Young Children's Responses to Artworks: The Eye, the Mind, and the Body

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Abstract

This study investigates young children's responses to viewing artworks in a preschool setting. Based on the responses of 15 children aged five to six years during five art viewing sessions in a preschool in Singapore, the study examines features of what young children see, think and feel when they view artworks. These sessions were facilitated by their class teacher using techniques from Visual Thinking Strategies. The data obtained from the children's responses were analysed qualitatively using Grounded Theory. The findings revealed that children respond to artworks visually,

cognitively and somatically, in that they talk about what they see, think and feel. The children's comments featured content, formal art elements, personal connections, creativity and imagination, affect and vocalisms, with personal connections making up two-thirds of their responses. This study highlights the rich experiences that young children gain from viewing artworks and the importance of including art viewing into the early childhood art curriculum.

Background of the Study

While producing art is fairly common in early childhood classrooms, comparatively little attention is paid to children's experiences of viewing art (Epstein & Trimis, 2002; Savva, 2003). Research indicates (Eglinton, 2003) that aesthetic appreciation of artworks support holistic thinking and reasoning, which enhances visual literacy (McArdle & Wright, 2014; Rudolf & Wright, 2015). Based on the image of the competent child (Dunn & Wright, 2014), this paper describes young children as capable appreciators of art and describes resources to develop children's aesthetic skills.

Research on art viewing typically focuses on the value of looking at and talking about artworks (Epstein & Trimis 2002; Savva 2003). This paper extends on this by asserting that aesthetic abilities are related to art experiences and to cognitive development (Mai & Gibson, 2009). In the process of viewing and appreciating art, thinking and feeling come together (Csikszentmihalyi & Robinson, 1990). Young children make simple aesthetic choices when they express visual preferences for shape, colour and images (Danko-McGhee, 2006b). Their aesthetic responses are evident in their spontaneity, wonder, and amazement when having a visual encounter. Through artworks, children see diverse interpretations of themes that are common and familiar to them. In this way, children learn about unique viewpoints and appreciate how every artwork is an individual expression of the artist (Eckhoff, 2010). Children can also make connections between what the artwork depicts and what they have experienced in their own lives (Kolbe, 2002; Mulcahey, 2009; Savva, 2003).

The implication is that exposure to quality art over a period of time may lead to higher levels of aesthetic appreciation (Housen, 2002), allowing children to develop perceptual and aesthetic skills (Zakaras & Lowell, 2008) and helping them develop the seamless synthesis of perceiving, feeling, and thinking, which is a significant goal of art education and education in general (Wright, 2003).

While studies exploring strategies in engaging students in art viewing experiences have been conducted extensively with older children and teenagers (Barrett, 2004; Wilson & Clark, 2000) few studies have involved young children (Bell, 2011; Danko-McGhee, 2006a, 2006b; Savva, 2003, 2009; Savva & Trimis, 2005). Of these, most have been within the context of

museum-based art programmes (Danko-McGhee, 2006a, 2006b; Eckhoff, 2008) rather than in schools. The setting of the research presented in this paper is a Singaporean preschool classroom, and the focus is on children's responses to reproductions of well-known adult artworks.

Previous studies on children's perceptions of art have focused on children's preferences for colour, subject matter and style, but there are conflicting results. Some researchers have found that children are attracted to bold and colourful artworks with contrasting colours (Danko-McGhee, 2006b; Gardner, 1973; Parsons & Blocker, 1993), and even art objects that are shiny, silver, or gold (Piscitelli, 2009; Stokrocki, 1984). Other findings showed that four to five year olds preferred abstract art (Kerlavage, 1995; McGhee & Dzuiban, 1993), many of which featured bold colours and simplified geometric shapes that are easily identifiable. Content that has been identified as engaging children's interest are: people, objects, actions, interactions, settings, gestures, emotions, and expressions (Housen, 2002; Wright, 2010; Yenawine, 2003). Although these items are generally not clearly identifiable in abstract artworks, children still respond easily to pure shapes in non-mimetic art.

Having printed art reproductions in classrooms allows children access to adult artworks regularly and creates the opportunity for dialogue about artworks (Bell, 2011; Eckhoff, 2008, 2010). Children have multiple opportunities to view and focus on the particular artwork selected in greater depth. The strategies that teachers might use to help children look at and discuss artworks are important for enriching children's aesthetic experiences. The specific approach used in this study was the Visual Thinking Strategies (VTS) approach, which is described in the next section.

Visual Thinking Strategies and Preschool Children

The Visual Thinking Strategies (VTS) approach uses art to teach thinking, communication skills and visual literacy, in the belief that growth is stimulated by looking at art of increasing complexity, responding to developmentally-based questions and participating in group discussions that are carefully facilitated by educators (Housen, 2002; VUE 2001). VTS nurtures extended observations, drawing evidence-based conclusions, speculations, considering multiple possibilities, and listening to diverse points of view respectfully (DeSantis & Housen, 2009; Housen, 2002). These skills are useful both in education and in life.

