TEACHERS’ AND MOTHERS’ PERCEPTIONS OF USING CREATIVE ARTS TO DEVELOP CHILDREN’S POTENTIAL FOR CRITICAL THINKING

by

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This thesis is submitted as a partial fulfilment for the degree of Masters of Nursing (Research with Training) School of Nursing and Midwifery, Murdoch University.
I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

Caroline Nilson

Signature…………………………………………………..

Date………………………………………………………..
ABSTRACT

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

This study is based on the contention that rich descriptions of the behaviour of the children during the process of creating an art piece, as perceived by teachers and mothers of the children, will provide a better understanding of the influence of creative arts on the development and expression of critical thinking. Developing critical thinking dispositions in young people affords them the skills to make thoughtful choices.

This qualitative naturalistic, interpretive study sought to investigate the impact of children’s participation in a creative arts project on the development of critical thinking dispositions. The project was part of a major annual community event, during the first school term of 2010. Data on mothers’ and teachers’ perceptions were collected using focus groups and individual interviews, in addition to children’s letters, video footage and photographs of the activities.

The themes identified related to environmental factors influencing children’s creativity, the processes used to mobilise children’s creativity, the growth of the children through the experience of creative arts, the children’s development of confidence and the effects on the children having contributed to community event.
The finding of this study revealed creative arts participation was able to excite children’s imagination and mobilise creativity leading to an increased awareness of self and others, including the environment around them. Through the creative process children developed confidence and displayed visible indicators of problem solving and perseverance. Importantly they also demonstrated the development of skills for collaborative engagement, which is so vital in building individual, social and community capacity. In addition, this study identified the need for children to be exposed to creative environments in order to develop creativity and self-expression. These findings have important implications for the development of future education curriculum in addition to the development of community generated activities.
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CHAPTER ONE

INTRODUCTION

This thesis reports on the development of critical thinking dispositions and abilities in a cohort of children having been involved in creative arts activities. The study is conceptualised within the notion that there is a link between critical thinking and aesthetics. Critical thinking focuses on thinking that requires ‘reasonable and reflective judgment that enables decision to focus on what to believe or what to do’ (Ennis, 1991, p. 6).

As a basic notion, critical thinking involves the meaning and significance of observed experiences or expressed inferences. The concept of critical thinking is developed from the three basic analytical dimensions of logic, criteria and pragmatism. It is from these, that aspects of critical thinking have developed requiring precise intellectual and emotional judgment. For the most part, critical thinking results from belief rather than action (Glassner & Schwarz, 2007; Ennis 1962, 1963, 1991, 1998; Pithers & Soden, 2000; Smith, 2001). This is epitomized in a quote by Glaser (1941, p.409) “critical thinking... the awakening of the intellect to the study of itself”. More precisely, critical thinking is assessing the authenticity, accuracy, and/or worth of knowledge claims and arguments. Critical thinking requires careful, precise, persistent and objective analysis of any knowledge claim or belief to judge its validity and/or worth (Ennis, 1991, 1996).
A link between critical thinking and aesthetics can be made as an essential aspect of judgment. While Immanuel Kant is best known for his writings in metaphysics, epistemology and ethics, he developed an influential theory on the faculty or power of judgment, which is described as ‘finding the universal for the given particular’ and defines judgment as having two roles, ‘determining’ and ‘reflecting’ (cited in Ginsborg, 2005, p. 2). Kant declares that reflecting judgment can be further divided into aesthetic judgments and teleological judgment (cited in Ginsborg, 2005). Aesthetic judgment relies on the ability to discriminate at a sensory level and uses a combination of intellectual opinions, will, desire, preferences, values, subconscious behaviour, conscious decision, training and sociological institutions (Ginsborg, 2005; Zangwill, 2007). Teleological judgment is the practice of evaluating a decision against the criterion of whether the outcome achieves the original goal, ‘characterised as purposive or functional’ (Ginsborg, 2005, p. 3). Students who are involved in creative arts activities practise aesthetic inquiry and reflective thinking as they create their artwork, discuss their work and share it with others (Lampert, 2006).

There is a strong theoretical basis for the contention that the arts develop strengths in critical thinking dispositions and abilities (Efland, 1996 & 2004; Eisner, 1985; Lowenfeld & Lambert Brittain, 1970). Critical thinking dispositions develop through art as students engage in the act of developing unique, individualised solutions to opened aesthetic problems (Eisner, 1998). Aesthetics and learning are inexorably linked in regard to how we perceive and make decisions about the world.
around us (Dewey & Bentley, 1949; Eisner, 1985). As analysis of knowledge requires critical thinking, it is widely acknowledged that it is important for all sectors of education to develop this ability in their students.

Education is multidimensional and fosters the development of knowledge and understanding in a range of disciplines. Fundamental to education processes are the areas of psychology and sociology and neither must be neglected (Dewey, 1897 & 1934; Read, 1966). To enhance these areas within the process of education, it is suggested that education be infused with the arts (Anrezejczak, Trainin & Poldberg, 2005; Burger & Winner, 2000; Burton, Horowitz, & Abeles, 1999; Deasy, 2002; Grierson, 2006; Luftig, 2000; Richmond, 2009; Smithrim & Upitis, 2005). Art fulfils the psychological need for sense, imagination, feeling, spontaneity, language judgment and self-awareness (Caldwell & Moore, 1991; Efland, 2004; Mishook & Kornhaber, 2006; Richmond, 2009; Reid, 1985; Russell & Zembylas, 2007).

Teaching art forms, either visual or performing, embrace the concept of aesthetic growth, by connecting to social and personal life, building thinking dispositions and developing cognitive capacity (Efland, 1996 & 2004; Eisner, 1985; Lowenfeld & Lambert Brittain, 1970). Further to this, Richmond (2009, p. 104) suggests that art education emancipates students and allows for a ‘more independent vision, which is the basis of personal action and the subsequent shaping of a life of one’s own’.

Additionally, Richmond (2009, p. 104) suggests that student’s knowledge of self-awareness is increased allowing ‘self expression, informed by a rich vocabulary of
ideas…to enable dialogue about the things that matter – not just the artist – but also the life of a community’.

**Background to the Study**

The Mandurah Stretch Festival (MSF) is a major regional arts festival that uses arts and culture to connect the community. The festival was first presented in 2002 after a lengthy community consultation process that helped shape the concept for the festival. The intriguing name was decided by local artists who wanted a festival that would both ‘stretch’ the community’s notion of what the arts encompass as well as ‘stretch’ and challenge the artists involved. Today, it is a significant regional arts festival that attracts state and federal funding and considerable community support. The MSF is managed by the City of Mandurah with officers working closely with artists and community groups to develop and present the program. Mentally Healthy Western Australia, a major sponsor, embraces this opportunity to promote their *Act, Belong, Commit* message which is a perfect match with the festival agenda, and encourages individuals to participate in creative expression and experiences. One of the guiding principles of the MSF is to use the arts to strengthen our “sense of place” through celebrating culture, social inclusion and building community connections (City of Mandurah, 2009).

The researcher has been engaged with the MSF since 2006, when a cohort of third year nursing students studying Maternal and Newborn Health at Murdoch University School of Nursing and Midwifery held an exhibition of their reflective art
pieces. As the coordinator of the Maternal and Newborn Health unit the researcher believes that creativity is about problem solving and development of personal (deeper) well-being (Nilson, 2008). Similarly, the MSF Committee believes that nurturing critical and creative thinking at an early age is essential to building community capacity (C. Marks, personal communication, 8 March, 2010). It is through this connection that the researcher has collaborated with the festival coordinator to obtain support for the study and to access the prospective participants (Appendix D).

The study included the three participating schools and one independent art group contributing to the exhibits. The City of Mandurah assigned each school and the independent art group, an artist-in-residence. This was done with the aim of engaging the students, teachers and artists in a creative partnership to develop new skills and understanding, while offering new ways of teaching and learning. The artist-in-residence program also aims to draw together different learning areas of the Western Australian Curriculum Framework, as well as create a link to the local community and professional art world (WA DoCA, 2007).

When considering the importance of arts to a community and to education Efland (1996) discusses a threefold interlocking framework. The framework considers an economic organization, a civic organization and a spiritual-cultural organization. To examine how art can be used as a connection to community, culture and education, Burke (2005) collaborated with an artistic team in a project using an
immersive productive pedagogical framework. The project took place at Yarra Junction, Victoria, offering workshops, seminars, walks and community events with over 450 community members participating. It was found that the immersive productive pedagogical framework saw teaching and learning as a two-way process that encouraged modes of inquiry such as botanical, historical, physical and aesthetic ways of knowing. Performing arts and visual arts are provided for entertainment; however the act of creation is the essence of one’s purpose and is essential for continued progress as humanity (Guetzkow, 2002; Johnson, 2006; McManamey, 2009; Walker & Sherwood, 2003). In a Cultural Participation Survey, carried out in ten localities across the USA, Walker & Sherwood (2003) found that diverse segments of society enjoyed varied cultural experiences by utilising community venues, which provided people with the opportunity to become active in social and civic life. Educationally, students are defined by the arts and express their creativity, but more importantly the students in turn shape the culture of their community by applying inherent concepts learnt by the arts to progress in all arenas of life (Johnson, 2006; Joseph, 2010). In the rapidly changing world, arts must no longer exist to merely illustrate and entertain (Aprill, 2001; Chapman, 2001, Florida, 2002, 2005; Felten, 2008; Richmond, 2009). Through the creative process children develop confidence and display visible indicators of critical thinking and importantly develop skills for collaborative engagement so vital in building individual, social and community capacity.
Stimulating an intellectual environment with creativity is considered an essential ingredient to the building of urban economics as it has the capacity to innovate, which in turn creates regional success (Florida, 2005; Grierson, 2006). As knowledge is invested with economic values, knowledge-based professions like law, finance, health care and education need to engage with the creative sector, which includes arts and culture, to enhance the enterprise framework to create environments which allow holistic living, crucial to self-knowledge and self-expression (Florida, 2005; Grierson, 2006).

This study sought to examine the impact of a creative endeavour on approximately 150 children, aged between eight and nine years of age, from a wide demographic in the Peel region participated in the creative arts projects. The art pieces were exhibited in the Main Street of the City as well as in the Performing Arts Centre for the four day duration of the event. The researcher gathered the data in June 2010, once the MSF was over. Descriptions of the behaviour of the children during the process of creating their art piece, as perceived by teachers and mothers of the children, was examined to provide a better understanding of the influence of creative arts and the development and expression of critical thinking in young children.

**Significance of the Study**

While there is an abundance of literature on arts education, art and creativity and art and children’s development as a whole, there is little published on the
A world first study to track children’s well being and health, the Peel Child Health Study (MU, 2009) aims to look at the physical, social and family environments including education, culture and recreation of approximately two thousand families. The findings of this study will contribute and inform the Peel Child Health Study as it seeks to investigate how current service provision in the community impacts on child development.

In addition this project may be significant in identifying the importance of the exposure of children to creative arts and the development of critical thinking dispositions. Identifying environments that are nurturing to attitudes and aptitudes of critical thinking may have positive implications on children’s development. Furthermore, identifying environments that nurture critical thinking dispositions may have potential implications for future education curriculum development, and collaborative programs between schools and community arts organisations.

Understanding the mechanisms of creative arts impact on the community is of critical importance. The impact refers to cultural and social development; however there is the consideration of economic impact as a direct effect. The community refers to the individual, either as a participant or an observer and the collaborative
involvement between art organisations, schools, and community arts groups. This study may be significant in supporting the arts impact on self-awareness, confidence, cognitive function and critical thinking abilities. These have important implications for the development of children for their future adult life and the impact on social and community capacity in the Peel region.

Purpose of the Study

The purpose of this qualitative naturalistic interpretative study was to explore and examine the ability of using creative art to develop children’s potential for critical thinking as perceived by mothers and teachers of those children involved in an arts activity.

Research Questions

These perceptions were explored by capturing the thoughts, feelings and reflections through interview and discussion, of the mothers and teachers of the children, soon after the arts activity was complete and the Stretch Festival had concluded. This research is guided and directed by the following research question:

- How does creative art influence the development of critical thinking in a cohort of children between eight and nine years, living in the Peel region?
Glossary of Terms

For the purpose of this study the following terminologies are defined:

*Cognitive flexibility*
Cognitive flexibility is the ability of a learner to represent concepts and ideas in multiple forms and ways. It develops as a quality of mind to enable learners to use their knowledge to interpret, adapt and apply their knowledge in contexts different from those to where the learning or skill was first gained (Efland, 2002).

*Community capacity*
Community capacity is the interaction of people, organizations and society within a community that is aimed at problem solving and improvement or maintenance of well-being of that community. It may operate through informal social processes and or organised efforts of individuals, organizations and social networks of which the community is a part (Chaskin, Brown, Venkatesh & Vidal, 2001).

*Creative thinking*
Creative thinking involves a dynamic interplay between generating ideas and making judgments about them as well as looking at problems or situations from a fresh perspective that suggests unorthodox solutions (Isbel, & Raines, 2007).

*Critical thinking*
Critical thinking shows an attitude of being disposed (state of mind regarding something) to consider in a thoughtful way the problems and subjects that come within the range of one’s experience (Ennis, 1991; Glaser, 1941). It involves
conceptualising, applying, synthesising and evaluating information so as to guide a belief or action.

**Deductive reasoning**
It is a method of reasoning from the general position to the more particular. It is employed in deriving principals from the observed phenomenon (Ennis, 1991).

**Individual capacity**
Individual capacity is the set of social attributes possessed by the individual which are defined by the level of knowledge, health (physical and emotional), skill (physical, social and linguistic) and general abilities (cognitive and functional) that contribute to the individual’s ability to function (Roberts & Lacey, 2008; ).

**Inductive reasoning**
It is a method of reasoning from the specific observation to broader generalisations and theories (Ennis, 1991).

**Perception**
Perception is a process conceived by the intervening between stimuli. This results in a discriminatory attitude, thus the ‘reaction becomes the perception’ (Garner, Hake & Eriksen, 1956 p. 149).

**Reflective thinking**
Reflective thinking is a systematic, rigorous, disciplined way of thinking that requires active, persistent, and careful consideration of a belief or supposed form of knowledge. It moves the learner from one experience to the next with deeper understanding of its relationships with and connections to other experiences and ideas. The learner becomes aware of and controls their learning by actively assessing
what they know, what they need to know, and how to bridge the gap in knowledge (Dewey, 1933).

**Self-awareness**

Self-awareness is a developmental process that develops through positive social, intellectual, emotional and psychological experiences and results in the awareness of the individual to function as a whole in society (Lowenfeld & Lambert Brittain, 1970).

**Self-expression**

Self expression is an unstructured and uncontrolled ability to demonstrate in constructive forms to an individual’s feelings, emotions and thoughts, at his / her own level of development (Lowenfeld & Lambert Brittain, 1970).

**Social capacity**

Social capacity refers to the connections among individuals and the reciprocity and trustworthiness that arise from the social networks (Putman, 1995).

**Structure of the Thesis**

The introductory first chapter of this Thesis has provided the background, significance and purpose for this research study. The study is guided by three research questions, which have been explained.

The literature review pertinent to this study is presented in chapter two. The review explores the relationships of art education and art participation to the
development of creative and mental growth in children including their social well-being and its relationship to social capacity and community stability. In particular, the literature reviews the influence and effects of art education on the development of critical thinking in children. Additionally, the review discusses the most recent literature on the snapshot of early Australian childhood development with emphasis on five developmental domains of; physical health and wellbeing; social competence; emotional maturity; language and cognitive skills and communication and general knowledge.

The methodology used for this study is presented in chapter three. Included in this chapter is the discussion of the research method, setting, sample selection and data collection, with a detailed description of the data analysis. Ethical implications are also presented within this chapter. The limitations of this study are discussed at the end of this chapter. This chapter also presents the theoretical framework of the Super-Streamlined Concept of Critical Thinking Framework (SSCCTF) (Ennis, 2010). The framework has evolved over fifty years and is grounded on an analysis of the elements in decision making about “what to believe or do” (Ennis, 1991).

The findings from the qualitative data analysis are discussed in chapter four. The emerging themes and sub-themes are presented including discussion on additional supporting data obtained during the course of the study.
Chapter five provides the discussion of the findings and the conclusion to the study and also presents recommendations for equitable and inclusive community arts activities, a greater incorporation of creative arts within education curricular and the requirements for future research. The theoretical framework and the existing body of relevant literature are discussed in relation to the study findings.
CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents a review of the literature relevant to this study. The literature was investigated in three main areas: children’s cognitive and psychosocial development; arts in children’s educational experiences and in the development of knowledge; and the development of critical and creative thinking and its role in individual, social and community capacity. The purpose of the review was to evaluate and summarise what is known or not known about the broad groups highlighted in the three main areas. The goals were to use the review to focus the research, avoid duplication of the research and to continue from where others have reached. Additionally, the review was able to guide the establishment of the theoretical framework and methodological focus of the future study.

Using a concept map to direct the literature search (Appendix A) the following keywords were used to generate the relevant articles and papers: Creative arts, arts education, art therapy, aesthetics, aesthetic knowledge, spirituality, emotions, empathy, education, learning, teaching, pedagogy, critical thinking, creativity, cognition, community, community capacity, social capacity, caring, developmental theory, children’s developmental stages, arts and the brain. The
literature reviewed dates from 1962 to 2010, however, there were references used that date outside this main period, which were relevant and significant to a few themes of interest and relate to seminal theorist works. Using the Murdoch University Library portal, the domains of Nursing, Business and Economics, Education, Community Development, Psychology and Philosophy were selected. The following electronic databases were searched:

- Miditext (informit)
- Proquest
- APAFT/APAIS
- JSTOR
- Education (Informit)
- PsycINFO (CSA)
- Humanities Index (Ovid)

- SCOPUS (Elsevier)
- MEDLINE
- MAIS
- MLA Intl Bibliography
- SAGE Journals Online
- Wiley Interscience

- CINAHL with full text
- Cochrane Library
- Academic OneFile (Gale)
- ERIC (CSA)
- EconLit (OvidSP)
- ScienceDirect (Elsevier)

Directed by the ‘critical thinking’ avenue in the concept map, the Theoretical Framework based on the Robert Ennis’s Super-Streamlined Concept of Critical Thinking Framework, has been selected to guide this study (2010).

**Children’s Cognitive and Psychosocial Development**

Development refers to an increase in capability and function, which emerges in a complex manner as a result of the relationship between stimuli and support in the environment and the child’s innate, specialised functional capacity (Ball & Bindler, 2008; Crisp & Taylor, 2005). Child development is complex and theorists have endeavoured to organise their descriptions of each facet of development into stages
(Ball & Bindler, 2008; Crisp & Taylor, 2005). In Piaget’s four-stage theory the preoperational years of between two and seven give rise to transductive reasoning, the ability to draw conclusions from one issue to another (Ball & Bindler, 2008; Crisp & Taylor, 2005; Van Wagner, 2009). In the concrete operational years between 7 and 11, transductive reasoning develops to an understanding of cause and effect and further develops into a fully mature intellect in the formal operational years from 11 to adulthood (Ball & Bindler, 2008; Crisp & Taylor, 2005; Van Wagner, 2009). The Vygotskian Sociocultural Developmental Theory places less emphasis on the transitions from stage to stage but rather the scaffolding of interactions with physical objects as well as people to develop cognitive processes and construct knowledge (Brooks, 2002; Sample, 2002; Vygotsky, 1962).

Cognition

Lev Vygotsky (1962; 1978) a seminal theorist in the development of cognition argued that the cognitive development of an individual is gained in a social context and is “directly determined by stimulation by the environment” (1978, p.39). He argued that when speech and practical activity converge it plays a primary role in structuring human cognition that is socially based and contextually situated.

The architecture of the brain and thus the person as a whole depends on the mutual influences of experience, environment and genetics, therefore the environment and early relationships of a child matters (Bodrova & Leong, 2007;
Brooks, 2002; NSCDC, 2004a, 2004b, 2005, 2007; Thompson, 2001; Wake, Sanson, Berthelsen, Hardy & Mission, 2008). In their psychometric study to examine the genetic and environmental influences upon elementary cognitive tasks in school-age children, Petrill, Thompson, & Detterman, (1995) and Petrill, Luo, Thompson & Detterman (1996) examined 287 pairs of twins who all lived in a six-county area surrounding Greater Cleveland, Ohio. All twins were given achievement tests and a battery of intelligence tests. The data suggested that an individual difference in biological functioning was not solely responsible on genetic variance, but the environmental impact around them. As the brain learns by continued statistical input, incremental experience is crucial for learning and knowledge construction in young children (Goswami & Bryant, 2007).

Cognitive skills such as memory, spatial reasoning, quantitative and verbal abilities have been recognised as dimensions of general intelligence (Petrill et al., 1995; Petrill et al., 1996; Plomin & Spinath, 2002). The process of cognitive skills development involves a causal chain, where earlier developmental stages shape what will happen in later developmental stages, and specific deficits in early life have a cascading effect on subsequently acquired behaviours (Casey, Tottenham, Liston & Durston, 2005; Elman, 2005). In their review of medical imaging literature on neurobiological cognitive development Casey et al. (2005), suggested that cortical function becomes fine tuned with incremental experience, developing the sensory and motor processes first which in turn involves the top-down control of behaviour. They
also noted that the developmental course of the human brain was most rapid from birth to six years of age.

Beliefs and values are acquired in social settings and not in isolation. The cognitive tasks underlying the acquisition are the coordination of subjective and objective components of knowing (Dewey & Bentley, 1949; Eisner, 1985; Kuhn, 2001). Cognition evolves biologically and distinguishes desirable from hostile targets to focus on what if crucial and relevant and requires the combination of intellectual and intuitive cognition (Ayres & van Gog, 2009; Grossberg, 1980; Grossberg & Gutowski, 1987). The development of judgement and decision-making during childhood fluctuates between analytic competences and heuristics (Grossberg, 1980; Grossberg & Gutowski, 1987; Jacobs & Klaczynski, 2002; Stanovich & West, 1998, 1999). Even young children use base-rate statistical judgments to make social decisions, where judgement biases appear to be linked to increase in knowledge (Grossberg, 1980; Grossberg & Gutowski, 1987; Jacobs & Klaczynski, 2002).

Cacioppo, Petty, Feinstein & Jarvis (1996) reviewed over 100 empirical studies relating to the manner in which information is acquired to guide, judgement, behaviour, perceptions and the need for cognitive development. They note that there are individual differences which range from people whom possess low intrinsic motivation to engage in cognitive endeavours and those with high motivational curiosity for cognition, which appears to be a life force. The differences in high and low cognitive drive are derived from past experiences and are subject to dispositional as well as situational influences.
Learning occurs during ‘sensitive periods’ of brain function and certain capabilities and capacities are shaped or altered by experiences and influence the development of the individual’s social and emotional behaviour (Berardi, Pizzorusso & Maffei, 2000; Bolhuis & Honey, 1998; Knudsen, 2004; Scott, 1962). Sensitive periods are reflected in the form of a behavioural response; however they are the actual property of neural circuits (Knudsen, 2004). Irreversible changes to brain function can occur when an adverse experience occurs during a ‘critical period’, which is a specific class of sensitive period (Berardi, et al., 2000; Knudsen, 2004). Cognitive, emotional and perceptual capabilities are powerfully shaped during these periods and in order to develop normally each experience must be of a certain kind and must occur within a certain period (Beradi et al., 2000; Bolhuis & Honey, 1998; Bottjer & Arnold, 1997; Deadwyler & Hampson, 1997; Knudsen, 2004; Noack, 2007; NSCDC, 2004a, 2004b, 2005, 2007). In their empirico-analytical research conducted on mice, Majdan & Shatz (2006, p. 656) were able to demonstrate that past visual experience establishes a history in the brain and thus ‘past visual experience is also required to drive progressive and systematic changes in gene regulation’. Therefore experience-dependent encounters foster new brain growth and refine existing brain structures (Berardi et al., 2000; Grossberg, 1999; Knudsen, 2004, Majden & Shatz, 2006; Thompson, 2001).

