gonna make yellow [takes a yellow pastel from Ian and starts colouring over the red/orange]. Fire, fire, fire, fire, fiiiiire! [colours quickly back and forth]

Ian seems to think that orange is enough to create a fire effect, but Andrew disagrees and wants to add yellow as well. As he colours, Andrew seems to emphasize with his words that he is creating fire.

Figure 50. Andrew colouring over the red with orange.

Figure 51. Andrew colouring furiously with yellow over the red/orange.

Ian observes as Andrew colours, then makes a suggestion to add to the drawing:

I: We have to make the wheels. I wanna put x-wheels. We have to put x-wheels so it drives really fast.

Ian appears to want to make some sort of vehicle and wants to add "x-wheels" to make it drive fast, so he takes a white pastel and draws a circle near the fire drawing. Andrew takes a black pastel and adds to the wheel drawing:

A: Okay, x-wheels is like this. [draws an "x" inside Ian's white circle]
I: I really know how to do x-wheels.
A: That! [stops drawing and looks at Ian, then continues drawing]
I: No, we have to do like… yeah, like that. Yeah, that's gonna look good. [observes as Andrew adds to the drawing]

Figure 52. Andrew adding an "x" inside the white circle to make an "x-wheel".

Andrew appears to want to be in control of the drawing, as he does not wait to see if Ian adds anything more to the wheel before adding his own details. Ian seems content with observing Andrew draw, but still wants to give his input.

Andrew draws another "x-wheel" on the other side of the fire drawing, then starts mixing more colours into the "fire". He holds four pastels in his left hand, and one in his right that he uses to colour. He alternates between the colours, adding more and more colour to the mixture and extending the drawing to the left.

Figure 53. Andrew adding more colour to the fire drawing.

Figure 54. Andrew extending the drawing to the left.

Ian continues to observe as Andrew draws. He seems to want to add to the drawing himself, as he chooses a black pastel and moves to the other side of Andrew, presumably to have more space to draw. He holds the pastel to the paper, but hesitates before drawing. Instead, he suggests something new to Andrew to build on the vehicle theme:

I: Andrew, the lights! We have to put on the lights so he can see…and red lights at the back!
A: Red lights?
I: Yeah.
A: I know the red lights. There's the fire! [takes a yellow pastel and makes vertical lines over his drawing] Red lights [takes red pastel and starts colouring]. Red lights…the red lights is over here, Ian.

Figure 55. Andrew adding "red lights" to the drawing.

After finishing the "lights", the boys agree to continue adding more x-wheels to the drawing, so Andrew adds two more wheels to the bottom of the drawing using the same technique (white circles with black lines inside). Ian adds some colour here and there around the drawing, but does not make any specific forms. Ian then stops colouring to examine the drawing and does not seem to approve of how it looks:

I: That's not good! It's like a train.
A: It is a train.
I: Why? What's so good a train… is it better than a car? Or a jet?

Figure 56. Andrew adds wheels as Ian examines the drawing.

It seems that Ian did not want the vehicle to be a train, but Andrew seems to like the idea. Ian then seems to question why they should turn it into a train as opposed to a car or a jet. Andrew does not respond to this question and the boys start colouring again.

This time, they extend the colours upward. Andrew makes *whooshing* noises as he colours quickly. Ian stops colouring and watches again as Andrew continues to add more colour to the picture. Andrew seems to want as much colour as possible, as he grabs a fistful of pastels and colours with all of them simultaneously.

Figure 57. The boys extend the colours upward to the edge of the Bristol board.

Figure 58. Andrew uses a fistful of pastels to colour.

After observing for a few moments, Ian seems to have a new idea for the train drawing:

I: Alright, let's make the tracks! We have to make the tracks. Let's make the tracks. I'm gonna make the tracks [takes a green pastel and starts drawing a long line underneath the drawing]. Traaaack.
A: And some…[draws short vertical lines attached to the long line that Ian has drawn]
I: And you have to put some bumpy.

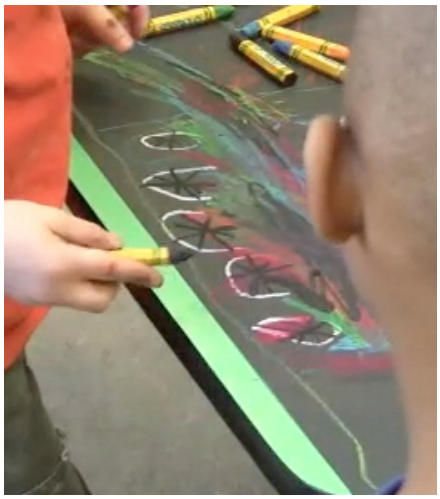

Figure 59. Ian adds a green line underneath the drawing.

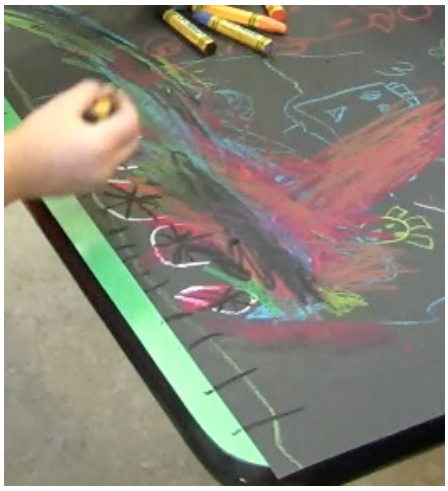

Figure 60. Andrew adds vertical black lines to the green line.

Ian then starts making train noises while moving his head up and down:

I: Let's go Andrew! *Chug-a-chug-a-choo-choo*!

As Ian does this, Andrew stomps his feet as though he were marching and suggests a new addition to the drawing:

A: There is a tunnel. Let's make a tunnel. [draws a vertical line using a black pastel at the right edge of the drawing]
I: Yeah, a tunnel.
A: Okay. [lifts the pastel from the paper and examines the drawing]
I: Yeah, it's okay if it's blocked. *Chug-a-chug-a-choo-choo!* [moves his head up and down]
A: He bumped to here because he's so big. [pointing at the "tunnel" he just made]

Figure 61. Andrew pointing to the tunnel drawing.

Ian reaches his arm to other side of Andrew and decides to extend the drawing further by colouring with a green pastel, and Andrew joins in:

I: Andrew, wait, I'm gonna do…let me do long fire! [starts colouring with a green pastel]
A: Mine's long, long, long, long, fire! [colours alongside Ian, extending the drawing further to the left]

Figure 62. Andrew and Ian extending the drawing by colouring.

Figure 63. Andrew extending the drawing even further to the left using a black pastel.

The boys continue colouring their "long fire" for several seconds, but soon Andrew starts colouring over the wheels of the train and Ian gets upset:

I: You're covering the wheels! Stop colouring fast.
A: *Ppppfffff.* It is going fast! [continues colouring]

Ian does not seem to like that Andrew is colouring so fast that he is covering parts of the drawing, but Andrew continues to colour anyway.

Soon after, Matthew rejoins the table after being absent for some time and interrupts the boys' drawing. They cease to focus on their drawing and move on to other topics of discussion with the other children at the table

Chapter 4

Analysis and Discussion

In order to address the research questions, this chapter will focus on analyzing and discussing patterns related to the development of play themes (research question #1), shared meaning (research question #2), and shared creativity (research question #3) that were drawn from the five selected episodes of play. In addition to answering the research questions, two unexpected findings that emerged from the data will also be discussed: the role of the drawing materials and set-up in relation to children's social interactions and their motivation to partake in group drawing; and how group drawing activities can influence the social and creative development of children with limited language and social skills.

Instances and Evidence of Group Play Through Drawing

Research question #1: What instances and evidence of group play are observed in children's open-ended drawing activities?

The findings of this study reveal that when children are provided with the opportunity to participate in open-ended drawing activities with their peers, they often engage in group play, as evidenced by the 27 instances of group play that were noted across the eight days of observation. The five specific episodes of play described in the findings are exemplary of the types of group play that can occur during open-ended collective drawing activities in early childhood settings. Further evidence in support of these episodes as instances of group play (i.e., where the goals of play are shared for the purpose of dramatization/making a material product) can be found in the shared themes that children initiated and developed across these episodes.

Fromberg (2002) states that when children engage in pretense, "the range of topics is…unlimited" (p. 36). The sociodramatic play themes of 2- to 6-year-old children typically include family life (e.g., housekeeping, food shopping, childcare), professions (e.g., firefighter,

dentist, police), and fantasy/popular culture characters (e.g., monsters, superheroes, Disney characters), among other things (Fromberg, 2002). In the present study, it was found that the five major episodes of group drawing closely resembled social pretend play in terms of themes (e.g., princesses, fantasy worlds, popular characters). This correlates with previous research that mentions that children's drawings often contain "characters, objects, and settings" (Wilson & Wilson, 2009, p. 23) akin to those found in make-believe play. Establishing a shared theme for play is important because it provides a "starting point for joint activity" (Göncü, 1993b, p. 186) and allows participants to apply their existing knowledge to new situations. The following subsections outline how the children generated and expanded the themes for their group play scenarios using common knowledge and interests, as well as through the exploration of drawing mediums.

Developing shared themes using common knowledge and interests. Prior knowledge and common interests figured prominently in the process of initiating and developing group play scenarios across the five group play episodes. This finding is not surprising, as the content of children's imaginative play, be it solitary or cooperative, is most often inspired by lived experiences (Farver, 1992; Fromberg, 2002). In social pretend play, children often rely on "shared knowledge about everyday activities" (Farver, 1992, p. 513) in order to develop themes and roles for their play. If a common ground cannot be established, it is reasonable to assume that children might experience difficulty entering and maintaining group play, as they may not be able to reach a shared understanding about the roles and actions involved. This theory is supported by Göncü (1993b), who states that "if there is no similarity in the experiences or needs of the players, or when the similarity is not perceived, the communication comes to an end" (p. 190). The same can be assumed for collective drawing activities because children cannot create drawings without some general knowledge about the things they want to draw (Wilson & Wilson,

2009). Just as in pretend play, themes within drawings hail from children's memories and the drawings themselves "act as playful representations of previous, present, future, and imagined experiences" (Wood & Hall, 2011, p. 276).

Knowledge of the natural world and objects. The children exhibited shared knowledge of things found in nature and other objects, which allowed them to initiate and build on common themes. Examples of this can be found particularly in play episodes 1 and 5.

Play episode 1. The theme in this episode revolved around bumblebees and beehives. Amanda was the first to mention that she had drawn a beehive, then an eager Matthew shared his knowledge of the topic by drawing an image of a tree with a beehive dangling from the leaves. In this drawing, Matthew used a typical drawing schema for the tree (i.e., cloud-like shape attached to a rectangle) and drew a large oval shape with a small circle inside as the beehive. Judging from the shape and placement of the beehive drawing, it is plausible that Matthew has seen images of beehives and/or has seen one in real life. His drawing is reminiscent of what one would typically see in a cartoon drawing of a beehive and tree (see Figures 64 and 65).

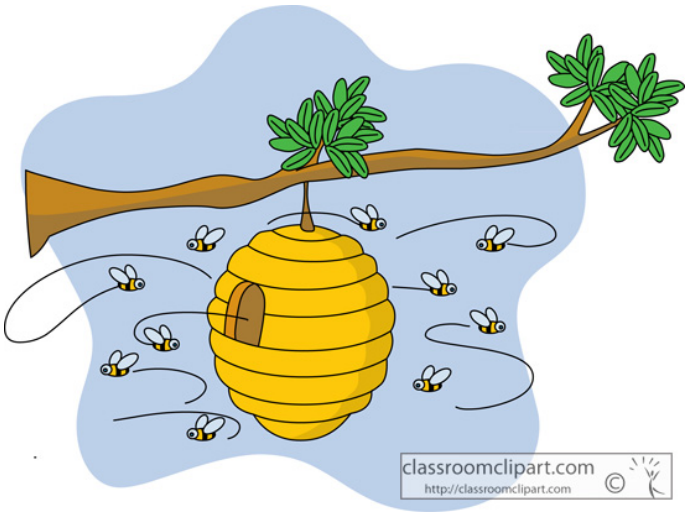

Figure 64. A cartoon rendition of a beehive hanging from a tree (courtesy of www.classroomclipart.com).

Figure 65. Matthew's drawing of a beehive hanging from a tree.

Sabrina continued the theme of trees by drawing a fallen tree, displaying her knowledge of what happens naturally to trees in the forest or when they are cut down. All of the children at the table then drew bees, showing that they understood that bees are usually found in the presence of beehives and trees. Also, Matthew and Sabrina were observed imitating bees by making buzzing sounds and flapping their arms. This common knowledge of where bees live, what they look like, and how they behave allowed the children to develop a shared theme and engage in group play.

Play episode 5. In this instance of group play, Ian and Andrew drew images of fire and wheels that eventually led to the creation of a train. At the start of the play, the boys discussed what colours make fire, sharing their knowledge of what they think fire looks like. When Andrew drew fire—first at the beginning of the episode and then at the end—he coloured rapidly back and forth, suggesting that he understood that flames move quickly.

Ian suggested adding "x-wheels" to the fire drawing to make it drive "really fast", even though they had not yet drawn any sort of vehicle to which to attach the wheels. This suggests that Ian associated fire with fast moving vehicles, possibly because he has seen movies or TV shows with cars that emit heat and fire when they are racing or moving quickly. It is clear from video games and toy advertisements as well that there is an association between fire, explosions, smoke, and fast-moving cars (see Figure 66). On the day of the observation, Ian was also wearing a t-shirt with characters from the Disney/Pixar film *Cars* (see Figure 67), evidencing his interest in this topic and also suggesting that he has prior knowledge of racing vehicles.

Figure 66. An image from the racing game Ridge Racer 3D (Namco Bandai Games, 2011), courtesy of hdwallpapers.in

Figure 67. Ian's 'Cars' t-shirt.

Ian further exhibited his knowledge of vehicles by proposing that Andrew should add lights, specifically red lights, at the "back" of the drawing. His colour and placement suggestions for the lights imply that he was referring to brake lights. It appears that Ian's prior exposure to fast cars and knowledge of their characteristics allowed the fire drawing to develop into an exploration of vehicle imagery.

When Andrew added more wheels to the drawing, Ian did not seem to approve, possibly because he wanted the drawing to represent a car or vehicle with only four wheels. Ian associated the number of wheels with a train, which Andrew confirmed by saying that, "It is a train." Whether or not Andrew actually meant to make a train, or simply enjoyed drawing wheels, is unclear. Regardless, Ian initiated a new vehicle theme by pointing out the resemblance, and even suggested adding tracks to the drawing. While collectively drawing a train track, the boys displayed their shared perception of how real train tracks look. Once Ian drew the green line, Andrew added lines that resembled railroad ties, then Ian noted that some of the ties should be bumpy, as they might be on a real train track. Andrew shared more of his understanding of train travel by adding a tunnel for the train to go through, but realized that the train they made was perhaps too large to fit into the tunnel he had drawn, so he mentioned that the train "bumped" into the tunnel instead of passing through it.

It is clear from these drawings that both boys possessed prior awareness of trains and their functions. One of the teachers had mentioned that the children watched a movie in class about trains and had discussed their features, so it is possible that the boys' knowledge and inspiration derived from these activities. In a completely unrelated drawing episode, other children were observed drawing trains as well (see "Trains" in Appendix B), further supporting the notion that information gained from classroom learning experiences may influence the content of the children's drawings and provide them with a common knowledge base to develop shared themes.

Knowledge of popular culture. Influences from children's popular culture were unmistakably present in the drawings created throughout the course of this study. The children seemed to possess common knowledge about certain characters and storylines from video games and movies that allowed them to develop shared narratives and themes in their drawings.

The influence of popular culture on children's play activities has been the topic of much research and debate (e.g., Chang-Kredl & Howe, 2010; Greenfield et al., 1990; Linn, 2008; Parsons & Howe, 2006). For example, there are mixed opinions as to whether or not media-based toys and games encourage aggressive behaviour and/or inhibit children's imagination and creativity in play (Chang-Kredl & Howe, 2010; Linn, 2008; Parsons & Howe, 2006; 2013; Weber & Dixon, 2010). Many scholars have argued that media-based play encourages the use of prefabricated storylines and "internalized 'scripts' from which it is hard to deviate" (Linn, 2008, p. 33). The limitation of this theory is that it negates the fact that children are active interpreters of knowledge and do not passively internalize scripts and images (Weber & Dixon, 2010). Weber and Dixon (2010) argue that children draw on a variety of sources to inform their play (e.g., personal experiences, movies, songs, books) and adapt images from popular culture according to the play space and opportunities provided to them. Vygotsky (1967/2004) mirrors this conception of the child at play in suggesting that:

> A child's play is not simply a reproduction of what he has experienced, but a creative reworking of the impressions he has acquired. He combines them and uses them to construct a new reality, one that conforms to his own needs and desires. (p. 11)

Similarly in drawing, children "borrow, copy, and adapt visual ideas" (Gentle, 1985, p. 85) from a combination of different sources in order to extend and enhance their creations. Wilson and Wilson (2009) note that it is only natural that media images (e.g., comics, TV shows, movies) should have an impact on children's drawings, as these are the models with which children are most familiar. They even argue that media influences are crucial for drawing development because children rely heavily on memory when creating images, and graphics that are already two-dimensional in form are easier to remember as they are "simpler and more static than actual three-dimensional objects" (Wilson & Wilson, 2009, p. 70). It is important to grant children the opportunity to use these "stored images…as raw material" (Kolbe, 2005, p. 43) in drawing, as they would use any other stored knowledge or memories, partly because these models allow children to move "beyond the basic level" (Wilson & Wilson, 2009, p. 66) in terms of drawing ability. By referring to images from popular culture, children strive to attain a level of graphic representation that is more sophisticated than their own, thus improving their observation and drawing skills (Wilson & Wilson, 2009).

In the case of this study, the children seemed to borrow themes and characters from multiple popular culture sources in order to develop their narratives and drawings. Specific examples of this were observed in play episodes 2 and 4.