The teacher's role in art viewing is to guide and support children's interests rather than to impose information about specific artworks (Trimis & Savva, 2004). Young children are capable of observing and reflecting on artworks when they are engaged in meaningful conversation with adults (Harris, 2000; Wright, 2010). Dialogues should elicit descriptive,

analytic, interpretative and judgmental responses from children. The teacher challenges children to a deeper level of understanding by focusing their attention on specific details in the artwork and by posing questions, moving them beyond their current level of functioning (Piscitelli & Weier, 2002; Trimis & Savva, 2004).

As children view artworks in a group, good questioning strategies on the part of the teacher support their responses to artworks (Taunton, 1983). The VTS facilitation techniques provide the teacher with an understanding of children's thinking and allows the teacher to focus on children's ideas and language. Therefore, viewing art becomes a triadic interaction between young children, the artwork and the teacher (see Figure 1). This study investigates the intersections between these three components in the creation of rich and rewarding art viewing experiences.
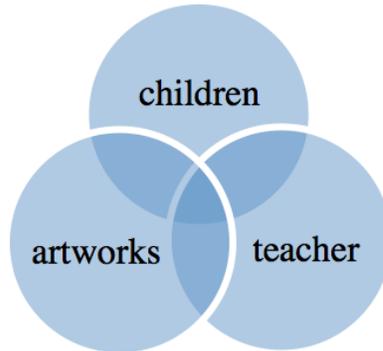

Figure 1. Triadic interaction model

Within the triadic interaction, the artworks allow the teacher a glimpse into the children's perceptions and the cognitive and affective connections they encounter in meaning making while viewing and discussing the artworks. The teacher's role is to select and regularly present suitable artworks for children to view and to facilitate children's thinking dispositions, observations, responses and discussions. The interaction between the children, the artworks and the teacher plays an important role in shaping children's attitudes, and motivations to respond to artworks. The construction of meaning happens at the intersection of all three components, and social constructivism (Wright, 2003) is at the heart of these processes.

Methodology

Using a social constructivist paradigm, the study considers the communication between the teacher and the children, as well as the dialogue amongst the children, based on interactions with artworks as the focal point of the conversations. These interactions are related to the children's responses to genre, style, period, content, form, technique and art elements. They

centre on how children interact with artworks, observe details, and express their thoughts and feelings about what they see.

In this study, teacher facilitation of children's responses to the artworks was employed when children appeared to be 'stuck'; where prompts might motivate them to look deeper. Such prompts included techniques such as paraphrasing children's comments and summarising the observations they made. The aim was to discover and understand how young children see, think and feel when viewing reproductions of artworks.

The methodology is based on the view that co-constructed, descriptive, analytic, and interpretive understanding and judgmental viewing happens as children shape and are, in turn, shaped by their interactions with others (Vygotsky, 1978). Peer and teacher interactions allow for deep dialogue and the exchange of thoughts and ideas. To research the dialogic knowledge construction that occurred within the Triadic Interaction between children, the teacher and the artworks, the questions posed were:

(1) How do young children respond to paintings by adults in terms of what they see, think and feel? and
(2) What are some of the features of children's responses to artworks?

Participants

Participants in the study were from a local kindergarten in Singapore. Fifteen children (seven boys and eight girls) between the ages of five to six years were selected based on the natural class grouping of two groups of 15 children, each within the same class. All 15 children were Singaporeans of Chinese ethnicity, spoke English as their first language, and came from households of middle to high socio-economic status.

To increase the prospect of the study being replicated in other preschool contexts, a typical setting and a class teacher without any specialised training in art was selected. The 24-year old class teacher had a Bachelor's degree in Early Childhood Education with five years of teaching experience. She expressed a lack of confidence in conducting art-related activities and was not particularly interested in art. The first author provided her with training and notes on VTS questioning techniques, prompts and facilitation guidelines to elicit children's thoughts, but the teacher had no prior familiarisation with the selected artworks. Ethical clearance was obtained and measures were undertaken to unsure that the power relation between the first author and the teacher were acknowledged and respectfully adhered to.

Selection of Artworks for the VTS Sessions

Based on previous studies that reference children's preferences for artworks (e.g., bold and colourful artworks with contrasting colours, engaging content, abstract art), this study exposed the children to a range of artworks created by 20 different artists, representing 11 different nationalities, produced over a period of six centuries. These were categorised into five preselected themes, based on Yenawine's (2003) recommendation that artworks be presented as a series or thematically. The five themes were (1) groups of people involved in activities, (2) animals and their environments, (3) abstract art, (4) individual portraits, and (5) still lifes.

Printed reproductions of artworks were projected onto a screen. This image was between A2 (40 cm x 60 cm) to A1 (60 cm x 80 cm) in size, approximately six to eight times larger than the printed reproductions.

Prior to each viewing session, the children selected their favourite artworks applicable for each of the five themes. In clusters of either six or four artworks (depending upon the theme), the artworks from one of the five themes were presented to the children for them to select their favourites. Each child was individually brought out of the class by the researcher (who is the school principal and well known to the children) and the children were asked to choose half the number of artworks that they liked best. There was no discussion of the artworks prior to selection and no prompts were given during the selection process. Table 1 summarizes the themes and the ultimate number of artworks that were used for the five art-viewing (VTS) sessions. Table 2 describes the artworks that the children selected and shows the number of children who selected each artwork.