Vision and visual object recognition are one of the main aspects of perception and cognition and is the most efficient mechanism for acquiring knowledge (Eisner,
In his book “Inner Vision”, Zeki (1999), a recognised expert in visual neuroscience wrote:

The function of art is thus an extension of the function of the brain…the seeking of knowledge in an ever-changing world. This seems so obvious that it is surprising that the connection has not been made before. There are good reasons for this and they lie in simple anatomical and pathological facts (p. 12).

In a visual ethnographic study examining 22 children aged five and six years old, Brooks (2005) investigated the relationship between interpersonal and intrapersonal drawing dialogues. The drawings provided a mode of classroom exchange and demonstrated an insight into the thinking ability of the children and a record of cognitive development, a synthesis of thought body and emotion. Drawing supports higher mental function by mediating between scientific concepts and spontaneous concepts and is considered a powerful metacognitive tool (Richards, 2007; Wright, 2007).

To explore young children’s three-dimensional awareness and representational abilities Pavlou (2009), conducted a small-scale ethnographic study of a group of ten five and six year olds from a kindergarten in Nicosia, Cyprus. The children were asked to create two and three dimensional art works which allowed experimentation with shape, colour and materials. Pavlou (2009) suggests that five and six year old children have the cognitive capability to represent their experiences and interests through three-dimensional artwork, and additionally to imbed representational issues such as balance, stability and movement.
**Emotional development**

Emotional development is also a critical aspect of development and results in the competent adaptation of social and emotional intelligence in adult life (AEDI, 2009; Bates, 1994; Dewey, 1894a, 1894b; Dunn, Brown & Beardsall, 1991; Dunn & Cutting, 1999; Gordon, 2005; Hughes & Dunn, 1998; Mead, 1895; Montag, Gallinat & Heinz, 2008; NSCDC, 2004a; Smith, 2009; Sutton, Smith & Swettenham, 1999). It is an adaptive process for humans to extract an emotional event from visual stimuli and a series of preconscious processes determines what will be accessed by awareness (Alpers & Pauli, 2006). To test this hypothesis, Alpers & Pauli (2006) recruited 46 participants from the University of Wurzburg in Germany. Using a perceptual phenomenon called binocular rivalry, two incompatible pictures were presented to both eyes; a neutral picture to one eye and an emotional picture to the other. The pictures included images of negative and positive valence. Increased visual cortex activation was also evidenced. To test the motivational systems mediating emotional responses, Codispoti, Bradley & Lang (2001) conducted a scientific observation study on 51 participants recruited from the University of Florida. It was shown that affect reactions (startle reflex, skin conduction and heart rate) to briefly presented pictures prompted a type of ‘natural selective attention’ and viewing pleasant images elicited sustained positivity that accentuated the emotional response (Codispoti et al., 2001, p. 477).
Furthermore, from the findings of a correlational design study using a total of 360 participants from Kyoto University and Toyama Prefecture University in Japan, Takahashi (1995) concurred that pictorial perception is associated with a high-level experience and that considerable semantic differential is determined. The study aimed to gain an insight into the interactions involving perceptual experience and conveyed expressive contents. The findings revealed a close relationship between perceptual and conceptual structures, suggesting that the presence of specific visual concepts may activate one’s knowledge of affective categories.

Gallander Wintre & Vallance (1994) conducted an empirical study to test whether a developmental sequence of the acquisition of emotional response can be produced from a combination of multiple & varying intensity emotional exposures. A total of 80 children between four and eight years of age, from two public day care centres and two public junior schools all of southern Ontario, Canada, were interviewed. In confirming the hypothesis they also determined that cognition is not solely responsible for emotional development, but is reliant on socialisation among children and individual variation in the understanding of emotion. Using a descriptive design, Dunn et al. (1991) conducted a longitudinal study to address the individual differences in family discourse about feeling and emotion significance. Forty-one sibling pairs and their mothers from Cambridge, England were observed when the second child was 36 months. The findings confirmed that children whose families frequently talked about feeling-states were better at making judgments about emotions. Hughs & Dunn (1998) conducted a longitudinal study of 25 pairs of
friends recruited from nursery schools in South London and Kent, England, to
determine the degree of interactive cooperation (mind & emotion) during didactic
play. The findings support the hypothesis that children’s social experiences play an
important role in cognitive development and enrich children’s learning about others’
minds. To further test children’s capacities for social relationships (empathy,
comfort, frustration, sharing, teasing, deceiving, negotiation, compromise) Dunn &
Cutting (1999) recruited 128 children identified to have a close friend. The children
came from middle class and working class backgrounds and attended nursery schools
in South London. Descriptive statistics for children’s characteristics, hyperactivity
and pro-social behaviour towards friends were reported. Secondly characteristics of
children and friends were reported, as were correlations between interactive
behaviour with their friends. Thirdly, using multiple regression analyses, selected
interaction variables explained by child and friend characteristics were investigated.
The results confirmed that even in early childhood, friendships play an important role
in supporting children through transitions and stresses and foster social development.

**Social development**

Social conditions in which humans develop and function can either develop beings
that are proactive and engaged or passive and alienated (Bear & Rys, 1994; Gordon,
Bearison & Cassel (1975, p. 30) hypothesised that ‘children from relatively person-
oriented families are more effective communicators than children from relatively
position-oriented families’. The study recruited 37 children, 20 boys and 17 girls, with a mean age of 6.7 years from families predominantly of professional and managerial occupations in New York. Their findings were in general agreement with the hypothesis. In effect children from person-oriented families realise individual roles and develop communication competence (Bearison & Cassel, 1975). Children from less nurturing environments experience a disruption in the development of an ‘appropriate working model of human interaction’ which can result in aggressive, anxious and insecure individuals (Sutton et al., 1999, p. 118). Aggression in children is often thought to arise from deficiencies in metacognitive ability (understanding, control, and manipulation of cognitive processes) resulting from abnormal experience, which disrupts normal adjustment (NSCDC, 2004a, 2005; Sutton et al., 1999). Using a comparative design study Bear & Rys (1994) measured four moral reasoning dilemmas in a sample of 133 second and third grade children from the mid-Atlantic region of the USA. The sample included children with various levels of social adjustment. Presented in each dilemma was a situation of a child in need. Response categories typically found among primary school children were used to score responses (Eisenberg, 1983 cited in Bear & Rys, 1994). The score ranged from level one; demonstrating self focused orientation (hedonistic reasoning) to level four; demonstrating self-reflective, internalised and empathic orientation. The findings suggested that children with conduct problems displayed hedonistic (lacking empathy) reasoning rather than needs-oriented reasoning, which result in antisocial behaviour which in turn typically leads to peer rejection.
Children, who are manipulative and covertly aggressive as reported by their peers, yet display traits that suggest that they are socially skilled and well integrated to others are being referred to as “Bistrategic Controllers” (Hawley, 2003; Sutton et al., 1999). In a study using a correlational design Hawley (2003) reported that ‘bistrategic children consistently scored among the top two groups on each and every moral variable’ and were perceived by peer groups ‘to be the most popular’ (p. 230). The study involved 163 children, their families and teachers from six preschools in New Haven Connecticut. The moral variables included overt and relational aggression, guilt affects, rule reason, emotion reason and empathy reason as well as aggressive and socially acceptable strategies. Never the less, a high level of childhood aggression is a predictor of adult anti-social and criminal behaviour (Gordon, 2005). There have been nine independent evaluations of a program called “Roots of Empathy” (ROE), which was designed by Mary Gordon in 1996. The programs runs in 1223 schools in nine provinces across Canada and internationally the program is now offered in the Isle of Man, the United States, New Zealand and Australia. The goals of the program are to increase levels of emotional competence and pro-social behaviours which in turn decrease levels of aggression (Gordon 2005). The executive summary concluded that children participating in the program showed increased social and emotional understanding and a decrease in aggression (Berkowitz, 2009). Creative arts are an integral element in the ROE program (Gordon, 2005). Using art, children learn to identify their emotions in an unabridged expression, which represents the depiction of life events and creates an opportunity for reciprocal empathy (Gordon, 2005). In their evaluation of ROE programs in 17
Western Australian Schools, Kendall, Schonert-Reichl, Smith, Jacoby, Austin, Stanley et al. (2006) reported that teachers perceived an increase in pro-social behaviour and an enhanced ability of children to manage aggressive emotions positively.

*Deductive and inductive reasoning*

Children’s deductive reasoning is based on propositional logic, quantificational logic and cause–effect logic (Gopnik, Sobel, Schulz & Glymour, 2001; Kodroff & Roberge, 1975; Roberge & Paulus, 1971). In a descriptive design study Roberge & Paulus (1971) evaluated 263 children’s abilities to reason. The subjects were drawn randomly from three public schools in south-eastern Connecticut and were at specific grade levels of fourth, sixth, eighth and tenth grade. The Paulus Conditional Reasoning test and the Paulus-Roberge Class Reasoning test evaluated the children’s reasoning abilities. These tests were adapted from the Cornell Conditioning and reasoning tests (Ennis & Paulus, 1965 cited in Roberge & Paulus 1971). Based on six basic principles of deductive reasoning and three content dimensions, a selection of premises and conclusions were presented to the children. The results demonstrated a psychological and pedagogically feasibility to introduce learning content that stimulates reasoning ability as early as the fourth grade. By means of a systematic analysis on 36 subjects from grades one to three, who were randomly selected from a lower-middle-class public school in New Jersey, Kodroff & Roerge (1975) supported
Establishing causal relationships, among events is an inductive reasoning ability that children develop through lived experiences (Ferrara, Brown & Campione, 1986) and is explained as follows: when there is good reason to believe that an event of one sort (the cause) may be systematically related to the event (the effect), it may become possible to alter the environment by producing (or preventing) the occurrence of an event causal learning is of significant importance to theory formation and is an essential element in deductive reasoning (Gopnik et al., 2001). To identify children’s learning mechanisms more precisely Gopnik et al. (2001) conducted three studies which profoundly changed their view on cognitive abilities. Thirty eight, three and four year old children from two preschools in the Berkley, California participated in the first study. The second study recruited 20, 30 month old children from a list of babies born in an urban area of Berkley, California. Twenty four, three and four year olds were recruited for the third study from two differing preschools again from Berkley, California. The children were tested using a one-cause and two-cause tasks. The researchers investigated whether children would combine new information with prior causal knowledge in order to develop new inferences. They suggested that children as young as two years of age draw causal conclusions and the learning experiences need not be limited to types of causes for particular effects, but alternate types of causal entities that allow mental representation and explain psychological phenomena.
Recent work on thinking and reasoning in cognitive development has suggested a dual-process model. The heuristic system responds to the properties of holistic stimuli and is determined by evolutionary adaptation, whereas the analytic system relies on computational components of information processing and is responsive to environmental experiences and together result in ‘theory of mind’ (ToM) (Carlson & Moses, 2001; Carlson, Moses & Claxton, 2004; Kokis, Macpherson, Toplak, West & Stanovich, 2002). In recent work done by Gweon, Tenenbaum & Schulz (2010; 2009) and Gweon, & Schulz (2010), their findings suggest a correlation between causal learning and ToM. ToM is a central component of executive functioning and is the ability to attribute mental states such as pretending, knowledge, beliefs, intents and desires (Carlson & Moses, 2001).

Inhibitory control (IC) is an important development in the first six years of life and is contributory to a wide range of cognitive abilities, including memory, attention, intelligence, emotional regulation, conscience and social competence (Carlson & Moses, 2001; Carlson, Moses & Claxton, 2004). In a correlational design study to test whether children who show deficits in IC also have ToM difficulties, Carlson & Moses (2001), recruited 107 pre-school children from Eugene, Oregon. To measure IT and ToM the children were given multitask batteries which measured multitask control and motor sequencing. Data was also gathered from pretend-actions tasks and parental reports. In the opinion of the researchers IC may well play a role in the expression of children’s ToM. In a later study, Carlson et al. (2003) investigated forty-nine preschool children from the metropolitan area of Seattle Washington and tested individually for IC, ToM and planning abilities. The findings suggested that ‘IC and
ToM are closely bound together during development' and that other aspects of executive function, such as working memory (WM) are a key factor. The centre of cognitive capacity is the human memory system and in particular the relation between working and long-term memory and all conscious learning, takes place in WM. WM is a very specific cognitive ability and is believed to underpin most executive skills (Ayres & van Gog, 2009; Carlson, Moses, 2001; Carlson, Moses and Breton, Carlson et al., 2004). Forty seven European American preschool children were recruited for a study to examine the contribution of IC and WM to ToM (Carlson et al., 2002). The measures consisted of two verbal and two performance tasks, a ToM Battery, an IC Battery and a WM Battery. The findings suggested that IC and WM relates strongly to false belief performance and conflict tasks whereas delay tasks impose only on WM demands, thus prompting the researchers to propose that a combination of IC and WM is critical for mental state attribution.

Changing influences on children’s cognitive and psychosocial development

Play contributes to children’s psychological, social and cultural growth and the mastery of cognitive communication and emerges through infancy and progresses to late childhood (Evans, 2000; Magsamen, 2009; Parmar, Harkness & Super, 2004; Valentine & McKendrick, 1997; Veith, Bagley, Ball & Salmon, 2006). Children need to play in the natural environment to develop a sense about it and their place within it (Evans, 2000; Isbell & Raines, 2007; Voight, 2010). There is debate about whether
children play less today than they did years gone by, however there is little argument that the type of play is different (Evans, 2000; Tandy, 1999; Voight, 2010).

In the 1950’s children where “seen and not heard” and grew up with confidence and a sense of perspective about their place in the society (Tandy, 1999). In part this could have been attributed to greater play freedom which involved playing outside the home and investigating the environment, generally with friends from the neighbourhood (Tandy, 1999). Consequently, children generated their entertainment within their imagination (Tandy, 1999). In an intergenerational study in New South Wales, Australia, where 421 children and 165 parents were surveyed, Tandy (1999) explored the changing play patterns between the two generations using two structured questionnaires; one for the child (today’s child) and the other for a parent (yesterday’s child) of the participating child. In addition the today’s children were asked to submit a picture story describing what they would choose to do on a sunny day. The findings indicated that yesterday’s children were permitted to investigate and explore their environment more than today’s children. The most popular activities revealed from the pictorial stories, were in the category of ‘passive outdoor activities’; family picnics and beach outings. The second most popular category was that of ‘physical outdoor activities’; water skiing, motorcycle riding and fishing. These activities often requiring adult accompaniment, challenging children’s own decision making capabilities. The ‘commercial entertainment’ category, entertainment provided at a price, featured in third place; cinemas and indoor theme parks and arcades. Interestingly, the fast food outlets featured frequently in the
drawings. The author concluded that the home appeared to be the consigned place of play, when there was no choice due to a lengthy ‘out of bounds’ list, however given the choice, the majority of children would choose outdoor options (Tandy, 1999).

In a study exploring children’s outdoor play, in North-West England, Valentine & McKendrick (1997) had 400 responses from parents with a child aged between 8 and 11 years of age. In addition, 70 households took part in semi-structured in-depth interviews. The researchers reported that the vast majority of the parents claimed to be dissatisfied with the provision of public facilities for children’s play in their neighbourhoods. However, underlying the dissatisfaction, it seemed that a fear about children’s safety in public places was a cause for them to shield their children from such environments. The safety issues highlighted were poorly maintained playgrounds, traffic concerns and stranger-danger, with many linking their fears to contemporary anxieties about child abductions and murders, teenage gangs and the increasing juvenile crime rates. These findings were similar to a later study exploring the perceptions of parents from a range of socio-economic areas in Melbourne, Australia (Veitch, Bagley, Ball & Salmon, 2006). The qualitative study involved face-to-face interviews with 75 parents. The parents identified that concerns for safety was the greatest impediment to their child’s independence.

These problems are even greater it seems in the high density housing areas and has come about because of growth of the cities where there is either no backyard or it is too small for games typical of childhood (Evans, 2000). By virtue of the built
environment, concern for safety and traffic increases, there are restrictions imposed on children. Evans (2000, p. 38) suggest that children are ‘tethered’ and while they wait for the parents to arrive home or to take them to an extracurricular activity; they occupy their time with video and computer games or television. There is also suggestion that aesthetics is more important than functionality and in homes that do have yards, appearance has meant that gardens are carefully planned and lawns manicured and are “out of bounds” for children’s play (Evans, 2000).

Computer, video and digital games as well as television, mobile phones and MP3 players provide ready entertainment, however they also encourage passive thinking (Voight, 2010). In addition, the repetitive nature of violent acts viewed using electronic entertainment increases children’s tendency to act the behaviour out in real life (Robinson, Wilde, Navracruz, Haydel & Varady; 2001 ; Voight, 2010). Repetitive methods have long been considered an effective teaching method in reinforcing learning patterns. Children spend a great deal of time with violent video games at exactly the ages that they should be learning healthy ways to relate to other people and to resolve conflicts peacefully (Robinson et al., 2001). Gentile, Lynch, Linder, & Walsh (2004) report that the amount of time children spend playing video games is increasing. Descriptive data was gathered from 607 grade eight and nine students from four schools in the Midwest of USA. The findings suggested that on average boys spend 13 hours per week and girls spend five hours per week playing video games. Robinson et al. (2001) suggest that some video games may increase aggressive behaviour. In their randomised control trial of 51 control school children
and 50 intervention school children, the researchers’ objective was to assess the effects of reducing video games and television viewing on aggressive behaviour. The findings suggested that frequent playing of violent video games is related to having more aggressive, behaviours, thoughts and feelings and children being less caring and helpful towards their peers.

Parent’s cultural belief systems have also been shown to influence children’s home environments. In a study to explore differing parental ethnotheories on child development in North-East Connecticut, USA, Parmar, Harkness & Super (2004) reported that Asian parents believed academics to be more important than play and restricted their children’s engagement in pretend play, spending more time learning early maths skills, alphabet and number games and learning through the computer. The participants were parents of children aged between three and six years old, from three preschools. The Asian parents stressed that getting ahead academically was important for their children’s cognitive development. Other research has reported similar findings by reporting that Korean, Chinese and Japanese parents placed more value and importance on educational instruction, which they considered an important practice for the success of life (Chao, 1996; Farver, Kim & Lee, 1995).

It appears that the decline in children’s free-play and spontaneous self-directed game culture has been paralleled by a growth in adult organised sports and activities (Evans, 2000). Fewer children are involved in outdoor play in a peer setting where children are the players. The trends are for children to be the pawns in
activities governed by adults and thus parents are becoming important agents in the socialisation of their children (Anderson, Funk, Elliott & Smith, 2003; Evans, 2000). Many children today are involved in multiple extracurricular activities from as young as seven years of age and while there have been studies that provide support for extracurricular activities for the facilitation of positive self concept and higher academic achievement (Blomfield & Barber, 2009; Steinberg, Lamborn, Dornbush & Darling, 1992) there is growing concern regarding the perceptions of parental expectations for unrealistic achievement (Ablard & Parker, 1997, Anderson et al., 2003; Luther & Becker, 2002; Luther, Shoum & Brown, 2006). Research by Anderson et al. (2003) was designed to provide recommendations for parental behaviour modification towards their children’s achievement in extracurricular activities. There were a total of 238 participants aged from 9 to 11 years who were recruited from the Cleveland and Toledo areas in the USA. The study measured children’s perception of their parents’ involvement in their extracurricular activities. The findings indicated that the children perceived two different types of involvement. One being “support” which involved facilitating the child’s participation and the other being “pressure” which represented control of the child’s activity by including performance standards. The researchers recommended that parents should encourage participation, while allowing the children to make their own decisions regarding the activity. Parental pressure is a significant negative predictor and as the pressure increases the child’s enjoyment decreases. Children are then less likely to reap the associated benefits such as positive peer interaction and skills development (Anderson, et al., 2003).
Parental high achievement goals and parental criticisms of their children’s achievements can have long reaching adverse effects on their psychosocial and physical development and health (Ablard & Parker, 1997; Decarlo & Luthar, 2000; Flett, Blankstein, Hewitt & Koledin, 1992; Hewitt & Flett, 1991; Hewitt, Flett & Turnbull-Donovan, 1992; Luthar & Becker, 2002; Luthare et al., 2006). While the study conducted in New England, USA, by Luthar et al. (2006) yielded limited support for undue child pressures as a result of over scheduling of extracurricular activity, they did report that parental criticism was perceived to be particularly detrimental. So too, were the high parental expectations of achievement and the development of exemplary personal attributes. Such parents are described as having goal performance expectations as opposed to parents who have learning performance expectations (Ablard & Parker, 1997).

When children feel that their work must meet certain adult standards to gain praise or congratulations, they will most likely produce stereotypical pieces that limit and confine their true creativity and imagination (Amorsen, 2006). Ablard & Parker (1997) compared parent pairs who emphasized performance goals and learning goals and their children. The authors report that the children from performance goal parents illustrated high concerns about mistakes and doubts about actions with fear for parent’s criticisms and expectations. In a similar study to explore children’s perceived pressures applied onto them by parents Luthar & Becker (2002, p. 1597) exampled responses to six subscale scores rated on a 5-point Likert scale:

1. Concern over mistakes – “The fewer mistakes I make the more people will like me”.

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2. Doubts about actions – “If someone does a task at work/school better than I, then I feel like I failed the whole task”.
3. Parental criticism – “My parents never try to understand my mistakes”.
4. Parental expectations – “My parents expect excellence from me”.
5. Personal standards – “I set higher goals than most people”.
6. Organization – “Neatness is very important to me”.

**Australian Children**

In 2009 a snapshot of early Australian childhood development was presented in the Australian Early Development Index Report (AEDI). The AEDI measured five developmental domains closely linked to the predictors of good adult health, education and social outcomes. The five developmental domains were; physical health and wellbeing; social competence; emotional maturity; language and cognitive skills and communication and general knowledge. Checklists for 261, 203 children, in their first full time year at school, were completed by 15,528 teachers from Government, Catholic and Independent schools. This represented 97.5% of the estimated five year old Australian population. While the report shows that the majority of the children in the study were developing well, it clearly highlighted some major concerns demonstrating that ‘overall in Australia, 23.4% of children are developmentally vulnerable on one or more of the domains and overall in Australia, 11.8% of children are developmentally vulnerable on two or more of the domains. Dramatic changes to all aspects of Australian family function have occurred over the last 25 years (de Vaus, 2004; Moore, 2008a, 2008b; Richardson & Prior, 2005) and there is overwhelming evidence that family type has an impact on a child’s
development (Grey, 2004; Moore, 2008a, 2008b; Richardson & Prior, 2005; Wake et al., 2008). Pryor & Rogers (cited in Grey 2004, p. 134) reported that Australian children who experience family transitions ‘not only show short and medium term distress, but are also at risk for long term difficulties over many domains of development and achievement’. The core activity of families is caring (Grey, 2004; Richardson & Prior, 2005). Family relationships, which provide care, love and growth-promoting experiences are active ingredients in shaping the development of children (Grey, 2004; NSCDC, 2004a, 2004b, 2005, 2007; Wake et al., 2008). In their longitudinal study of Australian Children aged 4 and 5 years, Wake et al. (2008) reported that parent-child relationships and interactions with others around them is crucial for foundational learning, and activities such as reading, drawing, constructive play and role play are ‘engines of development’ (p. 7).

