

**CHILDREN LEARNING THROUGH PLAY:
PERSPECTIVES AND PRACTICES OF EARLY CHILDHOOD EDUCATORS
IN SINGAPORE PRESCHOOLS SERVING CHILDREN
AGED FOUR TO SIX YEARS**

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CHEN FONG PENG

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Abstract

This research study seeks to explore preschool teachers' perspectives about using play as a means to promote children's learning in preschool settings serving children aged four to six years. This qualitative research study is guided by four research questions, (1) how do teachers in selected preschools in Singapore define play as a means to learning? (2) What do preschool teachers see as the benefits of play as a means to learning? (3) How do preschool teachers see their roles in promoting learning through play? (4) What do preschool teachers see as obstacles to using play as a means to promote learning? A case study approach, together with an interpretive paradigm is adopted. Eighteen early childhood teachers participated in this research study. Findings of this research study revealed that teachers (a) defined play differently, (b) believed that play was important for children's learning and development across key domains (c) performed multi-faceted roles, and (d) encountered obstacles using play as a curricular tool. Based on the findings of this study, implications for the early childhood practices are deliberated and recommendations for future research are also suggested.

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Abbreviations

BSc (ECE)	Bachelor of Science (Early Childhood Education)
CPT	Certificate in Preschool Education
DAP	Developmentally Appropriate Practice
DIP	Developmentally Inappropriate Practice
DPL	Diploma in Preschool Education - Leadership
DPT	Diploma in Preschool Education – Teaching
HDB	Housing and Development Board
MOE	Ministry of Education
MCYS	Ministry of Community Development, Youth and Sports
NAEYC	National Association for the Education of Young Children
PCF	People’s Action Party Community Foundation
PQAC	Preschool Qualification Accreditation Committee
TSLN	Thinking Schools, Learning Nation

Chapter One

Statement of Research Problem

1.1 Introduction

Early childhood education plays a significant role in the lives of young children and there is consistent evidence that high quality early education programmes can contribute to children's short-term and long-term gains in cognitive, language and social-emotional development (National Association for the Education of Young Children, 1996; Bredekamp & Copple, 1997; Schweinhart & Weikart, 1997; Sylva & Pugh, 2005; Wood, 2007).

Governments are increasingly focusing on early childhood education with legislative policies and strategies being directed at the accessibility to quality early childhood learning experiences. Such moves are motivated by research findings that preschool programmes can contribute to a child's physical, social, emotional and cognitive development (including language, perception, reasoning and memory) (Schweinhart & Weikart, 1997; Barnett, 1998; Siraj-Blatchford & Sylva, 2004; Alakeson, 2004; Education Commission of the States, 2006; Bowman, Donovan, & Burns 2001; Wood, 2007). The New Zealand government for instance, decided in 1990 that a national early childhood curriculum was to be developed, which eventually led to the introduction of Te Whariki in 1996 (Ministry of Education, 1996), with the aspirations for children to grow up as competent learners and

communicators, healthy in mind, body and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society.

In Singapore, the early childhood education landscape is evolving too (Sharpe, 2002; Ang, 2006; Khoo, 2010). The Ministry of Education (MOE) recognised that preschool years have a crucial influence on later development and learning of children (Pre-school Unit, 2003) and has introduced new policies and implement initiatives to raise the quality of preschool education in Singapore (Tan, 2007). In his 2008 National Day Rally Speech, Prime Minister Lee Hsien Loong (2008) announced incentives and measures to further improve the early childhood education in Singapore through the government's commitment to:

- (i) Make early childhood education more accessible by increasing the number of centres;
- (ii) Make early childhood education more affordable with higher subsidies per child; and
- (iii) Raise the standard of early childhood education.

While the first and second measures are clear-cut objectives that are achievable with given financial means, the same cannot be said of the third. What constitutes quality care in early childhood education? A better understanding to this crucial question calls for contextual information on the development of early childhood education in Singapore.

1.2 Research Context

When Singapore gained independence in 1965, it stood at a crossroad. The future was uncertain (Shih, 2006). Nonetheless, over the past four decades, Singapore has worked to transform herself from the Third World to the First World in terms of standards of living, literacy, employment, housing and health services (Lim 1998). With the current forces of globalisation and information technology, the Singapore government is keenly aware of the importance of staying relevant to the world, economically, socially or otherwise (Ang, 2006; Shih, 2006).

According to Senior Minister Goh Chok Tong (2005), Singapore's economic transformation and growth was made possible by the government's commitment to invest in education. Since independence, the aims for education have undergone three major paradigm shifts from a "survival-driven education" in the 1960s where the focus was to equip the workforce with skills needed to support industrialisation to an "efficiency-driven" system in late 1970s, where the focus was on rigorous streaming and testing (Sharpe, 2002; Ang, 2006; Tan 2007). In 1997, an "ability-driven" system was initiated where the intention was to broaden the talent of the citizens in the new world of globalisation and information technology (Sharpe, 2002; Ang, 2006; Tan 2007). This drive towards excellence in education has implications to the quality of the care, development and education of preschoolers in Singapore today (Ang, 2006; Khoo, 2010).

1.2.1 Overview of Preschool Education in Singapore

The term “preschool” in Singapore generally refers to child-care centres and kindergartens (Ang, 2006 & 2008; Tan, 2007; Lim & Torr, 2008; Khoo, 2010). They are governed by two separate government ordinances. Child-care centres are licensed by the Ministry of Community Development, Youth and Sports (MCYS) and they provide care and education for children from two to six year olds (Ang, 2006; Tan, 2007; Khoo, 2010). Kindergartens, on the other hand, provide education for four to six year olds and are regulated by the Ministry of Education (MOE) (Tan, 2007). There are some five hundred kindergartens currently under the MOE and nearly eight hundred child-care centres under the MCYS (Kor & Hussain, 2009; Khoo, 2010).

Child-care centres and kindergartens are operated by both private and public entities ranging from private child-care centres, religious-based bodies to government funded kindergartens (Ang, 2006 & 2008; Tan, 2007; Kor & Hussain, 2009). In Singapore, the government funded kindergartens are commonly known as People’s Action Party Community Foundation kindergartens (PCF) and account for more than 60% of the country’s kindergartens (UNESCO Policy Brief, 2004). Both kindergartens and child-care centres provide a three-year preschool education programme for different age groups: Nursery classes for four-year olds, Kindergarten One classes for five-year olds and Kindergarten Two classes for six-year olds (Ang, 2008; Tan, 2007).

1.2.2 The Need for Quality Preschool Education

Before the turn of the millennium, the aims of early childhood education in Singapore tend to focus on bilingualism and preparation for formal primary education (Sharpe, 2000). The focus was on academic skills with an emphasis on subject content, through a didactic teaching approach that was teacher-directed and achievement-oriented (Sharpe, 2000; Tan, 2007). As Singapore moves towards a knowledge-based economy, a creative and innovative workforce is imperative for the country to succeed (Tan, 2007). It is not surprising that policymakers and educators are being swept along in the educational policy directives (Tan & Gopinathan, 2000). There is a need to re-examine old ways of thinking and doing things and the concomitant need for flexibility, creativity and innovation (Tan & Gopinathan, 2000). Also, educators need to align educational curricula to the rapidly changing economic and information technology landscape (Tan-Niam, 2000; Sharpe, 2002; Ang, 2006). A paradigm shift seems necessary to bring about a well-educated population, equipped with knowledge and skills, dispositions and inclinations to meet the challenges of the twenty-first century (Shanmugarathnam, 2003; Lee, 2008).

This has reactivated a long-standing concern about how to educate our young children so that they will achieve and attain intellectual growth that remains relevant throughout their lives (Tan, 2007; Lim & Torr, 2008). What are the best models of curriculum delivery? What are the desired outcomes of preschool education? How can the quality of preschool education benefit a child's development in the Singapore context? The choice of curriculum has often been debated among academics and practitioners in early childhood education. The educational pendulum has swung from the traditional academic model of education that is teacher-directed with formal

instruction to a child-directed curriculum, where children learn through play, discovery and exploration (Wishon, Crabtree & Jones, 1998; Spodek & Saracho, 2003).

Research on teaching approaches and pedagogies has pointed to play as a crucial element to children's learning and development (NAESP, 1990; Bredekamp & Copple, 1997; Isenberg & Quisenberry, 2000). There is a well-established body of research reaffirming the value of play-oriented experiences in all aspects of children's learning, particularly in the affective and cognitive domains (Smilansky, 1968; Parten, 1971; NAESP, 1990; Fromberg, 1992; Bredekamp & Copple, 1997; Hughes, 1999; Isenberg & Quisenberry, 2000; Moyer, 2001; Humphrey, 2002; Tsao, 2002; Stegelin, 2005; Wood & Attfield, 2005; Santer, Griffiths & Goodall, 2007; Hirsh-Pasek, Golinkoff, Berk & Singer, 2009).

In 2003, in line with the "Thinking School, Learning Nation" (TSLN) concept (Shanmugarathnam, 2003), early childhood education in Singapore took on a new emphasis to learning. A new curriculum framework, "A Framework for a Kindergarten Curriculum in Singapore (the Framework)" was introduced by the Ministry of Education (Pre-School Unit, 2003) and this Framework addresses preschool education for children aged four-year olds (Nursery or N1), five-year olds (Kindergarten One or K1) and six-year olds (Kindergarten Two or K2) (Ang, 2006; Lim & Torr, 2008).

1.2.3 Features of the Kindergarten Curriculum Framework

The establishment of the Kindergarten Curriculum Framework serves to formalise the Government's recognition of the importance of early childhood education in Singapore (Ang, 2006 & 2008; Lim & Torr, 2008). The Framework reflects an attempt to focus on the context and process of learning where the emphasis is to give educational providers a clear direction for developing an educational programme that meets the needs of the children physically, emotionally, socially and cognitively (Shanmugarathnam, 2003). This Framework is an indication on the part of the government to shift the paradigm of early childhood education towards a less academic and more child-centered curriculum (Ang, 2006; Lim & Torr, 2008), and at the same time to align with international movements in the early childhood sector to raise the standards of preschool curriculum and provision in the settings (Ang, 2008).

The Kindergarten Curriculum Framework is underpinned by six areas of learning: aesthetics and creative expression, numeracy, language and literacy, motor skills development, environmental awareness, and self and social awareness (Ang, 2008). These six areas of learning highlight the main areas of interest of preschool children such as exploring and interacting with the environment; skills and knowledge in numeracy and language and literacy, active participation and contributing to self and social awareness (Ang, 2008). Children are viewed as active learners, where learning is best supported through opportunities for play and interaction (Ministry of Education, 2003). The Framework provides a guide to developing an educational programme that is geared towards a more child-centred pedagogy with an emphasis on play (Ministry of Education, 2003).