Table 1. *The Five Themes Used for the Art Viewing Sessions, and the Number of Artworks Selected for each Theme*

Art Viewing Session	Theme	No. of artworks to choose from	No. of artworks selected
1	Groups of people involved in activities	6	3
2	Animals and their environments	6	3
3	Abstract art	6	3
4	Individual portraits	4	2
5	Still Life	4	2
Total Number of Artworks		26	13

Table 2. *Overview of Artworks Selected by the Children*

Preference rank for each theme	Artist	Title	No. of girls (G) /boys (B) who selected this artwork	Total No. of children who selected artwork	Style/Period	Striking Characteristics	Artwork No.
Theme 1: Groups of people involved in activities							
1	Leger	The Builders	3G / 7B	10	Cubism	Men building Spatial qualities	1.2
2	Seurat	A Sunday on la Grande Jatte	5G / 4B	9	Pointillism	People in a park Perspective	1.5
3	Homer	Snap the Whip	4G / 4B	8	Realism	Children at play Movement	1.6
Theme 2: Animals and their environments							
1a	Durer	Squirrels	6G / 4B	10	Realism	Squirrels Position	2.1
1b	Wu	Pandas	5G / 5B	10	Chinese ink	Pandas Positions	2.6
3	Hiroshige	Eagle over Fukagawa	1G / 6B	7	Japanese woodblock print	Bird's eye view Perspective	2.3
Theme 3: Abstract Art							
1	Kandinsky	Bleu de Ciel	4G / 7B	11	Expressionism	Odd shapes floating Whimsical	3.2
2	Kandinsky	Several Circles	5G / 4B	9	Abstract	Circles Colour, shape	3.4

		No.323				and size	
3	Bellefleur	Le Poisson dans la Ville	3G / 5B	8	Abstract	Juxtaposed images Like chalk on black paper	3.1
Theme 4: Individual portraits							
1	Renoir	A Girl with a Watering Can	7G / 2B	9	Impressionism	Girl in garden Brushstrokes	4.3
2	Vermeer	The Milkmaid	1G / 6B	7	Old Dutch master	Woman at work Light and shadow	4.4
Theme 5: Still Life							
1a	Matisse	The Goldfish	5G / 2B	7	Fauvism	Goldfish bowl on table Texture and pattern	5.1
1b	Van Gogh	Bedroom at Arles	4G / 3B	7	Post-Impressionism	Bedroom Perspective and brushstrokes	5.3

Data Gathering: Observations of VTS Sessions

Data were gathered through observation of the art viewing (VTS) sessions. Observations of the children's responses were carried out over five sessions of approximately 45 minutes each. During each of these sessions, two to three artworks were discussed.

The teacher followed the structure of a VTS lesson and used questioning and facilitation techniques taken from Housen's (2001, 2002) Visual Thinking Strategies (VTS) (VUE, 2001), described below. She gave the children time to look silently at the artwork before inviting them to speak; asked them to examine the artwork closely; encouraged them to share their observations and ideas; regularly reiterated and recalled these points and processes; and responded to their comments. Throughout the session, the teacher asked these three questions:

(1) "What's going on in this picture?"
(2) "What do you see that makes you say that?" and
(3) "What else can you find?"

Fieldnotes included descriptions of the children's first impressions of the artworks; their interactions with the artworks, each other and the teacher; direct quotations of particular things that were said; notations of non-verbal responses; and observer reflections with regard to these components. Each session was video-recorded and transcribed for coding.

Data Analysis

The fieldnotes and transcriptions from the art viewing sessions were coded using content analysis in order to search for relationships and patterns in the data. The inductive approach of Grounded Theory (Glaser & Strauss, 1967) was used to conduct a thematic analysis of the data. Descriptive statistics in the form of frequency counts, tabular representation of responses and charts were also used to analyse the children's responses. The findings section, below, begins with descriptive statistics to provide an overview of the number of comments that were made by the children and the features of these types of comments. This is followed by qualitative descriptions of these features and how they fell within overarching themes related to visual, cognitive and somatic responses to the various artworks.

Results

During the five art viewing sessions, the children made 581 comments in relation to the 13 artworks (an average of 45 comments per artwork) (see Figure 2). It is interesting to note that the most popular artworks (i.e., 3.2, 1.2, 2.1 and 2.6.) did not necessarily elicit the most number of comments; the most elicited comments (i.e., 80) were associated with Vermeer's

'The Milkmaid' followed by Seurat's 'A Sunday on la Grande Jatte' (i.e., 62). In 'The Milkmaid,' the children focused on their impression that the lady was sad, and they offered a variety of interpretations as to why she was sad. Their reasons were related to their observations of the setting and her clothes. In Seurat's artwork, the children covered a wide range of topics as they described and elaborated on the various characters depicted in the artwork.
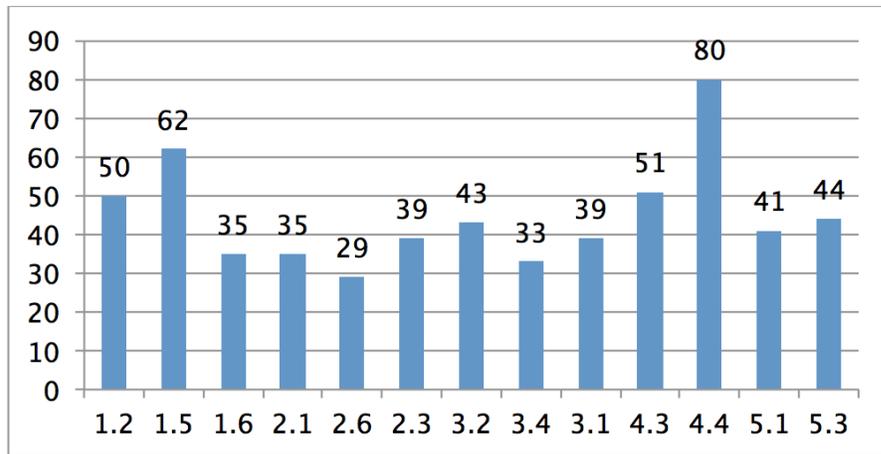