There is data to provide correlation to the socio-economic gradient, in the context of greater family disadvantage (Bendersky & Lewis, 1994; Wake et al., 2008). In their longitudinal study of one hundred and seventy premature infants form New Brunswick, New Jersey, Bendersky & Lewis (1994) compared environmental risk factors and cognitive development. They confirmed that such environmental factors of socioeconomic status, parents’ occupation and education, social support network, life stressors, family size and family structure impacted greatly on the cognitive development of children. As parents are children’s first and most enduring educator, children’s home preparation has consequences for their future experiences (Brooker, 2003; EYFS, 2008). In a project called “Engaging Parents and Children in
EYFS Profile Assessment” a profile handbook is available to all working with reception-aged children and is based on the understanding that:

- School is only a part of a child’s experience
- Children learn outside the school setting and respond variably to different people, places and events
- Parent’s insights and wealth of knowledge about their children is an integral part to building the picture of their child’s learning and development
- Within a supportive and empowering environment children can be capable of their own learning and development (EYFS, 2008, p. 1)

Healthful development of children is largely dependent on parents. Not just for physical safety and growth, but also for cognitive health which is a building block of personal power. Parents generally view arts education as peripheral, however a social marketing strategy to convince parents of the benefits of equipping their children with faculties to deal with the social and economic environment of the future is important (Aucoin, 2009; Gainer, 1997; Shema, 2008). Using a qualitative interpretive design to explore sociocultural meanings associated with the arts, Gainer (1997) recruited 20 families from a large city in USA. Almost all participants were of the opinion that arts were essentially feminine, thus did not equip their children with the attributes required for the future job market. However, Florida (2002, 2005) suggests that it is the role of educational institutions to stimulate a creative intellectual development. Creative occupations, which include the arts, culture and knowledge based professions as well as health care and education are becoming predominant drivers in economic growth. In addition, creative environments foster
holistic living crucial in the development of self-expression and self-knowledge (Florida, 2005).

The Role of the Arts in Children’s Educational Experiences and in the Development of Knowledge

Formal education plays a vital role in the development of children from birth to adulthood, when it is then expected they take their place in society as contributing well-adjusted members (Eisner, 1998; Lowenfeld & Lambert Brittain, 1970; Wassermann, 2000). As part of an educational mission the contribution of the arts to the education of children must be made clear (Dewey, 1934, Efland, 1929, 1996; Eisner, 1974; Gardner, 1983a; Lowenfeld & Lambert Brittain, 1970; Read, 1943, 1966). The relationship between epistemology and art is fraught with much debate (Richmond, 2009; Worth, 2005). Epistemology being the study of knowledge and justified belief, the critics of the arts seem to doubt that the experiences with art produce obvious propositional knowledge that is true and justified. Stolnitz (1992) argues that while science has concise, clear and firm concepts for arriving at its truths, artistic truths hardly make sense and are a matter for extensive debate. Others argue that the arts develop an understanding of different kinds of knowing and knowledge (Bodrova & Leong, 2007; Dewey, 1934; Dewey, & Bentley, 1949; Efland, 1996, 2004; Eisner, 1985, 1998, 2002; Grierson, 2007; Lampert, 2006; Reid, 1985). Hetland and Winner (2000) stated that a substantial number of studies had demonstrated a causal link between arts education and achievement in other
academic areas. Of the 11,000 articles, books, reports, published and unpublished
data and papers, REAP retained 188 reports that represented the strength between the
two variables and a set of 10 meta-analyses were conducted. Causal links were
demonstrated in the following three areas (p. 4):

1. Listening to and learning to play music and spatial-temporal reasoning and
   mathematics.
2. Classroom drama and verbal skills.
3. Dance and nonverbal reasoning.

However, there were also areas where no causal link could be established. These were (p.5):

1. Arts rich education and creative thinking.
2. Learning to play music and reading
3. Visual arts and reading
4. Dance and reading

In conclusion, Hetland and Winner (2000, p. 5) recommended that to further
advance the understanding and representation between arts and non-arts outcomes,
‘theory-building studies and theory-driven experiments are required’. In contrast to
Hetland and Winner’s study, Luftig’s (2000) study found a strong indication in the
data to suggest that creative thinking was facilitated by arts involvement. Luftig’s
study investigated the effects of an arts program (SPECTRA+) in two schools in two
districts. A priori hypotheses were formed. The program would ‘enhance the
academic achievement, creativity, self-concept, locus of control and appreciation of
the arts in a diverse group of elementary school children at three grade levels’ (p.
209). The study included 615 students from grades two, four and five. They were
tested using a pre- and post-test design. To control for the Hawthorne effect a modified control group from one of the schools was offered another innovative program unrelated to the arts and a full control group received the traditional curricular offered at both schools. While the study only evaluated a one-year program and there was no evidence that the results could or would be sustained or heightened over a longer period, the research yielded positive results in terms of creativity, self-esteem, arts appreciation and academic achievement. It is important that equal attention is given to learning areas that enrich the world; other intelligences like dance, music, design, therapy and environment (Gardner, 1983a). Professor Howard Gardner (1983b) developed the theory of multiple intelligence. The theory identified eight different pathways for learning:

- words (linguistic intelligence)
- numbers or logic (logical-mathematical intelligence)
- pictures (spatial intelligence)
- music (musical intelligence)
- self-reflection (intrapersonal intelligence)
- a physical experience (bodily-kinesthetic intelligence)
- a social experience (interpersonal intelligence), and/or
- an experience in the natural world. (naturalist intelligence)

Since the development of multiple intelligence theories and the advancement in neuroscience, which has enhanced a broader understanding of visual experiences and effects on human cognition, there is reason to believe that in some fashion learning transfer from other subjects may double back and enhance arts learning (Burton, Horowitz & Abeles, 2000; Felten, 2008; Gardner, 1983; Koster, 1998; Zeki, 1999,
Burton et al. (2000) conducted a five phase overlapping study that was aimed to determine if higher order thinking developed through the arts had an effect on learning in general. In phases one to four the specific variables for investigation were developed as was the means to measure them. Quantitative data was collected from 12 elementary schools from New York City, Connecticut, South Carolina and Chicago, during the fourth phase. In total, 2406 students in the fourth to eighth grade were tested. The last qualitative phase sort to better understand arts learning and its knowledge transfer. The data suggested a picture of thinking, which included, to name a few, ‘elaborative and creative thinking, fluency, focused perception and originality’. They also concluded that additional dispositions accompanied the identified higher order competencies, such as ‘risk taking, task persistence, confidence, ownership of learning and accomplishment in subjects such as Mathematics and English’ (p.252). From these findings the researchers suggested that the learning relationship between arts and other subjects may not be as unidirectional as some studies have previously reported, and that the cumulative effects of the interweaving of the domains resulted in additional ways of thinking – intuition, perception and construction of meaning.

Propositional thinking linked with verbal and numerical symbols was once termed cognition (Efland, 2004; Eisner, 2002; Gardner, 1983a). It was Eisner’s contribution to this discourse that evolved the current sense of cognition, which ‘embraces all forms of thought including mental images obtained through perception’ (Efland, 2004, p. 71). In the early 1960’s arts education required a categorical change
from non-cognitive to cognitive and in educational discourse; thinking has become associated with cognition (Eisner, 2002). In a longitudinal study to identify how arts training influences cognitive process, underpinned by the mechanism of attention, Posner, Rothbart, Sheese, & Kieras (2008, p. 3), randomly assigned children to control and intervention groups. They hypothesised that “the brain network involved in executive attention…can be strengthened by specific learning in arts”. Positive results relating to high-level skills development were identified, when testing brain areas responsible for cognitive processes. Furthermore, D’Esposito (2008, p. 71) collected empirical fMRI data to support the hypothesis that ‘cognitive processes that are facilitated by training in the arts are transferred successfully to other cognitive domains’. Their study focused on the prefrontal cortex of the brain, responsible for cognitive control and critical for all types of learning. Zeki & Marini (1998, p. 1682) reported that ‘two broad kinds of art use common brain pathways up to a point and divergent pathways beyond and different modes of painting make use of different cerebral systems’. In simplifying the process they explain that after visual input of art the brain responds to particular colour and line orientation thus sending images of ‘abstract’ art on one pathway and ‘real art’ on another. To investigate the relationship between brain physiology and visual aesthetics Zeki & Marini (1998) gathered empirical fMRI data, which was analysed using statistical parametric map software. Nine male subjects from London, UK, were visually bombarded with stimuli consisting of objects which were naturally and unnaturally coloured. The results confirmed that the visual brain executes higher cognitive functions such as thought,
judgement and memory, not just unconscious computational functions as first thought, to make sense of colours lines and objects when looking at art works.

**The Development of Critical Thinking and its Role in Individual, Social and Community Capacity**

The current educational emphasis in critical thinking needs to be preserved (Ennis, 1985, 1990; Paul, 1990; Pithers & Soden, 2000). Ennis (1996) summarises that critical thinking is a process that is important in civic, vocational and personal life, which requires six important elements, focus, reasons, inference, situation, clarity and overview. The ability to critically think should position a person to relate positively to self, world and others and importantly develop and aporetic stance of life and knowledge (Papastephanou & Angeli, 2007). In a seminal study on education and critical thinking Glaser (1941, p. 56) notes that critical thinking involves three things:

1. An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one’s experiences,
2. Knowledge of the methods of logical inquiry and reasoning, and
3. Skill in applying those methods.

Art is an important element in society and has depicted ancient societies such as Greece and Egypt and is often considered the highest form of human expression (Lowenfeld & Lambert Brittain, 1970). The early development of a child’s critical thinking skills builds a strong foundation for community development, as children
who are capable are the foundation of a prosperous society (Alston, 2001; Grierson, 2006; NACCCE, 1999; NSCDC, 2004a, 2004b, 2005, 2007; Paul, 1990; Radbourne, 1997). In discussing the necessity for children to become critical citizens, Rolling (2008) comments on the social constructs of political awareness as being the sole province of adulthood. However, in his study of a fourth grade political cartooning project he recognised the ‘critical awareness and personal agency’ that was engaged in the exercise, which reflected a strong theme of social justice (Rolling, 2008, p. 1).

To examine how art can be used as a connection to community and culture, Burke (2005) collaborated with an artistic team project. By engaging the community in creative experiences, the pedagogical framework aimed to encourage modes of inquiry such as ‘botanical, historical, physical and aesthetic ways of knowing’ (Burke, 2005, p. 7). Mary Renck Jalongo (2003, p. 11) relates art to as an approach to lifelong learning and says:

> When we value creative thinking and creative expression in society, it becomes part of our social consciousness and social capital. Society then protects its reserves of creativity by fashioning networks of support that are capable of instilling confidence, promoting resilience and multiplying ways of being intelligent in every person, commencing in childhood and continuing through the lifespan.

> Participants of art activities practice reflective thinking and aesthetic inquiry, which are critical thinking dispositions (Eisner, 2002; Lampert, 2006). Using a Critical Thinking Disposition Inventory, Lampert (2006) conducted an empirical study of two discipline groups, arts and non-arts students. Although causality was not an aspect of the study, the findings suggest that for non-arts students to gain critical thinking dispositions, they require further exposure to heuristic-based instruction.
Creativity is the capacity of every child and opportunities for creative expression should be valued and extended through the lifespan (Isbell & Raines, 2007; Jalongo, 2003; Schirrmacher, & Englebright Fox, 2009). Creative behaviours need to be supported by parents, teachers and communities (Isbell & Raines, 2007; Richardson & Prior, 2005).

**Arts in the Australian Curriculum**

Minimal arts programs in schools limits many children’s access to the exposure of music, dance, creative writing, stage performance and creative and visual arts; the vehicle through which meaningful learning of motivation, problem solving, self-discovery and context may be gained (Herberholz, 2009; Magsamen, 2009; Robinson, 2009). The position of the arts in current Australian schools programs is varied, with dance and drama usually only available as an extracurricular activity and with one state having legislation for music and visual arts only (ACARA, 2010).

The draft paper; Shape of the Australian Curriculum: The Arts was released on October, 7, 2010 for public consultation by the Australian Curriculum, Assessment and Reporting Authority (ACARA). The draft paper reports that ACARA will be seeking Arts curriculum writers to commence early 2011 and that the Australian Curriculum: The Arts will be available by the end of 2011 and ready for implementation from 2012.
The rationale for the inclusion of the arts into all education curricular has been argued and proposed by many since the early writings of international seminal theorists. John Dewey (1934); Arthur Efland (1929; 1996); Elliott Eisner (1974); Howard Gardner (1983) and Howard Read (1943; 1966) have been among those who have made a significant contribution to the appreciation of arts education. At the 30th session of the General Conference of UNESCO (1999), the Director-General launched an International Appeal for the Promotion of Arts Education and Creativity at School (NRVE, 2006).

Subsequent commitment has led to international attention to arts. In the USA, the Champions of Change (Fiske, 2000) demonstrated the importance of the arts on learning generally resulting in future growth of American society. Deasy, (2002) in the Critical Links report discusses the Arts Education Partnership, which is a USA-based national coalition of arts, education, business, philanthropic and government organizations that acknowledges that the whole community has an investment in arts education. In the UK, Rogers (2000) in the All our futures: A summary - Creativity, Culture and Education report identifies that creative and cultural education is essential for Britain’s economic prosperity and social cohesion.

The Australian Council for the Arts (Council) has acknowledged education as being a key to achieving their objectives in youth arts since 1973 (Wynn-Moylan, 2003). In 1977 following the National Enquiry into Education and the Arts, the Council was recommended to take an extensive role in developing youth arts through
school programs (Wynn-Moylan, 2003). A proportion of the Council’s budget was allocated to arts education. However, by 1982 the Council’s budget had been scaled down and the recommendations for youth arts were through extracurricular activities (Wynn-Moylan, 2003). In 1983 a task force on Education and the Arts reiterated the importance of arts in schools and in 1989 education ministers set national goals for schools. For the next 15 years projects, strategies and policies were developed aimed at instilling an appreciation for the arts and particularly the relationship with the education system for youth arts and teaching the arts (Wynn-Moylan, 2003). The significant reports, strategies and policies are listed:

- Arts National Curriculum Statement (1993)
- Creative Nation (1994)
- Promoting the Value of Arts Project (PVA) (1999 – ongoing)
- The Young People and the Arts Policy (2003)

As part of the ongoing PVA (1999), the Council released the Arts Education Research in Australia - Bibliography, 1980 – 2001(2001). The bibliography contains over 500 references emphasizing the body of knowledge about arts education in Australia.

The proposed national curriculum for the arts has received criticism from academics, art teachers and art writers (Ferrari, 2010; Topsfield, 2010; VCCA, 2011). Criticisms suggest that the curriculum will integrate all five art forms into one
generic art course and that kindergarten to year eight teachers will have to compress all five art forms into two hours per week. The common concern is overcrowding, cramming in too many topics and allowing insufficient time for deeper and more extensive learning (Ferrari, 2010; Topsfield, 2010). Art Education Australia president Marian Strong (2010, cited in Topfield, 2010, p. 1) was reported as saying:

I just think it's un-teachable. This would be really dumbing down each art form rather than providing any depth of learning. It takes away the integrity of visual arts as a subject by lumping it with a large curriculum called the arts.

Summary of Literature

This review has examined literature on children’s cognitive and psychosocial development; arts in children’s educational experiences and in the development of knowledge; and the development of critical and creative thinking and its role in individual, social and community capacity.

The literature reviewed suggests that there is a growing body of evidence that agrees that cognitive development begins in early childhood years. The development of this capability occurs concurrently with other skills such as mobility, emotion and communication. It is also clear that the development of these must happen in a nurturing and supportive environment. In addition the literature identifies that cognitive development is vital as a building block for individual, social and community capacity building. In particular, the cognitive development domain of critical thinking is suggested as being the most vital of all. There is also supportive evidence to suggest that the arts have a place in the educational curriculum to support
the development of critical thinking. This evidence is generated from research conducted extensively on secondary and tertiary students. It is also evident from the literature that there is a commitment to increase arts education in the Australian curriculum. However, despite the availability of evidence on what is known about the healthy cognitive development of young children, there appears to be little research on critical thinking development through creative arts in primary school children in Australia.

Therefore, this study is based on the contention that rich descriptions of the behaviour of the children aged eight and nine years, during the process of creating an art piece, as perceived by teachers and mothers of the children, will provide a better understanding of the influence of creative arts on the development and expression of critical thinking.
CHAPTER THREE

METHODOLOGY

Research Method

This study was conducted in the interpretive paradigm as the research intended to identify and interpret meanings in the context of children’s critical thinking development. The researcher used naturalistic inquiry as a method for obtaining firsthand observations and self-reported perceptions of teachers’ and mothers’ perceptions regarding children’s critical thinking development through a creative arts experience. Unstructured observation in this context permitted the co-construction of knowledge to develop between the researcher and the participants (Mulhall, 2003).

Theoretical Framework

This research study was guided by the Super-Streamlined Concept of Critical Thinking Framework (SSCCTF) (Ennis, 2010) which conceptualizes critical thinking as ability to undertake “reasonable reflective thinking that is focused on deciding what to believe or do” (Ennis, 1991, p. 8). The use of the SSCCTF (Ennis, 2010) in this study was to assist with interpretation of relevant literature, link the current study to previous knowledge, develop the semi-structured interview questions, reference
the findings and validate the significance of the research. The framework is grounded on an analysis of decision making processes and character dispositions required to decide what to believe or do, and identifies the elements of the ideal critical thinker (Ennis, 1962, 1991).

Ennis (2010) identifies twelve overlapping elements and sixteen abilities that identify the characteristics of an ideal critical thinker. The sixteen abilities illustrated in Tables 1a and 1b underpin the twelve overlapping elements, however the last four abilities illustrated in the Table 1b are what Ennis (1991, p. 9) describes as “auxiliary critical thinking abilities” and having these abilities alone are not constitutive of being a critical thinker, but are processes used in conjunction with the other abilities in Table 1a (Ennis, 1991).

In the absence of an illustration of the SSCCTF model, permission was sought and granted, to use the graphical model developed by the researcher, from Emeritus Professor Robert Ennis (Figure 1). This was accompanied by a congratulatory e-mail on the development of the model (Appendix A & B).

Table 1a. First Twelve Abilities of the Ideal Critical Thinker

<table>
<thead>
<tr>
<th>Abilities of the ideal critical thinker: The first five points involve clarification</th>
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<tr>
<td>1. To identify the focus: the issue, question or conclusion</td>
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<td>2. To analyse arguments</td>
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<td>3. To ask and answer questions of clarification and /or challenge</td>
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<td>4. To define terms, judge definitions, and deal with equivocation</td>
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| 9. | To induce, and judge inductions:  
|    | a. to generalisations;  
|    | b. to explanatory conclusion including hypotheses.     |
| 10.| To make and judge value judgments                      |
| 11.| To consider and reason from premises, reasons, assumptions, positions, and other propositions with which one disagrees or about which one is in doubt – without letting the disagreement or doubt interfere with one’s thinking (suppositional thinking) |
| 12.| To integrate the other abilities and dispositions in making and defending a decision |

Source: Ennis, R. (1991, p. 9)

### Table 1b. Last Four Abilities of the Ideal Critical Thinker

<table>
<thead>
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<th></th>
<th>The next two are metacognitive abilities – involving supposition and integration</th>
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| 13.| To proceed in an orderly manner appropriate to the situation. For example:  
|    | a. to follow problem solving steps  
|    | b. to monitor one’s own thinking  
|    | c. to employ a reasonable critical thinking checklist |
| 14.| To be sensitive to feelings, level of knowledge and degree of sophistication of others |
| 15.| To employ appropriate rhetorical strategies in discussion and presentation (orally and in writing) |
| 16.| To employ and react to “fallacy” labels in an appropriate manner |

Source: Ennis, R. (1991, p. 9)
A critical thinker:

1. Is open-minded & mindful of alternatives
2. Desires to be and is well-informed
3. Judges well the credibility of sources
4. Identifies conclusions, reasons and assumptions
5. Asks appropriate clarifying questions
6. Judges well the quality of the argument & level of support for conclusions
7. Can develop & defend a reasonable position, doing justice to challenges
8. Formulates plausible hypotheses
9. Plans and conducts experiments well
10. Defines terms in a way appropriate for the context
11. Draws cautious conclusions when warranted

INTEGRATION
Integrates all eleven dispositions and abilities when deciding on what to believe or do

CRITICAL THINKING
“reasonable reflective thinking focused on deciding what to believe or do” (Ennis, 1991)

A graphical model designed by C. Nilson to illustrate the Super-Streamlined Concept of Critical Thinking Framework developed by Professor Emeritus Robert H. Ennis (2010). Adapted with the permission of R. H. Ennis (personal communication, December 2, 2010 and January 13, 2011)
Figure 2 below illustrates how the abilities in Table 1b, which are involved with problem solving steps, monitoring one’s own thinking, employing strategies in discussion and presentation and being sensitive to feelings are connected to being a critical thinker.

Figure 2. The Problem Solving Context of Being a Critical Thinker


Dispositions and Abilities for Critical Thinking

The dispositions of critical thinking are interdependent and overlap, however, it is important to discuss each one separately and its contribution to ability for “reasonable reflective thinking that is focused on deciding what to believe or do” (Ennis, 1991, p. 8). Being open-minded and looking for alternatives are required for the first disposition. Being open-minded allows for serious consideration of other points of view other than one’s own. Looking for alternatives successfully exercises
the ability to see or formulate different opinions or options. Seeking alternatives is a key feature in all three types of inferences; deduction, induction and value judging, which are illustrated in Figure 2.

The second disposition requires the critical thinker to want to be well informed. Positioning oneself with details and information that are relevant to the task sets a solid foundation. The third disposition is closely linked to the second as it requires the critical thinker to consider the credibility of the source of the information that is sought. Identifying assumptions, conclusions and reasons are required in the fourth disposition and asking clarifying questions is the fifth disposition. Without reasons, reasonable decision making is difficult and without asking the crucial critical thinking question of “why?”, conclusions cannot be drawn. Assumptions in a critical thinking sense are concerned with whether the assumption is justified, thus the assumption should be identified as useful in the evaluation of conclusions.

The first five abilities of the ideal critical thinker (Table 1a) involve clarification. Clarification is required for the first five elements of the SSCCTF. Clarification requires the identification of the focus of the issue, question or conclusion. By asking questions, analysing the argument and identifying the unstated assumptions the critical thinker is able to define terms, judge definitions and deal with equivocation.

Ennis (1962) suggests that there are three analytically distinguishable dimensions to the concept of critical thinking: a logical dimension, a critical
dimension and a pragmatic dimension. The first five dispositions described above involve seeking clarification of the “meaning” and they relate to the three dimensions in the following ways:

- The logical dimension covers the ability of being able to judge alleged relationships between meanings.
- The critical dimension covers having knowledge of the criteria to enable judgment of the relationships.
- The pragmatic dimension covers the impression of whether the background meanings are good enough, based on the background purpose of making a judgment.

Ennis (1962, p. 85) simplifies this by stating that “knowing the meaning of a statement involves knowing the implications of the statement”.

The dispositions to seek enough precision in detail to make decisions and to take a stance and /or change a stance when reasons and evidence are sufficient, are needed in the sixth and seventh aspects. These dispositions require the judging of whether there is adequacy to allow decision making which will result in the endorsement of a “position to the extent that, but only to the extent that, it is justified by the information that is available” (Ennis, 1996a, p. 171). These aspects of critical thinking are made with attention to all three dimensions:

- The logical dimension since a deduction is required.
- The critical dimension since observation is judged for reliability.
The pragmatic dimension, since a decision of how sure one must be and how important it is to be right, is made.

Abilities six and seven (Table 1a) involve the basis of the decision. A decision is made by receiving information from others, observation and judging observations. The judgments are weighed against suppositions and alternatives and previously drawn acceptable conclusions. These abilities are required across all 12 elements of the SSCCTF.