While the Kindergarten Curriculum Framework advocates a child-centred pedagogy, where learning is best supported through opportunities for play and interaction (Ministry of Education, 2003), it does not purport to be prescriptive (Lim & Torr, 2008). There is now certain disquiet about the early childhood education in Singapore for not being able to respond fast enough to this paradigm shift. Literature in the Singapore context has suggested that the play-based and child-centred approaches recommended in the Framework run counter to the merit-based and examination-oriented culture in Singapore (Cheah, 1998; Ebbeck & Gokhale, 2004). Play-based approaches do not seem to be well received by parents who are driven by the pragmatics of preparation for formal schooling (Sharpe, 2002).

In addition, the Straits Times (27th January 2007), reported that although the overall standards of early childhood education have gone up, improvements are uneven across the board and teachers are teaching “unimaginatively”, children appear “listless” and it will take time for seasoned teachers to change their mindsets and methods and embrace the change (Ho & Ng, 2007). The question that arises is: Are preschools in Singapore implementing the “how to” in the ways consistent with the new preschool educational reforms?

Tan (2008, p. 35) suggests that they are not:

There is the question of whether TSLN initiative will really take off in schools, or whether it will simply fall victim to the culture of performativity and fail to take root in a fundamental manner, being adopted instead in a piecemeal, patchy fashion and being co-opted to suit the well-entrenched

culture of intensive coaching and practice in answering examination questions.

Adding strength to the above argument, The Straits Times (June 29 and 30, 2008) reported that parents were signing up their children for language lessons at the age of two years; and commercial entities had reported a 50% increase in the sales of “pricey” infant learning kits. However, such activities often promote “one-right-answer” learning rather than playful and meaningful learning, even at the youngest age (Hirsh-Pasek, Golinkoff & Eyer, 2003).

In practice, a teacher-directed approach to learning is often adopted in preschools as opposed to a more child-centred one. According to Ang (2006), the Framework encapsulates the tensions between an approach to education that is developmental, as well as traditional, where current social and economic pressures are forcing the curriculum into other models, and the impetus and aspirations behind the new Kindergarten Framework are in danger of being contentious. Early childhood education in Singapore is in a transitional phase and many early childhood practitioners are engulfed in a knowledge gap between the theoretical significance of play and its actual implementation so as to achieve the desired outcomes that children should attain (Ang, 2006).

1.3 Identification of Research Problem

The above discussions raise the following areas of concerns:

- i. Early childhood education in Singapore remains self-regulated (Ang, 2006; Tan, 2007; Lim & Torr, 2008) as preschools in Singapore vary in terms of their programme content and overall teaching and learning approaches, catering to different social strata and cultural groups (Retas & Kwan, 2000; Fan-Eng & Sharpe, 2000; Ang, 2006). While it appears that the impetus of the Kindergarten Curriculum Framework is to advocate a less academic and content-based learning (Ang, 2006), educators and researchers have argued that the social and economic demands from the community for education still focus on content, assessment and achievement (Gopinathan, 2001; Heng, 2001). It remains unclear whether preschool centres incorporate play-based methods of teaching into their practice (as recommended under the Kindergarten Curriculum Framework).
- ii. Principals/Supervisors of preschool centres in Singapore may not be advocating or adopting play-based teaching into their curriculum because of parental expectations and the demands of a meritocratic and economically-driven society that perceives education as a commodity to be obtained for financial success and social mobility (Ang, 2006). There have also been a number of studies and writings on expectations and aspirations of Singaporean families for their children's future, and on the types of preschool they look for (Fan-Eng & Sharpe, 2000; Retas & Kwan, 2000). In a study by Ebbeck and Gokhale (2004) that examined forty parents' views about their children's development and learning, the results showed that almost all the children in the final year of the preschool

programme received private tuition in preparation for formal schooling. This finding confirmed those of Hoon (1994) and Raban and Ure (1999), that parents of younger children expressed concerns about their children's readiness for the rigours of primary school and they believed that curriculum with a play-based orientation might not prepare them adequately for formal schooling (Ebbeck & Gokhale, 2004).

- iii. Demographically, Chinese make up more than 80% of the population in Singapore (Ang, 2006). The Chinese cultural influence is very much guided by the prevalent Confucian ideology which suggests that teaching “quan” (discipline) and governing children are traditionally teacher/parent-directed, rote-learning and academically inclined (Yeo-chi Kong, 1994; Ang, 2006). Such deeply rooted cultural beliefs permeate the Singapore society and are held not just by parents, but also by educational policy makers and early childhood professionals. Contradictions between plurality of cultures and pedagogical beliefs have created tensions for early childhood practitioners in the interpretations and implementations of the Kindergarten Curriculum Framework (Ang, 2006).
- iv. Amidst the above complexities, the preschool teachers, who are the direct “change” agents in delivering a developmentally appropriate curriculum, may not be adopting such an approach to their teaching due to high academic expectations that parents have for their children (Ang, 2006; Lim & Torr, 2008). Thus, preschool teachers are caught in a situation where they have to manage conflicting expectations and orientations (Ang, 2006). There is a need to cultivate creativity

and thinking skills in children and preschool teachers need to align their beliefs and practices with the global fashion of education (Tzuo, 2010).

- v. The literature on play and its benefits in contributing to children's learning are often inconclusive. There is a plethora of definitions of what constitute "play" (Moyles, 2005). Play is too profound and intangible a concept to define in a way that brooks no argument (Santer et al., 2007). It is an "elusive" phenomenon because scholars view it through different lenses and is always changing in shape and value (Bredekamp & Copple, 1997; Moyles, 2005). Thus, the dilemma exists as to whether play can provide any kind of "excellence" in relation to "real" learning for children (Moyles, 2005). Furthermore, it is argued that play in educational settings is socially constructed within each cultural context and hence, the value and benefits deriving from play are contestable and vary in relation to the values and beliefs of the particular culture (Wood, 2007; Santer et al., 2007)
- vi. Last but not least, the lack of quantifiable evidence that children benefit from play provides arguments for some teachers and parents to push for more academic activities whereby results can be better measured (Shepard & Smith, 1988; Smith, 2005). Play as a means to an end to promote children's learning is more fluid and intangible in interpretation and implementation. The ephemeral nature of play does not allow it to be understood easily (Moyles, 2005).

1.4 Research Aims

Having highlighted the climate and context of the research, this study aims to explore preschool teachers' perspectives on play as a means to promote children's learning and how their perspectives affect their classroom practices. It focuses on their beliefs about learning through play and how these beliefs are manifested in their teachings and classroom practices in preschool settings with children aged four to six years. Their perspectives on the value of play to children's learning may reveal significant future trends and directions in early childhood education in Singapore.

Richardson (1996) noted that this orientation is important as understanding the teachers' thought processes can influence their perceptions and judgements, which affect their behaviour in the classroom. It is claimed that teachers are often unable to clearly articulate elements of their practice and at times are unable to teach and act according to their beliefs about how children learn and develop (Stipek & Byler, 1997). Thus, understanding the belief structures of teachers are essential to improving their professional preparation and teaching practices (Pajares, 1992) as it can enlighten the extent to which preschool teachers are inclined to use play as a vehicle to teach in their classrooms. In addition, this study also aims to find out the obstacles teachers encounter in using play as a means to promote learning.

1.5 Research Questions

In pursuing the above aims, four research questions are formulated to better understand the preschool teachers' perspectives on play to promote children's learning and how their perspectives affect their classroom practices. These questions are derived from the research problems and aims presented in sections 1.3 and 1.4.

Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning? This question engages teachers in a discussion on the terminology used to describe and discuss play. It challenges teachers to distinguish play and non-play activities, thus allowing them to focus on what "play" actually means to them. The lack of a shared language and understanding of what "play" means is currently inhibiting communication among preschool teachers to provide children with the best opportunities for play (Santer et al., 2007).

Research Question Two: What do preschool teachers see as the benefits of play as a means to learning? This question allows teachers to express and categorically state what they believe are the benefits that can accrue from play activities. In so doing, teachers will be able to reflect on their practices and their professional experiences in their classrooms (McLean, 2001).

Research Question Three: How do preschool teachers see their roles in promoting learning through play? This question highlights what preschool teachers believe are their roles in play in the classroom setting. Play has been defined by some early childhood teachers as brief periods of “choosing time” or a reward for work that children may choose to engage in after completing their work (Tan-Niam, 2000). Practitioners seem to have problems defining their roles, how to plan for play and how to support and interpret children’s learning in play activities (Moyles, Adams, & Musgrove, 2002). An understanding by early childhood educators of their roles in play can bring about better teacher engagements and involvements such as building on shared experiences or adding complexity to play through questioning and helping children to negotiate roles and situations (Brewer, 2004). It helps teachers to evaluate their roles in providing play through a child-centred curriculum and pedagogic approaches so as to extend children’s knowledge and understanding (Wood, 2007).

Research Question Four: What do preschool teachers see as obstacles to using play as a means to promote learning? The last research question probes into reasons and arguments teachers see as obstacles to using play as a means to promote learning. Identifying constraints will help policy makers to plan for professional development programmes to educate and emphasise the significance of the value of play in children’s learning.

The above questions play a central role in binding this study together in achieving the research aims and providing answers to the research problems as stated in this chapter.

1.6 Significance of Study

Although there are numerous studies on play and its contribution to children's learning conducted in other countries (Brewer, 2004; Broadhead, 2004; Degotardi, 2005; Woods, 2007), there has been little research done in Singapore investigating how Singaporean preschool teachers' perceive play in children's learning. So far, I have been able to find two small-scale research studies that have been carried out locally.

The first study, "Linking play and language in Singapore preschool settings" (Lim, 1998), was a correlation study between play and language development of fifty-six Singaporean preschool children aged three to seven years. The findings suggested that provision of materials and space for play and opportunities for peer interaction were insufficient for facilitating the more cognitive aspects of play and language development and that, there was a need to provide for a literacy-rich play environment and higher levels of adult intervention.

The second study, "Facilitating fantasy play in the early years" (Tan-Niam, 2000), was an experimental research, which involved fifty-six preschool children from two kindergartens. The aim was to find out how thematic fantasy play tutoring affected the perspective-taking ability of preschoolers. Children in the experimental group were exposed to a curriculum of thematic fantasy using role enactment after a story-telling session. In the control group, the children were read the same story but they were not involved in the re-enacting and role-playing scenes. The results

indicated that thematic fantasy play had beneficial effects on the perspective-taking ability and free play behaviour of preschool children.