Figure 2. Number of comments for each artwork

A frequency count of all the children's comments is shown in Figure 3, which shows the percentage of children's responses with regard to: content, formal art elements, personal connections, creativity and imagination, affect and vocalisms. Each of these components is described in greater detail below.
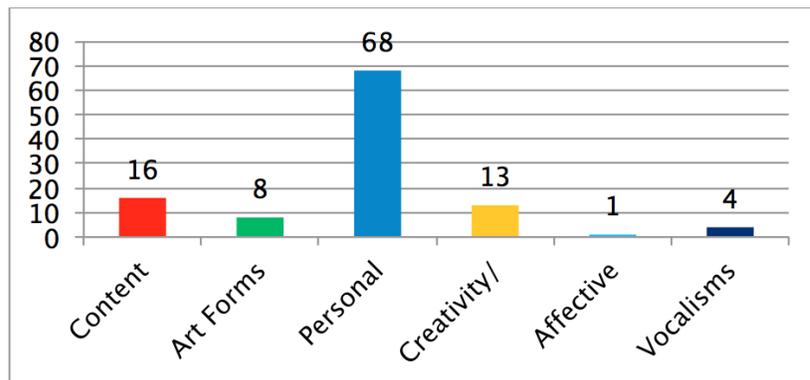
Figure 3. Percentage of comments on all 13 artwork

Content. The content of artworks is defined as something clearly observable in the artwork, whether real or perceived. Part of children's responses to the artworks was on identifying

what they saw in the artworks in terms of the setting, items, and actions. The artworks clearly provided a medium for the children to name the objects and express themselves verbally, and 16% of the responses fell within this category.

Art forms. Art forms refer to dimension, position, and the art elements of colour and tone, shape and line, spatial position, and visual perspective. Only 8% of the children's total responses were specific references to art forms.

Personal connections. Personal connections refer to statements that the children made that revealed their personal experiences and understanding as well as their personal and general knowledge. Approximately 68% of the children's overall responses were related to personal connections in their lives.

Creativity and imagination. This refers to children's descriptions of something not visible in the artwork as well as to stories they create surrounding the artwork. The children's comments often referred to forms and shapes observed, as well as movements and gestures they perceived happening in the artworks (13% of the responses).

Affective responses. Affective responses refer to the emotional expressions of children when they responded to and described the artworks (e.g. surprise, delight, pain, excitement). Only 0.5% of the responses to all the artworks were of an affective nature.

Vocalisms. Vocalisms refer to the use of the voice for expressive, affect-related purposes. The children's verbal responses were analysed in terms of the tone, volume, speed and pitch of the words articulated as well as laughter and the use of onomatopoeia. Vocalisms were used on average in 4% of the children's responses to all the artworks viewed. Their responses had only two incidences of the use of onomatopoeia, which ranged from depicting excitement, playfulness, delight, and incredulity, to stressing a word for particular emphasis.

Comments on content and art forms were considered as *descriptive* responses; comments related to personal connections, creativity and imagination were considered as *interpretive* and *relational* responses; comments that involved affective responses and vocalisms were considered as *somatic* responses. These descriptive, interpretive/relational and somatic responses lead to a focus of analysis on 3 main categories: (1) visual (the eye), (2) cognitive (the mind), and (3) somatic (the body). Each of these is described in greater detail below.

The Visual (The Eye)

The sessions began with the children describing the artwork. The visual component of art viewing was the entry point from which further discussions and comments followed. This required children to be focused and attentive to visual elements in the artworks. The teacher did not, at any point, reveal the original titles of the artworks to the children so that they would not be influenced by the titles.

Most of the children's responses were related to the content that was most obviously featured in each of the artworks. The children named and described what they saw in the artwork using descriptive language. For instance, they described the setting of the artworks with comments about the place, location, surroundings, background, time of day, and the event that was taking place. In addition, they named items that they saw in the artworks such as people, animals, sea creatures, birds, structures, objects, plants, the natural environment, parts of the body, clothes, footwear and headgear. The children also described movement and actions that they perceived were happening in the artworks, such as someone falling down or waving 'hello' to someone.