Play episode 2. This episode is a prime example of the princess theme that was recurrent in the drawings produced by the girls in the class (see also "Trains" and "Disney Characters" in Appendix B). Most of the girls in the class seemed to have some general knowledge of what a princess is supposed to look like, as presented in their popular culture (e.g., groomed hair, long

dress, crown), and the types of storylines that are associated with princesses (e.g., good versus evil). This common knowledge is consistent with the movie plots and images of princesses that are generally seen in classic Disney films, such as *Cinderella* (Geronimi, Jackson, & Huske, 1950) and *Sleeping Beauty* (Geronimi, 1959), as well as newer films, including *Tangled* (Greno & Howard, 2010) and *Frozen* (Buck & Lee, 2013), to name a few. Giroux (2004) states that these films exert "at least as much cultural authority and legitimacy" (p. 164) in teaching ideals to children as schools and family members, so it is unsurprising that many of the children in the class share similar ideas of what constitutes a fairytale and a princess.

At the beginning of the play episode, Sabrina and Amanda started by discussing their knowledge of princesses. For example, Amanda mentioned that she will "do the dress" for her princess drawing, while Sabrina mentioned having to make a castle for her own princess. Amanda then introduced the theme of good versus evil by stating that she created a "bad princess" that will use magic to trap the "nice princess". This led to the creation of an intricate collaborative drawing/narrative where the bad princess used magic potions to "kill" the good princess, forcing her to fall into a state of sleep and wake up as a bad princess.

This storyline of the "bad" woman trapping or harming the good or "nice" woman is prevalent in many fairytales, most notably those depicted in Disney films. Do Rozario (2004) argues that many Disney films depict tension and power struggles between older and younger women, particularly in films where male roles and power are minimized. For instance, *Snow White and the Seven Dwarfs* (Cotrell et al., 1937) features a wicked queen who wants to poison the fair princess Snow White; *Sleeping Beauty* (Geronimi, 1959) tells the tale of a sorceress named Maleficent who places a curse on the good princess Aurora; *The Little Mermaid* (Musker & Clements, 1989) includes an evil sea witch named Ursula who uses magic to strip princess

Ariel of her voice; and in *Tangled* (Greno & Howard, 2010), the manipulative Mother Gothel traps princess Rapunzel in a tower in order to reap the benefits of her magical hair.

Considering that Disney is a "major contributor to children's media" (Towbin, Haddock, Zimmerman, Lund, & Tanner, 2004, p. 24), it is likely that the children in this study have been exposed to one or more of these narratives. Sabrina in particular was observed discussing her knowledge of Disney films with the researcher, mentioning *Cinderella, Frozen,* and *Tangled* on the first day of observation (see Appendix C for transcripts), as well as on other occasions (see "Disney Characters" in Appendix B). Specifically, at the end of play episode 2, Sabrina made several references to the plot of *Frozen* by mentioning that her princess drawing is 'Elsa' and that she has frozen the heart of the other princess (part of the *Frozen* plot). Given the similarity between the plots of Disney films and the girls' narrative, as well as Sabrina's demonstrated prior knowledge of Disney, it is reasonable to infer that inspiration for the narrative of bad princess versus good princess in play episode 2 derived in part from the girls' awareness of these popular storylines.

Figure 68. Scene from Disney's Snow White: the evil queen (disguised as a peddler) offers Snow White a poisoned apple (courtesy of disney.wikia.com).

Figure 69. Sabrina's and Amanda's drawing: the bad princess casts a spell on the good princess using magic.

Fromberg (2002) notes that it is natural for children between the ages of two and six to incorporate "emotional, moral, and cosmic issues" (p. 41) into their pretend play, including issues

of control, power, conflict, death, and concepts of right and wrong. Play acts as a "haven for controlled risk-taking" (Fromberg, 2002, p. 27) for children to experiment with behaviours and sort out complex themes they encounter in their life experiences without having to worry about the outcomes of their actions (Carlsson-Paige & Levin, 1987; Mellou, 1994). Wilson and Wilson (2009) posit that children similarly engage in this "improper behavior through drawing" (p. 33) to investigate their realities. By drawing characters that are good and/or evil, children can "plot the consequences of each role" (Wilson & Wilson, 2009, p. 33) within the safe confines of a piece of paper or other material. Taking these theories into account, the girls' exploration of sensitive themes, such as death and power, through drawing may have partially stemmed from a mutual need to make sense of these issues.

The girls also seemed to share an understanding of colours and their symbolic meanings. Hair colour and dress colour in particular played an important role in the girls' narrative, as they were the features that determined whether or not a princess was good or evil. The girls drew the original bad princess wearing a black dress, and when the good princess "died" and transformed into a bad princess, her hair colour and dress were made black as well, suggesting that the girls associated the colour black with evil and death.

This finding is in line with research that has found that the colour black commonly carries negative affective meaning for children (Burkitt, Barrett, & Davis, 2003; Burkitt & Sheppard, 2014). For instance, Burkitt, Barrett, and Davis (2003) conducted a study that investigated children's choice of colour to complete premade outline drawings of a man, a dog, and a tree. Three-hundred and thirty primary and junior school children (176 boys and 154 girls) were each asked to colour in three versions of these line drawings. The first, or baseline, version required the children to colour in the forms using only one colour of their choosing. The second, or "nice" version, required them to imagine that the man, dog, and tree were nice, and to choose one

suitable colour to complete the drawings. The final, or "nasty", version required that they view the figures as nasty and horrible, and to then choose one fitting colour to fill in the drawings. Results revealed that in all age groups and topics, black was the most commonly chosen colour for filling in the negatively characterized topics.

Historically in Western culture, black has been associated with "discouragement, despair, depression, coldness, the unknown, the haunting shadow, and the nightmare" (Anderson & Cromwell, 1977, p. 76). Williams, Boswell, and Best (1975) offer two possible theories as to why Western children adopt this colour bias, the first and most obvious being that they are raised in a culture that views white as representing goodness and black as symbolizing badness. The second theory suggests that children develop a natural "preference for white over black as a result of [their] early personal experiences with light and darkness" (Williams, Boswell, & Best, 1975, p. 506). However, we now live in an era where popular media texts exert a considerable influence on children, so it is conceivable that much of their understanding about colour meaning comes from the images that are presented to them through films, video games, TV shows, and advertisements.

Disney has been widely criticized for portraying characters of colour as "villainous or scary in many films" (Towbin et al., 2004, p. 36), and often incorporates black into their evil characters' appearances. Some examples include Maleficent in *Sleeping Beauty*, who wears a long black cape and has black horns; Scar from *The Lion King* (Allers & Minkoff, 1994), who has a black mane, as opposed to the reddish-brown manes of the other lions; and Hades from *Hercules* (Clements & Musker, 1997), who wears a black and grey toga. Research indicates that children, more so than adults, learn and recall information more accurately from video stimuli than other sources, such as print or audio formats (Walma van der Molen & van der Voort, 1998; 2000), further supporting the notion that children commonly retain the ideals presented in these

popular films. Therefore, Sabrina's and Amanda's exposure to Disney films, and other children's media, may have contributed to their shared ideology that black symbolizes evil and allowed them to collectively develop this aspect of the narrative.

Figure 70. Maleficent from Disney's Sleeping Beauty (courtesy of en.wikipedia.org).

Figure 71. Sabrina's and Amanda's drawing of a 'bad' princess.

Play episode 4. The theme of this play episode was centered around the popular video game franchise, *Angry Birds*, which is owned and developed by the Finnish company Rovio Entertainment Ltd., and was originally designed as a downloadable game for Apple's iPhone in 2009. The immediate popularity of the original game was attributed to its "cute, warm graphics, amusing sound effects and a reward system to make players feel good" (Wingfield, 2010, para. 3). The basic backstory of Angry Birds involves angry-looking wingless birds as the protagonists and "sickly-looking green pigs" (Wingfield, 2010, para. 10) as the villains. The birds are angry with the pigs because they steal and cook the birds' eggs.

Since its original release, Angry Birds has grown into what is known as a "cumulative cultural text" (Weber & Mitchell, 1995, p. 7), meaning there are "many related 'spin-off' products…that may be generated by the popularity of the original series" (Weber & Mitchell, 1995, p. 7). In addition to video games and smart phone apps, the Angry Birds cultural text now includes books, cartoon episodes, online games, toys, clothing, and other merchandise (visit

www.angrybirds.com), making it more accessible than ever to people of all ages. It appeared to be a popular text among the children in the class, as many of them seemed to possess knowledge of the story and characters that supported the development of group play in this episode.

As the children drew their images of Angry Birds, they voiced their knowledge of the popular text. For instance, Nathan mentioned there are "so many colours for Angry Birds" in the pastel box, indicating his comprehension of the Angry Birds' appearances. Kim also seemed to have a clear perception of the characters' features, as she criticized the mouth on Sadia's drawing by saying that Angry Birds "don't have this mouth," and by mentioning that she is going to colour her pig green. Sadia mentioned that she has watched Angry Birds and knows what they look like, revealing that she too possesses an awareness of their characteristics. When comparing the drawings created by the children with actual pictures of the Angry Birds, there are enough striking similarities to suggest that most of the children have retained mental images of the characters from repeated exposure to the text. In addition, the simplicity of the Angry Bird form makes it easy to remember and would likely not pose a threat to children trying replicate it.

Figure 72. Example of an Angry Bird (courtesy of angrybirds.wikia.com)

Figure 73. Kim's drawings of Angry Birds.

The children also seemed to boast an understanding of the Angry Birds storyline. When Nathan called attention to his drawing of an Angry Bird and a pig, Sadia commented that, "he take…the Angry Birds' eggs" (most likely referring to the pig). Nathan countered her statement

by saying, “No, the Angry Birds shoot the pigs,” and Matthew agreed with him. Even though there was some disagreement between the children, both parties were correct in their knowledge of the actual plot. In the game, the pigs do take the Angry Birds’ eggs, and the Angry Birds shoot at the pigs to get them back (Wingfield, 2010).

Kim displayed her knowledge of the plotline by drawing a pig that is stealing three eggs. She chose to make her drawing in close proximity to Nathan’s drawings, suggesting that she drew the pig to “steal” eggs from Nathan’s Angry Birds. This assumption is further supported by her choice of scale, as her pig drawing was considerably smaller than her previous drawings of Angry Birds, and matched the size of Nathan’s birds. Nathan then appeared to acknowledge this connection between their drawings by stating that his Angry Birds were shooting at her pig. It is safe to assume that this verbal and graphic dialogue between Kim and Nathan would not have been possible if they did not both possess prior knowledge of the *Angry Birds* story. Kim knew that pigs steal eggs from the Angry Birds, prompting her to create the drawing, and Nathan knew that Angry Birds shoot the pigs for stealing eggs, allowing him to add to the narrative.

Developing shared themes though the exploration of drawing mediums. As seen in some of the previous examples, children often have an idea of what they want to draw prior to making any marks on paper. However, in some cases, a simple exploration of the drawing medium can lead to exciting discoveries and shared themes. There are many reasons why children draw in early childhood (e.g., depicting thoughts and ideas), but some of the most overlooked and basic motivations are the sensory pleasure, satisfaction, and stimulation that come from creating different kinds of lines, mixing colours, and getting one’s hands messy (Wilson & Wilson, 2009). Piaget (1962) coined the term ‘practice play’ to refer to these types of activities where the sole purpose is the “pleasure of functioning” (p. 110). In many instances, these drawings consist of scribbles that may not represent anything recognizable to adult eyes,

but that does not mean that they are of lesser value or void of any significance, particularly to the children that create them (Anning, 1999; Kolbe, 2005). As mentioned, it is important for adults to listen to and observe the "accompanying talk and gesture" (Anning, 1999, p. 166) that occur while children draw in order to gain insight into their "cognitive processes" (Anning, 1999, p. 166).

Without any clear direction from adults, the children in this study were free to explore the materials as they pleased. In some instances, they would examine and test out the drawing mediums to see what kinds of effects could be achieved, creating marks that would inspire collaborative drawing and common themes. Examples of this were observed in play episodes 3 and 5.

Play episode 3. The theme of the collective drawing in this episode was a "rainbow world", which appeared to be inspired by the multi-coloured crayons that were provided on that day. Prior to free play, the researcher explained the materials to the children at the end of circle time, mentioning that there were "special" crayons at the drawing table. Six curious children then approached the drawing table at the start of free play to inspect the materials. Surprisingly, Katie, who did not often participate in drawing, was among them. Perhaps the idea of using "special" crayons enticed her to join the activity. She was then the first to pick up a crayon and started making large scribbles on the paper, seemingly uninhibited as she created marks using quick, bold movements.

Her initial comments on the "rainbow" effects of the crayon seemed to encourage the others to test out the crayons as well, and sparked a conversation about the colours. It was evident from their excited tones and eagerness to share their discoveries that the children took pleasure in the action of scribbling. Katie enjoyed it so much that she mentioned her intention to "colour all the paper" as she moved around the table, ensuring that the whole surface was coloured, and

rarely stopped scribbling for the entire duration of the episode. Ethan and Matthew were equally involved, using broad arm and body movements to colour the paper. The children almost appeared as though they were part of dance, similar to what was noted by Swann (2009) in her observation of children sharing a large drawing surface. Wood and Hall (2011) also note that children often incorporate full body actions and physical play into their drawing practices for the purpose of "visual enjoyment in colour use [and] kinaesthetic enjoyment in the drawing media" (p. 274).

Ethan came up with the title of "rainbow world" for their collective drawing after examining the colourful marks on the paper. It is possible that the combination of colours and the vast expanse of the drawing gave him the impression of a world filled with colour. This idea caught on with the others, and soon they were all involved in the creation of this imaginary world of fun and rainbows. Even Samantha, who remained relatively quiet throughout the episode, contributed to the drawing. Once they had covered the entire paper, Katie and Ethan sang in unison, suggesting that they were content and delighted with their creation.

The finished product did not contain any recognizable objects or figures that would suggest the depiction of a fantasy world, but it was clear from the children's words and movements that they shared an understanding of the meaning of the drawing. In this case, the act of mark-making alone was enough to stimulate the children's imagination and provided them with a common ground for creating shared meaning. This is supported by Wilson and Wilson (2009), who mention that "a line, a chance mark, [or] a doodle may call into play all sorts of fantastic drawn images" (p. 135). The pride and excitement they exhibited also support the theory that simple scribble drawings can carry a great deal of significance for children (Anning, 1999; Kolbe, 2005).

Play episode 5. In this episode, Andrew's initial experimentation with the pastels inspired the development of a fire/vehicle theme. Near the beginning of the play episode, he took a red pastel in one hand, and a blue pastel in the other and started lightly scribbling in a circular motion with both hands. Afterward, he started scribbling more intensely with one hand, mixing and layering colours overtop of each other. These actions suggest that he was engaged in practice play (i.e., simply enjoying the sensation of colouring and seeing the effects of mixing the pastel colours on black paper). When Andrew started scribbling quickly up and down with the red pastel, Ian inspected the marks and suggested making fire. It is possible in this case that Ian associated the red marks with the colour and appearance of fire and wanted to then build on this theme.

Later on, Andrew continued adding and mixing various colours into the fire drawing without creating any recognizable shapes. He chose colours, such as black and green, that are not regularly seen in a real fire. He then added scribbles of red when Ian asked him to draw red lights, instead of attempting to draw actual lights. This suggests that Andrew was more interested in the process of colouring and representing motion rather than creating realistic looking objects and forms, as is often the case with young children (Kolbe, 2005; Wood & Hall, 2011). Still, these clusters of marks and colours triggered the boys' imagination, bringing forth images of fire and fast-moving vehicles that only the two of them could perceive and understand.

Strategies for Shared Meaning-Making in Drawing

Research question #2: Based on the instances of group play found, what are the implications of collective drawing on children's development of shared meaning?

Children use a variety of strategies for communicating meaning to their peers in joint activities. Research has identified the types of verbal and non-verbal strategies children use to develop shared meaning in social pretend play (e.g., Göncü, 1993a; Howe et al., 2005), as well as

in academic learning situations (e.g., Singer, Radinsky, & Goldman, 2008). Previous studies have also alluded to the idea that social drawing activities include verbal negotiations similar to those found in social pretend play (Coates & Coates, 2006; Papandreou, 2014; Wilson & Wilson, 2009). Wood and Hall (2011) further posit that communication about the content and direction of drawings is "essential to establishing and sharing meanings and actions" (p. 274).

One aim of this study was to explore the strategies that children use to create and maintain shared meaning; therefore, the various verbal and non-verbal strategies for metacommunication and communication (Göncü, 1993b) that the children used across the five major episodes of group play are presented in the following sections.

Strategies for metacommunication. Attaining intersubjectivity within play is not possible without first establishing a mutual focus for the activity (Göncü 1993a; 1993b). As seen in previous sections, this focus most often originates from children's memories and knowledge of their worlds. However, in order for the focus or theme to be agreed upon and shared, one person must first have an interest in engaging in social interactions and then introduce the topic to the rest of the group members. This initiation of dialogue is achieved through a process known as *prolepsis*, whereby the speaker trusts that listeners are willing to communicate and assumes that they know some information "about the topic that the speaker is introducing" (Göncü, 1993a, p. 100). For instance, in play episode 4, Kim says to the group, "I'm gonna draw Angry Bird." She does not go on to explain what an Angry Bird is, or why she intends to draw one, because she assumes that the other children already know something about Angry Birds.

The aforementioned example is also a form of *introduction*, which is defined in the research on shared meaning-making as an act that introduces new ideas or elements, such as a new theme, into the play (Göncü, 1993a; Howe et al., 2005). Prior to Kim's statement, there was no specific theme in place, but immediately after her introduction, the others starting drawing

Angry Birds. Amanda did the same in play episode 1 when she attracted focus to her beehive by saying, “Look! I did a beehouse,” after which Matthew continued the theme by drawing his own image of a tree and beehive. Howe, Petrakos, Rinaldi, and LeFebvre (2005) define this specific type of introduction as a “call for attention” (p. 787), as it is aimed at gaining the attention of another person.