Although the findings of these studies were important in linking play to children's learning, teachers' voices, classroom observations and documentary sources were neglected in these studies. In order to capture the reality and complexity of early childhood teaching in the preschool setting, it is my intention to gain insights and knowledge and to give voices to preschool teachers to reflect upon their practices and beliefs on the role of play in children's learning; how their perspectives are reflected in their classrooms; together with the challenges they encounter in implementing the play-based curriculum, so as to inform the knowledge base of the profession.

In addition to representing the voices of the teachers, this study adds to the existing body of knowledge on play literature. Preschool teachers may use the findings to reflect upon their own teaching practices by providing meaningful play opportunities for children to consolidate their learning. It can also offer policy makers insights and implications for structuring future development of early childhood professionals.

1.7 Researcher's positioning

As a lecturer in early childhood education, I became aware of this diversity when I was working with preschool teachers in the classrooms. Teachers face a dilemma about using play as a means for children to learn. The literature on play suggests that children benefit from this mode of learning but teachers express confusion over their roles in using play to guide children's learning. Above all, parents constantly raised concerns on the efficacy of this learning mode. How should teachers teach and what types of learning experiences will benefit young children?

My experiences as a lecturer and my readings on play literature have led me to question this understanding of the roles of teachers in the play-based classrooms. It has given me impetus to probe the perspectives of early childhood teachers on how play can promote children's learning. Additionally, my role as a practicum supervisor to early childhood training courses has given me insights that early childhood teachers are frequently unsure about their roles and struggle with their practices in implementing a play-based curriculum. It is thus, in my professional interest to understand the perspectives of early childhood teachers on how play can promote children's learning which can be shared with teachers, parents and community.

1.8 Chapter Summary

This chapter provides the contextual background to my study; "Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years". The study aims to explore preschool teachers' perspectives on the definition of play; its benefits as a

means to promote children's learning; the roles they play and the obstacles they encounter in using play as a means to teach. Four research questions are formulated to address and achieve these aims. Findings of this research study may contribute to existing literature on using play as a means to promote learning as well as enlightening current early childhood classroom practices and pedagogies. The significance of the study and researcher's positioning are also addressed in this chapter.

1.9 Outline of the Thesis

Excluding this introductory chapter, which has outlined the statement of the research problem, this thesis consists of five chapters as described in the following sections:

Chapter Two: Literature Review: is a synthesis and critical review of literature related to teachers' beliefs on learning and teaching. Factors that impinge upon beliefs and practices relationships are also deliberated on. In addition, literature pertaining to current early childhood pedagogical practices, the value of play and roles of teachers will be discussed.

Chapter Three: Research Design and Methodology: explicitly describes the nature and design of the methods used in this research study. An interpretive approach will be adopted as teachers' perspectives on the role of play in children's learning are based on the assumptions that there is not one reality to their view but many. Because

reality is socially constructed, it is also contextual in nature (Creswell, 1994; Merriam, 1998; Glesne, 1999). Methods employed for data collection are also discussed with justifications. A case study is best suited for this research as attention is given to the context and events as they unfold (Stake, 1994, Yin, 2003). Chapter Three will address further on the issues of research design, sampling, data collection methods and data analysis, issues of validity and reliability, and ethical considerations of the study.

Chapter Four: Data Analysis and Findings: the findings are grounded on the voices of teachers, together with other sources of data which include observations and reflective journals. Thereafter, comparison and triangulation of data are executed to lay the ground for the extraction and formulation of themes to facilitate interpretation of the findings.

Chapter Five: Discussions: provides a critical discussion of the findings within the context of the literature. This chapter also relates themes established to existing literature and provide evidence to early childhood practitioners on the linkages between play and its contributions to children's learning.

Chapter Six: Conclusions, Implications and Recommendations: discusses the pertinent outcomes of the research study which address the research questions. It also discusses the limitations of this study, relevance and contributions to the literature, implications for the early childhood practices and recommendations for improvements for classroom pedagogies are deliberated.

Chapter Two

Literature Review

2.1 Introduction

In Chapter One, the research topic “Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years” was introduced. This topic is important as Singapore has always placed a premium on education and Singapore’s future is dependent on a workforce having the necessary knowledge, skills and values to contribute productively to the country in order to achieve a rewarding life grounded in an educated and open society (Ang, 2006; Khoo, 2010). Among other factors, this realisation and recognition have led to the introduction of the Kindergarten Curriculum Framework by the Ministry of Education (MOE) in 2003, where the emphasis is on children learning through play and active discovery (Ministry of Education, 2003).

However, as explained in Chapter One, the generalised nature of this Framework has presented concerns that preschools in Singapore are not implementing the Framework in a way necessary to achieve its intended outcomes that is, to shift the paradigm of early childhood education towards a less academic and more child-centred curriculum (Ang, 2006; Lim & Torr, 2008). The aim of this study is, therefore to understand the perspectives and practices of early childhood education teachers in Singapore in using play as a means to promote children’s learning in a manner that is compatible to the intent of the Kindergarten Curriculum Framework.

To serve the aims of the study, four research questions are formulated to better understand preschool teachers' perspectives on play to promote children's learning.

They are:

Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning?

Research Question Two: What do preschool teachers see as the benefits of play as a means to learning?

Research Question Three: How do preschool teachers see their roles in promoting learning through play?

Research Question Four: What do preschool teachers see as obstacles to using play as a means to promote learning?

Guided by these research questions, Chapter Two will review the literature and theoretical base pertaining to the five key elements in this study. They are:

- i. Teachers' belief structures about classroom pedagogies.
- ii. Theoretical perspectives about how children learn
- iii. Teachers' classroom practices in early childhood settings
- iv. Value of play in children's learning
- v. Roles of teachers in play

2.2 Teachers' Belief Structures about Classroom Pedagogies

The principles underlying effective pedagogy are often linked to beliefs and expectations of educators (Moyle et al., 2002). Thus, understanding teacher pedagogical beliefs can provide insights into how these beliefs influence and affect their classroom practices (Kagan, 1992; Pajares, 1992; Fang, 1996). Beliefs about learning, teaching and the teachers' roles in classrooms serve to influence and guide teachers in their practice (Donaghue, 2003). In reviewing the literature on beliefs, there seems to be no general agreement about what constitutes beliefs.

According to Pajares (1992), beliefs have been defined in the literature in a number of ways. Beliefs can be defined as attitudes, values, judgments, axioms, opinions, ideology, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, explicit theories, personal theories, internal mental processes, action strategies, rules of practice, practical principles, perspectives, repertoires of understanding, and social strategy (Pajares, 1992). Teachers hold beliefs about many facets of their professional world, including, but not limited to, the children, the curriculum and the school (Pajares, 1992).

Teachers' belief structures about the nature of knowledge influence their acceptance of approaches, techniques and practices and therefore assume an important role in children's classroom experiences (Pajares, 1992; Fang, 1996; Donaghue, 2003). Such belief structures are often derived from teachers' experiences as they form impressions about themselves and their abilities and about how learning takes place (Pajares 1992). Explicitly, teachers' behaviours have observable effects on

children's behaviours and cognitive development when teachers make educational decisions based on their beliefs to solve the problems (Pajares, 1992). Covertly, implicit theories that teachers possess with regard to how knowledge is acquired will also influence the way they teach (Pajares, 1992; Fang, 1996).

Bowman (1989) highlights the fact that teachers' views regarding classroom practices are mediated through their own values, beliefs and opinions. Their personal knowledge change when new ideas and experiences confront them, modifying their knowledge-base to suit current needs (Bowman, 1989). Bowman (1989) further explains that teachers generally have two knowledge systems - a formal knowledge system, which includes theories of children's learning and empirical research; and a subjective knowledge system, which includes personal experiences, values, feelings, understandings and beliefs. Their decisions about classroom practices are likely to be influenced by their beliefs and knowledge about what are desired learning outcomes for children in the early childhood context (Bowman, 1989).

Furthermore, Spodek (1988) highlights the complexity of the relationship between teachers' beliefs and practices. He stresses that teachers' actions and classroom decisions are driven by their perceptions, understanding and beliefs. He refers to these influences as implicit theories that teachers often engage in to resolve belief-practice conflicts. Teachers use their practical and theoretical knowledge to construct their own understanding of development, curriculum and teaching methods, and these constructs, in turn, impact on their judgments, decisions and eventually classroom instructions (Spodek, 1988). According to Spodek (1988), theories derived

from teachers' personal experiences have similar impact on classroom decisions as much as child development and learning theories acquired formally. Moyles et al. (2002), add that the key to effective teaching is the ways in which principles are established and how theories of children's learning and development are applied to practice, informed by values, beliefs and understandings of the educators.

Similarly, while on the subject of implicit theories, Seifert (1991) also addresses the importance of understanding a teacher's implicit theories. Seifert (1991) considers implicit theories to be a coherent set of beliefs held by individuals, which are theory-like because they have core ideas, which resist disproof, and peripheral ideas which modify readily in the face of new evidence or experience. Although sometimes referred to a "messy" but useful construct, teacher beliefs constitute an important area of educational research (Pajares, 1992).

Rimm-Kaufman, Storm, Sawyer, Pianta and LaParo (2006) summarise seven aspects of teacher beliefs as follows:

- i. are based on judgement, evaluation and values, and do not require evidence to back them up
- ii. guide their thinking, meaning-making, decision-making, and behaviour in the classroom
- iii. may be unconscious such that the holder of beliefs is unaware of the ways in which they inform behaviour
- iv. cross between their personal and professional lives, reflecting both personal and cultural sources of knowledge

- v. become more personalised and richer as classroom experience grows
- vi. may impede efforts to change classroom practice, and
- vii. are value-laden and can guide thinking and action

In the following section, I will review research on early childhood teachers' pedagogical beliefs, which influence and affect their perspectives in the context of my current study.