As the children described the artworks, they elaborated on the subject matter. In artwork 2.3, Hiroshige's 'Eagle over Fukagawa,' the children accurately identified the landscape below—from the eagle's vantage point—as mountains and trees on an island full of snow and surrounded by water. B6[1] suggested that it was the North Pole and B3 thought it was Greenland. The children talked about snow and whether trees could grow in snowy places. The children did more than merely name and label when describing the content or subject matter of the artworks; they actively engaged in critical viewing which lead to deep thinking and reflection.

The Cognitive (The Mind)

Having described what they saw in the artwork, the children proceeded to discuss their observations and perceptions. As the children thought aloud, communicating their ideas with one another, their logical thinking skills and processes became apparent. It was at this point that children drew on their prior experiences and knowledge to make connections with what they saw in the artwork.

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[1] The children are identified as boys or girls by the letters B or G respectively. Their individual quotes are identified by a letter with a number i.e. B1 to B7 and G1 to G8.

As was shown in figure 3 above, the foremost feature of the children's responses related to personal connections in their lives in terms of their feelings and experiences. For instance, the children assumed in Artwork 2.1, Durer's 'Squirrels,' that the bits on the ground were nuts since they knew that squirrels eat nuts. G1 and B6, however, challenged the idea. G1 said they looked like chocolates while B6 said the shape resembled *Koko Krunch*, a popular breakfast cereal.

Some children revealed their prior knowledge as they defined objects in the works of artists, including skyscrapers, farms, period costumes, and birds of prey. They attempted to name countries that they thought the artwork depicted. Talking about the artworks also allowed children to demonstrate their vocabulary and linguistic ability. When G2 observed the unusual shape of the woman's clothes in Seurat's 'A Sunday on la Grande Jatte,' with the protruding derriere, G8 responded saying that it was a pillow inside her skirt, and G7 confidently proclaimed that it was a bustle (a frame worn under a skirt in the late 19th century to make the skirt stick out). In describing the bustle, G7 offered interesting nuggets of information.

The rich descriptive language used by the children included positional and mathematical language as well as formal art elements. They described the location or spatial position of subjects or objects; quantity of items in terms of numbers; dimensions of size, height and length; and relative distance of objects in terms of their proximity. Where references to formal art elements are concerned, the children's descriptions included colour, shape, texture, space, and visual perspective.

Several statements related to the children's ability to reason. These statements often began with "It's because …" or "The reason why …" followed by justifications. Similarly, the children made inferences based on what they observed and they said "I think …" or "It looks like …" in these instances. In addition to these codes, the children used words like "Maybe …" or "It could be …" as they speculated on some of their perceptions. There were occasions when the children were puzzled over certain aspects of the artwork that did not appear to make sense to them. In such instances, the children sometimes raised questions as to "Why…" or "How come …" certain things appeared as they did in the artwork.

The children's responses were sometimes related to each other's comments in terms of agreeing or disagreeing with what another child said. At times they made reference to earlier statements made by other children and they sometimes extended and built on previous ideas put forth by others.

Sometimes the children described imaginary forms and shapes as well as gestures and movement. They imagined the identities of people, mood, atmosphere and even things that

were not visible in the artwork. They even created stories by narrating sequences of events, which they made up. For instance, the children wove imaginative elements and stories into the artwork by Kandinsky (see Figure 4). This included observing curious forms and shapes, perceiving movements and gestures, guessing who the characters depicted were, engaging in pure flights of fancy, and having little difficulty letting their imaginations have free rein.
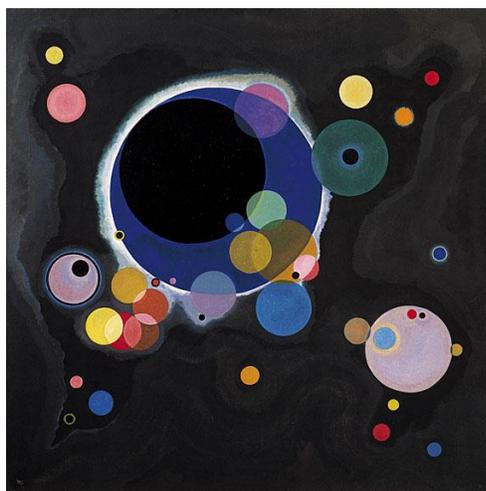
Figure 4. Artwork 3.4, Kandinsky's Several Circles No. 323 (1926)

As examples, G1 imagined the circles to be bubbles. B3 described colourful rainbow noodles boiling over, offering a metaphoric abstraction. G3 continued the imagery with a related idea of circles blown by the wind. Some took a microscopic view of the artwork and saw it as an eye surrounded by tiny colourful germs, while others took a telescopic view leading to an extended discussion about outer space. The children perceived the circles as planets in the solar system and they even specified the moon, sun, earth and stars.

Overall, the children's responses to the artworks included the use of similes and metaphors as evidence of analogical thinking. Children also showed conceptual understanding as they described attributes of concepts, occasionally sharing their prior knowledge of facts or of their experiences. They were able to attribute emotions to subjects in the artworks and describe how actions lead to certain results or consequences. There were instances when the children's memory-association was triggered by familiar places or events. These qualities are closely aligned with somatic, body-based ways of knowing (Wright, 2014; Wright, in press).