Göncü (1993a) found that in pretend play, children used both verbal acts (e.g., “Hey, let’s play workers”) and non-verbal acts (e.g., opening the oven door in the kitchen corner, leading to play in the kitchen corner) for introducing new ideas. However, in the case of non-verbal acts, the actions must be followed by some sort of verbal introduction in order for the children to reach an agreement about the activity, otherwise the play is simply parallel, not cooperative. Therefore, it seems that non-verbal introductions are not enough to actually initiate a shared theme. This was found to be true across the five play episodes in this study. In some instances, drawings preceded the verbal introduction, but the shared theme was only ever established after one child made a statement about their own drawing or the drawings of others. For example, in play episode 3, Katie had already made several scribbles before mentioning that the marks resembled a rainbow, which prompted the others to comment on their own rainbow colours and join in on the scribbling. Similarly, in play episode 2, the girls were both drawing individually until Amanda voiced her frustration about her princess drawing, sparking a conversation and demonstrations about how to draw a princess. This finding suggests that shared understanding in collective drawing activities cannot be initiated solely through the acts of observing and drawing alongside others; verbal introductions and agreements are required in order to advance the joint theme, and drawings act as a type of a visual confirmation of the agreement.

Strategies for communication. Co-constructing and sustaining shared meaning throughout play requires the use of diverse negotiation and maintenance strategies (Göncü,

1993a; 1993b; Howe et al., 2005; Parsons & Howe, 2013). In group drawing, children appear to use a combination of verbal, gestural, and drawing acts in order to achieve successful communication. For instance, Papandreou (2014) investigated how 4- to 6-year-old children communicate through drawing during teacher-initiated activities and found that children use "different modalities, such as speech, facial expressions, and hand gestures" (p. 90) while drawing with peers. Korzenik (1973/74), using a more controlled approach where children were asked to draw a specific word and have a partner guess what the drawing represented, found that the drawers would use gestures, speech, and drawn lines to help explain their images (if the partner did not guess correctly). Given that these studies were focused on drawings that had a particular representational goal, their examples of strategies do not offer a clear explanation as to how children maintain communication throughout instances of spontaneous group play and drawing. In light of this, a more comprehensive description of the verbal, gestural, and drawing strategies used to communicate meaning in open-ended collective drawing activities is offered in the following subsections.

Verbal strategies. Analysis of the audio data revealed that children employ similar types of verbal strategies in social drawing contexts as they do in dramatic play. In fact, several of the maintenance strategies that were coded by Howe et al. (2005) in a study on shared meaning in sibling pretend play were evident in the children's interactions across the five play episodes. Specifically, simple strategies, semantic tying, clarification strategies, and prosocial statements were noted in the data. In order to compare and make the connections between the forms of verbal strategies used in group drawing and social pretend play, examples of these verbal maintenance strategies were drawn from the transcripts. Table 1 provides definitions of each type of strategy (as used in Howe et al.) with accompanying examples from the play episodes.

Table 1

Examples of verbal maintenance strategies

Strategy type	Examples from play episodes
1. Simple strategies: not specifically used to maintain play but keep the children connected. These include:	
(a) Descriptions of action	"We have to make the wheel. We need to put every colour, so much colour."
(b) Imitations/repetitions of a partner's words	E: "Rainbow world! It is about a rainbow world!" K: "Rainbow world, rainbow world."
2. Semantic typing: adding new elements to the partner's previous contribution. These strategies include:	
(a) Extending others' ideas	S: "This is going to be the same girl." A: "Yeah, and then we need to make the house too, when she's lying down."
(b) Building on one's own ideas	S: "This is the bad one. I'll draw her." [draws silently for 11 seconds] S: "And then she's happy because she found the princess."
(c) Explanations/justifications of play actions to develop a shared understanding about courses of action or properties of objects	I: "Andrew, the lights! We have to put on the lights so he can see."
3. Clarification strategies: expression of the degree to which children agree with their partner's ideas and indications of sharing the same reference in dialogue. These include:	
(a) Questions that lead to a shared understanding or agreement	A: "Which bomb? This is the bomb?" I: "No, this one."
(b) Requests for help	S: "How Angry Birds their mouths look?" K: "Just like that."
(c) Tags placed at the end of dialogue to elicit a	A: "Or maybe we can trap the princess and

response	bring her back to the castle and trap her in the gate, and then she cannot come to the zoo. **How 'bout that**?
(d) Revisions of partner's ideas in order to express disagreement with the partner and correct the action	A: "Hey that's not a happy girl, that's a silly girl." S: "No, that's a bad girl. That's a bad princess girl."
(e) Conciliations that suggest a compromise	A: "Do a king!" S: "I am going to do Elsa." A: "You have to do a king! [pauses] Alright, you can do Elsa."
4. Prosocial statements that include:	
(a) Teaching-helping others	S: "I'm going to help you now."
(b) Social statements/actions that include being supportive, giving objects, and using "we" to indicate a joint purpose	K: "We're gonna colour all the paper!"
(c) Shared affect	K: Yay we made a rainbow world! Rainbow world! Yay-ya-yay-ya-yay-yay! E: Yay-ya-yay-ya-yay-yay!

An additional verbal strategy that was observed was noise-making, which may also be a form of enactment. Kolbe (2005) describes a scenario where two boys were scribble drawing side-by-side, while simultaneously making siren noises as they drew. Judging by their comments and noises, Kolbe determined that the boys were playing "at being sirens" (p. 14). It appears that the noises they were making not only emphasized the meaning of the marks they were creating on the paper, but also affirmed the boys' shared understanding of the theme.

Examples of this type of noise-making were found in the five play episodes. Ian, for instance, made train sounds while drawing a train with Adam, and Adam made *whooshing* noises and other sounds (e.g., "*wwwzzzrrr"*) while colouring quickly with the pastels. Similarly, Matthew and Sabrina made buzzing noises while creating drawings of bumblebees side-by-side,

and Sabrina made a "*vrroooo"* sound as she drew magic moving from one princess to another. Children make noises when they draw alone as well, but in these instances, the noises serve to communicate meaning to their partners in play. Therefore, when examining verbal strategies used in collective drawing, noise-making should be considered, and could perhaps fall under the category of simple strategies.

The overall findings of this section add further support to the notion that collective drawing and social pretend play are unequivocally linked, not simply in thematic and narrative terms, but also in the way children verbally negotiate meaning. They also suggest that children use similar verbal strategies for communicating shared meaning across different playful activities and that they adapt strategies according to the play context. This corresponds with the Piagetian perspective that children continuously adapt previous knowledge and strategies to new situations (Thomas, 2005).

A possible explanation for the similarity between the verbal strategies used in social pretend play and spontaneous group drawing can be drawn from theories on play talk. Children are aware of the differences between play and non-play situations, and adapt their language accordingly (Garvey & Kramer, 1989; Göncü, 1993b; Frost, Wortham, & Reifel, 2012), using speech "as a vehicle for indicating the play frame and its meanings" (Frost et. al., 2012, p. 35). For example, in pretend play, children use verbal cues (e.g., "Let's play doctors") that indicate the transition from real life into fantasy play, and enactment talk (e.g., "Take all your medicine") and directions for play (e.g., "You be the patient") throughout the play that maintain the state of pretense (Frost et al., 2012). Because open-ended drawing has the same free-flowing and fantastical nature as pretend play, children may be inclined to use the same type of language strategies in group drawing as they do in socio-dramatic play.

Gestural strategies. The video data revealed that children use many physical gestures while drawing cooperatively with their peers. Research has shown that gestures play a vital role in our ability to communicate with one another and construct knowledge (McNeill, 1992; Singer et al., 2008), indicating that they are also a significant factor in the development of shared meaning. McNeill (1992) defines gestures as "spontaneous movements of the arms and hands…[that are] closely synchronized with the flow of speech" (p. 11), and that often carry the same meaning as spoken words.

The use of gesture appears early in life, as children "accompany their first words with expressive gestures" (Thomas, 2005, p. 247) in order to compensate for their inability to efficiently communicate with language. Gestures and speech are known to develop together in childhood, supporting the theory that they are "a single system" (McNeill, 1992, p. 23) and serve similar communicative purposes. Into adulthood, gestures are used to convey meaning that cannot necessarily be expressed in speech, as well as information that the speaker believes to be hidden from his/her audience (McNeill, 1992; Singer et al., 2008). When combined, speech and gesture provide the listener with a better understanding of the speaker's thinking and intentions, as compared with the use of speech alone (McNeill, 1992; Singer et al., 2008).

McNeill (1992) identifies different types of gestures that each serve a unique communicative purpose. The gestures observed in the present study across the five play episodes were iconics, beats, and deictics. Table 2 provides definitions of these three types of gestures (as defined by McNeill) and accompanying examples that were observed in the five episodes of play, as well as interpretations of these gestures.

Table 2

Examples of gestural strategies

Examples of gestures	Interpretation
1. Iconics: the gesture is a representation of the speaker's mental image and the point of view he/she has taken in relation to it.	
(a) S: "The princess that I'm going to do. She's a bad one and she's going to have potions." **[makes claws with her hands]**	Sabrina makes claw gestures with her hands to emphasize that the princess she intends to draw will be evil.
(b) A: "Alright, now we're going to wipe this princess off [points to her princess], and make a princess who lies down like *that* **[gestures with her hands to indicate the direction she wants the princess to lie]** so it can be died, alright?"	Amanda gestures with both her hands to help explain to Sabrina how she wants to draw the princess lying down.
(c) S: "So I'm going to draw a big giant tree and then it's going to fall down." **[extends left arm up in the air and moves her hand up and down, then lowers her arm and moves her hand side to side]**	Sabrina uses her arm to first explain the size of her tree to Matthew, and then the direction the tree is going to fall.
2. Beats: hand movements that go along with the rhythm of speech (e.g., flick of the hand, moving fingers) with the purpose of emphasizing certain words and ideas.	
(a) M: "Yeah! Nathan is right! Nathan is right I know it!" **[puts left hand on his hip, points with his right finger upward and shakes his hand as he speaks]**	Mathew points his finger in the air and shakes his hand—almost in a scolding fashion—to place emphasis on the fact that Nathan is right and Sadia is wrong.
(b) A: "*Errr!* **[makes fists with both her hands at her sides]** I just cannot do a princess face!"	Amanda communicates her frustration to Sabrina by making fists with her hands as she speaks.
(c) A: "There we go, now she's bad! *Ah-ha-ha-ha-ha-ha!* **[throws both arms up in the air]**	Amanda gestures with her arms to accompany her laugh and emphasize that the princess is now evil.

3. Deictics: pointing gestures that place focus on objects and events in the concrete world.	
(a) A: "He bumped to here because he's so big." **[points to tunnel drawing]**	Andrew points to the tunnel in the drawing to indicate what the train has "bumped" into.
(b) N: "Is that the pig?" K: "Yeah, he takes three eggs. **[points to her drawing]** One, two, three. **[pointing to each egg as she counts]**	Kim points to each egg in her drawing to clarify what they are and how many there are.
(c) M: "Look at my bee!" **[points to his bee drawing]**	Matthew points to his bee drawing to draw the attention of the other children.
(d) A: "No, we have to make *this* girl make *this* girl die." **[points from one princess drawing to the other]**	Amanda points from one drawing to the other in order to communicate to Sabrina that she wants to visually depict the bad princess killing the good princess.

The use of iconics in these instances served as "a means of expressing conceptual information" (Singer et al., 2008, p. 367) and allowed the speakers to communicate their intentions for the direction of the drawings, providing the listeners with a better understanding of what the drawings would look like. Iconics also appeared to be useful when explaining actions that were occurring in the drawings (e.g., falling tree or princess lying down). Wood and Hall (2011) observed a child using gestures to explain his drawing of a snooker game, noting that children often experience difficulty depicting movement in drawing and thus use gesture to compensate in their explanations.

Beats seemed to be used when the children were trying to make a specific point to their partners (e.g., he is right, you are wrong) or when they wanted to communicate an emotion (e.g., frustration). Beats were rarely present within the episodes of play, possibly due to the fact that they did not appear to be as effective or necessary as iconics and deictics in terms of explaining the content and direction of the drawings.

Finally, deictics appeared to take on various communicative functions, including the clarification of imagery, getting a partner's attention, and expressing ideas for the narrative/drawing. They were the only gesture type to be observed in all five episodes of play, suggesting that pointing is an essential strategy for communication in collective drawing. Singer et al. (2008) support this viewpoint in mentioning that pointing gestures "have a referential function in that they often are used to establish a common ground and focus attention on particular referents" (p. 367), which is important for the co-construction of meaning.

Drawing strategies. Collective drawing activities afford children the opportunity to use a strategy of communication that is not generally found in socio-dramatic play: drawing images or marks that provide play partners with a concrete visual representation of ideas and meanings as they develop in real time. Like gestures, the act of drawing "lets us actually observe thoughts as they occur" (McNeill, 1992, p. 132) and can be used—either in conjunction with speech or not—as a means of developing a shared understanding between two or more individuals.

The drawing strategies observed across the five episodes of play can be categorized in the same fashion as verbal semantic typing (Howe et al., 2005). In other words, drawing was used to extend on others' ideas, build on one's own ideas, and to help explain courses of action (Howe et al., 2005). Examples of these drawing strategies from the episodes of play, along with interpretations of the drawing actions, can be found in Table 3.

Table 3

Examples of drawing strategies

Examples of strategy types	Interpretation
1. Extensions	
(a) I: **[draws a white circle]**"I wanna put x-wheels, we have to put x-wheels so it drives really fast."	Andrew extends Ian's suggestion of making x-wheels by drawing an "x" inside of Ian's drawing of a wheel.

A: "Okay, x-wheels is like this." **[takes black pastel from Ian and draws an "x" inside Ian's white circle]**	
(b) S: **[draws the body of a large bee]** M: [giggles] Wa-haha! [points to Sabrina's bee drawing] That's big! [giggles] Let me draw these! **[reaches over and draws a wing shape attached to Sabrina's bee]**	Matthew furthers Sabrina's drawing of a bee by adding a wing to it.
2. Build-ons	
(a) S: "K, so now we have to do the heart. **[draws a shape inside the torso of the princess]** Now we did the heart now. So now we have to do the ice, so now we don't need to colour this, we need to colour…**[colours part of the torso]**. See, now she frozed her."	Sabrina first adds a heart to her princess drawing, and then builds on her own idea by adding "ice" to the torso so that the heart would "freeze".
(b) I: "Let's make the tracks. I'm gonna make the tracks. **[reaches to one end of the drawing, starts making a horizontal line with the green pastel]** Traaaack."	Ian builds on his idea of making a train track by adding a horizontal green line underneath their train drawing.
3. Explanations	
(a) S: "I will do the potions, okay? The potions will be red." [reaches for the red marker] A: "Alright, and then…" S: Then it goes to right…*vrrrooo* **[draws a red squiggly line from one princess to the other]**… there."	Sabrina draws a red wavy line to help explain how the potion is being transferred from one princess to the other.
(b) S: "I'm going to do a tree like here to here to… like *thaaat.* **[starts drawing a line with the blue marker]** I'm going to do the tree like this." **[continues adding lines, creates a fallen tree over Matthew's tree drawing]**	Sabrina draws lines that help to visually explain how she envisions the tree.

Wilson and Wilson (2009) make reference to the visual dialogue that occurs on paper when two people draw together. They mention that the drawing dialogue follows an "I draw and then you draw" (Wilson & Wilson, 2009, p. 151) principle, similar to verbal dialogue where one

person speaks and the other adds to the conversation, resulting in an exchange of thoughts and ideas. Their examples focus on adult-child drawing dialogues, but the findings of this study suggest that children participate in drawing dialogues with their peers as well, using the drawing strategies mentioned in the table above to engage in this type of interchange.

It often seemed as though the children were conversing through drawing as they added to their own and/or each other's pictures, while simultaneously discussing the content of the drawings. This observation is in line with the findings of Cox (2005), as well as Coates and Coates (2006), who found that drawing with peers promotes a conversation "through drawing rather than words" (Cox, 2005, p. 119). However, the examples provided in these studies focus on children creating individual drawings while interacting with peers. The findings of the present study suggest that when children share a drawing surface, they often take the graphic dialogue a step further by adding to each other's pictures and participating in a turn-taking process that builds a shared understanding and leads to the development of a unified image.

Shared Creative Development Through Drawing with Peers

Research question #3: Based on the instances of group play found, what are the implications of collective drawing on children's development of shared creativity?

There are many ways to define creativity. Vygotsky (1967/2004), for instance, defines creative acts as any activity that results in the creation of "new images or actions" (p. 9). These differ from reproductive acts, which do not create anything new and consist of repeating "something that already exists" (Vygotsky, 1967/2004, p. 7). These definitions can be misleading because they suggest that creativity cannot develop from imitating the actions or works of others, whilst others argue that creativity is socially constructed and in a sense dependent on the reproduction and manipulation of previous knowledge (Frisch, 2006; Holzman, 2010). Social-cognition theorists posit that children's "new actions are not simply spontaneous" (Thomas,

2005, p. 150) because they actively seek to recreate and model the behaviours of others. In this sense, no actions can be considered strictly "new", as all behaviours derive—at least in part—from knowledge gained through social interactions and observations. These actions can then be built upon and adapted to "form new understandings" (Thomas, 2005, p. 149).

As discussed, children rely on memories and graphic models to create drawings and advance their artistic skills, but do not simply imitate what they have seen or heard; they transform and combine acquired information to create new ideas, narratives, and images that suit their personal needs (Frisch, 2006; Wilson & Wilson, 2009). This not only relates to the use of models from popular culture, as seen in previous sections, but also peer modeling. In other words, by observing and discussing each other's drawings and techniques, children can enhance their individual drawing skills and creative abilities. Creativity in this sense relates to the development and expansion of content within drawings as a result of shared ideas and strategies. This is the definition of shared creative development that was employed in the present study, as an extension of the definition used in Coates and Coates (2006).

Examples of sharing with peers. Consistent with previous research (e.g., Coates & Coates, 2006; Frisch, 2006; Papandreou, 2014; Wilson & Wilson, 2009), the children in the present study continuously observed each other drawing and discussed drawing themes and strategies, resulting in the creation of new imagery that was clearly influenced by their peers. To illustrate the process of creative development through observation and sharing with peers, an analysis of the bee drawings from play episode 1 will be presented, along with a discussion of the schema for drawing a princess that was shared among the girls in the class throughout the observations.