2.2.1 Research on Teachers' Pedagogical Beliefs

Research suggests that teachers' pedagogical beliefs are often grounded on two contrasting approaches to classroom practices: the child-initiated approach and the teacher-directed approach (Spidell-Rusher, McGrevin & Lambiotte, 1992). Principally, the child-initiated approach focuses on children's ability to engage in their own activities which revolve around key learning experiences but within the framework provided by a teacher (Spidell-Rusher et al., 1992; Hyson, 1991; Hirsh-Pasek, 1991). The teacher is seldom the center-stage and children are the actors and players in their learning (Crosser, 1996). Fundamental to this approach is that teaching takes into consideration learner's age, individualism, social and cultural context (Bredekamp & Copple, 1997). Hence, advocates of child-initiated approach often refer such an approach as developmentally appropriate approach (Schweinhart, Weikart, & Larner, 1986; Hyson, Hirsh-Pasek, & Rescorla, 1990; Bredekamp & Copple, 1997).

In the teacher-directed classroom, children's learning experiences are shaped by the environmental experiences in which the teacher initiates activities with limited input from the children (Fowler, 1983; Schweinhart et al., 1986). This approach emphasises academics (for example, reading and arithmetic) taught predominantly through teacher-directed discussions and paperwork (Spidell-Rusher et al., 1992). Workbooks, flash cards, memorisation and rote-learning are emphasised and teachers use rewards or disapproval to engage children in their learning (Hyson, 1991; Spidell-Rusher et al., 1992). Critics of this approach have sometimes, termed the teacher-directed approach as developmentally inappropriate practice as it ignores the developmental stages of the children in the process of their learning (Hyson et al., 1990).

Many studies have been conducted on teachers' beliefs about children's learning and how their beliefs are manifested in their classroom practices (Hatch & Freeman, 1988; Spodek, 1988; Charlesworth et al., 1993; Smith & Shepard, 1988; Stipek & Byler, 1997). Within this chapter, teachers' practices will be separately explored under the third element of the Literature Review (See section 2.4 - Teachers' classroom practices in early childhood setting). Meanwhile, this section will focus on beliefs that are held by early childhood teachers that affect their decisions on the adoption of certain classroom practices which may or may not be consistent with "sound" practices supported by the authority or school administration. Though recent research studies have provided strong evidence in support of the child-initiated approach, teachers' beliefs often play a pivotal role in determining their choice of pedagogical practices (Pajares, 1992). Contemporary studies on teachers'

pedagogical beliefs suggest that they fall along the continuum of child-initiated practice to teacher-directed practice (Marcon, 1999; Vartuli, 1999).

In an American study of four early childhood teachers, Nelson (2000) concluded that teachers' beliefs were often reflected through their pedagogies. In this study, the teacher-participants' beliefs, education, past experience and personal factors of teachers were shown to have a greater impact on their practices than environmental factors such as support from colleagues and principals. This study also provided evidence that personal beliefs correlated positively to early childhood teachers' choice of classroom practices.

In another study of preschool, kindergarten and first grade teachers by Stipek and Byler (1997), it was found that pre-kindergarten, and kindergarten teachers focused on learning of basic skills with emphasis on the academic, more structured way of teaching than the use of open-ended exploration and child-initiated activities. Stipek and Byler (1997) suggested that there was strong correlation between practices implemented by the teachers, and their beliefs. According to this study, teachers who believed that acquisition of basic skills and knowledge were of prime importance would adopt a more teacher-directed instruction to achieve this goal (Stipek & Byler, 1997).

Separately, Buchanan, Burts, Bidner, White, & Charlesworth (1998) reported that teachers of first grade classes, when compared with teachers of the third grade classes had significantly higher developmentally appropriate belief scores. Similarly, kindergarten teachers in this study achieved higher developmentally appropriate belief scores when compared to primary-grade teachers. Teachers' beliefs were further influenced by social factors, school ideologies and prevalent cultural practices. In a study conducted by Hatch and Freeman (1988), it was found that the kindergarten programmes were academic and skill-oriented due to pressure from administration, peers, and curriculum to prepare children for first grade. Such school ideologies and social factors had overridden teachers' beliefs towards adopting child-initiated approaches to teaching.

In another study conducted by Li (2004), it was found that powerful social and cultural forces shaped kindergarten teachers' beliefs in Hong Kong. This had resulted in teachers being criticised for not putting early childhood education theory into practice and it seemed that they were more concerned about academic knowledge acquisition and discipline in the classroom, rather than pursuing a coherent vision of early childhood education (Weis, Altbach, Kelly & Petrie, 1991).

A study by Delaney (1997) found that teachers' beliefs were influenced by their relationships with other colleagues. Positive interactions with colleagues beyond the classroom provided support and opportunity for reflection on practice (Delaney, 1997), thereby reinforcing their beliefs positively towards classroom practices. In addition, Cassidy and Lawrence (2000) found that early childhood teachers with

four-year versus two-year degrees were better able to articulate their beliefs concerning their practices with young children and twice as likely to provide “cognitively-focused” rationales for their curriculum choices than teachers with less education.

The understanding of teachers’ pedagogical beliefs and belief structures in general, will illuminate this research study in its relationship to classroom practices in preschool settings, and literature has supported the notion that teachers’ beliefs significantly influence their choice of pedagogical practices (Pajares, 1992; Fang, 1996; Donaghue, 2003). That said I am also keenly aware of the fact that the studies cited above were conducted in early childhood settings outside Singapore and did not specifically focus on the perspectives of preschool teachers teaching children four to six years on the subject of children’s play. Such limitations of the literature reviewed above are noted and it is envisaged that the findings of my study may contribute meaningfully by adding new dimensions to this pool of literature.

Next, I will review literature on the second element which examines the theoretical perspectives on how children learn. Teachers’ knowledge about the nature of play and its importance are very much guided by the theories of learning that inform them. The question of how preschool children are attending to their play is important to teachers. Teachers need to know how the children are involved in their play and how many are engaged in desultory activities that reflect more of boredom. Understanding the current theories of learning can provide teachers with relevant knowledge to enable them to distinguish when children are at play and when they are

not. How do children learn from the viewpoint of early childhood teachers? The understanding of early childhood teachers' perspectives on children's learning provide strong linkages to their classroom practices and teachers' perspectives on how children learn are often dependent on the theories that informed them.

2.3 Theoretical Perspectives about How Children Learn

Early childhood education experts agree that the early years are a critical learning time for children as they develop their cognitive, emotional, physical and social faculties and skills (Katz 1989). What is the best way to help children learn? This has been a concern in education and has been a topic of various studies (Branscombe, Castle, Dorsey, Surbeck & Taylor, 2003). Berthelsen and Brownlee (2005) find that children learn by observing their social settings; they are active in their learning; they collaborate with adults and peers and they initiate their own learning experiences.

The body of literature examining how children learn is growing rapidly. Numerous studies have been conducted and results suggest the importance of children interacting and learning in creative, investigative and problem-solving ways, where they can take ownership of and responsibility for their own learning and where their emotional and imaginative needs are met (Hirsh-Pasek et al., 2009; Ginsburg & Seo, 2000; Singer & Singer, 2004; Branscombe et al., 2003; Schweinhart & Weikart, 1997; Saracho, 1991; Vygotsky, 1978; Piaget, 1962). Play is acknowledged as supporting intellectual development alongside social, emotional and physical development

(Wood, 2007; Honig, 2006; Frost et al., 2005; Johnson, Christie, & Wardle, 2005; Degotardi, 2005; Brewer, 2004).

Various traditional as well as contemporary theories are entrenched in early childhood literature to explain how we can present children with the right stimuli on which to focus their attention and mental effort so that they will acquire knowledge and skills (Slavin, 2003). Early childhood theorists like Froebel regards kindergarten as a “Child’s Garden” where children grow naturally through creative play, exploration and self-expression (Essa, 2007). Froebel’s approach to early childhood teaching emphasises the inherent nature of children’s learning that unfolds through their play activities. He sees play activities as a pure and natural mode of learning through which children achieves harmony (Essa, 2007).

On the other hand, psychoanalytical theorists, such as Freud, believe that children’s play is primarily emotional (Santer et al., 2007). Through enacting real scenarios in their play, children work out their emotional conflicts in play such as a visit to a dentist (Hughes, 1999; Dockette & Flee, 2003; Santer et al., 2007). Through play children express emotions that relate to situations that they have no control over and this helps to develop mastery over stressful situations (Santer et al., 2007).

Erikson theorises the psychosocial stages of child development (Mooney, 2000). According to Erikson, children learn to master their emotional conflicts and resolve the anomaly in each of the stages. For example, the first stage of trust versus

mistrust, to a child, means achieving a sense of trust and secured attachment that outweighs mistrust and this same feeling will provide the child with confidence to explore, play and interact with others in the future (Mooney 2000).

Emphasising the affective aspects of play, both Freud and Erikson position play as a tool for emotional development and a medium for children to cope with difficult experiences and to work out their problem (Hughes, 1999; Santer et al., 2005) and learning is an individual endeavour (Frost et al., 2005). Teachers who are influenced by psychoanalysis theorists will provide children with materials, time and space to play independently for them to work out their emotional conflicts (Trawick-Smith, 2008).

Several other theorists hold a constructivist view in children's learning (Bruner, 1960; Montessori, 1965; Piaget, 1962; Vygotsky, 1978). For example, Dewey advocates that children are active learners who learn directly from exploration and discovery (Mooney, 2000). He believes in progressive education where the focus of learning is based on the child's interest rather than on subject matter (Mooney 2000). Montessori (1965) regards the child as constructing and transforming the environment through his or her own activity. According to Montessori (1965), when children engage in play, they learn about the world and reality of how things work. Bruner's constructivist theory (1966) views learning as an active process in which learners construct new ideas or concepts base upon their current/past knowledge. The child selects and transforms information, constructs hypotheses, and makes decisions, relying on cognitive structure (that is, schemes, mental models) which provides

meaning and organisation to experiences and allows the child to go beyond the information given (Bruner, 1966).

According to Frost et al., (2005), theoretical frameworks provide different lenses for understanding play because each theory allows us to see different aspects of play. Each of these theoretical perspectives points to the importance of play, but the underlying assumptions differ (Frost et al., 2005). Perhaps the two most prominent theoretical orientations, which have shaped the current conceptions of children's learning and development, are those of Piaget and Vygotsky (Berk, 2006; Crain, 2000). The reason for their prominence lies in the fact that Piaget's theory on cognitive development is often regarded as the single most comprehensive and compelling theory on the study of children's intellectual development with "more than thirty books and several hundred articles" written by Piaget (Essa, 2007; Crain, 2000). Vygotsky, though agreeing on the importance of such intrinsic development, stresses that children's ability to learn constructively is also dependent on the social-cultural and historical settings where family history and economic circumstances do influence a child's development (Hughes, 1999).