The Somatic (The Body)

The third concept that emerged from the data was the evidence of paralinguistic features, which constitute the somatic component. In particular, in addition to the eye and mind being involved in the art-viewing experience, the body responded instinctively through gestures,

vocalisms, and expressions of the emotion. Children's somatic responses included hand gestures of pointing or of moving their fingers, hands or arms when responding to or describing the artworks. Some of the descriptions were accompanied by hand actions that sought to visually illustrate the item mentioned.

Pointing in order to locate a specific item happened very frequently and there were occasional gestures, when children moved their fingers, hand or arms when talking. Some vocalisms were observed in the form of laughter and onomatopoeia. There were a few instances of affective or emotional expression, which were coded as surprise, delight, pain or excitement.

Figure 5. Artwork 2.3: Eagle over Fukagawa (19th century)

By way of example, the moment Artwork 2.3, Hiroshige's 'Eagle over Fukagawa,' was flashed on the screen, B2 spread his arms out as though flying and exclaimed joyfully, "Eagle!" His spontaneous response with wonderment and awe was clearly observed in his voice, facial expression, and gestures.

The children imagined movement, gestures or actions that they perceived to be happening in the artworks. One boy thought that the man on top of the ladder in Artwork 1.2, Leger's 'The Builders,' was going to fall down. G8 noticed a panda in Artwork 2.6, Wu's 'Pandas,' which appeared to be smiling, waving and saying, "hello." The children attributed emotions like friendliness and humour to the characters in relation to their perceived movements.

G1 surmised anthropomorphically that the squirrel with his back turned in artwork 2.1, Durer's 'Squirrels,' was angry, based on its position and posture. She said that the other

squirrel selfishly ate up all the nuts and did not share. Emotions attributed to animals reflected the social dynamics of human relationships. G8 made a reference to neighbours helping each other to look after their pets.

A simple comment by G7, that the girl in artwork 4.3, Renoir's 'A Girl With a Watering Can' was picking flowers drew flak from B4 who deemed such an action as inappropriate. This response was indicative of B4's strong values of respecting the environment and not taking things that did not belong to us. G7 calmly responded that it was not a misdemeanor as the girl's mother might have paid for the flowers. This brief exchange revealed the children's attention to values in action.

The children all laughed when G8 used the Singaporean term 'botak' (bald) to describe the lady in Artwork 4.4, Vermeer's 'The Milkmaid.' B1 gently chided G8 for being disrespectful in her choice of words. Even when discussing an artwork, propriety came into play. The children perceived that the lady in the artwork was poor, lonely, and did not have much food. B4 made the connection with a story from the Bible about a poor widow who had no more food.

Figure 6. Artwork 1.2: The Builders (1950)

The 'long' ladders in Artwork 1.2, Leger's, 'The Builders' reinforced the children's assumption of a tall building. B1 and G1 said the workers carrying the big pieces of wood were building a hotel and surmised that they were strong because they had muscular arms. Others speculated that the men were astronauts, *kung fu* fighters, or thieves, based on their attire.

There were occasions when children revised their initial thinking based on what others subsequently shared. Willingness to modify their ideas showed they were listening attentively to others and were open to considering different viewpoints. B3 initially saw a boat sinking downwards to the sand in Artwork 3.2, Kandinsky's 'Bleu de Ciel.' When B4 questioned his logic, B3 decided it was a submarine instead.

In summary, the data clearly show that children respond to artworks visually, cognitively and somatically and that the relationships between these three are closely intertwined. The artworks became 'alive' as the children described what they saw, thought and felt. This was not passive looking but, rather, a deep engagement as the children's individual perceptions, thoughts and feelings formed collective layers of interpretations, each one contributing to as well as enriching the other. These findings are discussed more generally in the next section.

Discussion: Critical and Creative Thinking and Habits of Mind

Among the broad themes that surfaced were how children elaborated on subject matter, used their imagination, and made connections with their feelings, experiences and knowledge. In addition, there was a broad spectrum of responses, some of which were fairly complex as well as synesthetic. Viewing artworks in a group encouraged critical and creative thinking, and there was an incremental effect on the development of ideas as children built their ideas upon a previous response made by another child. The group setting provided a socio-constructivist learning environment that encouraged such idea building.

In relation to Artwork 5.3, Van Gough's 'Bedroom at Arles,' and Artwork 5.1, Matisse's 'Goldfish,' the children speculated as to where the occupants of the room and the owners of the fish were and what they might be doing. They noticed specific items in the room and garden and made inferences as to the purpose of these items.

The children also provided imaginative reasons for why they thought certain objects were present in the artworks. In Artwork 3.1, Bellefleur's 'Le Poisson dans la Ville' (see Figure 7), the children saw a circle with wedges as a rainbow-coloured pizza, a house that could be a scary, haunted castle, a 'shape jungle' with snakes crawling and a story about someone fishing and getting his line tangled.
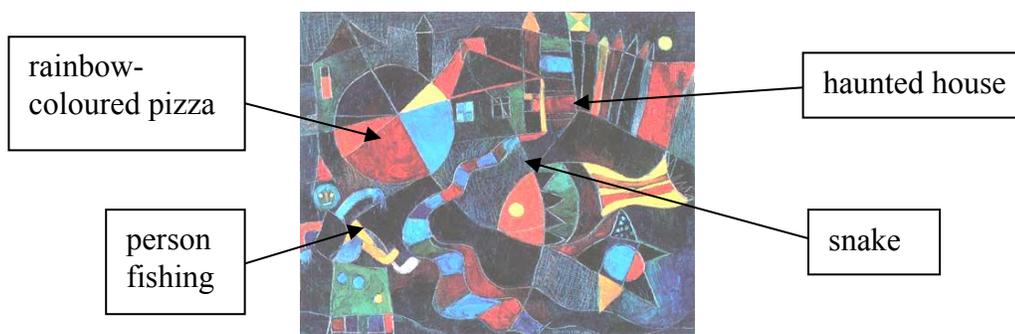
Figure 7. Artwork 3.1, Bellefleur's 'Le Poisson dans la Ville'