The progression of the bee drawings. Unlike play episodes 3 and 4, the bee theme present in play episode 1 was not initiated from the start of the play. The four children

(Samantha, Sabrina, Matthew, and Amanda) had each claimed a corner of the white board and were drawing different images. Matthew drew large underwater animals, Sabrina and Samantha experimented with mixing colours, and Amanda drew an unrecognizable shape (see Figure 74). The direction of the drawings changed when Amanda described her shape as a beehive, prompting Matthew to draw a beehive hanging from a tree. It was clear that Matthew was influenced by Amanda's drawing when he said, "It's a bee house, it's like that one," while pointing to Amanda's drawing. It is also safe to assume that if Amanda had not brought up the topic of beehives, Matthew would have continued drawing marine animals or something else of his own choosing.

A clear example of strategy sharing was observed when Sabrina drew a tree with a beehive that closely resembled Matthew's drawing. She called it the "baby tree", suggesting perhaps that her tree was intended to be a baby version of Matthew's tree. However, it was not simply a copy of Matthew's image, as Sabrina took the drawing a step further by colouring in the tree with a green marker. She then asked him how to draw a bee and drew a bee above her tree, as he had done, further supporting the argument that she was modeling her drawing after his (see Figure 75).

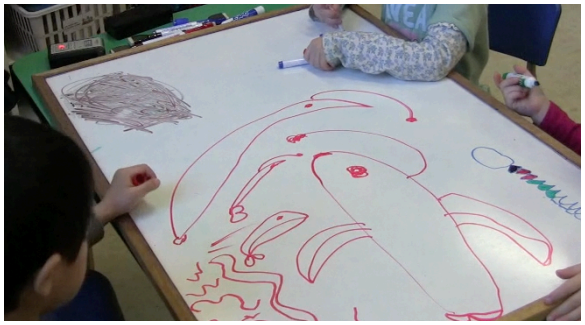

Figure 74. The children making individual drawings at the start of free play.

Figure 75. Sabrina's and Matthew's drawings of trees and bees.

Matthew is a skilled drawer and is not afraid to experiment with mark-making, therefore it is possible that his confidence and drawing ability inspired Sabrina to use his images as models

for her own. Wilson and Wilson (2009) mention that children will often emulate the drawings of peers who appear to be more technically advanced because the drawings are "closer to their level" (p. 67) than other art forms, thus making them appealing to imitate.

Amanda decided to erase her beehive and draw her own version of a bee after Sabrina asked how to draw a bee for the second time. Her drawing of a bee did not resemble the bees drawn by Sabrina and Matthew (see Figure 76), suggesting that she was not modeling her bee after theirs, but simply wanted to showcase her drawing ability. Regardless, the content of her drawing was influenced by the preceding dialogue and acted as a direct response to Sabrina's question. This is evidenced by her saying that, "I can draw a bee, look!" before returning to her place to continue drawing.

Sabrina's final drawing of a big bee displayed her ability to adapt the strategies that she had learned from Matthew to create something new. The bee had a similar oval shape as the original bee drawings, but was much larger and had more stripes. Furthermore, Sabrina added what appeared to be eyelashes to the bee's eyes, transforming the drawing into a "girl bee" (see Figure 77). The added features and creation of a female bee reveal that Sabrina modified the original drawing schema to fit her personal interests and needs, as noted in Frisch (2006).

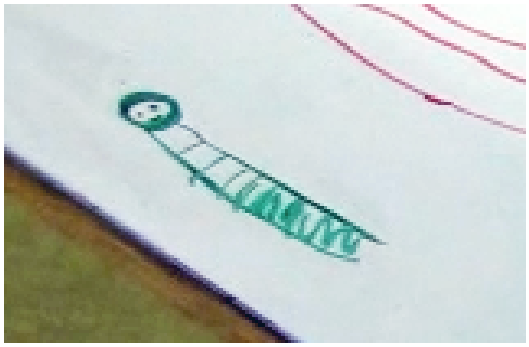

Figure 76. Amanda's drawing of a bee.

Figure 77. Sabrina adding eyelashes to her drawing of a girl bee.

The princess schema. Previous research has alluded to the notion of a "shared symbol system" (Eubanks, 1999, p. 111) or "productive shared code" (Pinto et al., 2011, p. 427) that

develops among children as a result of the social interactions that occur during group drawing activities. In other words, children adopt specific methods for drawing objects from each other that they consistently reuse in subsequent drawings. Examples of these types of symbols are the tree and bee drawings seen in the previous section, as they resemble typical drawings of these subjects one might expect to see from a child. However, in the case of this study, those symbols (tree and bee) were only observed on that one particular day. Another symbol was prevalent throughout the duration of the study and was used by different girls in the class, implying that it has been accepted as a "shared code" for this group of children. This symbol represents a princess and is characterized by a circular face, voluminous hair that feathers out at the sides, a short torso, and a long A-line dress (see Figures 78-80). The drawings are not identical by any means, but it is clear again that the children have each adapted a common drawing schema to satisfy their personal likings.

Figure 78. Princess drawing by Sadia (observation day 6).

Figure 79. Princess drawing by Sabrina (observation day 1).

Figure 80. Princess drawing by Katie (observation day 8).

The girls appeared to acquire and develop this method of drawing a princess by observing and helping each other. For instance, in play episode 2, Amanda observed Sabrina drawing a princess and asked for her help to draw a princess face. It was clear from her comments and

gestures (e.g., “Can you a princess for me like that one?”) that Amanda wanted her drawing to look like Sabrina’s princess drawing. The girls then collaborated to create more princess drawings using the same schema, but changing the features slightly according to the narrative (e.g., changing dress colour, hair colour, accessories, etc.). Near the end of free play on the same day, Sadia approached the drawing table and drew a large image of a princess using a similar schema (see Figure 81) across from Sabrina and Amanda, suggesting that she was inspired by the other girls’ princess drawings.

Figure 81. Sadia’s drawing of a princess, seemingly inspired by Sabrina’s and Amanda’s drawings.

This shared princess symbol was already established prior to the start of data collection, so it is unclear how it came about or who initiated the method. However, Sabrina seemed the most eager and confident in drawing princesses, as she drew this symbol every time she participated in drawing throughout the course of the study (6 out of 8 days). Each day, it was the first image she would create before moving on to other subjects, implying that this symbol has been coded and retained in her memory (Thomas, 2005), making it easy for her to recall and use whenever she wants. Her expertise in drawing princesses seemed to encourage the other girls to imitate her methods, as seen in play episode 2 and other minor instances of play (e.g., “Disney Characters” in Appendix B). Therefore, it is possible that Sabrina has played an influencing role in the development of this shared code among this group of girls.

Additional and Unexpected Findings

Two additional findings arose from the video and audio data that are worth mentioning due to their possible implications for practitioners and potential for future research. The first is the role of materials and set up in children's interest and motivation to participate in group drawing. It was noted throughout the data collection that certain materials appeared to be more interesting and/or more conducive to group drawing. The second is the potential of group drawing activities as a milieu for children who experience social and language difficulties to develop these skills. This is presented through a case study of one child, Samantha, who was an English Language Learner (ELL) and who appeared to be very shy, but was still able to partake in some group play, communicate her thoughts, and learn from others through drawing.

The role of materials and set-up. Wilson and Wilson (2009) propose that the selection of materials available to children will have an effect on their drawing development. They suggest providing children with materials that allow them to "achieve what they themselves wish to achieve" (Wilson & Wilson, 2009, p. 11) through their drawing. It is only through this type of child-centered and unstructured approach that children are able to "freely express themselves" (Eliason & Jenkins, 2008, p. 381). This theory was supported through the findings of the present study, as the children were able to use the materials provided to develop themes of their own choosing and create imagery that effectively communicated meaning to their peers.

Eliason and Jenkins (2008) further note the importance of alternating art materials and surfaces in order to make the activity exciting for children, which is why the present study focused on providing drawing materials that were both novel and familiar so that the children would feel confident in using/exploring the material, while still remaining engaged and interested in the activity. There did not appear to be one instance where a child was incapable or uncomfortable with using the materials provided. The only difficulties experienced were related

to the children's representational drawing abilities (e.g., Amanda's frustration over drawing a princess face), or at times the sharing of the collective drawing space.

Comparable to the findings of Swann (2009), the type and presentation of the materials provided throughout the course of the study seemed to have some influence on the children's motivation and approaches to social interaction, which in turn may have affected their development of shared meaning and creativity. In each of the play episodes, the presence of new materials and surfaces created an air of excitement that seemed to encourage the children to collaboratively explore the effects and possibilities of the drawing mediums. For instance, in play episode 3, the children seemed highly motivated and impressed by the effects of the new crayons, which encouraged them to continue the play. The play episode only lasted about five minutes (possibly due to the quick nature and goal of the play), but their body movements, comments, and facial expressions suggest that they were fully engaged in the activity, despite the short time that they were playing together.

In play episodes 4 and 5, the effects of the bright pastels on black paper and the blending of colours seemed to help maintain the children's interest in the activity. Particularly in play episode 5, Andrew appeared to be heavily invested in the act of mixing colours. The group play between Ian and Andrew lasted a little over 11 minutes, which is a long time for them to be engaged in art, as the teachers mentioned that they usually do not participate in art or drawing during free play. The fact that they were able to focus their attention on the drawing for an extended amount of time suggests that the materials and activity were engaging for them.

In the cases of play episodes 1 and 2, the white board and dry erase markers elicited a non-permanent approach to drawing that seemed to encourage the children to share the space efficiently and allowed for the creation of a continuous narrative that closely resembled a movie or storybook. It is worthwhile to mention that the longest bout of group play (over 30 minutes)

was observed with these materials, adding further support to the idea that the fluid nature of the materials allowed the play to evolve quickly enough to maintain the children's interest.

As noted in the materials section, there were two days where the researcher incorporated toys (plastic animals and foam building blocks). It was thought that perhaps these objects might encourage collaborative play, when in fact, the opposite was observed. The plastic animals were only used by one child who attempted to trace the animals, and the building blocks were simply pushed out of the way to create more space for drawing on the paper. When Swann (2009) incorporated toys into the drawing activities of young children, she played an integral role in guiding the children to connect the toys with their drawings. Therefore, it is likely that simply providing the toys is not enough; adult intervention is required in order to encourage children to play together and make the connections with drawing.

It seemed that fewer instances of group play occurred on the days when simple pencils and pencil crayons were provided. On these days (observation day 1, 2, and 7), the children mainly created individual drawings and seemed more possessive of their individual drawing spaces, possibly because they are more accustomed to these mediums, and therefore were more focused on solitary and individual expression rather than collective exploration. This observation contrasts with Swann's (2009) proposal that familiar drawing materials may be more motivating for children and can be used to encourage group drawing. Again, this may be true with more adult intervention.

On observation day 4, when the colourful Bristol boards were taped to the floor, the children each claimed a board for themselves and, for the most part, did not dare to draw in anyone else's space. In this case, although the boards were taped together to create a unified surface, the outlines of the boards were still clear and visible, which may have encouraged the children to remain within the confines of their individual boards. Still, the children were able to

observe each other and engage in conversation that led to some shared themes (see "Disney Characters" in Appendix B).

Case study of Samantha. Samantha (see Appendix A for description) experiences difficulty communicating in English, as it is not her first language. As a result, she was very quiet and tended to keep to herself at the drawing table. Her enjoyment of drawing was evidenced by the fact that she chose to participate in drawing for at least a portion—if not the entire duration—of each observed free play period.

Rubin (1977) concluded that generally, art activities such as painting and drawing require less social interaction than house play, vehicle play, and reading/number activities. It is perhaps for this reason that Samantha chose drawing over the other free play activities, which often included dramatic play and board games that overtly involve cooperating and initiating social play with other children. At the drawing table, Samantha was able to claim a corner of the drawing surface and quietly observe the creations and interactions of the other children at the table as she drew. Rubin, Maioni, and Hornung (1976) mention that children who engage in this type of observant and parallel play behaviour "may desire the company of other children but may not be able to successfully…play in an associative or cooperative manner" (p. 418). In this sense, the drawing table served as safe space where Samantha could enjoy the presence of other children without being forced to engage in conversation if she did not want to talk to her peers.

Careful analysis of the video data and photographs of the drawings reveal that Samantha was a keen observer and often adopted the drawing themes and strategies initiated by the other children, despite her lack of verbal participation in the group play. Examples of how she contributed to the shared themes, and also how the direction and content of her drawings evolved through the observation of other children, are presented in the following subsections.

Bee drawing. While the other children discussed and drew bees and beehives in play episode 1, Samantha sat quietly at one side of the white board drawing her own images, occasionally looking up to see what the others were doing. Originally, she had embarked on an investigation of colour-mixing, which led to other small drawings of what appeared to be a flower and another circular shape. However, once Amanda started drawing an image of a bee, Samantha stopped drawing for several seconds to observe what she was making. She then abandoned her drawing and started making a new picture of a bee, which included a circular head, an oval-shaped body, and two wings on either side. The last features she added were the stripes across the body, after examining the other drawings on the board, suggesting that she was using the other drawings as models for her bee. Samantha's drawing did not resemble the elongated horizontal bee that Amanda had drawn (aside from having a separate circle for the head), but did have some similarities to Matthew's and Sabrina's bees (e.g., vertical oval body, stripes, and wings). She confirmed the content of her drawing by saying, "This is the bee," while pointing at her creation. The development of Samantha's drawings can be seen in Figures 82-85.

Figure 82. Samantha mixing colours on the white board.

Figure 83. Samantha drawing a flower.

Figure 84. Samantha drawing a circular shape.

Figure 85. Samantha abandons her other drawing and makes a bee.

In this instance, it is clear that the direction of Samantha's drawing changed as a result of being in the company of other children. Prior to her extended observation of Amanda, she was not overtly drawing anything related to the theme of bees or beehives (although one could interpret the flower as part of the bee theme, and the circular shape as a possible beehive). It is plausible that Samantha felt inclined to add to the collective theme and demonstrate her drawing skills after hearing the other children boast about their bee drawing abilities (e.g., Sabrina said, "I can draw a bee all day"), or perhaps she was merely inspired by the surrounding imagery of bees. In any case, drawing acted as a way for her to contribute to the shared theme and group play without needing to verbally express herself.

Princess drawing. On the first day of observation, Sabrina and Samantha used common themes in two of their drawings, one being a princess theme (see "Princesses and Cakes" in Appendix B). At the start of the drawing episode, Sabrina sat on one side of the table and Samantha on the other. Sabrina talked extensively with the researcher about her knowledge of Disney princesses (see Appendix C) as she drew an image of a princess on a piece of pink cardstock paper, while Samantha drew rectangular shapes that she coloured in with pencil crayons, that she later described as cars. Occasionally, she would look up from her drawing and

watch as Sabrina drew and conversed with Cassandra, who also joined the table for a few minutes. Approximately eight minutes into the drawing session, Samantha flipped her paper over and started drawing a new figure without saying a word to anyone. After a minute or so, the researcher asked Samantha what she was drawing, and she replied, "I'm drawing a princess." For the next few minutes, Samantha silently alternated between drawing her princess and observing Sabrina's drawing.

After 25 minutes of drawing, both girls appeared to be finished their princess drawings (see Figures 86 and 87). Sabrina examined Samantha's drawing, pointed, and said, "Her mouth! She forgot the mouth," prompting Samantha to add an extra upturned line to the face of her princess, similar to the mouth that Sabrina had drawn in her own picture. Samantha then looked to the researcher and said, "This the baby princess and this the mommy princess," pointing from her drawing to Sabrina's.

Figure 86. Sabrina's princess drawing (observation day 1).

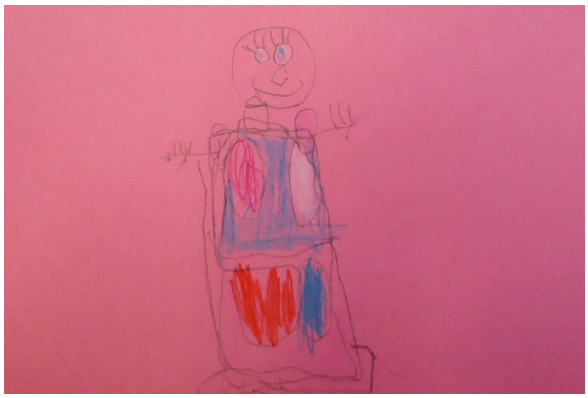

Figure 87. Samantha's princess drawing (observation day 1).

When comparing the two drawings, one can conclude that Samantha has not yet entirely adopted the schema for drawing a princess that the other girls use. Her princess drawing has a more rectangular figure and lacks hair, but does seem to possess the same face shape and facial features (e.g., eyelashes above the eyes), suggesting that she has picked up some of the techniques. Her description of the drawing as "the baby princess" may also explain why she

decided to leave out the hair, since babies do not usually have a full head of hair. It is also clear that she is learning from Sabrina, considering her careful observation of Sabrina's drawing and interest in pursuing the same theme, as well as her addition of a mouth in response to Sabrina's comment.

The teachers mentioned that they had told Samantha to observe the other children in the class when she is unsure of what to do or when she does not understand instructions. This offers a possible explanation as to why she spent a lot of time observing others at the drawing table and recreating their themes and techniques. In this instance, she progressed from drawing rectangular shapes to drawing a figure of a person. Although it would be erroneous to disregard the significance of her original shape drawing and focus solely on her development towards realistic representation, the change of theme and attempt to create a humanlike figure do provide evidence of her conceptual and technical development through peer sharing and learning. In other words, drawing in a group context allowed Samantha to hone her observation skills, acquire new drawing methods, practice hand-eye coordination, and expand the content of her drawings. In Vygotskian terms, she was able to advance within her zone of proximal development by learning from a more experienced peer to achieve a level of drawing that would have possibly been out of her reach in any other context (John-Steiner et al., 2010).

Chapter 5

Limitations

This chapter outlines the methodological limitations of the study that could be addressed in future research. First, the small sample size of children and short length of the study do not allow for a comprehensive understanding of how children create shared meaning and develop creativity through collective drawing. However, this study was designed to be an initial exploration that may serve as a basis for larger and more extensive inquiries.