The judgment as to whether an inductive conclusion is warranted in the eighth and ninth dispositions. An inductive inference is used to examine the evidence at hand to ensure that it is enough to establish a hypothesis (Ennis, 1962). A hypothesis is made with consideration to the purpose, the degree of satisfaction of the judgment of the criteria and how necessary it is to be correct. While Ennis (1962) describes three types of inductive conclusions: simple generalisations, explanatory hypotheses and theoretic systems, all three dimensions are utilised in each, however they are represented in different ways depending on the type used.

The tenth and eleventh aspects require a disposition to make judgment about the adequacy of a definition and the disposition to withhold judgment if the reasons or evidence are insufficient. Judging adequacy of a definition involves all three dimensions and judges the “worth of the concept or the way it is put” (Ennis, 1962, p. 106). The twelfth disposition relates to using one’s own abilities to integrate all 11 previously detailed dispositions when deciding on what to believe or do.
The three inferences of deductive reasoning, inductive reasoning and value judging are abilities eight, nine and ten (Table 1a). These are required across all elements of the SSCCTF; however they are of particular relevance to elements 8, 9, 10 and 11. Deductive understanding is required for interpretation of information and inductive inference to hypotheses to explain the facts as well as simple generalisations. The last of the three inferences requires making a defensible value judgment.

Ennis (1991) describes the eleventh and twelfth abilities as metacognitive abilities which involve supposition and integration. Ability 11 requires consideration and reason of assumptions, propositions and positions with which one disagrees with or doubts, without influencing or interference with one’s own thinking. The twelfth ability supports the eleventh element in integrating all elements and abilities required to make and defend a decision.

The 12 dispositions and abilities and 16 elements are constitutive of the ideal critical thinker and provide a set of specifications for examining the dispositions of the higher order thinking process of critical thinking. As the SSCCTF is an overlap of elements and abilities each of these will be relevant to this study.

Within this framework focus group discussions were considered an ideal medium to bring together the participants in such a way as to provide a situation where the assembled group was small enough to permit genuine discussion among all
its members (McLafferty, 2004; Rabiee, 2004), whilst also providing an opportunity to obtain opinions or attitudes at a deeper level. One of the key elements of focus group disclosure is the company of a small group of people who embolden others to talk (McLafferty, 2004; Webb, 2002). The methodological justification for using group discussion is one of interpretive function as this would potentially provide detailed insight about specific phenomena and experiences (McLafferty, 2004; Webb, 2002). Morgan (1996, p. 131) maintains that ‘focus groups are useful when it comes to investigating what participants think, but they excel at uncovering why participants think as they do’. A focus group meeting has also been described as a carefully planned discussion designed to obtain perceptions, with most considered to be suitably sized with between six and ten participants (McLafferty, 2004; Reiskin, 1992).

In addition, individual interviews in qualitative research offer a supportive facility for both participants and researchers where attendance at the focus group is problematic or if further in-depth data is sought. Interviews are productive and meaningful if they evolve as conversational encounters and are particularly valuable as an individual interview will never be exactly the same between participants, so yielding extensive, pertinent, detailed and unique data (Casey, 2006; Sorrell & Redmond, 1995).

When conducting the focus groups and individual interviews in this study, semi-structured, open-ended questions, were used to guide the conversation. These
allowed respondents to answer from a variety of dimensions and made possible the most conversational interview style (Price, 2002; Turner, 2005). Semi-structured and non-directive open-ended questions do not impose answers on people, but allow them to answer with expression producing rich, deep and unexpected answers (Price, 2002; Turner, 2005).

**Sample and Setting**

Non probability, purposive sampling was used in this study. This type of sampling is appropriate for qualitative research approaches and is particularly applicable when exploratory, naturalistic research is conducted (Chapman & Orb, 2001). Participant recruitment required a two step process. Firstly, an introductory letter (Appendix E) was sent by the MSF coordinator, to the principals of the four schools and director of the one independent art group that are participating in the creative arts production. The MSF is a major regional arts festival that uses arts and culture to connect the community. The letter outlined the research, introduced the researcher and confirmed support of the study, by the City of MSF Committee. Following approval from Murdoch University Human Research Ethics Committee and the Western Australian Department of Education Evaluation and Accountability Office, the researcher met with the principals to discuss the aims and objectives of the study and gain permission to use the school administrative processes to mail out the Information Letters and Consent Forms (Appendix F, G and H). Written
permission from each of the school principals and the director of the independent art group were obtained (Appendix I).

**Accessing the Sample**

This study convened two focus groups and four individual interviews. One focus group consisted of teachers who had been involved in directing the art activity and the other of mothers of the children participating in the creative art activity displayed at the MSF. The four individual interviews were conducted with two teachers and two mothers who were unable to attend the focus group discussions.

The sample was comprised of voluntary participants made up of both teachers and artists-in residence involved in facilitating the students’ art work development and mothers of the children involved in the research project. Research study “information packs” containing an Information Letter, a Consent Form and a return addressed and stamped envelope were distributed to eight teachers and artists-in-residence and to three hundred and fifty mothers. This process was to ensure that participation was completely voluntary and that the participants were not coerced into accepting to participate (Steinke, 2004). The Information Letter explained to participants, in suitable layman appropriate language, that the emphasis for the research was to explore their perceptions of how being involved in a creative arts activity may have the potential to develop critical thinking abilities in their children. The researcher’s contact details were included for anyone requiring more details.
about the study. Those agreeing to participate completed the Consent Form and mailed it back to the researcher in the envelope provided. The Consent Form required the participant to acknowledge each item of provided information, as well as a signature of agreement and their contact details to enable the researcher to contact them and provide the details for the discussion group. The Information Letter was retained by the participant for further reference. To ensure that the identities of the research participants are not linked to information that they provided, the researcher recorded a code number on the consent form which was thereafter, the only form of identification. Each participant was instructed to use this code number to identify themselves prior to speaking during the focus group discussions and the individual interviews. Furthermore, the researcher has ensured secure storage of the participants’ personal and demographic data provided on the consent form (Steinke, 2004; NHMRC, 2006).

**Data Collection**

Data collected from the sample was direct data. Direct data is considered to be actual or potential data and occurs when experiences, thoughts, feelings, responses, actions and interactions of individuals or groups is considered within their social and or cultural setting (Casey, 2006; Mulhall, 2003; Overcash, 2004). Written or recordable words, actions and interactions as well as observable body language are included in direct data (Casey, 2006; Mulhall, 2003). Narrative research is a specific
form devoted to gaining data through direct contact between the researcher and the participant(s) (Overcash, 2004).

A guide in the form of semi-structured open-ended questions was developed to set the agenda and provide direction for the focus group discussion and individual interviews (Appendix K). Semi-structured discussion took place as the researcher wanted to ensure that specific topics were addressed (Casey, 2006; Price, 2002; Turner, 2005). The researcher developed a framework that operationalised Richard Ennis’s (1991) streamlined concept of critical thinking development (Appendix J). From this framework seven semi-structured questions addressed the holistic development of understanding, reflecting, thinking, making judgment and making choices as well as the more mechanical notions of cause, effect and consequence. The seven questions for the guide, was considered suitable number for the timeframe of 1½ hours. Prevention of interview fatigue was addressed by ensuring the discussion groups and interviews lasted no more than one to two hours each (Rabiee, 2004; Webb, 2002).

To refine the semi-structured open-ended questions and the reflective probing prompts to ensure rich participant responses, the researcher conducted a pilot study. This comprised a teacher involved in art education, a mother with a child engaged in an after-school arts program and an academic professional colleague. None of the pilot study participants were involved in the main research project. Practising a variety of open-ended questions before undertaking the actual research gave the
researcher the opportunity to avoid situations where participants would react with long silences or become confused about what is being asked (Sorrell & Redmond, 1995). None of the discussions from the pilot study was used as data for this study.

The discussion groups were convened once the children had completed the creative arts activity and the MSF was over. The researcher had consent from six of the possible eight teachers to attend the focus group discussion. Unfortunately, one artist-in-residence participant did not attend and the researcher was unable to make further contact, another arrived when the group discussion had concluded and a third artist-in-residence contacted the researcher just prior to the group discussion, to make an apology for non-attendance. The researcher was able to convene individual interviews with the latter two artists-in-residence at a later date. The mothers’ focus group discussion resulted in a similar outcome. The researcher received confirmation of nine attendees. Of these nine confirmed attendees, only five arrived for the discussion group. Contact was made with two of the four absentee participants following the focus group discussion, who offered to participate in individual interviews.

The researcher chose a venue that was quiet and comfortable to ensure a permissive and non-threatening environment that was also centrally convenient to those participating in the focus group discussions and the individual interviews. Any environment creates an ambience that affects how people behave; therefore a suitable venue is crucial (Culley, Hudson & Rapport, 2007). Having finalized the date and
time, and selected and booked the venue, each participant was sent information on
the focus group discussion and the individual interviews, including a map with clear
directions. The researcher carefully considered housekeeping issues, such as seating
arrangements, organizing and ordering of refreshments and importantly a checklist
for essential items needed for smooth running of the focus group discussions and the
individual interviews (Schwarz, 2002). This included being familiar with the
recording equipment to be used and having a backup method in case of operational
failure (Schwarz, 2002). Creating a relaxed yet well organized environment appears
professional and reassuring to the participants (Dick, 1998; Schwarz, 2002).

Warmly welcoming participants as they arrive at the venue is fundamental and
puts people at ease (Dick, 1998; Schwarz, 2002). The researcher allowed time for
participant introductions in an informal atmosphere where they were encouraged to
talk to one another and with the researcher. This strategy reduced tensions and
allowed the participants to feel less anxious (Dick, 1998). During this ‘registration
period’ the researcher spent a brief time with each participant to distribute a copy of
the countersigned Consent Form and to verbally confirm their decision to participate
in the study (Silverman, 2010). This also provided the participants with an
opportunity to ask questions of the researcher. During this time the researcher issued
each participant with a badge displaying the participant’s individual code, which
provided a strategy for introducing individual participants during the discussion
while safeguarding confidentiality (King & Horrocks, 2010; Silverman, 2010). The
researcher established ground rules for the discussion. To open the discussion and
question asking sessions the participants needed to know what was expected, how the session would be organized and what their role would be (Dick, 1998; King & Horrocks, 2010; Schwarz, 2002). The researcher issued a brief introductory statement focusing on the following five issues (Appendix L), adapted from King & Horrocks (2010, p. 73):

- Respectful participation allowing everyone to contribute whilst resisting any urge to speak over each other.
- The role of the researcher as facilitator to guide the discussion.
- The format for questions:
  1. The introduction of a question or issue with intent for whole group participation, with participants deciding if they want to contribute.
  2. Individual questioning where speakers are nominated by the researcher.

- Recording and researcher note taking
  1. Participants identify themselves using their code before speaking
  2. Participants to speak one at a time to avoid garbling the tape
  3. Researcher note taking to capture observed participant non-verbal responses

- General housekeeping points:
  1. Confidentiality – Participants’ Confidentiality Agreement
  2. Mobile phones
  3. Length of the focus group discussion
4. Participants being able to freely access refreshments during the discussion

5. Invitation to partake in the informal function following the discussion

The researcher had rehearsed the introductory statement, only needing to glance down briefly at the script to be prompted by the bold font key words. Reading verbatim from a page can appear condescending to participants and reveal insecurity on the facilitator’s part (King & Horrocks, 2010; Schwarz, 2002).

The researcher played the role of the facilitator during the focus group discussions and aimed to develop a trust and rapport during the individual interviews. It was important that while the content of the discussion fitted within the boundaries of the questions, the researcher facilitated the shaping and steering of the path deliberately left to the participants, ensuring that the most important, meaningful and relevant information emerged first (Dick, 1998; King & Horrocks, 2010; Schwartz, 2002). To engage the participants and to elicit in-depth lengthy discussion, the development of the question guide also considered the funnel approach outlined by Stewart & Shamdasani (1990, p. 61), which suggests the researcher “start with general questions, move to more specific questions and then back to a set of more general questions”. Story-telling questions that ask the participant to “tell me about…” will encourage more elaborate answers as will probing questions, which can be “laddered” from least invasive; questions about actions, to most invasive; questions about feelings, values and beliefs (Price, 2002; Turner, 2005).
The researcher also took notes which documented important data not captured by audio recording. The purpose of this was twofold. The first was a written reminder to follow up on a point of interest made by a participant during the reflective probing phase of questioning (Price, 2002). The second was the recording of non-verbal behaviours, not picked up by the recording devices, which were essential to a full and accurate transcription (Price, 2002). This observation method was unstructured, and the researcher had no predetermined notion or schedule (Mulhall, 2003). The researcher adopted a single positioning observational approach where observations of interactions and non-verbal behaviours were made during the focus group discussions and the individual interviews (Casey, 2006). The observed notations were matched with the direct verbatim speech, to ensure that contextual data was captured (Casey, 2006). Data such as body language, dominant respondents, those reluctant to speak freely and observed interactions between participants were important to develop a contextual background (Casey, 2006; Mulhall, 2003).

The researcher used a four-step sequence when asking each one of the seven open-ended questions. This was aimed at exploring, discovering and expanding on information provided by the respondents (Dick, 1998; Hoets, 2010). The sequence that was followed is given below:

1. Main question (open-ended)
2. Follow-up questions
3. Probing questions
4. Prompted questions
The follow-up question inquires about the answer to the main question (Hoets, 2010). The researcher asked several follow-up questions to obtain expanded and detailed answers. To clarify the answers to the main and follow-up questions, the researcher also asked probing questions. To conclude the four-step sequence, the researcher also used prompted questions. Prompts aid recall by triggering a memory association (Dick, 1998; Hoets, 2010). The researcher remained anticipatory and alert, noting when a topic has been exhausted and when further discussion would yield little new information (Schwarz, 2002). At the conclusion of the focus group discussion and the individual interviews, the researcher ensured there was time to debrief the participants (Schwarz, 2002). The researcher asked the participants if there was anything they were unsure about or wished to discuss. This ensured that the participants were given the option to either clarify issues or information disseminated through the focus group discussion or the individual interviews, or to erase comments from the transcripts if they were retrospectively reticent about earlier enthusiasm (Schwarz, 2002). The researcher also reminded the participants that should they have any queries regarding the study, the contact numbers of the researcher and supervisor were available on their Information Form. In the unlikely event that the discussions would cause distress, the researcher also reminded participants about the free counselling service available to them.

Supplementary information was given to the researcher. When the researcher convened the mothers’ focus group discussion, one of the consenting participant mothers from a private school, gave the researcher a DVD copy of the students
performing their piece for the MSF. The DVD contained footage of the students dancing in period costumes and reenacting a scene from the Sontoy Ballroom in the 1930’s. The DVD also contained still photographs of the art piece that the students produced of the ballroom to display in the MSF. In addition when the researcher conducted the teacher focus group discussions, one of the consenting participant teachers from a public school, gave the researcher several copies of letters written by the students to the artist-in-residence who assisted the teacher in developing the project for the festival. The letters were to thank the artist-in-residence for the assistance and to also detail some of the things the students learnt from the creative arts experience.

Data Analysis

Interpretive analysis of the data was implemented using the computer based program, Artichoke™ (Fetherston, 2007). Artichoke is a suite of programs designed for data input, data analysis and data reflection. The framework highlighted by Ritchie and Spencer (1994) was followed; familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation.

The raw tape recorded data of two focus group discussions and four individual interviews were converted into MP4 audio files, and the additional data of the video footage was converted into QuickTime®. Using Artichoke™ Input
(Fetherston, 2007) the video and audio files were entered into the database. Figure 3 shows the layout of the working window of the Artichoke™ Input program.

Figure 3. Working window of the Artichoke™ Input program (Fetherston, 2007)

Familiarisation with the data was achieved in Artichoke™ Analyse (Fetherston, 2007) by frequently listening to the tape recorded interviews and watching the video footage in thirty second segments. While listening to and watching the data in this segment of Artichoke™, the researcher identified a thematic framework. King & Horrocks (2010, p. 152) identify a three stage process in thematic analysis; ‘descriptive coding’, ‘interpretive coding’ and ‘overarching themes’ noting that in reality carrying out analysis ‘does not progress in a purely sequential manner’, but requires a ‘cycle back and forth between stages’. Figure 4 shows the layout of the working window of the Artichoke™ Analyse program.
Recurrence, repetition and forcefulness are three points of reference to identify themes (Overcash, 2004). To identify recurrence and repetition, the researcher looked for narrative data that had the same meaning, but different wording as well as the existence of the same ideas using similar wording. To identify forcefulness the researcher also noted verbal and non-verbal cues that would reinforce a concept. The researcher’s aim was to look for trends and patterns that reappeared within the discussion and interview recordings and the video footage. The ideas and concepts arising from the recording and footage were categorised into descriptive codes. Figure 5 shows the layout of the codes working window in the Artichoke™ program.
The researcher indexed the data, by sifting, highlighting and sorting out quotes and making comparisons to represent relationships between levels of coding in the analysis (King & Horricks, 2010). Charting, mapping and interpreting were conducting by the researcher by placing quotes from their original context and rearranging them under the newly-developed thematic framework.

Rigour in qualitative research requires the researcher to select a “position” for making the claim for trustworthiness (Rolfe, 2006). The claim of trustworthiness in this study has been approached from the position of member (participant) checking. To judge trustworthiness the researcher used the categories of credibility, auditability, fittingness and confirmability (Guba & Lincoln, 1989). During the process of thematic analysis, auditability was demonstrated as the themes were
developed and presented in the final thematic structure (Graneheim & Lundman, 2004; King & Horrocks, 2010). However, to minimize the potential bias introduced in analysing and interpreting focus group and interview data as well as the video footage, the researcher kept records of all the major stages of developing and organising themes as this is proposed as an important quality criterion (Krueger & Casey, 2000). Another aspect of trustworthiness is dependability (Graneheim & Lundman, 2004). The researcher aimed to reduce the risk of inconsistency during data collection, by questioning the same areas for both focus groups and individual interviews. In addition, credibility and transferability can be used to describe various aspects of trustworthiness (Graneheim & Lundman, 2004; Rolfe, 2006). Graneheim & Lundman (2006, p. 110) suggest that ‘participant recognition of the findings can also be an aspect of credibility’. This was addressed in this study by sending an e-mail to each participant. Against each of these, the relevant verbatim quotes that were contributed by the participant were included. The participants were invited to respond, make comment and ask clarifying questions should they so wish. Two e-mails were received in response. Both respondents expressed an interest in the themes and wished the researcher well with the remainder of the study. Transferability is the ‘extent to which findings can be transferred to other settings’ (Graneheim & Lundman. 2006, p. 110). To this end, the researcher has clearly described the selection and characteristics of the participants, the data collection and the process of analysis as well as a rich and vigorous presentation of the findings with appropriate quotations to enhance transferability (Graneheim & Lundman, 2006; Rolfe, 2006).
Ethical implications

As with all study participants respect for privacy, anonymity and confidentiality are paramount; as is the respect for human vulnerability and personal integrity (Steinke, 2004), therefore the researcher was guided by the ethical principles which require respect for justice, beneficence (doing good) and maleficence (doing no harm). As the Peel region consists of a diverse and multicultural population, it was possible that some participants might be from different ethnic, religious and spiritual groups, individuals from same-sex partnerships and of varying employment status. The researcher maintained a culturally safe and culturally appropriate non-judgmental approach and attitude. By being reflective on any cultural information provided by the participants, the researcher demonstrated thoughtfulness for their self-identity. In addition, by introducing herself and providing information on her cultural background and her professional culture, the researcher aimed to breakdown any perceptions for power-base inequality.

The researcher made application to the Murdoch University (MU) Human Research Ethics Committee (HREC) (2010/072) and the Western Australian Department of Education Evaluation and Accountability Office (D10/0300535). Written approval was obtained for both organisations prior to the recruitment of participants and the commencement of any data collection. The broad role of human research ethics committees is to safeguard the rights and protection of the participants, to ensure informed consent is sought and documented appropriately and
that the privacy of participants and the confidentiality of data is maintained (Steinke, 2004). Two amendment applications were made to the MUHREC for the study. The first amendment was to request approval to conduct individual interviews with two mothers and two teachers, who were unable to attend the scheduled focus group discussions. The second application was to seek approval to analyse the additional data that was given to the researcher by a mother and a teacher from two different schools participating in the MSF. Approval was granted for both amendments.

Misconduct in proposing, performing and reviewing research means ‘fabrication’, falsification’ or ‘plagiarism’, however it does not include differences in opinion or honest error (Schneider, Whitehead, Elliott, LoBiondo-Wood & Harber, 2008, p. 92). The researcher has maintained integrity and honesty during the conduct and reporting of the study and will continue in this manner through to the publication of the study.

To respect autonomy and individual responsibility, the participants were free from coercion and any undue influence to consent to participate in the study. The Information Letter and Consent Form were distributed to a cohort of prospective participants unknown to the researcher through the three schools and one independent art group. Participants recruited from this process cannot be identifiable by name, address, telephone or e-mail address, as each person has been assigned a code number which has been recorded on their consent form. This information has been stored separately to the coded data collected for analysis. The participants were able to withdraw from the study, without explanation or penalty which would have
resulted in all identifying data being immediately destroyed. Those participants who have requested feedback from the results of the study will have their contact details kept under lock and key separate from the collected data. To comply with NHMRC (2006) requirements, all the research data will be stored in a locked cabinet in the researcher’s office for a period of five years following the completion of the study and will then be destroyed.

Limitations

Individual and focus group interviews have a limitation where data collection may lead to insufficient, rich and in-depth information as they may not explore issues deeply enough or expose potentially important sensitive information (Schneider et al., 2008). Selection bias may also have been a limitation of this study where participants may not be a representative sample of the population of interest. Participants may have self selected for the study in situations where they either have a particular interest in the topic area of art, art education and child development, or they had a friend or an acquaintance who was also participating from the same school (Schneider et al., 2008). The limitations also include restricting the sample to a single setting. Therefore, no claims for generalisability are made.
CHAPTER FOUR

FINDINGS

Introduction

In chapter three a full description is given of the research design and method. Presented in this chapter will be the findings from the focus group interviews and four individual interviews. This is further supported by additional data that were provided to the researcher, in the form of letters written by some students to an Artist in Residence and video footage of some students during their performing arts activity coupled with photographic still shots of their completed art piece.

Characteristics of the Research Participants

The participants for this study were teachers, artists in residence and mothers of children aged eight and nine years old, attending three primary schools and one independent art group in the Peel region. The Peel region is located immediately south of Perth and incorporates five local government areas, which include the City of Mandurah and the Shires of Boddington, Murray, Serpentine-Jarrahdale and Waroona. There are 32 primary schools in the Peel region, of which 22 are government and 10 are private. Of the schools participating in the MSF, two are government and the third is private. One government school services the eastern
suburbs of Mandurah and the other the southern suburbs, while the private school is located in the northern suburbs. The independent art group is privately run from a government owned and run facility, located in the south western suburbs of Mandurah.

Each of the three schools and the independent art group contributed an individual creative art piece to display at the annual MSF in line with the 2010 theme of Lifestyles and Imagination. The school art pieces were displayed in the Mall in central Mandurah as part of the “Mall Memories” section, and depicted the times and lifestyles of people in the region, during the 1950’s. The Sontoy Ballroom, the Mandurah Movie Theatre and the social hub of the Smart Street Mall were depicted by the schools’ art work. The art pieces contributed by the independent art group were displayed in the Mandurah Performing Arts Centre. The additional data that were provided to the researcher consisted of a DVD of video footage and still photographs as well as letters written by students. The DVD was of the performance and art piece contributed by the one private school and the letters were written by students from one of the government schools.