As both Piaget and Vygotsky have encapsulated in their thinking a holistic framework that covers significant aspects of both inner and outer forces of cognitive development of the child (Wood & Bennett, 1998; Berk, 2006; Crain, 2000), these two theoretical orientations will be examined and used as the theoretical framework for my study. These two constructivist theories are chosen because of the underlying assumptions that learning takes place through constructing knowledge when children

engage in activities and explorations. According to Cooney (2004), the constructivist theories of Piaget and Vygotsky are prevalent in the literature of play and focus on learning through play.

2.3.1 Cognitive Constructivism

The primary conceptual framework of Piaget's theory is cognitive constructivism (Crain, 2000; Berk, 2006; Hendrick & Weissman, 2007; Essa, 2007). Piaget emphasises the importance of young children constructing knowledge (understanding concepts) through their own activities, as opposed to being told correct answers by other (Berk, 2006; Hendrick & Weissman, 2007). Piaget sees the child as the source of action, actively constructing knowledge through a process of meaning-making through connection with prior knowledge and the real world (Berk, 2006; Hendrick & Weissman, 2007). When mismatch occurs, the child experiences disequilibrium, thereby activating his/her mental processes to resolve such disequilibrium, and in doing so, created a new scheme (Essa, 2007; Hughes, 1999; Berk, 2006).

Piaget views cognitive development as a stage process (Berk, 2006; Essa, 2007). A child develops from the sensorimotor stage, pre-operational stage to concrete operational and finally formal operational stage (Berk, 2006; Essa, 2007). Each of these stages is characterised by qualitative changes in a child's thinking (Piaget, 1962). In the sensorimotor stage, (from birth to two years), the infant knows about the world through their actions and perceptions. In the preoperational stage (from two to six years), children begin to use symbols, images, words or actions to

represent their thoughts. Their thinking is characterised by egocentrism, irreversibility and centration (Berk, 2006). In the concrete operational stage (from six to twelve years), children understand concepts of conservation and continue to expand their thinking and can perform logical mental operations, such as addition and subtraction. In the formal operational stage (twelve years onwards), children are able to reason deductively, to formulate and test hypotheses (Piaget, 1962; Essa, 2007; Berk, 2006).

Piaget (1962) asserts that children acquire physical, logico-mathematical and social knowledge when they explore their environment. Physical knowledge is acquired from activities that allow children to observe and draw conclusions about the physical properties of the objects. In the logico-mathematical realm, children's thoughts become more differentiated and are able to act on the objects and create abstract reasoning and relationships, for example, a child playing with blocks will soon discover that the longer piece can serve as a sturdier base than the shorter. Social knowledge is assimilated through social conventions that have been taught by third parties through imparting cultural norms and societal customs and acceptable behaviours. Through social interchanges, children begin to be more aware of the ideas and opinions of peers and they learn that others can have views different from their own.

Piaget (1962) believes that children can construct knowledge about the real world through play. This view suggests that the whole child integrates both cognitive and emotional information in meaningful ways with the help of a rich environment and supportive adult (Hirsh-Pasek et al., 2009). Central to this view is the idea that knowledge is acquired through a constructive process of the learner and that through meaningful activities, children not only practice and hone their social skills but also engage in cognitive acts that expand their repertoires of learning (Hirsh-Pasek et al., 2009).

From a practical viewpoint, teachers who believe in the constructivist cognitive approach will provide a classroom environment that allows for exploration and experimentation, and is seen as “operating with” a child where the teacher follows a “wait-challenge-wait” procedure and ensuring that the child has ample opportunity to assimilate and accommodate through the provision of novelty in the environment (Bodrova & Leong, 1996).

2.3.2 Sociocultural Theory

From a social constructivist perspective, children build and extend their knowledge and skills as they interact with the outside world (Vygotsky 1978). Vygotsky emphasises the social influence – the roles that adults and peers play in what and how the child learns (Mooney, 2000; Crain, 2000; Berk, 2006). He argues that the child needs social tools (such as speech, writing skills, mathematical and scientific concepts) to advance his/her cognitive and intellectual abilities (Essa, 2007; Berk, 2006; Crain, 2000; Hughes, 1999). Peers and teachers who are able to

systematically provide scaffolds to advance the child's cognitive and intellectual front best serve Vygotsky's notions of guided participation (Essa, 2007; Berk, 2006; Crain, 2000). The child should be positioned in the zone of proximal development (ZPD) to advance from the existing position to the next level of development (Vygotsky, 1978). As Vygotsky puts it "What a child can do with assistance today she will be able to do by herself tomorrow" (1978, p.87).

Like Piaget, Vygotsky believes that much learning takes place when children are involved in activities (Mooney, 2000) where they can interpret their experiences and determine the conditions of the make-believe; discuss roles, objects and directions. Vygotsky (1978) also points out that the cultural reality children live in influences them. In engaging with the environment, the child use symbols in the process of perspective-taking where the child substitutes meanings and negotiates ideas and feelings (Essa, 2007; Berk, 2006). He advocates that social engagement and collaboration with others form a powerful force that transforms children's thinking during the process of such interactions (Vygotsky, 1978).

Vygotsky (1966) addresses the significance of play in the development of symbolic thinking as a cornerstone of cognition. He argues that play contains all the developmental tendencies (cognitive, physical, social and emotional) and thus creates a zone of proximal development that pulls the child forward. For this reason, play activities are essential in the preschool years because it leads to development, giving rise to abstract thinking, self- awareness and self-regulation (Vygotsky, 1966). From the sociocultural perspective, adult interaction serves an important role in children's

learning and development (Bodrova and Leong, 1996). Teachers who believe in this perspective are encouraged to participate broadly in children's play activities (Trawick-Smith, 2008), take on multiple teaching roles and used a variety of play activities in the classroom to scaffold children's learning and development (Bodrova & Leong, 1996).

The literature reviewed within section 2.3 provides insights on how children learn via various theoretical perspectives. Whilst each theoretical perspective points to the importance of play, what differs is the relative emphasis on certain aspects of play that advocates place on their approach. Next, this chapter will explore literature on the third crucial element that is, the teachers' classroom practices in early childhood education.

2.4 Teachers' Classroom Practices in Early Childhood Setting

Teaching is a process that requires teachers to plan and make decisions about classroom practices and teachers often rely on their beliefs and professional knowledge to guide them (Berthelsen, Brownlee & Boulton-Lewis, 2002). As mentioned earlier on in section 2.2.1, literature has identified two prominent, yet contrasting early childhood educational approaches to teaching, namely child-initiated and teacher-directed approaches that have dominated the landscape of early childhood education (Stipek & Byler, 2004; Spodek & Saracho, 2003; Hirsh-Pasek et al., 2009). Each of these approaches presents a different viewpoint on early childhood education and reflects different philosophical orientations about how children learn (Spodek & Saracho, 2003; Hirsh-Pasek et al., 2009).

The child-initiated approach is grounded on the premise that learning takes place through knowledge construction and learning environments reflect both normative and individual expectations of the child (Bredekamp & Copple, 1997). This approach is drawn from a variety of theoretical perspectives that include maturation, constructivism and social constructivism (Bredekamp & Copple, 1997; Spodek & Saracho, 2003). The focus of teachers is on children's learning and development and the role of the teachers is to support, guide and scaffold children's learning by providing a variety of stimulating materials in the environments (Bredekamp & Copple, 1997).

According to Bredekamp (1987), in a child-initiated approach, classrooms are organised for individualised learning experiences, according to each child's individual, developmental and cultural characteristics. Hence, this approach is referred to by advocates as developmentally appropriate practice (DAP) (Bredekamp & Copple, 1997). Over the years, numerous studies have been conducted on developmentally appropriate practice with evidence supporting the advantages and benefits of this approach (Burts et al., 1992; Schweinhart & Weikart, 1997; Hirsh-Pasek, Hyson, & Rescorla, 1990; Marcon, 1992).

By contrast, the teacher-directed approach emphasises acquisition of academic skills associated with mathematics, reading and writing (Marcon, 1999; Hyson, 1991; Burts et al., 1992; Spidell-Rusher et al., 1992; Spodek & Saracho, 1991). It is more closely aligned with behaviourist beliefs (Spidell-Rusher et al., 1992; Buchanan et al., 1998). Teachers use repetitions, break tasks into "bite-size" pieces and provide

external reinforcements to shape behaviour (Hyson, 1991; Buchanan et al., 1998). Within this approach, children's learning is being assessed using pencil-and-paper instruction and the emphasis is on the development of skills necessary for formal education (Charlesworth, 1998). Teachers will plan lessons, follow a scripted curriculum to ensure consistency of teaching and learning (Marcon, 1999; Hyson, 1991).

From a traditional perspective, the teacher-directed approach builds on the premise of a "blank slate" child, shaped by the environmental experiences with learning opportunities provided by adults and the child can benefit from structured learning dominated by drill and practice of discrete skills (Fowler, 1983; Katz, 1999). Children are often viewed as "empty bottles" (Elkind, 2001) ready to be filled in with adult-provided knowledge (Sigel, 1987). Critics of this approach often refer such an approach as developmentally inappropriate practice (DIP) as the practices do not relate to children's daily experiences; the materials are not meaningful to children; and there is little opportunity for hands-on activities (Hsieh, 2004; Spodek & Saracho, 2003; Wishon et al., 1998; Katz, 1999).

The teacher-directed approach thus runs counter to the developmentally appropriate practice guidelines provided by the National Association for the Education of Young Children (NAEYC), which is one of the most influential professional organisations in United States (Bredekamp & Copple, 1997). Nonetheless, it is argued that this approach offers an alternative avenue of teaching children to achieve "intended" developmental and educational outcomes, which may

be appropriate under certain circumstances (Schweinhart & Weikart, 1997; Marcon, 1995). In the next section, I will review literature pertaining to the teacher-directed approach to teaching before embarking on child-initiated approach.

2.4.1 Teacher-Directed Approach

Advocates of a more didactic, teacher-directed approach argue that formal academic experiences provide enrichment, and give children an important and valuable early start to school (Eastman & Barr, 1985). Fowler (1983) has suggested that childhood is a period of development when the strong foundation of much future learning is laid down and is a time when the child can acquire basic skills and concepts more easily. Such skills and knowledge acquired may lead to accelerated and promulgated learning later on in the child's life (Fowler, 1983). Theoretical underpinnings of this approach view children as passive receptors and benefit largely from formal instruction where the teacher plans lessons based on well-defined subject matter (Smerdon, Burkam, & Lee, 1999).