In terms of data collection, the use of one audio device was not always sufficient to catch all of the verbal dialogue that occurred around the drawing table. The audio recording device was chosen over individual microphones for the children because it was thought to be less invasive and because the observations were only conducted in one area of the classroom. However, it was found that when there was more than one conversation happening at the table, one dialogue often dominated on the audio tape, so some of the data were lost from the other simultaneous conversation(s). In addition, it was difficult at times to decipher what the individual children were saying. This was partially due to the fact that some of the children, whose first language was not English, used words and grammar that were hard to understand. As such, the use of individual microphones might help to clarify their speech for transcription. If not microphones, then the use of two or three audio devices on the table would help to catch more of the dialogue.

The use of one video camera was also problematic at times because children sometimes turned their backs to the camera, or blocked the view, making it difficult to see their expressions, gestures, and drawings. Again, two separate cameras at opposite ends of the table may help to rectify this issue, but for the most part, one camera did suffice to capture most of the visual data.

The researcher's presence at the table was distracting to the children in the sense that, at times, they were more interested in talking and drawing with the researcher than with their peers.

Therefore, in order to minimize the distraction, the researcher had to move further away from the table and watch from a short distance, only returning to the table on occasion to get a closer look at the drawings. This made it more difficult to take detailed notes and see first-hand what the children were creating. In future research, it would be beneficial to take the effects of the researcher's presence into account.

Finally, this study was limited in that inter-rater reliability was not used throughout the process of analyzing the data. The researcher alone rated the data in terms of the themes and strategies used by the children. Because of the exploratory nature of this study, the findings are meant to be interpretive and can be subject to other points of view.

Chapter 6

Conclusions and Directions for Future Research

Drawing is a natural part of childhood. The fact that children spontaneously engage in drawing—either alone or with others—on a regular basis shows that it is an activity that is "tremendously important to them" (Wilson & Wilson, 2009, p. 6) and merits attention. The present study conceived of drawing as a social activity and focused on the outcomes of drawing in a group context in terms of how children create and maintain shared meaning, as well as how they develop the content of their drawings as a result of peer interactions and modeling.

This exploratory investigation demonstrated that there is far more to drawing, specifically open-ended group drawing, than is generally understood by practitioners and parents. The instances of group play through drawing that were observed (particularly the five episodes of play that were chosen for analysis) add support to the notion of drawing as an important source of sensorimotor, social, and creative development (Eliason & Jenkins, 2008; Wilson & Wilson, 2009). These findings are in line with previous research that conceptualizes drawing as more than a simple leisure pursuit or pre-writing exercise, and encourages the inclusion of open-ended drawing activities in early childhood settings (Anning, 2002; Coates & Coates, 2006; Frisch, 2006; Gardner, 1990; Wood & Hall, 2011).

The shared themes developed across the five episodes of group drawing provide further evidence of the strong connections that exist between drawing and pretend play in early childhood (Ring, 2009; Wood & Hall, 2011), and show that collective drawing can, in some instances, be a form of socio-dramatic play. The children relied heavily on their life experiences and shared knowledge to develop the content of their collective drawings, and created fantastical narratives akin to those found in social pretend play.

Tactile exploration of the drawing mediums allowed children to revel in the excitement and kinesthetic pleasure of art-making (i.e., practice play), adding to research that conceives of drawing as a form of physical play and development (e.g., Wood & Hall, 2011). In addition, the children made use of their perceptive and imaginative abilities in order to envision new shared directions for their drawings based on combinations of marks and colours on the paper (such as in the case of the 'rainbow world' drawing), providing further evidence that open-ended scribble, or "action", drawing can be beneficial and meaningful for children (Kolbe, 2005; Ring, 2009).

In terms of intersubjectivity, the present study revealed that children employ comparable verbal and non-verbal strategies for developing shared meaning as they do in social pretend play. This finding answers, in part, Göncü's (1993b) question of how other childhood activities compare to social pretend play in relation to the development of intersubjectivity. Drawing, however, differs from socio-dramatic play in that children are able to communicate meaning to their peers through the act of drawing itself, in addition to verbal and gestural strategies. In the case of Samantha, drawing acted as a way for her to exhibit knowledge, communicate meaning, and contribute to the shared themes in the absence of language skills. This implies that group drawing activities provide a rich milieu for the development of a wide range of communication skills and should receive similar attention as social pretend play in the early childhood curriculum.

The findings of this study shed more light on how children observe and learn from each other in drawing, and how they affect the direction and content of each other's imagery. Although children can develop artistically and creatively on their own, Gardner (1990) states that it is "productive to place children in contact with peers who possess more artistic knowledge" (p. 39). In this case, skilled drawers, such as Matthew and Sabrina, acted as models for other children, allowing them to acquire new drawing methods and ideas. Their drawing strategies also appeared

to influence the development of shared drawing codes that can be adapted and used in later drawings. This finding adds to previous research (e.g., Frisch, 2006; Wilson & Wilson, 2009) that proposes that children are able to advance their technical skills by emulating the drawing strategies of their peers. It is therefore important that educators provide their students with the opportunity to draw freely in the presence of other children, even if they seem to be drawing individually. In the case of Samantha, we see that sometimes children can learn from each other even when they do not verbally interact.

Children also need to be given ample time to draw with their peers. Eliason and Jenkins (2008) note that "too often art experiences become rushed, taking the enjoyment and even some creativity out of the projects" (p. 380). When given enough time to enter play and develop drawings, children create imagery and narratives that are rich and full of imagination, as seen in the princess drawings created by Sabrina and Amanda in play episode 2. They also appear to remain motivated to draw when they are able to engage fully in the activity without time restraints, as evidenced by the length (over 30 minutes) of the girls' play.

Directions for future research. Further research is required to determine the benefits of open-ended collective drawing in more structured academic learning environments and with older children, as compared with younger children in preschools. This information would be useful for generalists seeking to integrate art into the curriculum, as well as art educators who wish to encourage imagination and/or move away from traditional individual projects.

Future studies might also do a comparison of how themes and content develop in solitary drawing versus group drawing to gain a better understanding of the influence of peers and shared knowledge on drawing practices. Furthermore, investigating group play using other art forms, such as free painting or sculpture, may provide a broader perspective into the ways children use verbal, gestural, and art-related techniques to communicate meaning.

Considering the amount of controversy that exists in relation to the media's influence on children, it would be interesting to conduct further research on the effects of media-based stimuli on the drawings of children, similar to studies that have looked at the effects of media-based toys on children's pretend play. For instance, Chang-Kredl and Howe (2010) examined children's pretend play with generic toys as compared with media-based toys and found that children take on more manufactured roles when playing with toys that represent characters from popular culture. This type of controlled study can be done with drawing by comparing the drawings created in a media-based condition where children are exposed to media influences through images and books, and drawings that are created in a generic condition where no media influences are present.

Multiculturalism and multilingualism are increasingly present in classrooms worldwide, so future research might also investigate the effects of collective drawing activities on the learning and social integration of ELL students, such as Samantha. Group drawing may be a useful tool for integrating ELL students and children with other communicative difficulties into the social life of the classroom in a non-threatening manner.

It was impossible in the context of this study to conclude the exact reasons for changes in social attitude and motivation to engage in group drawing because there were many possible contributing factors (e.g., allure of other free play activities, children's comfort level with each other, general moods, etc.). Still, the type and presentation of materials seemed to have some influence on children's excitement and the kinds of drawings that were made. Therefore, more precise research may be conducted to investigate the effects of materials on children's motivation to participate in group play through drawing.

The role of gender in the development of drawing themes was not discussed, but could also be an avenue of additional investigation. The children in this study drew a lot of gender

neutral imagery, influenced both by the media and other prior knowledge (e.g., Angry Birds, beehives, trains), but there was still one clear gender divide in that only the girls were observed drawing princesses. There exists limited research on gender divides in children's drawings (e.g., Tuman, 1999), and none on the effects of gender in the development of shared themes in group drawing. Comparing boys' and girls' group drawings would add to our understanding of how children are socialized into gender roles, what values children construct and share with same-gender peers, and how their notions of gender affect their collective artistic practice.

Finally, the findings reveal that children exert various cognitive abilities in order to recall information, transform that information, and create new images/narratives. In the examples provided, they recreated and combined an abundance of remembered sources from their every day lives in order to develop shared themes for play in drawing. This was most clearly illustrated by their references to popular culture and the ways they combined visual and narrative aspects of pre-fabricated storylines with their own ideas. Therefore, future research might specifically address the cognitive benefits of engaging in group play through drawing.

Closing Personal Statement

One of my personal goals for this research was to provide information to educators that would help change the perspective of drawing as being of lesser value than other activities. In addition, I hope that this study will help justify open-ended art activities and group drawing in the minds of educators, because too often there is a focus on product-oriented art in the classroom. As evidenced by the anecdotes in this study, children enjoy drawing with others and have the ability to create amazing things with simple materials and little direction. Finally, the important message to take from this study is that drawing can be a playful and engaging activity where children can create and share meaning with each other, as well as develop a shared creativity that can lead them to new and exciting discoveries. It is my hope the children in this study, and in

other ECE environments, continue to stimulate each other's imaginations and maintain an enjoyment of drawing through group play.

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Appendix A

Descriptions of the Children

Amanda is a Caucasian girl with shoulder-length, straight, dark blond hair, and brown eyes. She is known to be very vocal and active in the classroom. She also appears to be comfortable initiating and engaging in play with other children, and often tries to lead the activity.

Sabrina is a girl of Middle Eastern descent, with long brown hair and brown eyes. She loves to tell stories and share knowledge about her favourite movies and characters. She seems to be able to focus her attention on one activity for long periods of time, as she was often observed engaging in only one or two activities for the duration of free play.

Matthew is a Chinese boy with short, straight dark brown hair. His first language is Mandarin, but he understands English very well and, although he is not fluent, he is able to communicate with the other children. He seems to be quite energetic and appears to have no inhibitions when drawing.

Samantha is a girl of Middle Eastern descent and still experiences difficulty understanding and communicating in English. She is smaller in size than most of the children, and has shoulder-length wavy brown hair and brown eyes. She is often very quiet and shy, but seems to enjoy drawing, as she often chooses it as a free play activity.

Sadia is a girl of Middle Eastern descent with shoulder-length curly brown hair, brown eyes, chubby cheeks, and long eyelashes. She is very talkative and is not afraid to voice her opinions to others. Her outspoken nature sometimes leads to conflict with the other children in the class.

Ethan is boy of Chinese descent with short, buzz-cut brown hair. He is fluent in Mandarin and English. Ethan is very easy-going and seems to get along well with most of the other children. He has been observed making other children laugh on multiple occasions. He also appears to be a skilled drawer and has a vivid imagination.

Katie is a tall Caucasian girl with short blond hair. She is talkative and assertive, and seems to love pretend play, as she most often chooses to play in the dramatic play center. She very rarely chose to participate in the drawing activities, but when she did, she was very active and involved.

Nathan is an average-sized Caucasian boy with straight, dark brown hair, and brown eyes. He seems to move around the classroom a lot during free play, and tended to come and go from the drawing table. Often, he would come and simply observe what others were doing.

Kim is a Chinese girl with shoulder-length, straight brown hair that she often wears in pigtails. She is fluent in Mandarin and speaks English with a hint of an accent. She is very mild-mannered, and was most often observed drawing/interacting with Ethan and Matthew, since they can all speak Mandarin together.

Ian is an African-American boy with buzz-cut hair. He seems to enjoy playing with toy cars and building toys the most, and rarely participates in art activities (as mentioned by the teachers). When he did participate in drawing, he focused on vehicle themes.

Andrew is a Caucasian boy with short, wavy brown hair, and brown eyes. He is most often seen playing with Ian, and also prefers cars and building toys. He seemed curious about the drawing activities and sometimes approached the drawing table to see what the other children were making, but only participated on two occasions.

Cassandra is an African-American girl with long brown hair that she often wears in multiple pigtails or braids. She is often seen smiling and laughing, and appears to enjoy the company of other children. She usually circulates the room during free play and participates in different activities. She would sometimes start with drawing, and then move on to other things after a few minutes.

Appendix B

Minor Episodes of Group Play

1. Trains – Observation Day 2

Children involved: Ethan, Kim, and Sabrina
Adult involved: Tiina
Materials: Long white paper, pencils, pencil crayons, rainbow pencils

**Note: The audio recording device did not work on this day. Video data, photographs, and field notes were used to provide the following synopsis:*

Ethan and Kim are drawing a long train together on one side of the table, while Sabrina draws a princess on the other side of the table. Sabrina observes as Ethan and Kim draw, and decides to abandon her princess drawing and make a new drawing of a train. Ethan moves close to Sabrina and adds details to her drawing, notably a smokestack with smoke coming out of it. Sabrina then continues adding smoke to her image. After the children have covered most of the surface with drawings, Tiina changes the paper. On the new paper, the children create another train drawing together, each focusing on a specific part of the train.

Ethan adding a smokestack and smoke to Sabrina's drawing.

Sabrina adding smoke to her drawing.

2. Disney Characters – Observation Day 4

Children involved: Sabrina, Sadia, Cassandra, and Katie
Adult involved: Tiina
Materials: 6 florescent coloured Bristol boards taped together on the floor, markers

The girls all take possession of one Bristol board each on the floor. Sabrina starts by drawing a princess, and Sadia follows her lead, using similar drawing techniques. Sabrina mentions that she

is drawing Elsa from *Frozen,* while Sadia is drawing Cinderella. They discuss their princesses as they draw, focusing on features, such as big dresses (and colours of dresses), capes, and hair.

Cassandra makes a drawing of a snowman that Sabrina says resembles Olaf the snowman from *Frozen.* This leads to a brief discussion about what Olaf looks like, and then Sabrina makes her own drawing of Olaf.

Once the others have left the drawing area, Sabrina and Sadia draw alone together on the floor. Sabrina starts drawing Minnie Mouse and asks if Sadia knows how to draw a Minnie Mouse. This prompts Sadia to draw Minnie Mouse as well. Again, they discuss features, such as Minnie's dress, her ears, and her bow.

Sabrina's and Sadia's princess drawings.

Sabrina's and Sadia's Minnie Mouse drawings.

3. Princesses and Cakes – Observation Day 1

Children involved: Sabrina, Samantha, and Cassandra
Adult involved: Tiina
Materials: Multi-coloured cardstock paper, pencils, pencils crayons, and erasers

At the start of free play, Samantha and Sabrina approach the art table and each choose a piece of cardstock paper and pencils. Sabrina starts drawing a princess, and Samantha a car. Cassandra joins the table and starts drawing people. As Sabrina and Cassandra converse, Samantha observes Sabrina's drawing. Soon after, she flips her paper over and starts drawing a princess as well that she describes as "the baby princess", and refers to Sabrina's drawing as the "mommy princess".

After Tiina photographs their drawings, Samantha takes a new paper and starts drawing a cake. Sabrina then says that she can draw a cake too and takes a new paper. While drawing, Sabrina

makes a point of saying that her cake is going to be different from Samantha's. The girls observe each other's drawings and comment on the number and colour of the candles they draw on their respective cakes. Samantha makes orange flames for the candles, but Sabrina does not seem to agree with this colour choice and makes her flames yellow. Shortly after, Sabrina loses interest in the theme and starts drawing other things.

Appendix C

Sabrina's Knowledge of Disney

The following conversations occurred on January 23, 2014 between Sabrina (S) and the researcher, Tiina (T), as Sabrina was drawing images of princesses using pencil crayons and cardstock paper. Conversation 1 reveals Sabrina's knowledge of Disney's *Cinderella* and *Frozen:*

Conversation 1

S: [chooses blue pencil crayon from the box, talking to T] I love only this, and this, because I love Cinderella and Elsa. Elsa's in Frozen. But she has a little sister whose name is Anna and even she will save her... You know that... she could tell... Elsa has a secret, and she could tell it to her sister, but she could tell it in her ear, because she could not tell it in anyone's ear, 'cause Anna is, is her sister. But they don't want... she doesn't want nobody to know her secret, but because every... you know that even they would be sad, because Elsa doesn't want to hurt her anymore, because when they was little Elsa does hurt Anna by accident. But then she closed her eyes because she wants to sleep.

T: You like that movie?

S: But then they go somewhere... I don't know [shrugs].

T: So why these colours?

S: Blue! Those are blue. I love Cinderella and Elsa.

T: Oh because Cinderella has a blue dress.

S: And Elsa too has a blue dress.

Conversation 2 reveals Sabrina's knowledge of Disney's *Cinderella* and *Tangled*:

Conversation 2

S: [adds a dress to her princess drawing] I had to do a big giant dress.

T: Yeah, she's got a big dress on.

S: One day I watched Cinderella, and then there was bad sisters, and they wear Cinderella's shoes and then Cinderella's broke. Even when I watch Rapunzel it was very not nice because there's a witch that wants to cut her hair when she was little, but then she cried, then Rapunzel cried.

T: Because her hair was so long and then it got cut off, that's really sad.

S: Then she cut it in little pieces and then when she didn't notice, then her mommy, it was not her mommy, it was not her mommy. She know she's not the mommy, it was the witch who's her mommy! She didn't know that because doesn't remember that she's not her mommy. But then when her friend cut hair she didn't cry, because she wants the witch to be away, so he cuts her hair when he has been waiting, then he save Rapunzel, she hug him.

Appendix D

Full Transcript for Play Episode 1 – January 28, 2014

Children: Amanda (A), Sabrina (S), Matthew (M), and Samantha (Sm)

Adult: Tiina (T)

Materials: Large white board, dry erase markers, erasers

Start time: 7:38

A: Look! I did a beehouse.

T: Wow.

A: I did a beehouse. I did a bee—I did a beehive.

T: A beehive! Very nice.

S: What's a beehive? What's it mean a beehive?

T: A beehive, it's where the bees live.

S: You know I saw Pooh even... he was going up to the tree so he could get the honey of the bees. And the bee they don't pick him [sic], he was saying (inaudible- 8:06)... and then the bee is silly and he was sneaky too.