The children were open to the diverse ideas shared and they kept on adding to the bank of creative interpretations. They did not try to convince one another that their interpretation was correct, unlike when they viewed representational artworks. The children seemed aware that abstract art could be interpreted in many ways and that there was no singular correct answer.

The characteristics of Habits of Mind (numbered below) were observed in varying degrees throughout the sessions. Habits of Mind as a learning framework is related to the theories on the nature of intelligence (Guilford, 1967; Sternberg, 1985), cognitive learning, social learning, and brain research. Campbell (2006) explores and links the theoretical underpinning of Habits of Mind with Costa and Kallick's (2000) presentation of the theoretical work of Dewey (1933), Sternberg (1985), Ennis (1987), and Perkins (1995) as contributing significant insights into intelligent thinking behaviours.

Even though the children were eager to share their observations, they exercised self-control in (1) managing impulsivity and listened patiently to each. The open-endedness of the abstract artworks allowed the children to (2) think flexibly and suggest multiple ideas of what they perceived the artworks depicted. Their attempts at (3) striving for accuracy and precision were evident when they had extended discussions about whether the bird in Artwork 2.3, Hiroshige's 'Eagle over Fukagawa,' was an eagle or a hawk and also whether the fish in Artwork 5.1, Matisse's 'The Goldfish,' was in a pond or in a fishbowl. The children also responded by (4) questioning and posing problems regarding various images in the artworks. The children's ability in (5) applying past knowledge to new situations to interpret images was evident in their references made to Biblical stories in Artwork 4.4, Vermeer's 'The Milkmaid' and the names of countries (Greenland, China, Taiwan) in Artwork 2.3, Hiroshige's 'Eagle over Fukagawa' and Artwork 2.2, Wu's 'Pandas.'

There were several instances of (6) humour that surfaced when some children used Singaporean colloquial terms like *durian* (local fruit) park, *botak* (bald), and *kopitiam* (café)

when describing portions of the artworks. The children also saw humour in suggestions that the squirrel could use its tail as a bolster, noodles could be rainbow-coloured and that aliens could go shopping in outer space. The flow of their responses revealed that they were attentive to and were learning from each other. This aspect of (7) thinking interdependently allowed them to connect ideas and to develop related ideas. In Artwork 5.3, Van Gough's 'Bedroom at Arles,' B1 suggested that the child who might live in this room might be sick, because he noticed what looked to him like a bottle of medicine—a line of reasoning that was extended by other children. B5, for instance, added that he saw a bowl of porridge on the table (in Singapore, porridge is often associated with comfort food when one is ill). These and other findings are discussed in the next section in relation to the results of other, previous studies.

Findings in Relation to Other Studies

What started primarily as visual stimulation, triggered complex cognitive responses that involved children using descriptive language in naming and describing items, making logical and personal connections and communicating creative and imaginative thinking. The data indicated that 68% of the children's comments were related to personal connections, which went beyond mere labelling and describing. The children speculated by drawing on the resources of their memory, association and perception – based on past knowledge and experience (Venable 1998). This confirmed previous studies (Kerlavage, 1995; Savva, 2003; Savva & Trimis, 2005) that children respond to artworks based on prior interests, experience and backgrounds, because they are able to relate to them and find something in the art that they can associate with themselves (DeSantis & Housen, 2009).

The artworks clearly provided a suitable visual medium for the children to verbally express their thinking (Housen, 2002; Perkins, 2003). The children used their perceptual abilities and conceptual knowledge to respond to the artworks and also came up with imaginative settings and creative titles for each artwork. Housen's Aesthetic Development model (DeSantis & Housen, 2009), which forms the basis for Visual Thinking Strategies (VTS), includes personal and emotional factors and how viewers react to artworks. This approach is at variance with Parsons' (1987) Evaluative Stage Theory model which focuses more on how a hierarchical understanding of art is developed. Freeman and Parsons (2001), however, analysed the development of intuitive theories of art learners in terms of how they coordinate the elements, relations, and their assumptions to make sense of artworks. Their sequence of focusing first on the artwork, the subject matter of the artwork, followed by the artist, and then on the self as viewer, is not entirely dissimilar to the approach used in this research except that the role of the artist is not discussed. The focus on children's knowledge and interpretations of the artworks does not include their understanding of the relationship between the artist and the artwork that they produced, as considered by Parsons (1987), Freeman and Parsons (2001), and Milbrath and Trautner (2008).