Participants in the first focus group were mothers of children participating in the art activity for the MSF. The researcher had received confirmation of nine attendees. Of these nine confirmed attendees, only five arrived for the discussion group. Contact was made with two of the four absentee participants following the discussion group, who offered to participate in individual interviews. One of the
teachers who attended the second focus group meeting, which was held in the evening of the same day, mentioned in passing, that the school she taught at had participated in an inter-schools sports carnival and several of her usual art group children were away for the day. It was possible that this event attributed to the remaining mother’s non-attendance. The remaining two mothers did not respond to communication efforts by the researcher. The addresses of the mother participants provided to the researcher identified that the participants came from several suburbs in the Mandurah area; however this did not confirm that their children attended either the private or the government schools. All of the mother participants were Caucasian Australian. Four of the mother participants had daughters and three of them had sons involved in the creative arts activities.

The second focus group was attended by two full time teachers employed at two of the three primary schools included in the study and one Artist in Residence, contracted by the City of Mandurah (City), to assist the third primary school. Both full time teachers lived in the Mandurah area and the Artist in Residence came from the southern suburbs of Perth. Despite previous confirmation of attendance from six teacher/artist-in residence participants prior to conducting the focus group, three did not attend. However, contact with two of them resulted in an individual interview with the researcher at an alternate date and time suitable to both parties. One of the participants interviewed was the principal teacher of the independent art group, who lived in the south western suburbs of Mandurah and the other was a second artist-in-
residence from the Rockingham area, contracted by the City to assist at the third primary school.

The Influence of Art on the Children’s Critical Thinking Abilities

The mothers’ and teachers’ perceptions were explored by capturing the thoughts, feelings and reflections through interview and discussion, six weeks after the arts activity was complete and the MSF had concluded. The discussions were directed by exploring their perceptions about the development, display or engagement that the art activities may have generated, with particular characteristics and abilities that are linked to being a critical thinker. The evidence of the use of imagination, decision making and problem solving abilities were explored, as were the actions and characteristics of reflection and consideration of self and others. The research question explored through the focus group and interview discussion was:

- How does creative art influence the development of critical thinking in a cohort of children between eight and nine years, living in the Peel region?

Emerging Themes

Data collection and analysis ceased in this study, when no new themes emerged, which represented data saturation. Themes and sub-themes from the data collected are presented below (Table 3) together with supporting evidence in the form of verbatim quotes from interviews, photographs of the art piece produced by
students from the private school and letters written by students from one of the government schools. The coding scheme for the participants is described below (Table 2).

Table 2. Coding scheme for participants

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Focus Group/Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Teacher</td>
<td>Teacher focus group</td>
</tr>
<tr>
<td>T2</td>
<td>Artist in Residence</td>
<td>Teacher focus group</td>
</tr>
<tr>
<td>T3</td>
<td>Teacher</td>
<td>Teacher focus group</td>
</tr>
<tr>
<td>T4</td>
<td>Teacher</td>
<td>Individual interview</td>
</tr>
<tr>
<td>T5</td>
<td>Artist in Residence</td>
<td>Individual interview</td>
</tr>
<tr>
<td>M1</td>
<td>Mother of a girl</td>
<td>Mother focus group</td>
</tr>
<tr>
<td>M4</td>
<td>Mother of a girl</td>
<td>Mother focus group</td>
</tr>
<tr>
<td>M5</td>
<td>Mother of a boy</td>
<td>Mother focus group</td>
</tr>
<tr>
<td>M6</td>
<td>Mother of a boy</td>
<td>Individual interview</td>
</tr>
<tr>
<td>M7</td>
<td>Mother of a girl</td>
<td>Individual interview</td>
</tr>
<tr>
<td>M8</td>
<td>Mother of a boy</td>
<td>Individual interview</td>
</tr>
<tr>
<td>M9</td>
<td>Mother of a girl</td>
<td>Mother focus group</td>
</tr>
</tbody>
</table>

Table 3. Themes and sub-themes generated from teachers’ and mothers’ perceptions of children’s creative arts experiences.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Environmental factors influencing children’s creativity</td>
<td>Constraining factors limiting the creative arts experience in the home.</td>
</tr>
<tr>
<td></td>
<td>Limited time allocation for creative arts in school programs.</td>
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<tr>
<td></td>
<td>The lack of creative arts expert instruction across the span of the school curriculum.</td>
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<td></td>
<td>Funding restrictions in the educational environment.</td>
</tr>
<tr>
<td>2. Processes in mobilising</td>
<td>Being given “permission” by teachers.</td>
</tr>
<tr>
<td>children’s creativity</td>
<td>Factors mobilising children’s creativity.</td>
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<tr>
<td>-----------------------</td>
<td>------------------------------------------</td>
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<tr>
<td></td>
<td>Providing children with creative arts opportunities outside of the limited school programs.</td>
</tr>
<tr>
<td></td>
<td>Strategies in working with children to excite their imagination.</td>
</tr>
</tbody>
</table>

3. **Children growing through the experience of creative arts**

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Children becoming aware of themselves through creativity.</td>
<td></td>
</tr>
<tr>
<td>Children extending their awareness to others and the environment around them.</td>
<td></td>
</tr>
</tbody>
</table>

4. **Children developing confidence**

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>Connecting the creative process to other subjects.</td>
<td></td>
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<tr>
<td>Children confidently talking about the construction of their work and defending their choices.</td>
<td></td>
</tr>
<tr>
<td>Visible indicators of problem solving in the development of their work.</td>
<td></td>
</tr>
<tr>
<td>Persevering with the task to obtain the desired results and effects.</td>
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</tr>
</tbody>
</table>

5. **Children’s creativity contributing to community vibrancy**

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<table>
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<tbody>
<tr>
<td>Taking pride in the contribution they have to offer to a community event.</td>
<td></td>
</tr>
<tr>
<td>Feeling a sense of belonging and connection to the community through art.</td>
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</tbody>
</table>

**Environmental Factors Influencing Children’s Creativity**

The collective experiences of both teachers and mothers, suggested that there are prohibitive factors that hinder and limit children’s exposure to creative
experiences. The researcher proposes that “environment” is defined as “the totality of surrounding conditions”, so the influence of the arts experience depends on which environment the child is placed. Theme one relates to the restrictions, inadequacies and constraints in the provision of the creative arts experiences for children as perceived by the participants.

Sub-theme: Constraining factors limiting the creative arts experience in the home.

The teachers perceived that the children of today do not ‘play’ at home, suggesting that when children come to school they are passive learners as a result. The teachers expressed a noted change in children’s behaviour towards engagement and learning attitudes compared to children in past generations. The teachers expressed their belief that the children’s restrictions on creativity was as a result of home experiences. These beliefs were expressed when the teachers were asked “to what extent did the creative arts activity stimulate the children’s imagination”. The teachers’ comments are indicated below.

“I really think that play is a big part of it is...It’s their play at home. A lot of that talking and creative play and finding out those things...there’s not that kind of learning any more... there is not that kind of outlet to just go down the street or find a bit of bush or something like that and play... it’s quite structured...they’ll go to someone’s home or might be in front of the play station. It’s not the same anymore,
just easy imagination...you have to drag in out of them a lot more. I think that before when there was a free structure of play it was easier” (T3).

“I think...you know...the constant expectation... visual stimulation all the time...it takes it away from the input and so a lot of the time they are passive and you know...I think that this is the change we are seeing in children than perhaps we would have a generation ago” (T3).

“They are passive that’s for sure... you know... as you say, you start off with them...they should be enthusiastic right from the start...but they are passive... they just sit there, you have to draw it out...it’s so hard” (T1).

The teachers also expressed concern for the lack of free-play in the current pre-primary education curriculum.

“Play has been taken away in pre-primary, breaking away from the traditional teaching and that’s where you get these kids coming in that have already started formal learning and they should really still be playing...still be using their imagination ... and that’s where it’s wrong...I really think that it is sad...I really disagree with it...I don’t think it helps the children socially...they haven’t developed that background...I don’t think teachers were ever asked whether children should start formal learning earlier because I haven’t spoken to anyone who thinks it’s a
good idea. I spoke to some of the kindy teachers earlier this year and they also feel that there is not enough time to free play” (T1).

In discussion concerning stifling and restrictive creative experiences, a teacher participant engaged in the delivery of creative arts in the private sector offering extra-curricular arts programs, reported her concerns by saying that “a lot of kids say that they are not allowed to do art at home because it’s too messy...so they come to me” (T4).

Parental pressures and expectations of high achievement were also perceived by the teachers as being constraining factors to the engagement of creativity and free flowing imaginative expression. The teachers’ perception that children were reluctant to freely express themselves was for fear of parental ridicule and the fear of being wrong or getting into trouble. This was supported by teachers’ discussion from both the focus group and interviews:

“I have a couple of children who only paint for their parents...umm...not there for their parents...like they want to come, but they paint for their parents if that makes sense and if they don’t think that it will meet up to their parents standards when they arrive they’ll throw it in the bin” (T4).

“This is not putting mother’s down or anything but you’ll have mums who come in and maybe they don’t quite understand and they’ll say ‘so why did you do that...is
that all you’ve done today?...it doesn’t really look like that’ and that’s when I have to come in and intervene and say ‘Wow! Look at this work...Oh! My!...Can you see what they’ve done here?...I’m so pleased they are coming out of their shell’...so you’ve really got to watch. I say to the parents on the side ‘it’s all about building their confidence up, you’ve got to allow their confidence to build’ ” (T4).

“It’s the expectation that the parents want but...that’s the worst part, showing ‘my kid can do that and yours can’t’ sort of thing. I explain (to the children) that you’ve entered a zone where nothing is wrong...there are no good ideas or bad ideas...they are just ideas...you are not marked on it...I don’t think they can actually grasp what it means to hear this dude sitting there saying that nothing is wrong...they are like ‘what-ever, anyway, quick, I better get it right, I don’t want to get it wrong’...so I’ll do whatever you did and this person is going to do... whatever we both did and the whole class does exactly the same thing... because they are petrified; coz they just want to be right and succeed and not get into trouble” (T1).

One teacher reported her observation of the production of stereotypical art work, suggesting that “they (children) are very timid to actually take the chance of using that different colour, because they are scared I’m going to tell them off...they come in and they have to draw it exactly, they are not allowed to go out the lines, it has to be really realistic...I try to loosen them up and get them into mark making...they are really scared...because they don’t think it looks right” (T4).
“In my program I ask every child to write comments about what they think about art…one little girl wrote ‘I love art because it’s the only place where I can make mistakes and not get into trouble’…another little girl that I was quite worried about…when things were going bad in her life she would draw something and the crush it up and throw it away, draw and then crush it up and throw it away, draw, crush it up and throw it away…I was so worried” (T4).

A participant from the mother’s focus group indicated that despite knowing that goal performance attitudes towards her children’s achievements were wrong, it was the way she parented; only wanting the best outcomes for her children.

“It’s funny because…umm…I tend to…if they are doing say something, you know, a project at school and I help them…umm…I tend to dominate using how I would do things…a bad habit I know…and I’m very much like…wanting a balance, everything has to be centered and in proportion and all that sort of thing and I try and push that onto them…which I know I shouldn’t… the younger one will always do what Mum says…the youngest is everything to please Mum, so she will do what I say” (M9).

**Sub-theme: Limited time allocation for creative arts in school programs.**

The perception of a lack of arts exposure and the limited time devoted to it in the current curriculum was a recurring thread through the mother’s group discussion. In particular, these issues were discussed in relation to their perceptions of children’s
beginning ability to analyse their work in response to what others may have suggested. It was considered that limited exposure and time restraints reduced the children’s experiences to enable full engagement in thoughtful and reflective practices. Two mother’s comments below illustrate their concerns.

“I hope they maximise the use of it (creative arts) eventually…not every child is sporty or an academic…art is another avenue for the children or all of them to express themselves in different ways and I’m just so for it” (M1).

“There is no time (in the school day) to pursue the artistic things sometimes… allow the children to have a free for all approach…the teacher’s tell them what to do…that happens in teaching…when you have thirty two children in the class they have to have direction…time limits…hands on you’d feel like you’d need six or eight adults to be there” (M7).

Interestingly, the mother’s concerns that time restraints reduced the children’s experiences to enable full engagement in thoughtful and reflective practices was reinforced by a statement from a teacher participant:

“I have six hundred kids come through the classroom every week…the reflections for me is probably not done efficiently enough…we probably might spend about five minutes at the end of the lesson talking about what we’ve done today and what did
they think about this idea and what did they think about that idea…but it’s never to the extent that I’d like to do it” (T1).

In addition to arts limitations in the current curriculum, a further supporting thread discussed by the mothers’ focus group, was that of the shortage of teachers with the appropriate expertise to deliver arts programs in the schools. This belief emerged from discussions regarding their perceptions of the children’s decision making and representation skills. Mothers discuss their thoughts on this perception:

“There was an activity that our children did in pre-primary and it stands out in my head for a particular reason…the teacher got them to draw a self portrait of themselves and they couldn’t do it, a lot of them were stick figures etcetera…some teachers can’t draw much better than that because no one has taught them how to do it…another teacher got one little boy to stand up in front of the class…he stood on the table… ‘Right’! She said, ‘you will all draw this child…now his ears are not here, they are up here’… and that’s what she did, she did it in the most real way…because they needed to learn perspective” (M8).

“It comes down to the teachers…some teachers are not arty, so they don’t like to teach it…if you have a child who has had a few teachers that aren’t arty and don’t particularly like it then they are more inclined to not understand it as much or get exposed to it as much” (M4).
“They are taught from an early age...they have portfolios that they have to take home...the teacher keeps saying how important it is that they must look fantastic...I think the children loose a bit of their own interpretation...the teacher says ‘it’s going into your portfolio, it’s got to look good’... their own interpretation is lost” (M4).

“When my son was in year one he used to colour all his animals in rainbow colours and I was in the classroom helping out and he was colouring this deer in rainbow colours and he was so proud of it and the teacher tore it up... she said ‘I told you they are brown, they are brown’... I remember the voice, I’ll never forget it... he never coloured an animal in rainbow colours again” (T4, reflecting on an experience as a mother).

Sub-theme: The lack of creative arts expert instruction across the span of the school curriculum.

In addition to the shortage of art teachers, mothers also suggested that the arts are delivered extensively to children in the preprimary years, however the emphasis appears to move away from the arts in the years that follow to concentrate on the more academic subjects and the children who would benefit by arts exposure miss this vital opportunity. This view emerged from the perceptions that arts participation had the ability to develop confidence, particularly where the child appeared not to have strong academic prowess. One mother recounts her experience:
“Both my children will skirt around and get everybody’s opinion...gradually I’ve decided that it’s nothing to do with not being able to make a decision... particularly with the youngest one...it’s a complete lack of confidence with their own ability...and with (name of child), he has a rather large reading problem...they have just have done an activity on a book...Rowan of Rin...they had to retell the story...they drew a picture about each part...as (name of child) is going along and having to draw the pictures he’s saying ‘and there was this great bit in it mum... and... there was this great bit in it mum’... drawing the pictures helped him reflect what was in the story... and that has helped him relive it again and again and again... for him, a struggling reader and writer that was such a great way to do it” (M8).

This mother expresses her concern for the perceived loss of the aesthetic focus on education in the higher year levels expressing dismay for those children who “see things differently”:

“You know that saying...a picture paints a thousand words...it’s true and that’s what the kindy kids are learning...pictures mainly and that’s how they learn...they experience...they talk and so on...why is that not followed through to the higher levels...they’ve lost it along the way, it’s a real shame...I wonder what has happened to that link from lower levels...some brains need it, they see things differently...it hasn’t been followed through...they are not giving it the same attention as Maths, English, Sport” (M1).
The same mother suggests that times are changing and that the curriculum should move with the trend towards the arts:

“Society is changing...times are changing...barriers are breaking down...more boys are doing art...there are just as many skilled boys out there doing art, drama, dancing...girls in rock bands...the Education Department has to realize that there is a change...people are wanting more of that” (M1).

Sub-theme: Funding restrictions in the educational environment.

Threaded throughout both focus group discussions and all four individual interviews was the shared perception that there is limited funding for arts programs in schools and community settings. The lack of purpose built facilities with appropriate facilitators and funding for projects as well as the inequity in affordability of programs in the community, appeared to be fundamental. These issues were seen as limitations to the development of children’s capacity to think creatively and engage in imaginative processes. A teacher and mother comment on the funding inequity and the access and affordability of community programs:

“There is no funding for arts and creativity...it’s not sitting there drawing and painting...it’s about clay, it’s paper mache, making junk music instruments, creating costumes, creating mask, creating artifacts to take home for mothers’ day; fathers’ day...things like that you know... it’s all important... it’s giving the children a chance
to express themselves creatively, to use some imagination, to get a variety of things, materials and objects together and just with their imagination...think of something three dimensional...with their eyes and their hands and their fine motor skills to create it...first they have to visualize it in their head...visualize it, then they start to create it...that is teaching them valuable life skills... tell those politicians to cut down on those trips, their perks, their wine list!” (T5).

“There is no funding...very few schools have got specialized art teachers...very few schools have even got a wet area where they can do art work...you know...I’ve had to go out into the yard and do it...and sometimes there has been no running water and we’ve had to bucket it” (T5).

“She (daughter) was also part of another (extracurricular) art class and they had done another piece which was down in the Mall as well which she was proud of (displayed in the Stretch Festival)...it is lovely feel good group... she’s (teacher) got a lovely demeanor with the kids...and you walk past and they are all really busy and focused... they want to share all the displays in the library...that’s a wonderful community thing...interestingly enough it’s probably the same type of children that are doing it...if you want to talk about socioeconomic groups that are doing it...it’s probably that...because it is about $120 a term, so that's another issue that limits the arts...limits people from accessing it” (M7).
Processes in Mobilising Children’s Creativity

Theme two developed through the perceptions that most children have an ability to imagine and be creative. However, both the teachers and the mothers identified that certain processes were required to engage the mobilisation of their creative and imaginative dispositions. These were; “permission” granting from the teacher to alleviate the fear of ridicule; children seeking approval of their ideas or work progress before feeling confident to continue; providing a variety of creative arts exposure outside the school program and the use of innovative strategies to draw out the children’s imaginations.

Sub-theme: Being given ‘permission’ by teachers.

The teachers strongly perceived that children are negatively influenced by expectations of perfection. They considered that this was an additional hindrance to the free expression and creativity of the children. The teachers spoke of having to give children “permission” to create what they see and what they feel. It was generally felt that once the children are given “permission” in an unrestricted environment, they do ‘let their hair down’ so to speak and really explore their individuality. Teachers’ comments are reported below:

“They say that they have to do a brown cow, they have to do a black and white zebra, they can’t do a purple zebra, they are not allowed to…not in all cases…umm…but
they say to me that they are not allowed to do this and they are not allowed to do that and so when they come here and especially when they first start and they are very timid to really express, you know... they are very timid to take the chance of using that different colour because they are scared I’m going to tell them off” (T4).

“A child will come up and say ‘am I allowed to do this...could I cut this, this way?’...I say... ‘you can do anything you want...that is your art work...you are the artist...this comes from you...this comes from inside’... ‘Oh’...they say... ‘I won’t get in trouble?’...that’s the big one... ‘I won’t get in trouble?’...It’s giving them permission” (T4).

“I have got two rules in drama...hands up to speak otherwise I miss people’s ideas and the second one is there no such thing as wrong...when I finish with people and what they reflect to me is...you know I ask ‘what did you get out of this’...what comes back is ‘I learnt in drama that there is no such thing as wrong’ ” (T2).

**Sub-theme: Factors mobilising children’s creativity.**

This sub-theme of the children seeking to create their own work is closely linked to the sub-theme above, however it must be identified alone, as it is perceived as being representative of the relationship between a child’s desire to create and imagine and the forces that hold the mobilisation of that creativity back. Both the teachers and the mothers considered that most children are excited by being able to imagine and
create; however they are reluctant to develop their own work without step by step or stage by stage reassurance that they are heading in the right direction. The mobilising factor here seems to be that the children do not want to be belittled or chastised for an idea that could be considered irrelevant or unsuitable for a particular task or for attempting a project that might not be “good enough to make the grade”. It was suggested that by using a checking process, the children feel confident to embark on their work. Comments to support this perception are highlighted below:

“My daughter feels like she can’t do something unless she is taught how and she will always ask ‘is this the right way’... ‘am I doing it right’...like with the activity that they were doing...she would have been checking constantly with the artist that was doing it with her...she would have checked to make sure that she was doing it right...or looking at what other people are doing...she wouldn’t like to think that wasn’t doing it correctly...so she feels like she always has to check before she is confident’ (M4).

Interestingly, the comment detailed below was given by the same participant who declared that she had difficulty in controlling a goal performance attitude related to her children’s achievements (M9, p. 90).

“The majority of children don’t realize that art is their own interpretation...they go to school and they learn...it is seen in a textbook and written down...they learn from that...do they see art as the same? ...that it has to look exactly like what’s in the
textbook...or if they can’t get it to look like what’s on the board... it’s wrong...they are not taught from an early age that there is no right and wrong in art” (M9).

Concurring with M9, M8 also considered that it was not just in the visual arts that children used the checking mechanism, but in all art types:

“And that is not just the paper and pencils type art...it’s all the arts... it’s the talking arts...that dancing arts...all the arts”.

The verbatim comments to follow, illustrate that the teachers too, had the same concerns regarding the reluctance of the children to freely explore their own ideas without checking for assurance or having feelings of dread, should their work require further attention or be singled out by the teacher.

“The children are caught in a box...they can’t get out and do what they really want to do...or be who they are...or have the emotions that they really want to have and be expressive...they think that people will laugh at them...they don’t think it looks right...and then after a while...it takes quite a lot of time for them to let go...I tell them... ’you are allowed to express yourself, you are allowed to do different things ’...they just have to keep checking...they ask... ‘can we put a belt on, can we put a headband on, would it be alright if we had a stick like this ’... I always say ‘Yes!...I tell them to always use their mistakes, use their mistakes to their advantage” (T4).
“Sometimes the children lack confidence... and if they don’t get it right the first time...they fall really hard...and sometimes you have to say ‘you have to have more than one go and you don’t just give up the first time because you didn’t get it quite right’...the children kind of then have the attitude... ‘I’m being picked on’ or whatever” (T3).

During T3’s discussion, quoted above, T1 interjected firmly, with a further comment that suggests that children dread their work being identified for fear of ridicule. As T3 made the comment; “I’m being picked on”, T1 simultaneously spoke of a similar response usually generated by a child being provided with instruction; “I must have got it wrong then”.

Sub-theme: Providing children with creative arts opportunities outside of the limited school programs.

Highlighted by the mothers, as being an important contribution to a child’s well rounded development, was the importance of exposure to a variety of art experiences. Mothers perceived that the school curriculum does not offer sufficient exposure to the creative arts and that they had a responsibility to provide the experience as an extra-curricular activity. The perceived contributions that arts exposure provides to children varied among the mothers. These are reported below:
“Art teaches you about life so you are trying to give them everything and so much more… I have taken my children in the last couple of years to the Art Gallery, to the Year 12 perspective… they are getting so much out of that…and there is so much meaning to some of those items… and the techniques…they just do not do enough of that in primary school, why do they wait until high school” (M1).

“Last year my daughter did three terms of art at (name of the art group)… out of school…unbelievable what that has done in every aspect of her work…just the sketching alone…if she never does those art classes ever again…what its now added to every assignment that she does and how she looks at it…she has been taught to look at things in a different way and everything she does is amazing” (M1).

“My younger daughter is now learning music…my older two did and what it did for them on their academic side of things was amazing…a huge difference…and that’s why they are all doing it because I really believe that the music helps them academically” (M4).