T: Oooh.

S: He was sneaky. Eeeeh! Stop it! Going to mine [sic].

M: But I have...

A: Look! This one changed colours!

T: Wow! I can see that, very nice.

S: Stop it going to mine!

M: That is a… a beehouse. It's like that one. It's another beehouse.

S: Stop it! Stop going to mine. [starts erasing M's drawing]

M: But I... need... to draw some.

S: Because you're drawing a lot of (inaudible- 8:47). So I'm going to draw a big giant tree and then it's going to fall down and I'm going to do it right to here, and you draw where I was drawing. See you have to wipe it.

M: How bout here? [points to blank area]

S: No I want to draw right to here.

M: (inaudible- 9:15)

S: I'm doing there, there, there (inaudible- 9:16). I'm going to do a tree like here to here to... like *thaaat.* I'm going to do the tree like this.

A: Oh no!

M: Nooooo!

A: Who erased my beehive?

M: You cannot... awwwww!

S: This is another tree that falls down.

A: Who erased my beehive?

M: Only (inaudible- 9:45)... awwwww! (inaudible- 9:47)

S: I'm just wiping my tree.

M: Noooooo!!!

A: Eh! Who erased again my beehive! Who erased my beehive again? Who? Who?

S: I'm wiping my tree!

A: Who? Who erased my beehive again?

S: You have something that wipes like this.

A: I need to wipe it!

S: I will just choose something, and I'll do a bee. [draws] The baby tree! [giggles] I'm going to (inaudible- 10:39)... colour it different colours.

M: [buzzing noises] [shakes his arms and head]

S: How can you do the bee?

M: [buzzing noises] [giggles] That is a bee.

S: How can you do the bee?

M: A real bee is just like that. [points to his drawing]

S: A bee looks like that?

M: Yeah. [draws oval shape, giggles]

S: What is that?

A: A mommy?

M: No.

S: Is that a mommy or no?

M: No.

S: Not a mommy?

M: Ya.

S: It is a mommy?

A: I don't need a beehive. [erases drawing] I need something else. I need a princess.

S: I could draw a princess.

M: Aaaaaaah.

S: [giggles] I'm not laughing at your princess I'm laughing at my (inaudible- 11:34)... [buzzing noises] [flaps arms and hands] [taps M on the shoulder] [points to drawing] [giggles] [sings from low to high tone] Bee! Bee! Bee! Bee! Bee!

M: Ok! Ok! Ok!

S: Okay! Okay! [giggles]

A: Look over here. [erasing]

M: [points with marker to area that A erased]

S: How come... (inaudible- 12:06)

A: [walks over to Sa]

M: [singing a tune]

S: You know how to draw a bee?

M: I know how.

S: How?

A: I know how to draw a bee, look! [walks back over to her place]

T: You're going to draw a bee now?

A: I can draw a bee.

S: I can draw a bee all day.

A: Look how I can draw a bee. [draws a circle]

S: I'm not looking at all, I don't want to look.

M: Look my bee! [points to his drawing]

S: I will show you my bee I could draw any bees even. I'm going to choose the red. [changes markers] I could draw a bee.

A: He's sad. [draws face]

T: I can see.

M: [looks at A's drawing] No, a bee is like that. [points to his drawing]

S: A bee's look like that [sic]. [points to M's drawing]

T: But bees can have different sizes and shapes, they don't all look the same.

S: They have to be all of the same. Have to be all of the same.

M: Have two kind of... have two kind of... one kind of bee I saw (inaudible- 13:16). [makes circle shape with his hands, motions with his arms]

S: And even, see he said the bees look like this [points to M's drawing], not like that. [points to A's drawing]

A: Stop it! Stop it! Stop it!

S: (inaudible- 13:40)

A: Stop it doing that to the bee I draw!

[pause 13:45 - T intervenes to resolve conflict between S and A]

[resume 14:07]

M: I like these kind of bees. [points to his drawing] I don't like that bee. [points to A's drawing]

A: Hey, stop it.

M: But I don't like that bee.

A: Stop saying you don't like my bee.

S: I'm not saying...

A: No Sabrina, Matthew.

S: Matthew?

M: But I really don't like it.

S: [giggles while drawing] A big bee.

A: I don't like yours! [to M]

T: That's ok you guys don't have to like each other's drawings.

Sm: This is a the bee [sic]. [points to her drawing]

M: I like these bees. [points to his drawings]. But I draw one over here. [starts drawing in A's space]

T: Oooh another bee.

S: That's a bee, that's a nice bee even.

A: [erases the bee that M drew in her space]

M: You don't like my bee? [to A]

A: I like your bee, it's just- it's just I'm gonna make a princess here.

T: Ok, so let Alexia draw her princess in her coner.

M: [giggles] Wa-haha! [points to S's drawing] That's big! [giggles] Let me draw these! [reaches over and draws a shape attached to S's drawing]

S: Thank you. Look (inaudible- 15:18). [giggling]

M: [makes noises, stomps feet, and moves arms]

S: That's the mommy. [points to her bee drawing] I'll do her... [moves to draw something on the head of the bee] [giggles]. She's a girl bee.

A: Mmm how can I make a circle? [draws cirlce]

S: That's how you do a cirlce. [looks at A's drawing]

A: No that's a oval.

S: Nooo, that's a circle.

M: Yeah, that is a just a circle right? [points to his drawing]

S: Right.

End time: 15:46

Appendix E

Full Transcript for Play Episode 2 – January 28, 2014

Children: Amanda (A), Sabrina (S), Matthew (M), and Sadia (Sa)

Adult: Tiina (T)

Materials: Large white board, dry erase markers, erasers

Start time: 16:58

A: Errr I just cannot do a princess face! [makes fists at her side]

S: Well, that's not how a princess face look like.

A: Then how can I do a princess face?

S: Well because..eehhh... because I could do anything, because I growed up already.

[pause 17:16]

[resume 17:35]

A: Can you do a princess for me like that one? [points to Sa's drawing]

S: [sighs] I'm not going to do any more princesses. You always ask me and I can't... you always ask me and I can't... you always ask me and I can't. Try, and try, try, try... you can know it... after... if you don't know... and you try and try, try, if you don't know now, I could, I could help you, okay?

A: I don't know now!

S: Okay. [walks over to A] It looks white.

A: (inaudible- 18:13)

S: (inaudible- 18:15)

A: I'm wiping it because... (inaudible 18:17)

S: I'm helping you now (inaudible- 18:23). I'm going to help you now.

A: Just do the face, I ca... just do the head, I will actually do the dress, I know how to do dresses. A big one... make the same size like that one [points to other drawing].

S: That's a big one [points to her own drawing], that's a big one [points to A's circle].

[pause 18:47 - S returns to her side and continues drawing her princess]

[resume 19:27]

S: Look at my dress, it's very long, she has the long long dress, she's [giggle]... going to here. [extends line of the dress over M's tree/bee drawing] Now I'll do... what? [A looks up at S's drawing]

M: On the bug! On the bug! [points to bee drawing] (inaudible- 19:43)... dress now. Yeah!

A: Aw it's just I never learn how to do a princess! I never learn! I cannot learn!

M: (inaudible- 19:53) [points at drawing of bee/dress]

A: Then how can I do a dress? I'm gonna wipe that one off! [goes to get eraser, erases her princess dress]

S: You cannot do not like that, not like that is a dress, oh sorry Matthew. [accidentally erases part of M's drawing]

M: That's okay.

A: You did a big fish Matthew, and I cannot do her hair!

S: Well because...

M: Whaa, I'll show you. [to A, reaches over and draws something on/near her drawing. A erases it]

[pause 20:22 – discussion of unrelated topics]

[resume 21:41]

S: I'll do a "x" here, I'll do a "x" so, nobody, no princess could go here.

A: Why?

S: Because that's where the animals goes [sic], so I'll do a "x".

A: A princess wanted to come... (inaudible- 21:58)

M: I.. I have a x over here, because here is angry bird (inaudible- 22:03)... so x over here.

S: An x over here, so, so he could see the little angry bird will leave away and then when he sees some bird, he will, he will eat him.

M: Ya. (inaudible- 22:20) and I have a x over because here I have (inaudible- 22:28).

[A continues to draw her princess, adding lines inside the dress]

S: What is the little Samantha doing back on the next of mine? [sic] She doesn't understand. Look now now, look at all those x! What is all those... x... see x here!

M: [giggles] [draws a circle with jagged lines inside]

Sa: [giggles]

A: If a princess comes, what you will do? Trap her?

S: No, she will, she will... by... by the angry bird, she will fly, when he sees the person, he will take (inaudible- 23:01)...

A: Or maybe, you can trap the princess, and bring her back to her castle, and trap her in the gate, and then she cannot come to the zoo, how bout that?

S: (inaudible- 23:13)

A: How bout that?

S: Oookay. [walks over to A] I will do a castle. I can do any castle...

A: Hey, I'm... Hey I'm doing the hair first. I need to do her hair.

S: I could do any castle.

M: I can help you.

A: No I can do the hair.

S: Can you do a hair for real? Are you a girl, Matthew?

M: No, I'm not a girl. I just like to help.

S: You like the princess?

M: No.

S: [giggles] Then why do you look at...

A: [interjects] Look at her... Look at her...

M: I like a bee-do-doo. [bops up and down]

A: Look at the girl! That is my princess! [to T]

T: What did you draw Amanda? Is it a girl or is it a princess?

A: It's a princess.

T: Very nice.

S: I drawed her hai—I drawed her face.

M: Are you a doo-doo?

T: That's silly.

[pause 24:18]

[resume 24: 21]

S: I'm going to draw... I would like to draw a princess. I will do a princess... I will do her castle first. [holds marker in her hand, moves it in a circular motion over the board before starting to draw]

A: I made a bad princess, you could do... and trap... and the bad princess will have magic to trap the nice princess. [continuing her princess drawing. S drawing a castle]

M: Uh uh oh, uh oh, (inaudible- 24:42), uh oh. [draws something on S's drawing]

S: No, stop it.

M: Uh oh.

S: [erases M's addition to the drawing]

M: Make it go away now. You're scared (inaudible- 24:58)…so she run away.

S: Because there's a princess.

A: The princess is coming, she just needs to brush her hair!

S: But that's a bad princess. [looking over at A's drawing]

A: What?

S: The princess that I'm going to doing. She's a bad one and she's going to have potions. [makes claws with her hands] She's going to... then she's going to do it...

A: [interjects] Let me see the bad princess.

S: [walks over to A] Well it's going to be next to yours.

A: Eh, are you going to put it on top of her hair?

S: [giggles] Nooo! I'll do it right here [points to blank area beside A's princess]... I'll do it right here.

[pause 25:45 - A continues colouring in her princess' hair, S inaudible, M making noises]

[resume 26:03]

A: But this is the nice one. [points to her princess]

S: This is the bad one. I'll draw her. [moves over and starts drawing in the blank space]

[silence for 11 seconds while they continue to draw]

S: And then she's happy because she found the princess. [points to A's princess]

A: Hey that's not a happy girl, that's a silly girl. [observing Sa's drawing]

S: No that's a bad girl. That's a bad princess girl.

A: Then do her dress!

S: Stooop! [giggles, as M reaches over and draws in her space]

A: Do her dress.

S: That's a bad, bad dress.

A: Are you gonna do inside her hair?

S: I'm going to colour the hair, it's all black.

A: And mine is going to be all black too!

S: No, because that's her, her hair... was... you know, that when she was a baby, she would have green hair and then she growed up [sic] she had green hair still, and then what happened, is that witch taked her in [sic], so, so, it changed to black.

A: Or maybe I'm drawing this girl black, because when she growed up [sic] she had red hair, but now... but, but when you are doing the bad princess, the bad princess turned her... her... her hair black, the bad princess. And then... and then the nice princess died when she had black hair.

S: What, the bad princess?

A: Yeah. When the bad princess puts black hair on the nice princess, then the bad... then, then, then, then, then, then, then...when the princ... when the bad princess puts a magic potion what makes her the nice princess [sic] with black hair, then, she will die when she has black hair... the... the nice princess.

S: But she already put potion on her.

A: No, you have to... you actually need to colour the dress just like me. [points to her drawing]

S: She will be all black [motions up with her arms] ‘cause she’s a bad one.

[pause 28:32 - Sa colouring her princess’ dress black, A adding black inside her princess dress as well]

[resume 32:05]

S: Her hair’s all white [starts erasing the black hair on her princess], like Elsa… because I'm going to do her Elsa. [erasing current "bad princess"] I'll never do a bad one.

A: You will never do a bad one?

S: No because I will do her Elsa, I will do her to Elsa [sic]. [starts re-drawing princess figure,

makes new hair] [giggles]

A: [giggles]

S: This is (inaudible- 32:42).... it's Elsa. But she has a white hair, so she's Elsa and she has magic potions...

A: And she's going to die, the nice one?

S: No, she didn't die this one, she was, just, just, just... because she hurt her... she just wants to sleep.

A: I wanna.... I want to make her die. I want to make my princess die.

S: So we have to wipe her. [makes erasing motions over the drawing]

A: No, we have to make *this* girl, make *this* girl die. [points from one drawing to the other]

S: How? No, I will do the potions, okay? The potions will be red. [reaches over and picks a red marker]

A: Alright. And then...

S: Then it goes to right... *vroooooo* [makes high pitched noise as she draws a red squiggly line from one princess to the other]... there.

A: Alright, now we going to wipe this princess off [points to her princess], and make, and make a princess who lies down like that [uses her hands to motion what she means] so it can be died [sic], alright?

S: K, let's wipe now. [starts erasing]

A: And then make the same girl lying down, and... and...

S: This is the same girl, this is going to be the same girl.

A: Yeah. And, and we need to make the house too, when she's lying down, alright?

S: Why?

A: Because, remember, the witch brings the girl to her house, and then, then the witch makes

her... very very bad to get the other people. Alright? Right?

S: Right. Then, when she does that, she will die. She will... and then when she gets up, she will be bad one, then she will get another nice girl. Then, when they die her [sic], she will...she will get up, and then she will be bad, then they [bops up and down, moves hands, makes noises]... then all the nice girls are going to be bad.

A: Yeah, *ding-ding-di-ding-ding! ding-ding-di-ding-ding!* [sings]

S: [sings simultaneously] *Ding-ding-di-ding-ding!* [shakes hips, dances] Look! [shows A her hand]

A: That's right!

S: [giggles]

A: Now, now we need to erase the other things, the other things over there [points to other side of the board] and make a house, and the princess died. Because...

S: There is a house. [points to her previous castle drawing]

A: Alright, alright, alright. [walks around the board to the other side beside S]

S: [erasing castle] That's for the bad princess. So I'm going to wipe it now.

A: Why?

S: Because I don't want the princess, because the bad princess will be all day long out... 'cause she's a bad princess.

A: No, we need to... we need to make her... make... no, we need to make the nice girl lie down here. [walks back over to the other side, points to blank space on the board] We need to wipe this, this thing [points to red squiggly line]... we need to wipe this thing, this red thing, then make her lie down. That's the plan.

[S walks over with more markers]

A: I'll go get some more wipes thingys [sic] [goes to the other side of the table and gets an eraser,

comes back and starts erasing the red line]

S: Nooo, don't wipe the powers of her [sic]!

A: Eh, bec*aaause* we need some space! *Fooor* the princess to lie down.

[S draws a circle for head]

S: There we go, now the face is like there, that's (inaudible- 36:14)

[M reaches over and draws two dots inside the circle]

A: Eeeeeeeh!

S: Eeeh!

A: I will wipe that! [erases one of M's dots]

S: Wipe another one.

A: Ya.

[M reaches over and wipes the other dot]

S: K, now now now... now we have to close her eyes, now we have to do like this, like this, then we don't colour! [starts drawing inside the circle] Let's colour her eyes in because she's died [sic].... because her eyes was out [sic], she was like this [brings her hands up to her face], and then she died, like closing her eyes, like closing...

A: [interjects] Yeah, but we need to actually make her *doowwwn*, her down (inaudible- 36:58). Because, she's closing her eyes. [adds to the eyes]

S: Yes, because she's closing her eyes, so we have to do like this. [brings her fingers up to her eyes]

A: So she's... so she's... [draws a mouth]

S: Why she's look like that?

A: Because she needs to have lipstick! [finishes the lips] There we go.

S: Now we have to do... now we have to this now. [takes blue marker and adds a line to the

drawing]

A: Now we need to do her dress.

S: Now we need to do like *thiiis*...

A: The same dress like when she was up, opening her eyes [makes her eyes wide, brings her fingers up to her eyebrows]

S: Okay, so that's now... I don't remember just what colour you want.

A: I... I remember. [takes green marker]

S: Colours are green?

A: Ya!

S: And then it's the black and green, black and green, black and green. [A starts drawing with the green marker] A princess has a t-shirt like this. I mean, a t-shirt like that, and this [motions in the air with the marker she's holding]... and she does the sleeves. And then she close her eyes and she dies.

[pause 38:18 - Sa argues with M over sharing markers]

[resume 38:32]

A: Look! [points to the body that she drew]

S: Yes, she is look like this. Let's, let's do her... hey let's do her...yes...

A: Her heels! Her heels! [draws heels]

S: What... what is that?

A: That's her heels *youu*.

S: What is her heels?

A: Heels is for... she died remember?

S: Yeah, okay, so now we have to do like... [starts drawing squiggly lines across the body/dress]

A: I'll do the black! Where's the black?

S: Here is it. [hands A the black maker]

A: I'll do the black. You'll do the blue. Right?

S: Then you're going to do green and... and blue. Green and blue. I mean, green and blue. I mean, green and black. Green and black, green black. So you have to choose this here.

A: No, green, blue...green and black and... green and blue and... black. [colouring in the dress]

S: Yes, green and black. Green and blue, black, green and blue, black, green and blue, black, green and blue, black. Green and blue and black. [helps colour in dress]. Black here... k, green and black. Green and black. Green and black. Green and *blaaack* and *bluuuue*. Yipppee. Wait, wait you're colouring all of them. [pause while colouring] Green and black, green and black. (inaudible- 40:33) [humming]

A: We finished her! Now we just need her hair.