Teacher-directed teaching is preferred over discovery learning as it is argued that the ultimate aim is to prepare preschoolers for formal schooling, as against letting children construct their own meaning and knowledge which can be an elusive concept to grasp and implement (Rescorla, 1991; Elkind, 1989; Greenberg, 1990). Stipek (1993) further explains that learning is believed to occur when children repeat correct responses to teacher and errors are corrected immediately to keep children from learning incorrect responses. Thus, teachers can enhance children's learning by administering rewards and punishments in order to obtain desired responses.

Advocates of teacher-directed approach argue that teacher-directed instructions deliver concrete and tangible benefits to children's learning. Scripted programmes such as the Direct Instruction System for Teaching Arithmetic and Reading (DISTAR) are said to have contributed to improve basic skills (language, literacy and mathematics) and development for low-income children (Adams & Engelmann, 1996; Engelmann, 1999). For instance, Engelmann (1999) expresses the opinion that kindergarten provides an avenue for at-risk children to learn basic academic knowledge and if this "window of opportunity" period is not capitalised upon, then these children may be disadvantaged further, because other children who are better provided will know more and at a faster pace.

It is also claimed that direct instruction can be effective when the objective is to teach skilled performance or mastery of a body of knowledge (Rosenshine, 1987) and this type of instruction is particularly useful in areas of the curriculum such as reading, mathematics and science, where the emphasis is on the acquisition of certain basic skills to be mastered first before more advanced learning can occur (Rosenshine, 1987). Knapp and Turnbull (1990) point out that these basic skills are acquired in discrete, accumulating units through direct instruction and practice, and the focus is on the content and skills to be taught. It is argued that certain academic educational outcomes are better achieved in teaching environments that favour a more structured teacher-directed approach (Becker & Engelmann, 1978; Knapp & Shields, 1990).

2.4.1.1 Critics of Teacher-Directed approach

However, critics of teacher-directed approach maintain that highly structured approaches are considered developmentally inappropriate practice (DIP) when working with young children (Schweinhart & Weikart, 1997; Marcon, 1995; Elkind, 1989, 1996; Burts et al., 1992). Knapp and Shields (1990) express their concerns that the teacher-directed approach, even though it has demonstrated benefits for some children, focuses more on what children are not able to do and so risks overlooking their true capabilities. Taught as discrete skills, the content of such a curriculum often fails to encourage mathematical thinking, comprehension of what are read, or expression and analysis in writing (Knapp & Shields, 1990).

In addition, Katz (1999) suggests that there is a distinct difference between acquiring concepts and skills and being “ready users” of those skills. Most young children will do things adults ask of them but their willingness is a not a reliable indicator of the value of the activity (Katz 1999). Dictating children to learn when they are not developmentally ready may damage their disposition (such as curiosity, creativity and co-operation) to respond to situations or experiences in certain ways (Katz 1995). According to Katz (1995), dispositions are not likely to be acquired through workbooks, exercises dominated by pencil-and-paper, or teacher-directed tasks. Although research studies on formal, direct instruction curriculum models yield fairly good results on standardised tests in the short term, it may be counter-productive in the long term (Schweinhart & Weikart, 1997; Marcon, 1995). Elkind (1996) warns that pushing children into academic areas too soon has a negative effect on learning, and refers this practice as the “miseducation” of young children.

Likewise, a study by Ryder, Sekulski and Silberg (2003) found that, in both urban and suburban Wisconsin schools under review, students in the first, second and third grades who had received direct instruction scored significantly lower on their overall reading achievement, and especially on comprehension as compared to students who did not receive direct instruction. By contrast, research studies conducted in United States support the notion that young children's learning and development are enhanced when they participate in developmentally appropriate classrooms (Burts et al., 1992; Hirsh-Pasek et al., 1990). They are socially more mature, more creative, less stress, and show greater affinity towards school as compared to children in developmentally inappropriate classrooms (Burts et al., 1992; Hirsh-Pasek et al., 1990).

Following up on the above assertions that developmentally appropriate practice (DAP) yields better results in children's learning, it has been noted that DAP based on child-initiated approach to teaching have been supported by a growing body of multi-faceted research (Burts et al., 1992; Schweinhart & Weikart, 1997; Hirsh-Pasek et al., 1990; Marcon, 1992, 1999; Sherman & Mueller, 1996), I will next focus on the literature advancing and advocating DAP.

2.4.2 Child-initiated Approach

The position statement on developmentally appropriate practice (DAP) established by the National Association for the Education of Young Children (NAEYC) has strongly influenced the field of early childhood education (Bredekamp & Copple, 1997). Developmentally appropriate practice is the result of professionals

making decisions based on: a) the knowledge of child development and learning, b) the knowledge about the individual child's strengths, interests, and needs, and c) the knowledge about the social and cultural contexts in which the children live (Bredekamp & Copple, 1997). Proponents of this approach claim that DAP are currently the dominant philosophical model in early childhood education (Bredekamp & Copple, 1997; Charlesworth, 1998).

The DAP guidelines are created for administrators, teachers, policy makers, and other concerned parties who make decisions about the care and education for young children (Bredekamp & Copple, 1997). Practitioners endorsing the DAP philosophy preferred a child-centred environment that is rich in a variety of stimulating materials and events where children learn through self-initiated activities and discovery as against activities that involve structured teaching of basic skills using drills and pencil-and-paper (Hirsh-Pasek et al., 2009; Ginsburg, Lee, & Boyd, 2008; Katz, 1999; Stipek & Byler, 1997; Bredekamp, 1987; Elkind, 1989; Hyson et al., 1990).

Studies have compared children in "academic" preschools that emphasise direct formal instruction with children who are in developmentally appropriate classrooms in which play is a central means of learning (Bredekamp & Copple, 1997). A review of the literature by Hart, Burts, and Charlesworth (1997) revealed that enrollment in less developmentally appropriate classrooms was associated with more child stress and aggressive behaviours (Burts et al., 1992) and with less positive academic outcomes at the end of the school year (Marcon, 1993, 2002).

The High/Scope Perry Preschool study revealed that young people born in poverty had greater educational and economic success and were less often involved in crime when they participated in high quality DAP preschool programmes (Schweinhart & Weikart, 1997). By age twenty-three, individuals who had participated in DAP education when young were 37.7% less likely to commit offences than those who had participated in teacher-directed programmes (Schweinhart & Weikart, 1997). In addition, children from DAP programmes were twice as likely to graduate from college and were more willing to accept responsibility for their actions than those who were not in DAP programmes (Schweinhart & Weikart, 1997).

In the Abecedarian Study (Paciorek & Munro, 2000), children in the control group who participated in quality developmentally appropriate programmes demonstrated significantly higher mental test scores from toddlerhood through age twenty-one as compared to others who do not participate in these developmentally appropriate practice programmes. Furthermore, mathematics, reading and writing achievement scores were consistently higher for those children participating in these DAP programmes (Paciorek & Munro, 2000).

In another study, Diamond, Barnett, Thomas and Munro (2007) found that playful learning through the “Tools of Mind Program” helped children develop executive function (EF) skills like inhibitory control (resisting habits, temptations or distractions), working memory (mentally holding and using information) and cognitive flexibility (adjusting to change). The findings also suggested that these skills were highly correlated with fluid intelligence and the outcomes in mathematics

and reading. When teachers promoted these skills through playful and guided learning throughout the day, children exhibited improved ability to process information and exercise better control of their behaviour (Diamond, et al., 2007).

In addressing the issue of early childhood teachers' inclination to the adoption of DAP, studies found that training seemed to have a positive effect on teachers' knowledge of developmentally appropriate practice and their likelihood of using these practices. Snider and Fu (1990) found that teachers with greater knowledge of developmental appropriate practice had academic degrees in early childhood education or child development as well as breadth in content of that training. In-service training (such as workshops, seminars, and journal reflections) made a difference, as teachers tend to use these developmentally appropriate practices in classrooms after receiving such training (Mangione & Maniates, 1993). Sherman and Mueller (1996) supported this notion as teachers who received training on implementing developmentally appropriate practice used these practices with greater frequency than teachers who had not received such training.

Similar studies on DAP beyond the shores of United States, generated compatible findings on the adoption of DAP in relation to early childhood teachers' beliefs and training involvements. In Greece, Doliopoulou (1996) investigated kindergarten teachers' beliefs and practices regarding DAP, and found that teachers' DAP beliefs highly correlated with their practices. Teachers who were empowered to set their classroom curriculum and get support from their parents on the implementation of the curriculum seemed to adopt the DAP beliefs better

(Doliopoulou, 1996). On the other hand, teachers who felt threatened by state regulations and mandates often would engage in developmentally inappropriate practices. Additionally, teachers with larger classes and/or having more prior teaching experiences tend to manifest in developmentally inappropriate practices (Doliopoulou, 1996).

In South Korea, Suh (1994) compared parents', principals', and teachers' beliefs and values regarding public kindergarten programmes and practices. It was found that teachers were more attuned to DAP in their beliefs than parents or principals. Additionally, teachers with higher levels of early childhood education were also more positive in their beliefs and knowledge pertaining to DAP (Suh, 1994). Kim (2004) in her research on the philosophical orientations and practices of Korean preschool teachers gave them an opportunity to voice their beliefs about child-centred pedagogy, and how their beliefs were reflected in their teaching. Although these teacher-participants strongly believed in the importance of child-centred learning, their teaching styles were significantly different. The study established several external factors that constrained the teachers and prevented them from implementing their own beliefs in practice (Kim, 2004). These factors included whether the teachers were in public or private preschool settings, whether they had graduated from two-year or four-year teacher education programmes, and the peculiarity of the Korean culture (Kim, 2004).

However, despite of the positive findings rendered by the above studies and the strong theoretical underpinnings of DAP; such practices have not consistently replaced more teacher-directed approach to teach children (Smith, 1997; Dunn & Kontos, 1997; Hatch & Freeman, 1988). Most teachers tend to use a range of instructional practices that are in between DAP and DIP (Bredekamp & Copple, 1997; Buchanan et al., 1998; Charlesworth et al., 1993; Marcon, 1992; McMullen, 1999; Oakes & Caruso, 1990; Sherman & Mueller, 1996; Smith & Shepard, 1988). Till now, there is still an ongoing controversy concerning “appropriate pedagogical practices” that exists for many early childhood educators (Katz, 1995). Many educators are still engaging in the longstanding debate about whether teacher-directed or child-initiated practices should be used with young children (Bredekamp & Copple, 1997; Katz, 1995; Bredekamp & Rosegrant, 1995; Elkind, 1989; Lubeck, 1998). Implementation of developmentally appropriate practices appears to be difficult for many early childhood teachers (Dunn & Kontos, 1997).