“My youngest daughter plays the flute and she was able to play in a variety night…and it was just dance, music and drama and my older daughter came along…and through seeing her younger sister playing the flute she said that she regrets not taking up an instrument…through watching the drama she has told me she wants to do drama next year…the more you expose them the more they want” (M9).
“My daughter goes to (name of the extra-curricular art program), but she has netball training, so it clashed...so she’ll probably go back in term four...she loves it...she engages and loves to display her work” (M7).

“I take (name of the child) a lot to theatre, plays and dance concerts...he’s grown up with that...and he loves it...and this drama class he does, out of school...he’s thriving on it...he’s working really well in the team, he’s expressing himself well, he’s excited about being there...he really enjoys being different characters and that’s part of his imagination coming through” (M6).

**Sub-theme: Strategies in working with children to excite their imagination.**

When the teachers and mothers were asked about their perceptions of children’s ability to use their imaginations freely and without obstruction, there was a consensus that suggested that strategies were needed to stimulate their minds to bring ideas and thoughts forward. These perceptions were thought to be closely linked to the issues around ‘permission granting’ and constant ‘permission checking’. It was considered that once the children were comfortable with the notion that they were ‘allowed to’ use their imagination and follow their own ideas, they would engage whole heartedly. Teachers and mothers spoke of strategies that they used to draw the children out and engage them to be involved with idea and construction development:
“When we did the bricks all we had was very thin sheets of balsa wood...we cut it to brick shape and made it look like bricks...some children thought we’d use real bricks for the walls...to make them think outside the square ...and think ...Ahh! We can do it this way to make it look like bricks... we had to ask them ‘why are we doing this and what can we use for the bricks ’? It was a light bulb moment for some of them” (M5).

“My take on imagination is that it’s a response to certain conditions... if I keep throwing ideas at them then it’s not fertile ground for them to develop imagination... I just keep asking questions once we’ve set a scene...as an example;  we are at the beach...I ask ‘who is there?’...from there I continue to draw on them to develop the story...at the start they say... ‘I don’t know’...some of the teachers I work with want to tell them...I say ‘Shhhh! Let them develop that first thread of the idea for themselves’...I believe the more we allow them to develop the ideas the more we can engage them in imagination development (T2).

“I use key words to try and trigger it off...I’m doing dragons with my children as a piece this year...and umm...you start off with an idea and you work on their imagination to try and create a creature of their own...you just keep working on it...and talk about things that might be a feature of the creature...it keeps developing...trying not to put your ideas on them” (T1)

One teacher suggested that group discussion was useful ‘to be able to get them to trigger off ideas, feed off each other and bring out that imagination’ (T3).
Another teacher suggested that she too found that displaying a student’s art work, for example good idea development was useful to stimulate others to develop ideas. She also suggested that it was a useful and important strategy to instill confidence in students through acknowledgment from their peers:

“I will sometimes hold some work up... ‘Oh! No! Why? I haven’t finished yet!... don’t hold my work up’...I’ll say... ‘No! I’m sorry but this is too good to let go’... and you’ll see the little smile...and then before long the others kids are saying ‘I like how you’ve done that’...they really like to hear what the others say about their work...it seems to be very important to them” (T4).

**Children Growing Through the Experience of Creative Arts**

This theme developed as the data revealed that both the teachers and mothers perceived a profound development of holistic growth in the children having been involved in the creative arts project. There was a sense that creative arts exposure contributes to developing the ‘whole person’ which is important for adult life. Both the teachers and mothers remarked on different aspects of ‘growth’ when they were asked to give examples of ‘what the children talked about with their parents, siblings, friends or teachers’ during the creative arts project.
Sub-theme: Children becoming aware of themselves through creativity.

Self-awareness and an awareness of others were evident in a shared view that these characteristics surfaced through the art activity. One teacher described how a student had drawn particular anatomical features of other children in the class that reflected his awareness of others.

“I’ve got an interesting thing…it was on one of the letters that was written... this boy seemed so aware...you know...of himself and of the others...he drew the children in the class...they were sitting there and their shoulders were up...and the way he drew them I thought was unusual for his age...really accurate...he said that was how he liked to draw them...he saw them that way...no one taught him” (T3).

This can be seen in the letter referred to by the teacher in the above verbatim comment and is labeled Student Letter 1. It illustrates the children’s shoulders drawn in such a way, to be more realistic and representative.

Student Letter 1.

Thank you for teaching me and the class how to draw cartoon characters. I learnt that you don’t rush to be first, you have to be patient. My favourite thing was drawing the cartoon characters.
The same teacher provided another example of how art can identify individuals’ strengths that would otherwise not be apparent in the main stream structure of the school curriculum:

“This girl I have in the class...she’s really quite weak at things... she’s doesn’t really fit into any category...umm... she’s not the weakest in the class, but she’s certainly not strong...I looked at her art and thought ‘Wow, I wouldn’t have picked this from you’...her piece was really creative and she was really pleased I noticed it... it’s lovely to see that her talent lies in something and she has an area that she will blossom in” (T3).

The four verbatim quotes that follow illustrate the ways in which they felt that the children had developed a sense of self in relation to others and the function of the world around them:

“From this project...they’ve had more courage to speak out about bullying that they’ve experienced...there is always a lot of discussion...a lot of thought...and the children get some very strong ideas as a result of this group discussion, decision making, putting words and images together...they feel that they have a voice” (T5).

“I see that she (daughter) has become able to think in an artistic sense...it’s artist thinking...we were walking down the drive way...we’ve got peppermint trees...she
said... ‘mum can you smell that, it smells like holiday’s’... I see that as thinking in an artistic way...it was just beautiful” (M7).

“After the performance... he went back with the boys...chatting; you know ‘that was really cool’...then his little partner’s mum came up and said ‘Oh! Can I have a photo of you two together?’... It was the first time too, as a little boy, he had his role as a male in a female/male partnership...although he was self conscious...he felt that he had an obligation to his dancing partner...but he went and had a photo taken...we talked about it afterwards and I told him how pleased I was that he looked after his partner” (M6).

“I have students who now want to build each other up...I like students to discover...I don’t teach all techniques in class...they say to me... ‘I had trouble doing this at first, but I’ve found a way, can I show the class’...they have such a sense of satisfaction when they have discovered for themselves...they explain the technique and the others love it...they learn together and are really supportive” (T4).

The perception that participation in creative arts has an ability to alter the state of mind was exampled by a teacher discussing a student’s behaviour while being absorbed in painting a particular section of the art project:

“At one school I had a child with attention deficit ... very disruptive...giving lip to the teacher at the same level as an adult...I told him that if he was going to muck up
on me I was going to go... 'love you to be doing the painting but if you aren’t going to listen or do things properly there is no point in me being here’...so I gave him the paint...he decided to do two of the shirts in the school colours and the other shirt in the orange so it stood out... ‘this is how you hold the brush, this is how you put it in the paint, this is how you paint’...I stood back and watched...he did it perfectly, he concentrated, totally totally focused... he did the three different shirts perfectly...he was totally absorbed...he didn’t say a word...totally absorbed...in a world of his own...he didn’t crack jokes, didn’t stir me...he was focused on the job...the teacher couldn’t believe it” (T5).

Another example of self-awareness and confidence building was given by a teacher who reported that parents tell her that “the confidence in their children and the way they see things has blossomed and grown...I’ve heard that quite a few times from parents...I have been really happy to hear that...they say “Oh! my child was timid and being bullied and now they are...Arhhh! (indicating with hands) they’ve blossomed... and they’ve felt it was because of the art and how they are doing more at home now...and taking their things in to show and tell at school, which makes them feel good...it makes them feel good” (T4).

The letter below is indicative of one student’s change in feelings as a result of the art activity. In Student Letter 2 a student reflects on a positive change in his/her state of mind and reference is made to a feeling of “calm”.
To further support the perception that creative arts can facilitate feelings of wellbeing and security a teacher exampled the following case study:

“I have a student who doesn’t come to school at lot… and who when he performed in the activity, his mum came up and said ‘thanks for what you do because he wants to come to school on Wednesdays’… he doesn’t want to come to school on any other days… there are all these ways that being engaged with something they love can open them… in an environment where a lot of these kids feel under a lot of pressure at school… socially, emotionally… it’s a time when they can get interested in their own
learning... they walk into drama and they know they don’t have to sign off on anything... ‘I’m just here and I love it’” (T2).

Artistic skills development appeared to be reflected strongly through the student letters. It was apparent that the learnt skill facilitated an enjoyment in the activity resulting in a sense of satisfaction. In Student Letter 3, the student writes in detail about the process required to draw a cartoon character in sections. This acknowledges a comprehension and connection between the skill and the outcome.

Student Letter 3.

Thank you for coming in and teaching us how to draw cartoon characters. I learnt that the easy way to draw cartoon characters is when you draw three parts to separate different parts of the body. My favourite thing was when we got to draw the cartoon characters.
**Sub-theme: Children extending their awareness to others and the environment around them.**

Not only was there a sense that the children had developed their own self-awareness, but that awareness for the environment around them and others had been enhanced. Teachers reflected on how some of the creative arts activities had given children the opportunity to consider others and connect with others, more so than would otherwise happen. It was agreed that children seemed to “communicate” through the creative processes more comfortably.

“Sometimes... in my group of difficult boys...we ask the group to nominate who you think should get the bonus point and the reason why... they look out for each other...they look for who needs the point, who was upset when they came in but who got it together...they use it as a chance to make sure that everyone is ok...they make sure that the point goes to the one that needs it the most” (T2).

“As part of the drama class...I got each student to draw us into a moment...you know, tell us what their skin was doing, what they were thinking, what the temperature was like, what were the smells...it sometimes moves them to tears listening to each other...and at the end they said how incredible it is...it opens new rooms...they share and listen to the others” (T2).
A mother who had participated in the creative arts project as a parent helper remarked on how the children had come to know their own abilities, strengths and weaknesses through the experience.

“I think that they learnt about themselves…to realize that they are not the greatest or yes I am good at this…they gauged themselves against other people’s ability…they learnt so much” (M5).

In support of this perception, Student Letter 4 is included to illustrate a student’s sense of achievement having drawn a cartoon character for the first time.

Student Letter 4.

Thank you for helping us to make cartoon characters and for teaching us how to do films. I learnt that when we draw our characters we have to take our time because if we don’t take our time we won’t get it right. My favourite thing was when I finished my character because it was my first time drawing a character and it looked good.
Threaded through both focus group discussions and individual interviews were the perceptions that art activities played an important role in the development of individual and social capacity. This concept was discussed when the participants were asked to consider the ways in which they noticed the children thinking about and reflecting on their art pieces. As well as developing empathy for others, there was a sense that the children had developed self-awareness which was required for effective communication and interpersonal and intrapersonal relationships. Two mothers’ remarks relate to this:

“It makes them at the end of the day, a well rounded well balanced human being for adult life…I think it helps them socially and in every aspect of life” (M4).

“I’d agree with that…with my youngest daughter (name)…the variety of people she has been exposed to… she has befriended… normally she would not have anything to do with them, but through music the people she is exposed to is incredible” (M9).

The video footage of the children performing the reenactment of dancing couples at the Sontoy Ballroom, Mandurah during the 1950’s, clearly demonstrated that the children had engaged with the era and had embraced the opportunity to share their new learned knowledge of the past social history of their region. The children appeared to revel in wearing the glamorous costumes of the day and had worked hard at mastering the complex dance steps required of them to ballroom dance. This demonstrated a strong sense of awareness and connection to others and the
environment around them. These findings were further supported by mother participants whose children were involved in the performance.

“About them going back in time…I found that my son did go back in time... he did think ‘now what would they have worn, am I wearing the right thing?’...he said ‘jeans aren’t right, but they will do if they are black...can I wear boots’?...he went and saw my parents... ‘now Nanna tell me what you would have worn, what would Pop have worn’?...that was off his own bat...he also wanted to know... ‘do you remember walking through the cow pats Nanna?’ ‘do you remember where it was Nanna?’ (M8).

“At the end of the dance performance all the kids went to the teachers to bring them up to join in the dancing...I loved that bit ...how they wanted to bring them all in to take part... they were so proud of it...learning all those steps...they were quite difficult steps, they weren’t easy...there were some difficult twirling bits...he practiced the moves at home...with all of us, we swopped partners... ‘no not like that, like this’... he led the way, he was teaching us” (M6).

A further example of the development of self-awareness through creative arts exposure, particularly the further transfer of awareness to others, is relevant in Student Letter 5 below. The student reports having learnt ‘patience, hard work, concentration and teamwork’ and interestingly he/she discusses issues relating to problem solving with comments relating to object shape and size. The transfer of
awareness to others is also highlighted with reference to enjoying ‘helping each other’. In addition, there was also reference to perseverance suggesting that ‘practice makes perfect’.

Student Letter 5

Thank you for sharing your time with us. We and the teachers all had fun. It was good having you here. I learnt that it takes patience, hard work, concentration and teamwork to do the three squares. It all depends on how big tall short fat or skinny the person is. It also depends on what you make. It shows how difficult it is and you never ever get it right in the first try and that practice makes perfect. My favourite thing was drawing the cartoon characters, tracing, outlining and colouring, and helping each other.
Children Developing Confidence

It was generally agreed that as the art projects progressed, the children demonstrated an increased air of confidence. Participants believed this was linked to knowledge development as a result of exploring and responding to other topics and subjects that were incorporated into the development of the projects. This related to mathematics for measuring and constructing, history and written and spoken language to develop a background understanding of an earlier era and science to comprehend the applications required in construction of the art works. Exploring these perceptions derived the first of the sub-themes relating to linking the creative process to other academic subjects.

Sub-theme: Connecting the creative process to other subjects.

“Boys and girls did everything together...when we laid the floor boards, which were pop sticks...they all had to glue them on...they understood that you don’t just glue them end to end otherwise it isn’t strong...we stagger them...they learnt something about strength and building...the same with the bricks...‘why are bricks off set?’...‘well it’s stronger’...umm...how we measured and drew lines mathematically on the floor to make sure our floor boards stayed straight...how we had to cut in and go back to make pieces to fit in ...there are so many different subjects related into each aspect of the project... they really had to think” (M5).
“It can make them realize that they are learning stuff for a reason...ruling, estimating things, calculating...how many do we need...they can use what they’ve learnt...they were fascinated with the hot glue gun...it goes through and gets heated, makes a liquid... 'Oh! Yes!... we learnt about solids and liquids'...you know it’s scientific...they can use it in real life processes” (M5).

“We were following the history this year...we invited (name of museum curator)...he talked to them...gave them the background knowledge of what it was like...where they sat...what movie’s they watched...what characters were involved...it was an historical thing as well...it went from the art, to us investigating the Mandurah history...so by the time they got to see their art work we had combined it with the era...now they will talk to me about what they have found out...how things have changed since then... we’ve had (curator) come back and they have written interview questions for him...it was great...they really linked to the history” (T3).

Sub-theme: Children confidently talking about the construction of their work and defending their choices.

Having gained confidence through being involved in the art projects there was a perception that the children were able to discuss their work with relevance to their own idea development and construction. Importantly, there was wide consensus that the children were also able to defend their ideas should they be questioned on the
suitability or relevance of their work to the projects. Examples of being confident to defend and develop ideas are given below.

“One little boy...he didn’t want to do a brim to his hat...'Oh! No' he said ‘I’ve got another idea, because my brain will be popping out of there’...so what he did was like a fez hat with the top of the hat open so all his ideas and his brain could be popping out of his fez hat...and what’s nice, is that all the other kids accept the idea...they respect everyone’s differences” (T4).

“They wanted bullying to be dead...so I said ‘that’s a good idea’...so the rest of the class said how about ‘bullying be dead’...they kept changing the words around...‘make bullying dead’...I then said ‘is there a way of making it deader than dead’...they had a think and one of them said ‘extinct’...they said if it’s dead it’s dead, but if it’s extinct, it can never come back again...one boy said ‘Yes! like a dinosaur’...one of the boys could draw a dinosaur...so he drew the picture...they talked about it further...it was decided to make it look like a fossil...so the boy drew bones” (T5).

“She is very proud of what she does...and confident in it...if you feel something isn’t right she’ll justify it...like at the stretch festival her lamp was hanging upside down...it was hung the wrong way...she said ‘it doesn’t matter, it still looks like a lamp’...she could see it in a different way...it didn’t worry her...it would make some kids fret...like she was sketching one day and instead of sketching, she was really
drawing hard lines... I said ‘why don’t you feather the lines a little bit’... ‘No!’ she said, ‘I like it like this’ (M7).

Sub-theme: Visible indicators of problem solving in the development of their work.

Interestingly, this sub-theme developed from the participants being asked to describe ways in which they might have noticed the children thinking about and reflecting on their art pieces. It was evident that both the teachers and mothers considered that the children were clearly using processes of analysis to construct their work. Recounts of how one mother and two teachers noticed the children’s problem solving abilities are given below:

“This was for the bricks...they were sponging brown and black paint...it had sand in it...if they thought it needed more texture...you could see they would do it more...they would use more sand or more paint...there were hundreds of bricks...each student contributed to the bricks” (M5).

“They decided because the bones were going to be white or grey they needed a dark background...they thought about a dark blue...but they thought it would be too dull...so they decided to use black...then they decided that the letters would be red and yellow...they thought it would stand out...” (T5).
“I had a selection of materials to dress the warriors...very shiny material, very...umm...tapestry type material, black and white and red material...I could see them thinking, ‘now warriors, Ok!...now I’d shown them a picture and the warrior was in red...I purposely showed it because wanted to see who would go for red...one person went for red...the rest picked the textures...they stood in front of the material table for ages...picking, choosing...taking a piece...go back put it on...’No!...go back....put it on.’ No!’... go back...and one little girl said ‘I can’t find the right material, but I’ve got this (holding the material), can I do something with it’?...she cut out long rectangles and painted black all around those and then she put it on the warrior...it looked really good, really good’ (T4).

Sub-theme: Persevering with the task to obtain the desired results and effects.

Perseverance was discussed as being a strong resultant characteristic in the children following their participation in the arts activity. Patience and concentration was considered to be an important moral value. It was widely considered that perseverance and confidence development were closely connected. Two mothers’ examples show the perseverance and determination required to complete the projects:

“The attention to detail...what she was doing for the stretch festival...when we looked at what she had done...she was pointing out what she had done...the really
little things, the finer things...she was pointing out such detail...the disco ball and beads in the middle...the trim on the wall...the floor boards” (M4).

“She said ‘we all did the floor boards mum, it took a long time...there were three hundred pop sticks...and we all did that together” (M7).

Included with the footage of the ballroom dancing performance, were still photographs of the art piece that the students completed for the Stretch Festival. The still shots demonstrate the detail that is referred to in the mother’s comments above. A disco ball is pictured in Photograph 1 and displays an intricate use of painted metal nuts glued onto a round ball-like base. Photograph 2 is a still shot of the whole Sontoy Ballroom. It provides the viewer with an accurate depiction of the scene constructed by the students. It portrays the detail involved in construction from the impressive lighting and highly polished floor boards to the band represented above the painted trim on the walls. The women are flamboyantly dressed in brightly coloured and sequined material to portray the elegance of the era and the men are in coat and tails to denote the formality of the occasion.

Photograph 1. – Disco Ball
Each silhouette painting below the dado line on the ballroom walls is unique. Each student painted their own imagined depiction of a couple ballroom dancing. Photograph 3 is a still shot of a section of the ‘wall paper’ and demonstrates the patience required to paint carefully to ensure that each silhouette was representative and the emotive detail was portrayed. Photograph 4 is a still shot of the ‘band’. Similarly, there is evidence of attention to detail in constructing and making the
figures so that the viewer is captured by the image and is drawn into the moment of gaiety, dance and music.

Photograph 3 – Wall Paper

Photograph 4 – The Band
The suggestion that the students wanted to portray their own imagined depiction of a couple ballroom dancing, was supported by the video footage of the ballroom dancing re-enactment. Each couple appeared engaged in one another’s performance and they seemed to want to show the audience the connection of the artwork to the performance. A mother supported this perception by commenting on her child’s portrayal of that in the performance.

“He walked in front of everyone with his partner…I could tell he liked it…in his shirt and tie and going out dancing with a girl…I was sitting next to his partner’s mum…they looked so special…they made mention about the art work and the significance of it…so it all linked in really well and involved the whole school then …to showcase to them what the year fours did and how they were engaging in the community” (M6).

It is evident from the Student Letters 1, 2, 4 and 5 that the children did in fact reflect on the learnt skills of patience and perseverance. A teacher describes how the children demonstrated perseverance once it was made clear that ‘near enough is not good enough’.

“It was really an amazing thing…I expect quite high standards when I have children writing and when they’ve done art I think …’Oh! Well that’s probably the best they can do’…however (name of artist-in-residence), had different ideas…it was interesting because they thought, ‘one go and its good enough’…well some of those children redid their work three or six times…they were really proud of what they
achieved...in their letters...a lot of them learnt that you have to stick at something to get it right...what a life lesson” (T3).

Student Letter 6 acknowledges that ‘to get it right’ she/ he needed to ‘try harder’.

Student Letter 6.

Thank you for helping us draw cartoon characters and teaching us that the first time if you don’t get it right, just keep trying. I learnt that sometimes you have to try harder if you don’t get it right. My favorite thing was when I was drawing the Betty Boop.

Children’s Creativity Contributing to Community Vibrancy

It was the opinion of the teachers and mothers, that there had been lasting change in the way that the children viewed the world around them since completing the art activities. Engagement with the community was a common thread throughout the discussions. This was coupled with an immense feeling of ownership,
contribution and belonging. During the focus group discussions there was an
overwhelming enthusiasm to describe the responses from visiting the MSF displays.
There was a general consensus that not only did the children benefit from the creative
arts activity, but the experience of visiting the MSF had a long lasting effect on the
family.

Sub-theme: Taking pride in the contribution they have to offer to a
community event.

Both teachers and mothers commented positively about the feelings of pride that the
children had portrayed. Pride was discussed on three levels. The first level was one of
personal pride at having contributed to the art project. The second was one of school
pride; having represented their school and being part of the team and thirdly, the
pride in contributing to a large community event. Comments relating to feelings of
pride and achievement are given below, by both teachers and mothers.

“The children come away boosted...boosted in their self esteem...they were so
proud...wanting to get their parents to come and see the banner...wanting to get their
grandparents to see the banners...’nobody’s going to believe that I did this’...’I’m
going to tell mum that I painted this shirt on this person’ (T5).
“Just watching the girls and the boys…I think it brought them all close together…the boys and girls respected each other…they were all so wrapped…they all felt proud, really proud of themselves…it was good to see” (M1).

“She just loved the sense of everybody doing this…you know…‘my class did this’ and just running down that mall saying ‘this is what we did’…she was also part of another art group and they’d done paper mache sculptures so she also had another piece down in the mall that she was really proud of” (M7).

“They were so pleased it was going to go out in the street and then be put up in the school grounds…they really owned it…they totally owned it” (T5).

Sub-theme: Feeling a sense of belonging and connection to the community through art.

There was enthusiastic discussion when the teachers and mothers were asked to consider if “there had been any lasting change in the way the children viewed the world around them since they completed the activity”. There was an agreed perception that community connectedness and a strong sense of belonging had developed as a lasting phenomenon. The comments below reflect this perception.

“There was such a good response from the Stretch Festival…we took the kids on an excursion down town, while the festival was on and they got to see everyone else’s
interpretation of what they thought...so again it wasn’t just what we did, they learnt from what other people had done as well” (M5).

“I was away...my husband took the kids...he didn’t want to go...he doesn’t go to art things...Well! he had a ball...with the children...they tried the graffiti...they saw all the exhibitions...he got roped into helping the clown do activities...how happy the family was when they came home...and bonded...having the experience with all the things that went on down there...amazing” (M1).