S: Now we need her hair to be cute, and then she's, then she's baaad [whisper]... then she will be bad. The bad person died the nice person so when she wakes up she will be bad then the nice person she will... not die.

A: She still has black hair.

S: Yes, she still has black hair. She still...

A: [interjects] And then when... and then when she actually wakes up, we need to make her wake up, alright?

S: Yeah, we got to wipe her and then we got to do her eyes like this [motions with hands] and then do her angry, right?

A: Yes.

[pause 41:28 - A continues to colour the hair of the new princess black]

[resume 41:54]

A: We made a new princess. After we made the princess wake up, and then the bad princess

made her lay down.

T: Wow, let me see. Very nice.

A: And her eyes are closed.

S: Because, because, because, she made her to be died [sic] [points from one princess to the other], then she's going to be bad to she can died another princess [sic].

T: Ah, I see.

A: This is bad, this is bad. [points from one princess to the other] Because she will wake up and be bad.

S: And then there's another princess that's nice and then she will be bad then, after when she dies.

A: Yeah. [continuously colouring in the hair of the new princess]

[pause 42:31 - Conversation with T about the audio device]

[resume 43:04]

A: I did her hair, I did her hair.

T: So is she sleeping now?

A: No, she's not sleeping, she's di...

S: She died.

T: She died? How'd she die? How did the princess die?

A: That's the bad witch. [points to the princess figure on the left]

T: The bad witch.

A: You know when she was wake up, Sara did like this. [picks up red marker, draws a squiggly line from the 'bad witch' to the other princess] That's to try and make her bad.

S: That's the magic powers.

T: Ah, I see.

A: Yeah, to make her bad. [erases red line]

S: Then the magic powers will make her to be bad.

A: She will use the magic powers again, she will use different powers the bad princess to make her bad, this girl. [points from one princess to the other]

Alright, alright. Alright let's actually wipe her off, so we can make the *baaad princeeesss*. [erases the princess on the right]

S: Yes. [helps to erase the princess]

T: Now she's gonna wake up and she's gonna be a bad princess?

A & S: Yes.

T: Oh, I see.

S: Because she's a nice princess but now she's a bad princess.

A: Yup!

S: Yup

A: Alright I've got the red! I've got the red! I've got the red!

S: Okay, so I'm going to do...

A: I've got the red so I need to do the magic powers. Alright do the head you silly. One. I'm waiting.

S: There.

A: Do the eyes you silly I'm still doing the red. *Twooo*. Hey, I'm waiting for you. [pause while Sa draws the head/face of the new princess] Why she's not *baad*?

M: Can I tell you something? That snake has magic powers too. [points to his drawing]

S: No because she has a *lot* of magic powers. [points to princess on the right]

M: That snake too. [continues drawing]

A: Three...sorry...*twooo*... [drawing red squiggly line, one piece at a time]

S: Wait, wait. [draws something] There, now she has to have a black dress. Now she needs a

black dress.

A: Yup.

S: Yup. [giggles] Yup. [giggles] Yup, yup, yup, yup, yup, yup. [bounces up and down]

M: This snake has magic powers.

S: No because *she's* the one who has magic powers. [continues drawing new princess]

A: [laughs] Now to wipe the red, because she's already bad, but she's still gonna be bad and wake up.

S: Now, she's a bad one, now she's waking up.

A: [laughs] We need to make her, we need to make her hair black.

S: I know that, I'm going to do her hair black.

A: I'll do her black hair, alright?

S: I'll do her black hair.

A: No I will.

M: But that snake is nice. [points to his drawing]

A: I will! Now give me that so I can! So I can! Eh me! [tries to take marker from S]

S: [giggles, holds marker away from A]

A: Eh!

M: How bout this black? [offers black marker to A, but then takes it back]

A: Give me it! [pause] Alright, I'm not gonna have it.

S: Yes, you're going to have it but then I'm going to let this be [points to part of the drawing] so then colour this [points to another part]. It's the way you're going to colour it. [gives A the black marker so she can colour the other half of the hair]

[pause 46:57 - A colouring in the hair black]

[resume 47:10]

A: There we go, now she's bad! *Ah-ha-ha-ha-ha-ha!* [laughs] Now we have to do her hair. [points to other princess]

S: Why? She doesn't have a colour hair.

A: Alright.

S: She doesn't want a colour hair.

A: [laughs] Now we need to actually... now we need to make another people [sic] [gestures with hands], so that girl can make the other people, right? *Eeeee, eeee.*

S: She has a dress like a bad dress, 'cause she's...

A: [interjects] Well we need to make another... another... another... we need to make the king here, so.. so.. alright? Make the king.

S: I cannot do a king, I cannot do anything. I could do only a king even...I could do a king, I'm not joking, I could. I could do a king because I learned how to do king by Elsa, because she has one like this [gestures with hands] so I learned about this...

A: Alright, do a king. Do a king.

S: I am going to do Elsa.

A: Eh, you have to do king! [pauses] Alright, you... alright you can do Elsa.

S: Okay, so I'll do this hair like this [starts drawing], and then do like another thing...

A: [interjects] This is the witch. [looks up at Sa, points to princess on far right] This is the witch. Now this girl is gonna make Elsa die. This is Elsa...

S: [interjects] No, because Elsa has a lot of powers she could...she has ice, so she's (inaudible-48:44)... she's gonna froze this heart and this heart because she's gonna... frozen the heart. [points to drawings, gestures with her hands] And then we have to do like this... [starts drawing something]

A: [interjects] No, this is the nice girl, so she's died.

S: K, now we have to do the heart. [draws] Now we did the heart now. So now we have to do the ice, so now we don't need to colour this, we need to colour... [colours part of the drawing] See, now she frozed her, Elsa frozed her heart, not this heart, [points from one part of the darwing to the other] so she's always... peoples die [sic]. But she is a nice girl, and she could froze anyone's heart [sic]. Remember when she was angry?

A: Who angry?

S: With Elsa?

A: This girl? [points to princess drawing on the left]

S: With Elsa. Remember when she was angry so much?

A: Yeah I remember. But she's a nice girl! Why Elsa just died her [sic]? She's a nice girl. I'm going to make the white over here.

S: No because she doesn't need the white hair. Because she's a nice... she's a nice girl and she could have any powers. [drawing new princess figure on the left] Now she needs a cape.

M: Sabrina! Do you know...this magic potion...

A: Alright now I'll do inside. I'll do inside her.

S: That's the cape. [points to the drawing]

M: Sabrina, Sabrina... [taps Sabrina on the shoulder] You know...

S: No, she doesn't need a colour.

M: Sabrina! [motions towards her again]

S: What?

A: I'll do her cape. [starts drawing with red marker]

S: No her cape is purple. Her cape is purple.

A: But how can we have purple? [looks around table]

S: Her cape is all purple.

T: Well what do we need to make purple? I think maybe you can try to mix those two colours. [hands them blue and red markers]

A: Okay. [starts colouring with red first]

T: So who's this one now? [asking about new princess figure]

S: That's Elsa. Elsa has a purple cape.

T: Is she a good princess or is she a bad princess?

S: She's a nice princess, and even she's angry.

A: It's making purple! [colours over the red with the blue marker]

S: We need a lot of red. [adds red] So now we need blue now. [switches to blue marker]

[pause 51:28 - girls continue colouring in the dress and the cape for several minutes, having minimal discussion about colours, S finishes colouring]

[resume 54:43]

S: Now we need to wipe Elsa, because now she died. Now Elsa died.

A: Yeah from this girl. [points to middle princess]

S: And this girl. [points to far right princess]

A: Yeah.

S: Now she needs another girl... Now we need to colour Elsa. [erasing Elsa, gets distracted and leaves table to talk to T]

A: Eh! Eh! Are you gonna do her... are you gonna do Elsa died [sic]?

S: Yes I am just wait. Have to wipe everything. [starts erasing other side of the board] 'Cause we have to colour everything now. [erases all around the drawing as well]. Let's wipe the bees. Cause the bee... now the bee we cannot have.

A: *Heeey*! Sadia made a big princess! [Sa has joined the table and is drawing another princess on her own across from A]

Sa: Stop looking at mine!

S: We're looking at yours because we like it.

Sa: No! Don't look at it. [covers her drawing with her arms] Stop!

S: She's doing a big giant princess...

Sa: Stop!

S: Because I like it! Because I like so this why I'm looking at it [sic].

End time 56:25

Appendix F

Full Transcript of Play Episode 3 – February 6, 2014

Children: Nathan (N), Matthew (M), Sabrina (S), Ethan (E), Katie (Ka), and Samantha (Sm)

Adult: Tiina (T)

Materials: Long white paper (edges cut into a wavy pattern), pencils, special Crayola crayons (multi-colour), and crystal shaped crayons.

Start time: 00:00

Ka: [scribbling] Wait that's not... oh ya, it's rainbow. You see it?

E: [also drawing] Stop! You can't...

T: [interjects] Don't worry you guys can cover the whole paper 'cause then we make a new one.

Ka: Yeah, we're gonna cover the whole paper with these colours. [continues scribbling]

M: I have so many colours! [picks up a crayon, starts scribbling] Whoooaaa! Whoooaaa! Look at mine! [still scribbling] Look at mine! Nathan!

Ka: We're gonna colour all the paper. You can draw on the new paper Sabrina. [S drawing next to Ka]

N: She has a colour one! [looking at Sm's crayon]

M: I have one. [shows N his crayon]

Sm: I have a rainbow one.

E: Me too.

Ka: Yeah we're gonna colour all the paper!

M: [moves his legs up and down while colouring] *Woo-wo-woo-wo.*

E: [moves over to the other side of the table beside M]

N: Don't colour mine! [looking up at Ka]

S: (inaudible- 1:07) [head down, frowning]

Ka: But we have to colour... but we're just gonna colour [colours over S's princess drawing], you can draw on the other one.

S: [mumbles in a high pitch tone, stops drawing]

Ka: You can colour on the other paper.

S: Noooo.

E: You can colour on my side. [points to the other side of the table, S walks over to the other side, E is scribbling as well]

M: [makes noises and continues to scribble]

E: This is like a rainbow! [looks down at the scribbles]

M: Yeah!

E: Rainbow world! It is about a rainbow world!

Ka: [quietly] Rainbow world, rainbow world. [scribbling]

M: [singing a tune and moving his feet as he colours]

Ka: [moves to other side of the table in between S and Sm, continues scribbling]

S: Don't colour mine! Stop it...

Ka: But we're gonna make a rainbow world! Wait, we have to put this up [moves the crayon box] nothing is there. [continues scribbling]

M: I want the shiny one. [takes new crayon from box, colours, hums a tune]

Ka: This one is not working...[puts crayon in box, takes a new one and starts colouring]. This one.

M: I want to draw something. [starts drawing in the middle of the paper, N observes]

E: [making large scribbles, looks up at T, points to paper] Look at my drawing... it's a rainbow world.

T: Rainbow world!

Ka: Yeah we're gonna make a rainbow world. [reaches over and colours near E]

M: It's the big fireball! [observes new drawing he has made]

N: Okay, okay, but that's a Angry Bird fireball, right?

M: Yeah!

N: And it could shoot the pigs.

M: Yeah.

Ka: There, there, there... we're gonna make a rainbow world. [still colouring everywhere]

N: And it has sharp teeth.

M: Yeah, and have teeth and then... [moves his fingers in front of his face, makes a chomping sound, then continues to colour over the other scribbles]

Ka: Tiina, can you put this up for minute? We need to colour under it. [points to audio device]

T: Yeah, you can move it to the side. [moves device, Ka continues to colour in blank space]

Ka: Okay now you can put it back, you can put it back now.

M: Rainbow wooorld!

E: This is called rainbow world. [still colouring, stops, goes to get a new colour]

Ka: Tiina, you can put it back now.

M: Rainbow. Rainbooooow. [colouring]

E: This is called fun world! [colouring beside M]

M: And this is called...Rainbow world!

E: Fun world! [moves to the side, reaches over to start colouring in front of M and N]

M: Nooo! That is my fireball! [Ka reaches across and starts colouring there too]

E: (inaudible- 3:41) [leaves the table]

Ka: [continues to reach over and colour in front of M and N]

M: Do not colour mine!

N: Heeey!

M: Heeeey!

Ka: But we'remaking a rainbow world!

M: No. [continues drawing]

N: Matthew, look that's the sharp teeth. [drawing]

Ka: [continues to colour over their area]

M: Nooo! [screechy voice, pushes Ka's arm away]

Ka: Matthew, but we're making a rainbow world.

M: No, you cannot. [continues to push her away, but she continues colouring over every area]

E: [returns to the table, says something to M in Mandarin]

M: [responds to E in Mandarin, they continue to converse for a few seconds. Ka still colours.]

Ka: [stops colouring for a few seconds, turns to the class, turns back to the table] Yay we made a rainbow world! Rainbow world! Yay-yay-ya-yay-yay!

E: [joins in] Yay-ya-yay-ya-yay-yay! [moves around to the other side of the table, sing singing the tune, and colours in the corner]

End time: 5:05

Appendix G

Full Transcription of Play Episode 4 – February 10, 2014

Children: Nathan (N), Sadia (Sa), Kim (K), Matthew (M), and Andrew (A)

Adult: Tiina (T)

Materials: black bristol board, oil pastels

Start time: 00:02

K: I'm gonna draw Angry Bird. [mumbles] (inaudible- 00:05)

Sa: Me too I'm going to draw Angry Bird.

N: What are you drawing?

Sa: Angry *biiirrrd*.

K: I was drawing too. I'm gonna draw...

N: There's so many colours for Angry Birds. [picks a pastel from the box]

[pause 00:22 - all individually drawing Angry Birds]

[resume 1:12]

Sa: How Angry Birds, their mouths look? [leans over and observes what K is drawing]

K: Just like that. [mumbles] (inaudible- 1:18) I wanna draw another Angry Bird.

[abandons her first drawing, starts drawing another one to her right]

M: [enters the scene] I want blue. [takes blue pastel]

K: Matthew is gonna draw a angry birdie.

N: Look I made a pig and a Angry Bird. [points to his drawing] Look at mine!

K: (inaudible- 2:01)

Sa: I know this one, the piggy, he...

N: That's a piggy!

Sa: He take the, the, the, Angry Birds' eggs.

N: No, the Angry Birds shoot the pigs!

Sa: Nooo, the pigs...

M: Yeah! Nathan is right! Nathan is right I know it! [puts left hand on his hip, points with his right finger upward and shakes his hand] I just see it, you know that!

Sa: Stop screaming at me!

M: It's 'cause you don't know, that shoot the piggies... don't know that [sic].

[pause 2:37 - all individually drawing]

[resume 2:51]

K: Hey! You do my Angry... Angry Bird not like... Angry don't, don't have this mouth! [points at Sam's drawing]

M: Them have this [sic]!

Sa: I need a different one.

M: Them have these! [draws something] Them have like that, right? [left hand on his hip, back to the camera]

Sa: I watch them and I see them like this.

[pause 3:13 - T comes to roll up the girls' sleeves, all individually drawing]

[resume 4:25]

K: Is this a pig? [looking at M's drawing]

M: No.

K: A house?

M: It's a Angry Bird...is like that.

K: The black bird? Is this a black bird?

M: No. [lifts arms up, makes claws with his hands, explains something in Mandarin]

K: [responds in Mandarin]

[pause 4:56 - all drawing individually]

[resume 11:39]

N: I'll make a big red bird too. I need some red. [walks around K, reaches into the pastel box]

M: I have the red. [hands pastel to N]

K: I have the red. [shows her pastel to N, takes the other pastel from N]. This is...Look... [shows pastel to M]

M: *Awww*. Mine is red too, 'cause see it!

K: Red orange! [points to M's pastel]

M: Oh, I have the orange. [shows pastel to N]

K: Red orange! Look [takes pastel, points to the side of the pastel], red orange.

[pause 12:00 - all drawing individually]

[resume 12:28]

N: I'll make orange bird [takes orange pastel, goes back to his corner].

M: [takes white pastel from box] White bird.

N: Do you know orange bird? Kim, do you know orange bird? He could be bigger than red bird... big red bird.

K: Nooo.

N: Why?

K: Because she was big.

N: Yeah, he's big.

K: He can do... (inaudible- 12:49). [colouring with red pastel] Look, this is a big red bird. He, he is big.

[pause 12:59 - K and M speaking Mandarin to each other, N moving in and out of scene]

[resume 14:35]

N: Big *reeeed birrrrd*. [draws with pastel beside K's drawing]

K: [points to N's drawing] This is not a red bird.

N: No this is big red bird.

K: No big red bird's big!

N: And big red bird is also too... is, is big.

K: But, you don't have place? [colouring her red bird] You don't have place you can... you need to do smaller [stops colouring, points at N's drawing, N still drawing] That's not like I made it.

M: [says something in Mandarin]

N: All the angry birds crash into that pig. [points to part of his drawing] Pink bird! Pink bird! You know, you know...

K: [points to part of N's drawing, interjects] Angry birds have smile? [points to one of N's birds, giggles]

N: Angry bird has smile! [K continues colouring, N leaves the table]

M: Angry have a beak?

K: No!

M: [laughs]

[pause 15:45 - K and M conversing in Mandarin, N comes back to the table, A also joins the table]

[resume 17:23]

N: White bird is sick. White bird.

A: White bird? Where is the white bird?

N: White is bird is an angry bird. Can I have white? [reaches toward the white pastel in front of K]

K: Yeah.

N: I'm making white bird. [starts drawing beside K with white pastel]

M: Pink bird...pink bird is sick so... [draws with pink pastel, does not finish what he was saying]

[pause 17:50 - K and M exchange words in Chinese, N draws silently]

[resume 18:33]

N: I did all the Angry Birds, see?

K: I'm gonna do too. He can, he can punch them. [points to her big red bird, starts drawing a smaller figure near N's drawings, N leaves the table again]

M: *Biiiig*, big!

K: Look the piggy! [points to drawing she just made, continues adding to the image] This his hand. Looks he takes three eggs! [looks up, points to her drawing]

N: [returns] Is that the pig?

K: Yeah, he takes three eggs [points to the drawing]. One, two, three [pointing to eggs].