Oakes and Caruso (1990) reported that kindergarten teachers they observed rarely engaged in strategies consistent with developmentally appropriate practices such as engaging children in child-initiated activities, divergent questioning and small-group teaching. However, teachers who believed in sharing decision-making with children and supporting their autonomy were more likely to use developmentally appropriate strategies than teachers who believe in controlling the classroom decisions without input from the children (Oakes & Caruso, 1990).

Hatch and Freeman (1988) noted a prevalence of didactic practices in the thirty-six kindergarten teachers they interviewed. More than half of the teachers demonstrated conflicts between their philosophy of early childhood education (constructivist) and their classroom practices (which were didactic and skill oriented) (Hatch & Freeman, 1988). In a study by Bryant, Clifford and Peisner (1991), observations showed that only 20% of the kindergarten classes were considered to have developmentally appropriate classroom practices. They noted that teachers seemed to know what appropriate practices were, but needed assistance in their implementation (Bryant et al., 1991). The kindergarten experience for most children consisted mostly of worksheets, rote learning, and didactic instruction (Bryant et al., 1991). Kontos and Dunn (1993) reported that teachers rarely elaborated on children's play or asked children divergent questions but instead, the teachers spent their time placing limits on children's behaviours. In terms of classroom environment, there were few activities and materials to promote literacy, a component of developmental appropriate practice (Kontos & Dunn, 1993).

The above discussions pointed to tensions and dilemmas faced by early childhood practitioners in both western and eastern countries in their attempts to adopt DAP, the construct and concept of which are no less the subject of debates and criticisms. The following section 2.4.2.1 serves to highlight pertinent critics of the child-initiated approach.

2.4.2.1 Critics of child-initiated approach

Critics of child-initiated approach (DAP) maintain that the underlying assumptions of utilising Western early childhood educational philosophy disregard the complexity of teaching in today's world of multiple perspectives, diversity of cultures and values (Lubeck, 1998; Hatch et al., 2002)). As a concept, DAP is often semantically misconstrued as being the “right” thing to do in classroom practices without relating them to the goals of such practices (Hatch et al., 2002). It is often argued that classroom practices, whether teacher-directed or child-initiated, can be developmentally appropriate when they are benchmarked against given definitive developmental learning principles (Hatch et al., 2002). For example, classrooms that incorporate writing centers may be seen as developmentally inappropriate because it is “academic”. However, if children enjoy writing in an activity like finding out how many of their friends have the same letters in their names, then it is appropriate (Hatch et al., 2002). Conversely, the same pedagogy will be boring to a group of children if they are being taught their letters by thoughtlessly doing worksheets they do not understand,, thereby retarding their learning interest, and hence, it is developmentally inappropriate (Hatch et al., 2002).

Above all, the “developmentally appropriate” concept has been frequently criticised for the lack of sensitivities to the socioeconomic status, culture, race, gender, age or special needs of children (Lubeck, 1998; Hatch et al., 2002). The different social and cultural context of children bring up challenges that the concept of DAP did not clearly capture the nuances, ambiguities and complexities of teaching young children in a wide diversity of communities (Lubeck, 1998; Hatch et al., 2002). Instead, DAP is presented as a universal view of development as the foundation of

appropriate practice (Lubeck 1998) and fails to clarify the specific values upon which DAP rests upon, leaving practitioners to sort out how to implement teaching in various (and at times, conflicting) value systems (Lubeck, 1998; Hatch et al., 2002).

2.4.3 The Reality

In reality, there is not yet a pedagogical approach that can claim universal acceptance in assessing the effects of different teaching approaches (Huffman & Speer, 2000). Research findings on both DAP and DIP methods have been snap shots of empirical evidence of the real world scenario in differing classroom settings in an attempt to justify the superiority of their approach (Burts et al., 1992; Bredekamp & Copple, 1997; Rosenshine, 1987; Smith & Croom, 2000). It is important to view these findings as tentative until future research studies on DAP and DIP are conducted (Buchanan et al., 1998).

The ambiguity of the educational benefits for DAP or DIP has led to debates among proponents of each approach (Huffman & Speer, 2000). Advocates of both approaches lay claims that their approach has been found to promote cognitive development and to increase achievement scores in reading, mathematics and language when they are used appropriately (Huffman & Speer, 2000). However, the intent of this review is not to set up a bipolar segregation of the two approaches to the practice of early childhood education. Rather, early childhood educators should allow their ideological preferences, values, and their ideas to emerge, supported by sound theoretical concepts in deciding on a pedagogical strategy suitable for their classroom practice (Spodek & Saracho, 2003). The differing perspectives on each of these set of

beliefs, having evolved from two fundamentally different philosophies described above, naturally lead to disagreement over appropriate educational practices for children (Spidell-Rusher et al., 1992; Huffman & Speer, 2000).

In summary, there is currently a growing body of research that supports the efficacy of developmentally appropriate practices to enhance learning (Schweinhart & Weikart, 1997; Burts et al., 1992; Stipek et al., 1998; Marcon, 1999). Studies supportive of DAP found that child-centred programmes are associated with higher levels of children's cognitive functioning (Burts et al., 1992; Hyson et al., 1990; Schweinhart & Weikart, 1997; Marcon, 1992, 1999). Programmes that allow for child-initiated activities lead to more autonomy and are said to have supported children's learning and development in a wide array of domains (Spodek & Saracho, 2003; Kamii, 1986). As young children seem to learn best when they are actively engaged in constructing knowledge and discovering new relationships through play (Bredekamp, 1987), literature pertaining to the value of play in children's learning will be reviewed in the next element of this Literature Review.

2.5 The Value of Play

Play has long been valued by early childhood education communities and is increasingly regarded as integral to high-quality provision and practice (Siraj-Blatchford & Sylva, 2004; Degotardi, 2005; Moyles, 2005; Wood & Attfield, 2005; Wood, 2007; Hirsh-Pasek et al., 2009). Yet, the definition of play has been elusive in literature because of its complexity in behaviour and context (Wood & Attfield, 2005; Stegeline, 2005; Moyles, 2005; Hirsh-Pasek et al., 2009). Children's play has been

operationalised as intrinsically motivating and self-initiated; pleasurable; freely chosen; non-literal; active engagement; opportunistic and episodic; imaginative and creative; fluid and active; and process-oriented (Rubin, Fein, & Vandenberg, 1983; Garvey, 1991; Bruce, 2001; Sturges, 2003; Brewer, 2004; Moyles, 2005; Degotardi, 2005; Hirsh-Pasek et al., 2009). These views suggest that when children engage in play, they do it because they enjoy what they are doing; they choose how to play and what to play with by using their imagination; they engage in pretence, and are more concerned with how to play than with the outcomes of play. Taken in totality, these definitions give us a glimpse of the complex nature of children's play.

2.5.1 Benefits of Play

The developmental literature has identified play as stimulating all aspects of children's developmental domains (Frost et al., 2005; Johnson et al., 2005; Degotardi, 2005; Honig, 2006; Wood 2007; Brewer, 2004; Hino, 2003). Also, play activities are socially and symbolically complex and involve social reciprocity which is important for affective and personality development (Brewer, 2004; Degotardi, 2005). Advocates of play frequently claim that play contributes to the development of problem-solving capabilities and creative thinking in children (Pellegrini, 1982; Rubin et al., 1983; Smilansky & Shefatya, 1990; Brewer, 2004). Children need to organise tasks, assign characters to assume the play roles, engage in problem-solving behaviours such as looking for props and materials to meet the play intent. A play-based curriculum is said to offer children opportunities to acquire these positive attributes and dispositions that are considered essential to learning, such as planning

and organisation, concentration, engagement, reflection, involvement and participation (Katz, 1995; Brewer, 2004; Broadhead, 2004; Wood, 2007).

The value of play as a facilitator of cognitive growth has been addressed by many early childhood educators and researchers (Smilansky, 1968; Vygotsky, 1966). More specifically in the area of literacy, studies by Bergen and Mauer (2000), found that four-year olds play (in the form of rhyming games, making shopping lists and “reading” story books to stuffed toys) enhanced both language and reading readiness (including phonological awareness) after the children had entered kindergarten. Kindergarteners with increased phonological awareness relative to their peers, in turn, had more diverse vocabularies, used more complex sentences and showed the extent of their competencies most often in playful environments (Bergen & Mauer, 2000). Similar studies carried out by various researchers found common ground in their conclusions where children demonstrate their advance language skills in playful environments and these language skills are strongly related to literacy developments (Neuman & Roskos, 1992; Christie & Enz, 1992; Einarsdottir, 2000; Stone & Christie, 1996; Christie & Roskos, 2006).

Findings from a more recent longitudinal study in the United States have shown that the rich language used in play has an impact on children’s literacy development. In the Home School Study of Language and Literacy Development, Dickenson & Tabors (2001) examined the home and school literacy environments of low-income children from aged three through middle school. The study reported consistent relationships between the language that children used during play and their

performance on literacy and language measures. At aged three, children who engaged in more pretend talk during play were more likely to perform well on assessments of receptive vocabulary and narrative production. Dickinson and Tabors (2001), also reported consistent links between play and long term language growth. For example, the total number of words and the variety of words that children used during free play in preschool were positively related to their performance on language measures administered in kindergarten.

Play lays the foundation for logical mathematical thinking and stimulates “early math” in children’s everyday experiences (Ginsburg et al., 2008). Children come to know of informal ideas of more and less, taking away, shape, size, location, pattern and measurement (Ginsburg et al., 2008). The mathematical knowledge gained through everyday play activities seems to occur as a natural component of cognitive development, often without any adult instruction (Ginsburg et al., 2008). For example, children often count during play periods without any prompting (Ginsburg et al., 2008). In another study, Seo and Ginsburg (2004) observed four- and five-year olds to see how often they engaged in spontaneous mathematics activities. During the fifteen-minute observation period, seventy-nine out of ninety children (88%) participated in at least one mathematical activity. Of these children, seven out of fifteen minutes on average were spent on mathematical activity, suggesting that children spent a considerable amount of their free playtime engaged in mathematical concept activities (Seo & Ginsburg, 2004).

Another avenue where children generally acquire the skills of comparing, counting, classifying, ordering and using fractions is through block play, using different types of blocks (Wolfgang, Stannard, & Jones, 2001; Varol & Farran, 2006). Construction play with blocks offers children opportunities to classify, measure, order, count, use fractions, and become aware of depth, width, length, symmetry, shape and space (Hirsch, 1996).