“It wasn’t until they got to the foreshore that the children saw how it was all going to be put together...It all connected for them...they were so proud...seeing how it looked” (T3).

The community connection was reflected in Student Letter 7.

Student Letter 7.

Thank you for coming in to teach us how to draw cartoon characters from the 1950s. I learnt that it takes more than one try to draw. My favourite thing was seeing our art work at the Stretch Festival.
Student Letter 8 reports that the highlight for the student was going to the Stretch Festival and being able to see their work displayed.

Student Letter 8.

Thankyou for helping us make our cartoon characters and teaching us how to do it. I learnt that anyone can do it if you try. My favourite part was when we went to the Stretch Festival to see our art work.

Summary of the Findings

Mothers, teachers and Artists in Residence provided data on their perceptions of how critical thinking is developed through involvement in the creative arts. Thematic analysis of the data supports the contention that art does contribute to critical thinking abilities and characteristics in children aged between eight and nine.
years old. The perceptions of the participants described a connection with imaginative processes once the children were confident that they could freely express their own ideas. Threaded through the focus group discussions and the individual interviews were reports of problem solving and decision making abilities. So too, were the descriptions of confidence development in the children. The confidence was reported as self-awareness and awareness for the consideration of others around them. A connection to the community was also described. The descriptions related to personal pride, group and team pride as well as community pride development. The findings validate the importance of this study by identifying that creative arts exposure whether at home, school or in the community setting, are important to the cultivation of children’s imagination. Imagination is the product of reflection and the ability to think about both complex and simple ideas.
CHAPTER FIVE

DISCUSSION AND CONCLUSION

Introduction

This study investigated how creative art influences the potential for critical thinking abilities in children. Mothers and teachers of the children involved in an arts activity conducted in the Peel region, were invited to discuss their perceptions. Several themes emerged regarding the children’s participation in the creative arts process. The themes included issues affecting the children’s participation in the creative arts activity itself and those related to changes in the children as an effect of the activity. In this chapter, these issues will be discussed in relation to the development of critical thinking.

Children’s Access to Creative Arts Experiences

Access is a crucial component in the pathway of children developing critical thinking through creative arts participation. In this study the issue of access was emphasized by both parent and teacher participants. Both groups believed access to creative arts participation was influenced by certain factors within children’s environments, although interestingly, each held varying perspectives on the nature of those factors.
The mothers and teachers discussed their feelings and experiences in relation to the connection they have with the children. The teachers’ beliefs were related to their roles as professionals in education where they used their experience and expertise to recognise attributes of strength and / or weakness in the children’s skills and behaviours. In contrast, it appeared that the mothers’ perceptions were derived from their in-depth knowledge of their child’s particular strengths and interests and were associated with the outcomes of their children’s educational, social and emotional attainment. However, some perceptions were commonly shared by both teachers and mothers suggesting recognition of features considered as having equal importance to both groups.

Art is widely recognized as imaginative inquiry. The teachers’ perceptions related to the majority of children not having sufficient experience and connection with the creative arts in the first five years of life, resulting in passive attitudes towards imaginative inquiry. The children’s passivity towards the art was debated by the teachers and attributed to today’s ‘changing times’ and ‘changing environments’. The teachers’ views reflect those of others (Amorsen, 2006; Vetch et al., 2006), who acknowledge that inventive play requiring ‘input’ is being replaced by technology entertainment that only requires ‘output’. This has led children’s play to becoming increasingly institutionalised and structured. On the other hand, it is understood that children who live their first years in environments offering creative experiences naturally exhibit characteristics of imaginative and creative inquiry (Isbell & Raines,
This current study has found that teachers believe that many pre-primary and primary aged children today, appear not to readily display imaginative dispositions that would enable them to generate original ideas or thoughts. Rather, the findings suggest that initially the children are passive to pursuing purpose, problem solving, decision making and imaginative processes. The teachers proposed that the reason for this is that children in their early years are not being exposed to enough free-play in both the children’s homes and in the pre-primary education settings. They commented that the education in pre-primary and early primary focuses on formal education, rather than allowing children to develop attributes of creativity and imagination. This finding is important in relation to other research (Wasserman, 2000), which has found that children’s creative play is fundamental in the development of personal power, and if this is cultivated in early life, as adults they are more likely to have self-initiating behaviours and a capacity for inventiveness. Play and the lack of play can have a profound impact on adult life. “Adults who have lost the joy and spontaneity of play have a missing human dimension…they live out their lives bereft of the single human trait that brings the greatest capacity for pleasure into our lives” (Wasserman, 2000, p. 19).

While teachers viewed restrictions to participating in creative arts primarily from the perspective of the home environment, mothers believed restrictions were related to the lack of arts exposure and the limited time devoted to it in the current education curriculum. Mothers perceived that curriculum and time restraints on creative arts activities reduced the children’s experiences to enable full engagement
in thoughtful and reflective practices. They also believed that arts activities were supported in the pre-primary and early primary years and then forgotten until the secondary years, where the arts were elective, but only to those considered to have ability. This is validated by the draft paper; Shape of the Australian Curriculum: The Arts, which was released on October, 7, 2010 for public consultation by the Australian Curriculum, Assessment and Reporting Authority (ACARA). The report advances the notion that it is only in recent years that the Arts have become key learning areas in all states and territories of Australia. The draft paper suggests that the consideration for implementation of more arts into the Australian school curriculum is innovative, as for the first time, it recognises the entitlement of all young Australians to have exposure to all five arts; dance, drama, music, media arts and visual arts (ACARA, 2010). The draft paper (ACARA, 2010) proposes that children from kindergarten to year eight will be taught all art forms. From kindergarten to year two the framework will focus on a “purposeful play-centred approach” (ACARA, 2010, p. 10). The study in individual art forms in years seven and eight will provide connectivity across all art forms. In years nine to twelve, students will be able to specialize in one or more art form focusing on the connection between each specialty and all other learning areas (ACARA, 2010).

Not only was the limited time devoted to arts in the school curriculum of concern to the mothers in the current study, so too was the apparent lack of teachers with the appropriate expertise to deliver arts programs in the primary school curriculum. The findings of this study suggest that the mothers recognised the arts in
the curriculum as just ‘fillers’ to the academic subjects and that the product of the art work appeared to be more important than the process. The product approach was of major concern as the mothers proposed that the children bypassed the process, only to produce a result that pleases someone else. These findings are supported by McArdie & Piscitelli (2002) who suggest that most teachers do not have the skills base to teach the foundation of art practice and therefore stick to what they refer to as the “bag of tricks” which produces many pieces of “multiple sameness” found on classroom walls. Dinham (2007, p. 16) acknowledges that while the arts has been identified in Australia as one of the key eight learning areas, particularly in primary school, “generalist beginning-teachers have poor arts backgrounds and therefore will struggle to provide effective arts education”.

Although the teachers and mothers had some opposing views on the restrictions to participating in creative arts activities, they were of the combined opinion that it was unfortunate that funding for the arts was a low priority. The lack of purpose built facilities with appropriate facilitators and funding for projects appeared to be of fundamental concern. So too was the inequity in affordability of community creative arts programs. This has been reiterated by Sir Ken Robinson (2009) who has reported his distress about the hierarchal education system that positions mathematics and science at the top and arts and the humanities at the bottom of the priority list. Robinson (2009) has also expressed concern that generally Government budget cuts and political agendas focusing on raising standards result in minimisation of the arts in the curriculum. Furthermore, he suggests that all
Australian children should have the opportunity to experience additional subjects other than just mathematics and science. This opportunity should be the entitlement of all Australian children, and not occur by default (Robinson, 2009).

As Australia’s children will need to meet prodigious demands as a result of an ageing population and a shrinking workforce there needs to be greater attention paid to coherent and sustained human development policy (Richardson & Prior, 2005). Recognising the value of creative arts to the vitality and sustainability of creative communities, Richard Florida (2002, p. 291) asks, “what then, is the role of schools, colleges and universities in the creative age?” He suggests that “a stimulating intellectual environment creates the capacity to innovate and in turn creates regional success”. The creative sector, which includes arts, culture and knowledge-based professions like law, finance, health care and education, has replaced natural resources and physical capital as the predominant driver of economic growth (Florida, 2005). Dr. Florida (2005, p. 52) states that “creative environments…allow for more holistic living…creative activities are crucial to self-knowledge and self-expression”.

To begin to explore the research question which seeks to identify the development of children’s potential for critical thinking using creative arts, it is important to reiterate the environments in which these dispositions will best develop. The findings of this study support expert opinion (Alston, 2001; Schirrmacher & Englebright Fox, 2009) on the importance of access to creative and critical thinking.
The success of critical thinking is related to the experience of everyday life and is expressed in dispositions directly influenced by home, school, gender roles, society, culture and tradition. To this end, just as stimulating environments can enhance critical thinking, restrictive and claustrophobic environments can inhibit critical thinking.

**Inviting Children to Engage in Imaginative Creativity**

Children cannot be taught to be creative by direct instruction but rather by exploring and experiencing environments that nurture creativity. Creativity processes draw from knowledge and skills that allow children to see things in different ways and to think unconventionally, to break boundaries and go beyond information provided (Schirrmacher & Englebright Fox, 2009). While the teachers in this study acknowledged that it was their responsibility to provide an environment that was conducive to free-thinking and creative expression, they recognised not only a passiveness in the children, but an initial reluctance to display autonomy to develop their own ideas. The teachers reported that these children required “permission” to begin to use their imaginations and think freely. This current study suggests that when children operate in convergent (restrictive) thinking environments, where they are taught to conform to specific ideas, they will often “shut down” to protect their creative integrity. In particular the findings suggest that children’s creative impulses are squashed by rejection, criticism, failure or pressure to conform. This is supported by Schirrmacher & Englebright Fox (2009) who suggest that when environments
override children’s autonomy and creativity they become dependent on others for others’ solutions and answers.

A variety of strategies were reported by the teachers to excite the children’s imaginations and creativity. The findings suggest that a primary strategy employed by the teachers was to allow for children’s input into the development of the art work. By encouraging the children to use metaphors and analogies in descriptions and making comparisons, the teachers encouraged the children to understand new principles, concepts and theories. Importantly, the teachers considered that increasing the children’s reflective processes would motivate the development of thought relating to their everyday lives, which would make the new knowledge have relevance. E. Paul Torrance (1992, p. 248) provides instruction on how to develop creative and imaginative thought processes. He suggests that individuals need to:

- Dig deeper, look twice, cross out mistakes, talk and listen to a cat, get into “hot water”, get out from behind locked doors, plug in the sun, want to know, have a ball, build a sand castle, sing in a unique way and shake hands with the future.

As art belongs to the child, asking questions is an important aspect in the development of critical thinking (Isbell & Raines, 2007). The findings of this study suggested that by asking questions the teachers encouraged the children to understand that the art work belonged to them. As the children recognised the art work as their property they were able to progress the work by using problem solving and decisions that they deemed appropriate to their ideas and imagination. The teachers reported
that by asking questions of the children they were stimulated to combine and create objects and materials in ways that the teachers would never have imagined.

Teachers reported that once the children confirmed that the environment was encouraging, fostering and supportive of free imaginative expression, the children “let go” of their creative inhibition. As a result the children began to demonstrate divergent thinking abilities evident by giving solutions and presenting new and varied ideas as they began to discuss and work on the development of the art work. Schirrmacher & Englebright Fox (2009) explain this type of critical thinking process by suggesting that divergent thinkers have fluency in their thinking and can discuss many options and possibilities.

Clearly, a permissive encouraging environment can foster critical thinking by stimulating children’s autonomy to think and create until the desired outcome is achieved. Ennis (1991, 1996) suggests that the desire to persevere until a desired outcome is achieved relates to feelings of self-assurance arising from an appreciation of one’s own abilities or qualities. The dispositions of curiosity and flexibility noted in the children identify a willingness to seek alternatives. By seeking alternatives the children demonstrated a confidence in decision making and sensitivity to problems. Ennis’s (2010) SSCCTF, requires that a critical thinker be able to make a decision using the three inferences of inductive reasoning, deductive reasoning and value judging. These are all part of the process of problem solving. The findings presented thus far suggest that when the children are asked critical questions pertaining to the
development of their art work, their reasoning and judgment is clear and evident by what is unfolding in their art piece.

Just as the teachers recognised and reported their responsibilities to developing children’s creativity, the mothers also acknowledged their role in this responsibility. The findings suggested that as the mothers considered that there was limited provision to a variety of arts experience in the later primary school curriculum they sought this provision through extracurricular arts programs. It was also found that the children’s engagement with the community programs provided a means for the development of motivation, self-discovery, context and meaningful learning. However, while the study findings are strongly supportive of critical thinking dispositions as a result of extracurricular art, it was also found that some parents involve their children in programs from a different perspective. A teacher reported that some parents involve their children in extracurricular art more for the end product, rather than the process. Consequently, consultation with the parents was required to explain that the process was equally as important. In addition, a mother admitted that she was controlling over her daughter’s endeavours to ensure precision and perfection of the final piece. However despite this admission, those parents also recognised the importance of encouraging their participation in extracurricular activities, while allowing the children to make their own decisions regarding the activity. In this regard parental pressure was shown to be an important negative predictor to children’s experiences and achievement. This finding is supported by other research that also suggests that negative pressures can result in the child’s
enjoyment in the experience; therefore they are less likely to reap the associated benefits such as positive peer interaction and skills development (Anderson, et al., 2003).

**Using the Art Experience to Develop Confidence and Aptitudes for Caring and Collaborating**

Vygoysky’s (1962) zone of proximal development theory suggests that there is a gap between a child’s actual development and his/her potential level for development. He further confirms that the gap can be closed by meaningful supportive collaboration with a teacher or capable adult. The findings of this study identified that the interactions between the children and teachers, artists-in-residence and mother helpers assisted the move forward towards their potential. The social gain that resulted from peer collaboration as the children worked together was also identified.

Working together on the creative arts projects the teachers and mothers observed the children sharing ideas, mediating problems and clarifying thinking. This is supported by Gardner’s (1983b) early work on multiple intelligences. He suggests that different types of intelligence are related specifically to creative arts, resulting in critical and creative thinking. Interpersonal, Intrapersonal and Naturalistic intelligences were demonstrated by the children in this study. This was shown when the children worked effectively together and they became motivated and recognised
their collective goal in the art projects. Teachers noted that relationships developed and that the children showed an understanding towards one another through the connection of the art activity. Children’s ability for self-reflective practice was also noted by teachers and mothers. This was evident by the children recognising their emotions and expressing their own goals and intentions. The development of Naturalistic intelligence through the creative art project was noted by one mother, who reported that her daughter had developed reflective practices to recognise the natural world around her by making a connection between the smell of some trees and a past family holiday. Extending the notion of multiple intelligences, the findings of this study suggest that a key disposition required of a critical thinker is a capacity for caring, for oneself and others.

Within the elements of Ennis’s (2001) SSCCTF, is the “correlative disposition of caring” (Ennis, 1996, p. 173). Caring in critical thinking can be discussed on two levels. Firstly, caring by the individual is concerned with demonstrating that their decisions are justified and that their beliefs are true (Ennis, 1991, 1996, 2001). This was identified by children in this study as they demonstrated a determination to maintain a focus and precision on their art projects. Individual caring was reported by teachers and mothers as children having an ability to recognise each other’s differing personalities and their strengths and weaknesses, as well as their likes and dislikes. It was also established that individual caring was being able to establish a sense of self in relation to completing their art work as they collaborated with others. The second level of caring is about the worth and dignity of
others. This includes valuing opinions and ideas of others and taking into account their feelings (Ennis, 1991, 1996, 2001). This correlative disposition was clearly demonstrated in the findings. As well as developing value and respect for others, there was evidence that the children had developed skills required for effective communication and interpersonal and intrapersonal relationships.

The ability of children to learn from their creative art experiences and then apply that learning to other subject areas was also identified in the study. Interacting disciplines were mathematics, science, history and written and spoken language. A mother who helped at a school with an art project spoke about how the children had to draw lines and measure mathematically to make sure that pop sticks used for flooring were laid straight. She also described how the children were required to draw on their scientific knowledge to lay the pop sticks in a staggered fashion to offer maximum strength. A teacher spoke about how history was incorporated into an art activity and that the children had linked to the history by preparing written interview questions in readiness for a visiting museum curator. A mother also noted that her child had a desire to learn more about the history of the era and asked questions of the grandparents to become more informed. Both the written and the spoken language were used in the last two examples.

The elements of the SSCCTF, requires that a critical thinker is be able to make a decision using the three inferences of inductive reasoning, deductive reasoning and value judging. These are all part of the process of problem solving and
decision making which requires that the thinker is clear about what is unfolding and has a critical ability to be well informed and is open to discuss reason and alternatives (Ennis, 1962, 1980, 1991, 1996, 2001, 2010). By applying principles learnt in the art project to the other subject areas the teachers and mothers noted that the children followed problem solving steps and monitored their own thinking when thinking about responses to questions they asked. These processes honour the unexpected and provide an opportunity to think and create until the desired outcome is achieved (Ennis, 1991).

All the elements of the SSCCTF relate to the metacognitive ability of supposition (Ennis 1991). It requires that without interfering with original thoughts, the thinker considers reasons, positions and assumptions that he/she may doubt or disagree with. It also requires that the thinker is able to make and or defend a decision having integrated other abilities and dispositions (Ennis, 1991). A teacher spoke about a child, who having listened to the brief on the project, made a decision to use an alternate approach. She also described how the other children respected the individual’s ideas and were accepting of the alternate approach. A mother recounted how her daughter had been able to reconcile that her art piece had been displayed incorrectly. She proposed that by using reasoning the child had been able to verbalise the reconciliation in the correct context and considered that the ability had resulted from being able to “see things in a different way” following the art project. These findings identify that the children confidently talked about their ideas and construction of their work and defended their creative choices. Dispositions relating
to curiosity and flexibility were also noted, as the children developed their work. By asking clarifying questions and seeking information and generating discussion the children made decisions with the available information. A teacher described how children evolved their art work of a banner, as a group. By developing a theme and expanding on it using questioning and discussion, the group became confident that the banner presented their intended message. Ennis (1991, 1996) suggests that these concepts relate to “getting it right” and caring to do the best work possible.

The Value of Community Arts

The value of the arts to the community has been reported by many authors (Guetzkow, 2002; McManamey, 2009; Morris & Cant, 2004; Newman, Curtis & Stephens, 2003), as having a social, cultural and economic impact on individuals, groups and organisations alike. Significant features of the Ennis (2010) framework are belief and action. This is relevant to abilities and dispositions relating to what people should do or what people actually do in their daily lives (Ennis, 1991). Mothers and teachers noted that the children displayed a sense of belonging and connection to the community and a pride in their contribution. A teacher described the emotions of the children as “boosted with self-esteem and pride” following a visit to the MSF to view their banners. Children reporting that they wanted their parents and grandparents to come and see their work. A mother described her daughter as having feelings of ownership, contribution and belonging as she chatted about the development of the art work on display, pointing out the detail and commitment that
she and each of her peers contributed to the finished product. These aptitudes can be discussed against the correlative disposition of caring. The disposition of caring not only requires the critical thinker to be concerned about others, but is able to discover and listen to others with sensitivity to feelings and is able to value the level of knowledge of others (Ennis, 1991).

The findings of this study suggest that not only did the participating children benefit from viewing the festival exhibits, but so did family and friends. A mother reported that her whole family spent a day at the MSF. She noted that the family interacted with one another in a relaxed and tolerant way. The mother reported that the family as a whole would often spend time in front of an exhibit in meaningful discussion. She also acknowledged that the day spent at the MSF had a lasting effect on the connectedness of the family and they would chat about the exhibits around the dinner table in the weeks that followed. This type of interaction is supported by Newman et al. (2004) who suggest that community-based art has an impact on personal and social change, by generating emotions of happiness and confidence and by increasing a sense of locality and stronger cross-cultural community understanding.

The research question for this study was to understand how creative arts influenced the development of critical thinking in a cohort of children between 8 and 9 years, living in the Peel region. The findings support that through the creative arts activities generated for the MSF, the children were able to engage in creative and
critical thinking acts, as judged against Ennis’s (2010) SSCCTF. Through the creative arts the children were able to think critically and creatively by formulating hypotheses, viewing problems alternatively, asking questions, investigation, planning and perseverance. The findings suggest a number of recommendations for education and further research.

**Recommendations**

The beliefs expressed by the teachers are also supported and acknowledged by other authors (Suaroka & Bornstein, 2008) who propose that most parents do not understand the potential benefits of creative arts play. Policy makers, educators, researchers, institutions and creative organisations in the Peel region, should agree to bring parents and families into the dialogue regarding arts programs. The collaboration has the potential to change children’s behaviours, skills and outcomes. Children must be exposed in their early developing years to exploring possibilities and solving problems in creative environments. This will equip them with an endeavour for lifelong learning and a natural tendency for critical and creative thinking.

This study has evidenced that critical thinking abilities are developed in children as young as 8 and 9 years of age through engagement in creative arts. Despite acknowledgement in the draft paper, Shape of the Australian Curriculum: The Arts (ACRA, 2010), that there is need for a restructure of the arts in the current
national school curriculum; there are suggestions that the proposed changes will be
difficult to support. The common concern is overcrowding, cramming in too many
topics and allowing insufficient time for deeper and more extensive learning in each
of the arts disciplines (VCAA, 2011). This study recommends caution with the new
arts education initiative, calling for sufficient time devoted to the arts, particularly in
the primary curriculum. This is also supported by Isbell & Raines (2007), who
suggest that the arts must be carefully planned in early childhood education as they
are fundamental in shaping the development of the future adult person. The re-
visioning of arts pedagogy and the inclusion of arts projects and programs that
incorporate the development of critical thinking in primary school children could
translate into good outcomes for all our Australian children.

The findings of this study support the consideration that the current generalist
beginning-teachers have limited if not poor backgrounds in the arts and have
difficulty in providing effective visual arts education (Darling-Hammond, 2000;
Dinham, 2007, Duncum, 1999; Grauer, 1999; Oreck, 2004; Russell & Zembylas,
2007;). As the creative arts have been highlighted as being key learning areas in the
new Australian Curriculum which is proposed for introduction in 2012, it is
recommended that effective generalist teacher preparation courses prepare teachers
with better skills to deliver the program effectively. This study recommends that
parents, teachers and members of the public should respond to requests for
recommendations in the second wave consultation of the new Australian Curriculum,
by advocating for arts education and appropriate education for pre-service generalist teachers.

While it was beyond the scope of this study to investigate the effectiveness of the collaboration between school art teachers and artist-in-residence programs, the findings suggest that art projects that are managed by teachers who have professional support are able to provide the children with a strong learning experience through the arts. There is call for sustainable collaboration between school teachers and specialists in arts to provide childhood educators with resources, materials and methods to support the development of appropriate curricular for deeper learning (Balshaw, 2004; Isbell & Raines, 2007; Kinder & Harland, 2004). As a University academic, the researcher recommends that any available opportunities to support the recruitment of arts educators who would influence the curriculum are strongly desirable.

The primary challenge is to entice the community to see beyond aesthetics and see the “real” value in arts. The role of the arts in the community must be considered more seriously because if the perceived value in the arts increases so too will the community’s investment in them. By establishing collaborative and sustainable projects between educational institutions and arts organisations the learning experience of the arts, will be communicated to the community as a whole. More must be done to fund and expand the arts to be accessible to all segments of the
community in the Peel region. As communities are the essence to life, it is through the arts that literacy and learning can be integrated (Guetzkow, 2002).

Further research to extend the findings of this study is recommended. A large-scale longitudinal study which compares multiple institutions using a larger population cohort is required to provide further insight on the impact of creative arts on the development of critical thinking dispositions. A longitudinal study would enable the tracking of changes in the children’s critical thinking abilities over time and would provide more concrete evidence on the nature of the dispositions’ development.