M: Look there's four! [reaches over table, points to K's drawing]

K: No, this his hand. This his hand, takes the eggs.

N: I wanna see! [leans over K's drawing] One, two, three... [counting eggs with his finger]

K: No, this his hand! One, two... this is his hand, and this is the eggs.

N: The Angry Birds are shooting this pig.

K: I'm gonna make him green. [takes green pastel, colours in her drawing]

End time: 19:39

Appendix H

Full Transcription of Play Episode 5 – February 10, 2014

Children: Ian (I), Andrew (A), Matthew (M), Kim (K), and Nathan (N), Samantha (Sm)

Adult: Tiina (T)

Materials: black Bristol board, oil pastels

Start time: 17:52

I: I'm gonna use red. [chooses red pastel and continues drawing] Then I'm going to use some blue.

A: [chooses another pastel, starts colouring right next to I's drawing. Whispers something inaudible, takes the blue pastel from I, and continues drawing]

I: Then I need some brown. [takes a new pastel, A walks around the table and stands beside I, continues drawing]

[pause 18:18 - boys are mostly silent at first, drawing individually]

A: [has a blue pastel in one hand, and a red one in the other. Starts drawing with both hands simultaneously in a circular motion. He stops, examines, the ends of the pastels, continues colouring intensely with the red pastel with his hand in a fist around the pastel.]

[resume 19:04]

I: Andrew, this is the bomb. [points to the drawing he made initially]

A: Which bomb? This is the bomb? [points to the another drawing]

I: No this one. [points to the drawing again, A colours up towards the bomb drawing, colouring furiously up and down, then left to right again].

A: That's some bomb... (inaudible- 19:15)

I: Andrew...Andrew (inaudible 19:18)... put the fire *psssshhhh.*

A: That's orange. [examines orange pastel, colours with it over the red]

I: Yeah, orange makes fire.

A: No, red and yellow. Gonna make yellow. [takes yellow pastel from I, starts coluring over orange/red]. Fire, fire, fire, fire, *fiiiire*! [colours really fast]

I: And we have to make the wheel. We need to put every colour, so much colour. [uses a white pastel to draw a circle next to A's blend of colours] Yeah, but we have to make the wheels.

A: [takes a bunch of colours in one fist and starts colouring with all of them over the same spot as always]

I: I wanna put "x" wheels, we have to put the "x" wheels so it drives really fast.

A: Okay, "x" wheels is like this. [takes pastel from I, draws an "x" in black inside I's white circle]

I: I really know how to do "x" wheels.

A: That! [stops drawing, looks at I]

I: No, we have to do like... [A continues drawing] Yeah like that. Yeah, that's gonna look good. [pause] We need white. White, white... [looks around table]

A: And where is white?

I: They got the white.

A: Can we have white Samantha? [extends his hand across the table, takes the white pastel from Samantha, draws a circle.]

I: Wait I'm gonna put a... and I'm gonna draw orange. [colours with orange pastel inside one of the white circles]

N: [enters scene] What is this? What is this?

I: You didn't know? *Fiiiire*. And the wheels are driving...Now we need dark blue. We're gonna need some dark blue. Adam...

A: [drawing an "x" in black inside the white circle he has made]

N: What are you guys doing?

A: "X" wheels are moving fast. [colours with black really fast over his blend of red/yellow/orange]

K: Could I have the white? I need it and I don't have it...

A: [colours with the white over his blend of colours] Here. [hands white to K, continues colouring with a blue pastel]

I: All the colours mixed!

[pause 21:04 - A continues to colour with all the different pastels, blending them and colouring over them again and again, extending the colours further left, I has an argument with M over the colour yellow]

[resume 21:59]

I: [picks up a purple pastel from the box, starts moving to go on the other side of A, looks at the pastel] No, not pink. Black. [puts the pastel back in the box, takes out a black pastel, A makes noises as he colours] I'm gonna put the black. [colours with black pastel, then stops] Andrew, the lights! We have to put on the lights so he can see... And red lights at the back!

A: Red lights?

I: Yeah.

A: Yeah I know the red lights. There's the fire! [takes yellow pastel and makes vertical lines over his drawing]. Red lights. [takes red pastel and starts colouring]. Red lights... the red lights is over here, Ian.

I: Okay. Uh, uh, uh, this is gonna be the hook.

A: No, we don't need a hook. [continues colouring for a few seconds, seems to not draw anything in specific, I adds some black colour]. Let's do more "x" wheels!

I: We need white! [I smudges part of the picture with his finger]

A: We need white!

I: [walks around to the other side of the table] Kim, we need white.

K: Sorry, I got it. [I walks back around to the other side]

A: We need white.

[**pause 23:10- boys wait for white pastel, Kim gives it eventually]**

[resume 23:42]

A: [acquires the white pastel] I will do the x wheels. You have two kind of blacks. [starts drawing again]

I: Yeah, I know. [walks around table, picks a brown pastel from the box] Andrew, I have brown. Do we need some brown? [starts colouring with the brown, at the top of the drawing, extending previous colours] I put the brown, I'm putting the brown.

A: X wheels. [still drawing, stops, examines the drawing] More x wheels!

I: No!

A: More x wheels. [continues drawing]

I: Who likes the car? [examines A's drawing] That's not good! It's like a train.

A: It is a train.

I: Why? What's so good a train... is it better than a car... or, or a jet?

A: (inaudible- 24:30)

I: Again, we're gonna put... [examines drawing]

A: X wheels... love x wheels. [I starts extending the colours all the way to the top of the paper, A joins in, making *whooshing* noises as he colours quickly]

I: All the way to the top Andrew. [colours to the edge of the paper] We need green! [exchanges pastels from the box]

A: [takes a new pastel, continues colouring] *Wwwwzzzrrrrr.* [stops colouring] We need all of

the colours!

I: Is that purple?

A: [has a fist full of colours] Yeah, of course. [colours with all of the colours] Purple with rainbow.

I: Noooo. [watching A colour]

A: I did so much purple (inaudible- 25:12) [continues colouring with purple pastel]

I: Orange! [reaches over to pastel box]

A: [still colouring, switching colours constantly] Erase off the purple! [uses dark brown pastel to go over the purple colour]

I: Alright, let's make the tracks! We have to make the tracks. Let's make the tracks. [reaches to one end of the drawing, starts drawing with a green pastel] I'm gonna make the tracks. [draws a long line underneath the drawing] *Traaaack*.

A: And some... [starts drawing short vertical lines attached to the long line]

I: And you have to put some bumpy. (inaudible- 25:41) Right, Andrew?

[pause 25:42 - A says nothing, continues drawing the track, I has a short conversation with K about Angry Birds, I observes what A is doing]

[resume 26:10]

I: Let's go Andrew! *Chug-a-chug-a-choo-choo*! [moves head up and down. A stomps his feet, as if marching, makes noises] Eeeee, there is a block. [looking at drawing]

A: There is a tunnel. Let's make a tunnel. [draws vertical line with black pastel at the right edge of the drawing]

I: Yeah, a tunnel.

A: Okay. [lifts pastel from paper, examines drawing]

I: Yeah, it's okay if it's blocked. [looking at drawing. A makes noises] *Chug-a-chug-a-choo-*

choo! [moves head up and down]

A: [points at "tunnel"] He bumped to here because he's so big.

I: Andrew, wait, I'm gonna do... let me do long fire! [reaches to the other end of the drawing, starts colouring with the green pastel]

A: [extends the colours as well, almost to the other end of the paper, over Matthew's drawings] Mine's long, long, long, long! Fire.

I: Long! Long! Long! Long! *Looong*! [colouring back and forth over drawing]

[pause 26:50 - K scolds the boys for covering M's drawing]

[resume 28:06]

A: Need more fire! More fire! [colouring quickly]

I: You're covering the wheels! Stop colouring fast.

A: *Pppffff*. It is going fast! [continues colouring]

M: [stands beside A, makes noises, colours quickly over the boys' drawing]

A: Thank you. [continues colouring in the same spot as M]

I: Why are you putting purple? [observing as A colours]

M: You're not good! [colours some more]

A: But don't do on the wheels! [uses his arm to cover the wheels of the drawing. K reaches over the table and colours over the drawing as well. M continues colouring too]

I: Stop it!

A: I want it to be all rainbow. [continues choosing pastels and adding more colours]

I: Do not go on the wheels! Do not go on the wheels! [K, A, and M continue colouring in the same spot] Do not do on the wheels, you know.

End time: 29:03

Appendix I

Parental Letter and Consent Form

Dear Parents/Guardians,

My name is Tiina Kukkonen and I am a Masters student in the Department of Education at Concordia University. I am currently working on my thesis project entitled *Drawing as Social Play: Shared Meaning Making and Creative Development in Young Children's Collective Drawing Activities.* The aim of this project is to look at the types of cooperative play that occur while children draw together in groups, and how this play encourages creative development and shared meaning.

As part of the project, I will be visiting your child's class twice a week for approximately one month (total of 8 visits). During my visits, I will set up a drawing activity center where the children will be free to draw whatever they want and with whomever they want. A video camera will be set up near the drawing table to record the children's actions and conversations as they draw. The video camera will focus solely on the interactions that occur at the drawing table, so the children playing in other areas of the classroom will not be filmed. This way, if there are children who do not wish to participate, they can partake in other free play activities without being filmed. In addition, photographs will be taken of the artwork that the children create, but I will always ask the permission of the children before doing so.

My role will be to observe the children and interact with them minimally as they draw (e.g., asking them clarifying questions about what they are drawing). It is important to note that I will only be present during free play time so that the routine of the classroom will not be disrupted in any way.

All participant names shall remain confidential, pseudonyms will be used in the written report of the findings, and the video will not be viewed by anyone other than myself and my supervising professor. For a complete description and list of procedures, see the consent form attached.

If you wish to allow your child to participate in this study, please sign and return the attached consent form to your child's teacher. Please note that not participating in this project will have no effect on the services and attention given to your child at the centre. Please do not hesitate to contact me at any time before or during the study if you have any questions.

Sincerely,

Tiina Kukkonen
e-mail: t_kukko@education.concordia.ca

CONSENT TO PARTICIPATE IN A MASTERS LEVEL RESEARCH PROJECT

TITLE OF PROJECT: Drawing as Social Play: Shared Meaning Making and Creative Development in Young Children's Collective Drawing Activities

I understand that my child is being asked to participate in a research project being conducted by Tiina Kukkonen of the department of Education of Concordia University, under the supervision of Dr. Sandra Chang-Kredl of the department of Education of Concordia University.

A. PURPOSE

I have been informed that the purpose of the research is as follows:

To investigate the cooperative play that occurs within young children's open-ended drawing activities and how this encourages the development of shared meaning and creativity.

B. PROCEDURES

I understand that the following procedures will be followed:

- The researcher will be present in the classroom twice a week for approximately one month, for about 1-2 hours each visit.
- The researcher will set up a drawing activity table where the children will be free to draw whatever they want using various materials, such as pencils, markers, and pastels.
- The children will choose if they want to participate or not. If at any point the children do not want to participate, they are free to leave the drawing table.
- A video camera will record the children's conversations and movements around the drawing table. The video camera will film only the interactions and drawing actions that occur at the drawing table.
- If the child allows, photographs will be taken of the artwork that is created.
- The videos and photographs will be stored safely in a research office and will be deleted approximately six months after the written report is completed. They will only be viewed by the primary researcher and the supervising professor.
- All participant names shall remain confidential. Pseudonyms will be used in the written report of the findings.

C. RISKS AND BENEFITS

I understand the following **benefits** associated with this project:

This project will give children the opportunity to practice and develop certain social skills, such as communicating their own ideas and understanding other children's points of view. Furthermore, the open-ended nature of the activity will allow them to develop creativity and practice expressing their own ideas through visual imagery.

I understand the following **risks** associated with this project:

As in any type of play, the social nature of this project may cause some form of disagreement between the participating children (e.g., disagreeing over what to draw or arguing over the sharing of materials), which is not unordinary in a child care setting. In instances where children appear to be very uncomfortable or upset, the researcher will intervene to help resolve the conflict or disagreement and alert the teacher of the situation.

If any child feels uncomfortable being filmed or having their artwork photographed, they may choose not to participate and the researcher will respect this choice.

D. CONDITIONS OF PARTICIPATION

- I understand that I am free to fully withdraw my consent and discontinue my child's participation any time before or on the first day of filming. I understand that if I choose to withdraw my child from the study at a later time, there will be justified restrictions on the researcher's ability to remove/erase video data specific to one child, as the data will be collected in a group setting, and this will affect the outcome of the study. Justified restrictions include if the child is part of a group interaction at the drawing table with other children who have not withdrawn from the study, or if they are in view of the camera while other children are engaging in an episode of cooperative play at the drawing table. If the data cannot be immediately erased, it will be erased shortly after the completion of the thesis. I understand that withdrawing my child from the study will not have any effect on his/her access to services at the preschool.

- I understand that my child's participation in this study is CONFIDENTIAL (i.e., the researcher will know, but will not disclose the child's identity)

- I understand that the data from this study may be published.

E. CONSENT TO FILM AND PHOTOGRAPH

Please check the following for permission to film (note that permission to film is essential for participation in the project):

☐ I give consent for my child to be filmed for the duration of this project

☐ I do not give consent for my child to be filmed for the duration of this project (and therefore do not give consent for participation).

Please check one of the following for permission to photograph artwork:

☐ I give permission for the researcher to take photographs of my child's artwork

☐ I do not give permission for the researcher to take photographs of my child's artwork

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO HAVE MY CHILD PARTICIPATE IN THIS STUDY.

CHILD'S NAME (please print) _____

PARENT/GUARDIAN NAME (please print) _____

PARENT/GUARDIAN SIGNATURE _____

Appendix J

Teacher Letter and Consent Form

Dear Teacher(s),

My name is Tiina Kukkonen and I am a Masters student in the Department of Education at Concordia University. I am currently working on my thesis project entitled *Drawing as Social Play: Shared Meaning Making and Creative Development in Young Children's Collective Drawing Activities.* The aim of this project is to look at the types of cooperative play that occur while children draw together in groups, and how this play encourages creative development and the creation of shared meaning.

As part of the project, I will be visiting your classroom twice a week for approximately one month (total of 8 visits). During my visits, I will set up a drawing activity center where the children will be free to draw whatever they want and with whomever they want. A video camera will be set up near the drawing table to record the children's actions and conversations as they draw. The video camera will focus solely on the interactions and drawing actions that occur at the drawing table, so the children playing in other areas of the classroom will not be filmed. This way, if there are children who do not wish to participate, they can partake in other free play activities without being filmed. In addition, photographs will be taken of the artwork that the children create, but I will always ask the permission of the children before doing so.

If there are children who do not have consent to participate but would like to partake in the drawing activity, I will provide them with the materials to do so in another area of the classroom (space permitting). I will also do my best to ensure that I redirect them before they come into view of the camera. I can also leave some of the drawing materials in the classroom for these children to use at a later time.

My role will be to observe the children and interact with them minimally as they draw (e.g., asking them clarifying questions about what they are drawing). It is important to note that I will only be present during free play time so that the routine of the classroom will not be disrupted in any way.

All participant names shall remain confidential, pseudonyms will be used in the written report of the findings, and the video will not be viewed by anyone other than myself and my supervising professor. For a complete description and list of procedures, see the consent form attached.

At the end of the project, I will provide your classroom with a documentation panel and pamphlets to hand out to the parents that detail the process and findings of this project.

If you agree to have your class participate in this study, please sign and return the attached consent form. Please do not hesitate to contact me at any time before or during the study if you have any questions.

Sincerely,

Tiina Kukkonen
e-mail: t_kukko@education.concordia.ca

CONSENT TO PARTICIPATE IN A MASTERS LEVEL RESEARCH PROJECT

TITLE OF PROJECT: Drawing as Social Play: Shared Meaning Making and Creative Development in Young Children's Collective Drawing Activities

I understand that I am agreeing to have my class participate in a research project being conducted by Tiina Kukkonen of the department of Education of Concordia University, under the supervision of Dr. Sandra Chang-Kredl of the department of Education of Concordia University.

A. PURPOSE

I have been informed that the purpose of the research is as follows:

To investigate the cooperative play that occurs within young children's open-ended drawing activities and how this encourages the development of shared meaning and creativity.

B. PROCEDURES

I understand that the following procedures will be followed:

- The researcher will be present in the classroom twice a week for approximately one month, for about 1-2 hours each visit.
- The researcher will set up a drawing activity table where the children will be free to draw whatever they want using various materials, such as pencils, markers, and pastels.
- The children will choose if they want to participate or not. If at any point the children do not want to participate, they are free to leave the drawing table.
- A video camera will record the children's conversations and movements around the drawing table. The video camera will film only the interactions that occur at the drawing table.
- If the child allows, photographs will be taken of the artwork that is created.
- The videos and photographs will be stored safely in a research office and will be deleted shortly after the written report is completed. They will only be viewed by the primary researcher and the supervising professor.
- All participant names shall remain confidential. Pseudonyms will be used in the written report of the findings.

C. RISKS AND BENEFITS

I understand the following **benefits** associated with this project:

This project will give children the opportunity to practice and develop certain social skills, such as communicating their own ideas and understanding other children's points of view. Furthermore, the open-ended nature of the activity will allow them to develop creativity and practice expressing their own ideas through visual imagery.

The teacher(s) involved will benefit from the findings of this study, as it will give them a better understanding of what motivates the children to draw and how to use drawing to promote social and creative development in the classroom.

I understand the following **risks** associated with this project:

As in any type of play, the social nature of this project may cause some form of disagreement between the participating children (e.g., disagreeing over what to draw or arguing over the sharing of materials), which is not unordinary in a child care setting. In instances where children appear to be very uncomfortable or upset, the researcher will intervene to help resolve the conflict or disagreement.

If any child feels uncomfortable being filmed or having their artwork photographed, they may choose not to participate.

D. CONDITIONS OF PARTICIPATION

- I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.
- I understand that my participation in this study is CONFIDENTIAL (i.e., the researcher will know, but will not disclose my identity)
- I understand that the data from this study may be published.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____