Art viewing is most productive within the socio-constructivist context of group discussions, where interpersonal exchanges lead to the creation of new knowledge and provide a platform for children to consider multiple perspectives (Eisner, 2002; Heid, 2005; Mulcahey, 2009; Yenawine, 2003). The synergy of sharing observations offer children opportunities to compare insights, thoughts and feelings with other interpretations and to co-construct and modify these in the process.

When viewing abstract artworks, the children in the study responded intuitively and positively (Kerlavage, 1995; McGhee & Dzuiban, 1993; Savva, 2003; Savva & Trimis, 2005). This confirms views that children use their imagination in seeing new meaning in artworks (Savva 2003, 2009) and that their interest and imaginative responses indicate that their definition of symbols is largely open and fluid (Savva, 2009).

The results showed all 13 characteristics of Habits of Mind (Costa & Kallick, 2008) i.e. persisting, managing impulsivity, listening with understanding and empathy, thinking flexibly, metacognition, striving for accuracy and precision, questioning and posing problems, applying past knowledge to new situations, responding with wonderment and awe, taking responsible risks, finding humour, thinking interdependently, and learning continuously, were observed in varying degrees during the sessions. These broad-based dispositions were evident in the themes that emerged from the children's comments.

The literature related to previous studies indicates that, when children respond to artworks, they mainly comment on the content or subject matter without much elaboration (Gardner, 1973; Kerlavage, 1995; Mulcahey, 2009; Savva, 2003, 2009). However, the findings of this study showed that the children named, described, expanded, and elaborated on their observations. Children demonstrated an ability to infer cause and consequence, which went beyond mere labeling and describing, for instance, when one child said that the squirrel in the artwork was very fat because he ate lots of nuts.

This study, and previous research, demonstrates that art is a central medium of human communication. When children interpret images, they develop inventive problem-solving capacities, apply analytic and synthetic forms of reasoning, and learn to exercise judgment (House & Rule, 2005). Early exposure to the visual arts supports sensory and perceptual development which forms the foundation for early learning (Dunn & Wright, 2014; McArdle & Wright, 2014; Rudolf & Wright, 2015). These important findings have implications for early childhood education in general, and the place for viewing artworks within the curriculum.

Implications and Recommendations

This study adds to the body of research on understanding young children's responses to artworks and for developing strategies for art viewing with young children. The findings corroborate the view that young children are capable of appreciating art, make meaning from what they see, and articulate their thoughts and ideas. Educators should therefore invest time and resources to develop children's aesthetic skills by exposing them to artworks, listening attentively to their responses and facilitating this dialogic process.

As demonstrated in this paper, providing children with rich exposure to artworks not only nurtures children's visual perception skills but also offers ample opportunities for developing children's literacy and numeracy skills, their critical and creative thinking skills, their imagination, as well as their social interactions through discussion. Positive dispositions and Habits of Mind are developed in the process.

The purpose of viewing art as part of the art curriculum is primarily to build children's visual literacy skills and to develop their personal expression and critical thinking. The multiple points of views that surface encourage children to be open to and to embrace diversity in these formative years of their life. Through the process of viewing artworks in a group, children's individual and collective thoughts develop and expand as they influence and are influenced by one another's comments and ideas.

This study shows that viewing art in the early childhood classroom is a triadic interaction between young children, the artworks and the teacher, resulting in rich and rewarding art viewing experiences. These early connections with artworks have positive influences on young children's attitudes and dispositions towards art. The triadic interaction sets up richly textured, dialogic encounters that went into the children's personal lives, which were extended through their creativity and imagination. At times children's interpretative and relational responses elicited affective-embodied responses to the artworks, such as enactment through gesture and expressiveness through vocalisms (Wright, 2010).

Such responses have implications for the early childhood curriculum. Within the context in which this study was undertaken, an increasing emphasis on the arts in Singapore is led by the Ministry of Education (MOE). The aim is to nurture and develop artistic potential to build a generation with high self-esteem and confidence, and a strong sense of national and cultural identity (MOE, 2001, 2003). Much attention has been directed to developing the arts at Primary, Secondary and Tertiary levels but little has filtered down to preschools (NAC, 2011).

Yet, in 2012, more than 99% of 6-year olds had attended at least one year of preschool education (MOE, 2012). The influence of preschool teachers on young children's

development, including inculcating an appreciation for the arts, is therefore significant. Early childhood education is where the seed of learning begins, where dispositions are nurtured and where interests and attitudes are developed.

In August 2014, the National Arts Council (NAC) initiated two pilot programmes, the Arts Education Programmes (AEP) and the Artist-in-School Scheme for preschools (AISS) (NAC 2014). The AISS exposes children to arts lessons designed by arts practitioners and offers specialized arts training workshops by arts practitioners to enable preschool teachers to co-design and co-deliver arts programmes with the artists. Out of the 46 arts programmes available, 18 are related to the visual arts, of which only one has an art viewing component.

Art education is well-positioned to provide training in handling visual phenomena as a means of developing children's organization of thought, and providing training in language so that students can verbalise their thinking effectively (Arnheim, 1989). What young children think about and experience aesthetically is shaped by the quality of the art curriculum to which they are exposed (Eisner, 1985). This study emphasizes the importance of providing young children with opportunities to respond to art, which should become an integral component within early childhood contexts.

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