An experimental study using control groups, which compares the impact of specific early childhood creative arts instruction with non-specific creative arts instruction, which also examines the impact of varying types of environment cultures on critical thinking, is also recommended by this study’s findings.

Additionally, research on cross-sector partnerships between schools and creative organisations is recommended. School teachers and artists should be supported to work as action researchers to explore innovative ways of collaborating to build sustainable partnerships between creative, cultural and education sectors.
Conclusion

This research study sought to explore teachers’ and mothers’ perceptions of using creative art to develop children’s potential for critical thinking. These perceptions and considerations were explored using a qualitative naturalistic, interpretive design. This method was most suited to this research study as it was able to explore, explain and describe children’s critical thinking development in the context of creating pieces of art. A cohort of eight and nine year old children, from three schools and an independent art group in the Peel region of Western Australia were engaged in different creative arts activities for display at the annual MSF. Over the four month period of the children completing the creative arts activities, the mothers and teachers perceived that the children had displayed the development of several attributes and characteristics which have been identified and accessed as critical thinking endeavours within the framework of Ennis’s (2010) SSCCTF.

The SSCCTF proved to be ideal as a way to conceptualise this study. By providing an ideal set of specifications to test critical thinking endeavours, this study has been able to identify the dispositions and abilities demonstrated by the children as those of an ideal critical thinker.

The themes identified by the participants include environmental factors influencing children’s creativity, the processes used to mobilise children’s creativity, the growth of the children through the experience of creative arts, the children’s
development of confidence and the effects on the children having contributed to community event.

This study suggests that it is essential that home, education and community environments are responsive to the priority challenge of children’s early development of critical thinking abilities which is considered a vital competency that enables people to participate fully as citizens within a society. Furthermore, this research has found that creative arts is a powerful vehicle for critical thinking instruction in young children as it mobilises the imagination and the creative processes to engage the dispositions and abilities relating to what people should do or what people actually do in their daily lives. Every child needs to have critical thinking dispositions and abilities to survive in today’s rapidly changing world.
Appendix A

Concept Map for Literature Search

Critical Thinking
- Seminal Theorists
- Development of Creative Ability
  - Importance of Skills Development:
    - Individual
    - Family
    - Community
- Development of Critical Thinking Skills
  - Influences of Skills Development:
    - Parents
    - School
    - Community
- Social and Community Capacity:
  - Individual Stability
  - Economic
  - Social
    - Family Stability
    - Community Stability
    - Multicultural Unity

Art
- Seminal Theorists
- Education and Aesthetics
  - Art, Mind and the Brain:
    - Cognition
    - Neuroscience and art
    - Early learning experiences and brain development
- Mobilisation Through Art:
  - Cultural diversity
  - Cultural inclusion
  - Emotional well-being
  - Social well-being

Children’s Development
- Seminal Theorists
- Developmental Tasks
  - Influences of Skills Development:
    - Parents
    - School
    - Community
- Individual Development:
  - Creativity
  - Critical Thinking
  - Cognition
  - Psychological
  - Spiritual
  - Social
Appendix B

Reply to E-Mail Requesting Permission to Include the Graphical Model of the
SSCCTF into the Researcher’s Written Thesis.

From: Robert Ennis [rhennis@illinois.edu]
Sent: Thursday, 2 December 2010 2:14 AM
To: Caroline Nilson
Subject: Re: Streamlined concept of critical thinking
Attachments: Ennis_StreamlinedConception.pdf; ATT5196303.htm; A
SuperStreamlinedConc11_26_10.doc; ATT5196304.htm

Dear Ms. Nilson,

Thank you for your interest in my work in critical thinking and for sharing your work
with me.

The item from which you worked is called "A Super-Streamlined Conception of
Critical Thinking", not "A Streamlined Conception...." But it is based on the article,
"A Streamlined Conception of Critical Thinking".

I'm not clear about the meaning of "Defends stance well positioned". Perhaps you
could rephrase that.

You are welcome to use your graphical portrayal of this super-streamlined
conception of critical thinking in your dissertation if you give an appropriate citation.

Please send me a final copy.

Good wishes.

Robert Ennis
From: Robert Ennis [rhennis@illinois.edu]
Sent: Thursday, 13 January 2011 1:06 PM
To: Caroline Nilson
Subject: Re: Streamlined concept of critical thinking

Nice job.

Two suggestions:

1. Give yourself credit for the graphic work.

2. Delete "is" from "A critical thinker is:" and add "is" to #1. (As is, #2 through 11 have an extra verb. For example, #2 reads "A critical thinker is desires to be, and is well informed"

Thanks.

Robert Ennis
Appendix D

E-Mail and Letter Support from Mandurah Stretch Festival Coordinator

From: Carolyn Marks [Carolyn.Marks@mandurah.wa.gov.au]
Sent: Tuesday, 9 March 2010 12:51 PM
To: Caroline Nilson
Subject: Letters - drafts
Attachments:
CORPORATE_n73050_v1_Caroline_Nilson-Introduction_Letter_to_schools.docx;
CORPORATE_n72985_v1_Letter_support_for_thesis_to_Caroline_Nilson.docx

Hi Caroline,

I have also sent you through the draft for the letter of introduction to the schools. I will be doing a mail merge and sending through to four schools and one independent art organization after your feedback. I have spoken to the art organization and they are really happy to accommodate you.

Also, I am gearing up to do all the internal organizing for the Stretch Festival. If you have some time on Thursday morning at 10.30am, I am meeting with other arts groups to resolve spacing at the Stage Door restaurant at MPAC. It is not really necessary for you to be there as I have your area already in my mind. But if you would like to clarify, knowing the work that you have at the campus then it may be worthwhile. Aside from this I am supplying coffee and cake!

Kindest regards

Carolyn

###################################################
# CITY OF MANDURAH DISCLAIMER - DO NOT REMOVE #
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###################################################
Letter of Support for the Research Study from Mandurah Stretch Festival Coordinator

Enquiries: Carolyn Marks
Your Ref: Stretch Festival 2010

8 March 2010

Caroline Nilson
Research Masters Student
Faculty of Health Sciences
Peel Campus
Po Box 1937
Mandurah WA 6210

Dear Caroline

Master thesis: Teachers and mothers perceptions of using art to develop children’s potential for critical thinking

Thank you for your recent contact regarding your thesis project aiming to explore the potential for critical thinking development in a cohort of nine year old children as a result of creative arts experiences from the Peel region.

The Mandurah Stretch Festival is a major regional arts festival that uses arts and culture to connect our community. Our ethos is to:
Present new, exciting and different arts practices and processes in a regional community
Build the skills of local artists in arts practice and project management, employment and career development
Broaden the understanding of the arts in the community with limited access to contemporary arts practice
Community building through: sense of place, community connections, equity and social inclusion

The successful delivery of this ethos set is achieved in many ways. One of which is the involvement of our younger generation in the community projects that are completed during the four months lead up to the Stretch Festival. In these projects, we link a professional artist with a school who works as an artist in resident with a particular class for the required period of time.

For example, last year visiting French artist and teacher Benédicte Guilhomme worked with the grade four students at Riverside Primary School with teacher Terry Woznuik on a recycling and sustainability based project called Trans-cube-ation. Throughout the four months the group worked together, the students gained skills in concept development, contemporary arts understanding, sculpture and installation processes,
problem solving, team work and also ‘French’. Their installation was a great success throughout the festival and also when it was later displayed back on the school grounds. The class installation was a subject for a Local Government Case Study in the WALGA Climate Change and Sustainability Annual Review 2008/09 and was also a finalist in the Resource and Waste Management Award as part of the Western Australian Environment Awards 2009.

It is our strong belief that the nurturing of creativity positively flows into many aspects of life and that harnessing that creativity from a young age is essential to the development of critical thinking in both individuals and the communities to which they belong.

As the Stretch Festival Coordinator, I would be pleased to compose a letter of introduction for you Caroline, and your thesis project to the four Primary Schools and one independent art program that we are currently working with on a range of community arts projects. There is great potential here for you to facilitate the recruitment of participants required to gather the data for your study.

The City of Mandurah, through the Stretch Festival is very pleased to support your research and is looking forward to the extension of our partnership over the course of your thesis development.

Yours sincerely

Carolyn Marks
Stretch Festival Coordinator

- Names obscured to maintain confidentiality
Appendix E

Letter of Introduction to School Principals / Director from Mandurah Stretch Festival Coordinator

Enquiries: Carolyn Marks
Your Ref: Stretch Festival 2010 Master Thesis
8 March 2010
<Address>
<Suburb> <State> <Postcode>

Dear <Principal’s name>

Master Thesis: Teachers and mothers perceptions of using art to develop children’s potential for critical thinking

I would like to introduce to you Caroline Nilson who is beginning her master thesis project this year through the Murdoch School of Nursing and Midwifery. The core of her work is the collection of data referring to the influence and effects of art education on the development of critical thinking in children. The outcome of her study will contribute to the large scale Peel Child health Study being conducted in the Peel region called “Our children, Our family, Our place”.

Caroline is looking to conduct her research with teachers and mothers of students in the age range of nine to ten and has approached the City of Mandurah through the Stretch Festival to support her in this project. This year, the Stretch Festival is partnering with four primary schools and one independent arts program that coincides with the age range Caroline is looking to study.

<School> Primary School is working with the Stretch Festival on the <project name> Project with the support of <teacher> and artist <artist in residence>. Caroline is looking to gather data from two discussion groups, the first consisting of the participating teachers and artists, and the second comprising mothers of the children involved in the community art project. This process would require no disruption to classroom teaching time.

Caroline will be calling you directly in the near future to further discuss her thesis and whether <School> Primary School would like to help support her research.

Yours sincerely
Carolyn Marks
Stretch Festival Coordinator

1-73050-Caroline_Nilson_-_Introduction_Letter_toSchools.docx
Appendix F

Mother’s Information Letter

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Research Study
Mother’s Information Sheet

We invite the mother’s of those children who are involved in a creative arts activity for display at the Mandurah Stretch Festival in May 2010 to participate in a research study. The study will explore how being involved in a creative arts activity has the potential to develop critical thinking abilities in children. The study is part of my Research Masters by Training degree at Murdoch University. This research is supervised by Dr Catherine Fetherston and Professor Anne McMurray.

Nature and purpose of the study
Critical thinking helps children look at the world in many different ways. Critical thinking is important to all people to develop healthy social and emotional lives and is also important to the healthy growth of the community. Studies have shown that being involved in creative arts activities has many benefits, both as therapy and as a tool to develop skills for life. This research aims to gain a better understanding of the outcomes of creative arts involvement at a young age. As your child is participating in an art activity to be displayed at the Mandurah Stretch Festival, we would welcome your contribution to our study. We are interested in hearing about what types of thinking children use and how their ideas developed when they were involved in creating their art piece for the festival.

How many people will take part in the study?
We are seeking two groups of people to participate in the study. One group will be made up of teachers who are involved in instructing the children and the other group will be made up of mothers of the children doing the art activity. Each group will have about 10 people.

What is involved in the study?
Your participation in this study is entirely voluntary. Should you decide to participate you will be asked to attend a group discussion which will last for about an hour and a half (1 ½ hours). As the researcher, I will ask questions around how the children used their own experiences and knowledge to help them develop and create their piece of
The questions will be designed to gain an understanding of how the children made judgments and choices and the group will be invited to discuss and give their thoughts, views and opinions. During the discussion I will be taking notes as the group talk about each question. To capture the correct and exact statements from the discussion and with the consent of everyone in the group, I will be using an audio tape recorder to tape the discussion. Collecting and analysing the data for the study should take about 12 months.

What will happen to the information collected in the study?
Your personal information will be kept confidential. Your name will not be used or appear in any reports regarding this study. You will be identified only by a code number. Any identifying information will be kept securely behind locked doors and accessed only by the researcher. If you withdraw from the study all information you have provided will be destroyed.

What are the risks of taking part in the study?
There are no known risks to participating in this study.

What are the benefits of taking part in the study?
It is possible that there may not be any direct benefit to you from participating in the study. However, we hope the information and knowledge learned from your participation in the study will help us better understand some of the supposed benefits of participation in creative art programs and will assist with school course revision and the possible development of community art programs, which will benefit future students, parents and teachers. You can expect to have feedback in about 12 months.

What are my rights as a participant?
You may choose not to take part or may leave the study at any time. Deciding not to take part, or deciding to leave the study, will not result in any penalty and you may do so without divulging a reason. If you agree to take part in the study, you will be required to sign a consent form. Please keep this information sheet and a copy of the consent form for your records.

Who do I talk to if I have any questions or problems?
If you consent to take part in the study it is important that you fully understand the purpose of the study and the tasks you will be asked to complete. If you have any
questions about the study, please contact either myself or my supervisor. The contact details are listed below:

Mrs Caroline Nilson:
E-mail: c.nilson@murdoch.edu.au Telephone: (08) 9582 5509

Dr. Catherine Fetherston:
E-mail: c.fetherston@murdoch.edu.au Telephone: (08) 9582 5516

If you have any concerns about your rights as a research participant or any other aspect of the study please contact Murdoch University’s Research Ethics Officer on 9360 6150 or ethics@central.murdoch.edu.au. The ethics officer will act on your behalf as an independent agency to protect your interests.

Although unlikely, should you experience any anxiety or stress as a result of your participation in the study we would arrange for you to access support, free of charge, from the counselling services at the Peel Community Mental Health Service. Their direct contact number is (08) 9531 8080.

What do I do if I am willing to participate in the study?
If you are willing to take part in the study, please complete and sign the Consent Form (included with this information letter). Place the form in the stamped return addressed envelope and post it by XX/XX/XX (specified date). You will be contacted by the researcher who will advise you of the date, time and venue for the group discussion.

Thank you for your assistance with this research project.

Yours sincerely,

Caroline MJ Nilson
RN, Midwife, BSc (Nsg), BMid (post-reg)

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2010/072). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677) or e-mail ethics@murdoch.edu.au. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Research Study
Teacher’s Information Sheet

We invite the mother’s of those children who are involved in a creative arts activity for display at the Mandurah Stretch Festival in May 2010 to participate in a research study. The study will explore how being involved in a creative arts activity has the potential to develop critical thinking abilities in children. The study is part of my Research Masters by Training degree at Murdoch University. This research is supervised by Dr Catherine Fetherston and Professor Anne McMurray.

**Nature and purpose of the study**

Critical thinking helps children look at the world in many different ways. Critical thinking is important to all people to develop healthy social and emotional lives and is also important to the healthy growth of the community. Studies have shown that being involved in creative arts activities has many benefits, both as therapy and as a tool to develop skills for life. This research aims to gain a better understanding of the outcomes of creative arts involvement at a young age. As your child is participating in an art activity to be displayed at the Mandurah Stretch Festival, we would welcome your contribution to our study. We are interested in hearing about what types of thinking children use and how their ideas developed when they were involved in creating their art piece for the festival.

**How many people will take part in the study?**

We are seeking two groups of people to participate in the study. One group will be made up of teachers who are involved in instructing the children and the other group will be made up of mothers of the children doing the art activity. Each group will have about 10 people.

**What is involved in the study?**

Your participation in this study is entirely voluntary. Should you decide to participate you will be asked to attend a group discussion which will last for about an hour and a half (1 ½ hours). As the researcher, I will ask questions around how the children used their own experiences and knowledge to help them develop and create their piece of
art. The questions will be designed to gain an understanding of how the children made judgments and choices and the group will be invited to discuss and give their thoughts, views and opinions. During the discussion I will be taking notes as the group talk about each question. To capture the correct and exact statements from the discussion and with the consent of everyone in the group, I will be using an audio tape recorder to tape the discussion. Collecting and analysing the data for the study should take about 12 months.

**What will happen to the information collected in the study?**
Your personal information will be kept confidential. Your name will not be used or appear in any reports regarding this study. You will be identified only by a code number. Any identifying information will be kept securely behind locked doors and accessed only by the researcher. If you withdraw from the study all information you have provided will be destroyed. On completion of the study you will receive a summary of the results. The study findings will also be submitted for publication as a written thesis and as an article in a peer reviewed journal.

**What are the risks of taking part in the study?**
There are no known risks to participating in this study.

**What are the benefits of taking part in the study?**
It is possible that there may not be any direct benefit to you from participating in the study. However, we hope the information and knowledge learned from your participation in the study will help us better understand some of the supposed benefits of participation in creative art programs and will assist with school course revision and the possible development of community art programs, which will benefit future students, parents and teachers. You can expect to have feedback in about 12 months.

**What are my rights as a participant?**
You may choose not to take part or may leave the study at any time. Deciding not to take part, or deciding to leave the study, will not result in any penalty and you may do so without divulging a reason. If you agree to take part in the study, you will be required to sign a consent form. Please keep this information sheet and a copy of the consent form for your records.

**Who do I talk to if I have any questions or problems?**
If you consent to take part in the study it is important that you fully understand the purpose of the study and the tasks you will be asked to complete. If you have any
questions about the study, please contact either myself or my supervisor. The contact details are listed below:

Mrs Caroline Nilson:
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If you have any concerns about your rights as a research participant or any other aspect of the study please contact Murdoch University’s Research Ethics Officer on 9360 6150 or ethics@central.murdoch.edu.au. The ethics officer will act on your behalf as an independent agency to protect your interests.

Although unlikely, should you experience any anxiety or stress as a result of your participation in the study we would arrange for you to access support, free of charge, from the counselling services at the Peel Community Mental Health Service. Their direct contact number is (08) 9531 8080.

What do I do if I am willing to participate in the study?
If you are willing to take part in the study, please complete and sign the Consent Form (included with this information letter). Place the form in the stamped return addressed envelope and post it by XX/XX/XX (specified date). You will be contacted by the researcher who will advise you of the date, time and venue for the group discussion.

Thank you for your assistance with this research project.

Yours sincerely,

Caroline MJ Nilson
RN, Midwife, BSc (Nsg), BMid (post-reg)

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2010/072). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677) or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix H

Consent Form

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Research Study
Consent Form

Participant

I confirm that I meet the criteria for participation in this study:

☐ I am over the age of 18 years.

Select one of the following:

☐ I am a teacher of a child participating in the creative arts project.
☐ I am the mother of a child participating in the creative arts project.

I have read the Information Sheet provided and have been given a full explanation of the purpose of the study, of the procedures involved and of what is expected of me.

- I voluntarily agree to take part in this study.
- I understand I am free to withdraw from the study at any time without needing to give any reason.
- I understand that I will not be identified in any publication arising from this study.
- I understand that my name and identity will be stored separately from the data, and these are accessible only to the investigators. All data provided by me will be analysed anonymously using a coding system.
- I understand that all information provided by me is treated as confidential and will not be released by the researcher to a third party unless required to do so by law.
- I consent to the group discussion being audio taped.

I would like to receive information regarding the results and outcomes of this study. Tick the box: ☐ YES ☐ NO
Signature of Participant: ___________________________ Date: __/__/___

Investigator
The nature and purpose of the study and the tasks required by the participant _______________________________ have been fully explained. The participant has received a copy of the Consent Form and the Participant Information Sheet.

Name and Signature of Investigator: ______________________________

____________________________________________________________

Date: __/__/___

Participants to Complete (contact details used by the researcher only):

Full Name: ________________________________________________

Day Time Telephone Number: ________________________________

Address: ________________________________________________

__________________________________________________________

E-mail: __________________________________________________

< Insert participant code>
Appendix I

School Principal and Director Consent

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Research Study
School Principal / Director Consent Form

I. ___________________________________________________________.
    (full name)

Principal / Coordinator of

____________________________________________________________

(name of the school)

located at _______________________________________________

(address of the school)

____________________________________________________________

(address of the school)

grant permission to Mrs Caroline Nilson, to recruit research participants comprising of Teachers’ and Mothers’ of children from this school / art group, who participated in the creative arts activity displayed at the City of Mandurah Stretch Festival, 2010.

Mrs Nilson has described her project to me and has assured me that respect for justice, beneficence and confidentiality of participants will be maintained at all times.

I agree to distribute the ‘research study information pack’ to the prospective participants using the school / organisation administrative processes.

Signed: ________________________________________________

Date: _________________________________________________
Appendix J

Operationalising the Concept of Critical Thinking Development

Holistic Development
- Seeing; looking
- Understanding
- Reflecting
- Thinking
- Making Judgment
- Making Choices

Mechanical Notions
- Cause
- Effect
- Consequence

Human Capacity
- Resilience
- Overcoming adversities
- Problem Solving
- Cognition

Abilities
9 Essential Elements
- Focus
- Reasons
- Questions
- Definition
- Assumption
- Credibility
- Observation
- Deduction
- Induction

Critical Thinking
- Personal Life
- Vocational Life
- Civic Life

Adapted from:
Streamlined Concept of Critical Thinking Framework
Ennis, R (1991)
Appendix K

Focus Group and Interview Questions

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Research Study
Focus Group and Interview Questions

The following questions are designed to gather your thoughts on what influenced the children’s art work and whether any lasting changes occurred to the children’s thinking as a result of the activity.

I’m interested to know to what extent the activity stimulated the children’s imagination. Describe some examples of how you thought this happened?

It would be helpful to understand how the children made decisions on what their piece would look like or what shape it would be or what they wanted it to represent. What examples can you give me to explain how the children might have done this?

In relation to the time spent completing the art activity, it would be useful to know what the children talked about with their parents, siblings, friends or teachers during that time. What can you tell me about the topics of conversation?

I am keen to hear your thoughts on whether the children reflected on their creative art activity, particularly after its completion. In what ways did you notice the children thinking about and reflecting on their art pieces? How did this differ during the activity compared to after the activity?

I would like to know if the children demonstrated a beginning ability to analyse. This may have been noticed when the children responded or commented on the other children’s artwork. What examples can you give me to explain how the children might have done this?

I am interested to know whether the children thought about “action and consequence” during the creative process. An example of this could be: “if I paint this bit here blue, it will show that I want it to be the sea” or “if I glue this cloth here, it will make it feel soft and smooth”. What examples can you give me about how the children might have shown this?

In your opinion has there been any lasting change in the way the children view the world around them since they completed the activity? How has this been shown?
Appendix L

Researcher’s Focus Group/Interview Introductory Statement

Teachers’ and Mothers’ Perceptions of Using Creative Art to Develop Children’s Potential for Critical Thinking

Please may I ask you to take your seats and could you place your code number marker in front of you...like this.

Good morning and welcome.

Thanks for taking the time to join our discussion to explore how being involved in a creative arts activity has the potential to develop critical thinking abilities in children.

My name is Caroline Nilson and as the researcher, I will moderate and facilitate today’s discussion.

You were invited to participate in the study because you are the mothers’ of some of the children that were involved in a creative arts activity for display at the Mandurah Stretch Festival.

There are no right or wrong answers to the questions I am about to ask. I expect that you may have differing points of view. Please feel free to share your views even if they differ from what others have said. I am interested in hearing from each of you. I may call on you individually to clarify or expand on some of the answers you give.

The discussion will be audio taped. I don’t want to miss any of your comments. It is important that we talk one at a time. If we all talk at once the recording becomes gabbled and difficult to decipher. However, please don’t feel like you have to respond to me only. If you want to follow up on something that someone has said, please feel free to do that.

We have names on our badges today, but to maintain confidentiality, I ask that you use your individual code number to introduce yourself each and every time you contribute to the discussion. To give you an example, you could simply say; “It’s M1 (T1) or begin with M1 (T1)” and then continue...

Please feel free to get up at any time and get more refreshments if you would like and I would like to invite you to stay for the light lunch / cheese and wine, which will follow. The discussion will take about 1½ hours and as a courtesy may I please ask you to turn off your mobile phones.

Does anyone have a question before we begin?
REFERENCES