Thus, in contemporary play literature, play is often regarded as essential in contributing to lifelong learning, inspiring creativity and overall well-being of children (Bergen, 1988; Brewer, 2004; Broadhead, 2004; Frost et al., 2005; Johnson et al., 2005; Degotardi, 2005; Wood 2007; Hirsh-Pasek et al., 2009). When children play, their development moves along paths of increasing cognitive, social, emotional and physical complexity through the use of signs and symbols; creating rules; changing roles and play scenarios; and through controlling their behaviour and actions (Sutton-Smith, 1997; Broadhead, 2004; Johnson et al., 2005; Wood, 2007). As children become skilled players, their play episodes are characterised by high cognitive challenge and become more sustained and complex as they are engaged in co-constructing of meanings and understandings with peers and adults (Broadhead, 2004).

In order to use play as a means to promote children's learning teachers will need to first recognise the different forms of play children often engage in. Researchers generally study several common categories of play, though in practice, occurring episodes of play often have a mix of different forms of play taking place

simultaneously and over the course of early childhood (Smilansky, 1968; Stone, 1995; Brewer, 2004; Wood & Attfield, 2005; Hirsh-Pasek et al., 2009). Piaget (1962) and Piaget and Inhelder (1969) have described different types of play with objects, and these include functional play, symbolic play and games with rules and constructions.

According to Piaget (1962), functional play or practice play involves the repetition of an act for pleasure or skill practice. It refers to play activities in which children explore the possibilities of materials through physical manipulation (Brewer, 2004; Santer et al., 2007). For example, a child who is exploring blocks may start by examining the physical attributes of the blocks, learn their properties and gain an understanding of what he/she can or cannot do with blocks (Brewer, 2004). Children tend to use their senses to explore and learn about the materials, see how they fit with other objects before using these objects as props for pretend play or something else altogether (Brewer, 2004). Such exploration requires deep concentration during which the child learns all there is to know about the object and once the knowledge has been obtained, it is then incorporated into play activity (Santer et al., 2007).

Research on object play has also been extensively studied. McLoyd (1983) studied thirty-six children from ages three to five years when they played in groups of three with high-structured toys (for example, a tea set) or low-structured toys (for example, blocks). The three-year olds demonstrated more non-interactive pretend play with high-structured toys than the low-structured toys. The five-year olds, however, were indifferent. In this study, dependence on objects in pretend play declined substantially with the four-year olds. In this case, pretend initiations

occurred without the presence of a physical object but merely on the plane of ideas that children have in mind (McLoyd, 1980). Power, Chapieski, and McGrath (1985) noted that by observing children while engaged in object manipulation and pretend play provides vital information about children's social, problem-solving and creative skills.

Piaget (1962) articulated that symbolic play is a form of make-believe play, which involves the representation of absent objects. Symbolic play is also referred to as “make-believe” or “imaginative” play (Singer, 1973); “socio-dramatic” play (Smilansky, 1968) and “thematic” play (Feitelson & Ross, 1973). Dramatic and socio-dramatic play involves complex cognitive, social and emotional processes such as taking on the characteristics or behaviours of another person and creating make-believe transformations (Santer et al., 2007). Studies have found that children who engage in more symbolic/pretend play have greater conversational success, emotional understanding and increased performance on problem-solving and divergent thinking (Vygotsky, 1978; Spodek & Saracho, 2006; Dickinson & Tabors, 2001; Tsao, 2002). A number of researchers have investigated the relationship between symbolic play and oral language development and findings suggest that cognition and oral language tend to occur together and correlate highly between the ages of one and five years (Wolfgang & Sanders, 1981; Pellegrini, 1982, 1983, 1985a).

According to Rogers and Sawyers (2008), children who engage in pretend play are able to decenter, better at perspective-taking, group cooperation, impulse control and social participation. Other researchers have also examined the benefits of symbolic play on behaviour for example, children who engage in imaginative play are able to adopt rules and meanings to their immediate environment (Smilansky and Shefatya, 1990) and social skills are acquired through the child using imagination, creativity and pretence (Smilansky, 1990; Bergen, 2002).

Numerous researchers have focused on the significance of dramatic and socio-dramatic play as a means to teach (Wood & Attfield, 2005). Saltz, Dixon, and Johnson (1977) find that socio-dramatic play and thematic fantasy play (that is, adult facilitated role of enactment of fairy tales) help preschool children connect separate events into logical sequences, thereby enhancing their cognitive functioning and impulse control. Roskos and Christie (2001) points out that there is a correlation between dramatic play and measures of early reading achievement as play create opportunities for children to use language in literate ways and to use literacy as they have seen it practiced in their families and communities. Finally, Neuman and Roskos (1992, 1993) also report that words embedded in playful contexts are learned better and faster. When given the opportunity, young children eagerly incorporate literacy props into their dramatic play and engage in increased amount of narrative, emergent reading and writing and these are skills needed to facilitate reading (Neuman & Roskos, 1993).

Dunn and Hughes (2001) explain that pretend play is important as it allows children to work through their emotional problems and fears. In addition, according to Russ (1993), play provides a snapshot of children's access to expressions of affect, as well as the ability to use fantasy and imagination. Children used play as a resource to express emotions, channel aggression, explore ideas and resolve conflicts (Russ, 1993). Hino (2003) also explains that children's ability to express themselves through play is important because children's expression (such as drawing, painting or sculpture) is considered to be an important part of ego formation as it encourages the expression of each child individual emotions and creativity.

In yet another dimension of the value of play in contributing to children's learning and development, Piaget (1962) remarks that games with rules arise out of sensorimotor combinations (such as hide-and-seek, dodge ball, catching, hopscotch and races) or intellectual combinations (for example, cards or board games). According to Brewer (2004), children develop or use rules to establish how the play is supposed to go on. Games with rules differ from pretend play in that the rules have been established in advance and determine how the play is to go on (Piaget, 1962) and the players must agree upon any alterations in the rules beforehand. These predetermined structures contrast with the ad hoc negotiations and flexibility of dramatic play (Piaget, 1962).

2.6 Roles of Teacher in Play

At this juncture, it should be noted that the above literature review on the benefits of play are inherently linked to caregivers and early childhood teachers as they take on the intermediary roles to nurture children's play, setting the stage and providing the environments to harvest these benefits. Researchers have stressed the importance of teachers' roles in providing children with a quality educational setting (Isenberg & Quisenberry, 2002; Vygotsky, 1978). A number of studies have focused on the role of the teacher in facilitating children's learning through play and that teacher participation in classroom playful activities encourages children's involvement in such activities (Johnson, Christie & Yawkey, 1999; Siraj-Blatchford, 1994; Pugh & Duff 2006; Anning & Edwards, 2006).

According to Bondioli (2001), adult-child interaction during play activities may assist children to foster and exercise their play skills that they have yet to master or developed. Through play interactions, teachers can provide children with developmentally appropriate materials, ideas, practical achievements and support them in the development of their own thoughts and interests (Frost et al., 2005; Vygotsky, 1978).

Other research studies have indicated that through play, teachers can serve as links between children and their surrounding world. Through play interactions, teachers can validate and challenge children's senses and their thoughts, which will enable children to focus on awareness, interactions and intentions (Samuelsson & Johansson, 2006). In sum, play involves different kinds of teacher interactions with

children and teachers have to decide on the degree of involvement in children's activities. Teachers have to observe what children are doing, support their efforts, and get involved thoughtfully to support additional learning.

The above literature will collectively provide the theoretical as well as empirical framework to the current study. In particular, Piaget's (1955) theory of cognitive constructivism and Vygotsky's (1978) theory of social constructivism will serve as the core theoretical model underpinning and guiding my research study as both theories stress children's ability to interact and construct knowledge in the physical and social worlds through play.

2.7 Chapter Summary

In reviewing literature relating to the research topic in this study, five key elements were focussed upon. They were:

- i. Teachers' belief structures about classroom pedagogies
- ii. Theoretical perspectives about how children learn
- iii. Teachers' classroom practices in early childhood settings
- iv. Value of play in children's learning
- v. Roles of teacher in play

Literature pertaining to teachers' pedagogical beliefs provided an understanding to how teachers' beliefs affect and influence their perspectives on children learning through play, whilst traditional and contemporary theories on play

provided the theoretical framework to this study, in particular, that of Piaget's and Vygotsky's theoretical frameworks. Literature on teacher's classroom practices in early childhood settings pointed to two distinct and opposing classroom practices, the developmentally appropriate practice (DAP), which support child-initiated approaches; and developmentally inappropriate practices (DIP), which favour teacher-directed approaches to classroom practices. Lastly, the literature on the value of play in children's learning and roles of teacher in play complete the literature review for this study.

The literature review in Chapter Two highlighted the complex nature of each of the five elements together with the inter-dependence relationships among the elements. Such complexity and interdependency have yielded concern about preschool teachers' abilities to meaningfully engage children with appropriate pedagogical practices to promote learning and development of the whole-child. Moreover, most of these research studies and literature relates to geographical, cultural and social context outside Singapore. Hence, this study is carried out with the view of contributing to early childhood education knowledge in the Singapore's context as well as to inform educators and concern parties on possible improvements to their classroom practices.

Chapter Three

Research Design and Methodology

3.1 Introduction

In the continual search for pedagogical best practices in the field of early childhood education, numerous theorists and research studies have provided evidence in support of the importance of play as a means to promote children's learning (Wood & Attfield, 2005; Siraj-Blatchford & Sylva, 2004; Broadhead, 2004; Frost et al., 2005; Sutton-Smith, 1997).

In Chapter One, four research questions were posed. These questions were formulated to address the established research aims in a manner that would allow the study to unfold patterns and yield answers in a progressive manner. A reiteration of these research questions, at this juncture would be appropriate to highlight how each question could contribute to this study of using play as a means to promote children's learning.

Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning?

Research Question Two: What do preschool teachers see as the benefits of play as a means to learning?

Research Question Three: How do preschool teachers see their roles in promoting learning through play?

Research Question Four: What do preschool teachers see as obstacles to using play as a means to learning?

The above questions play a central role in binding this study together in achieving the research aims and providing answers to the research problems to satisfy the purpose of this study as stated in Chapter One.

This chapter outlines the methodology employed in the study. The research design, sample and sampling procedures, data collection methods and validity and reliability issues of the study are discussed. Ethical issues such as informed consent, confidentiality and protection of data are also addressed.

3.2 Research Paradigms

The design of a study begins with the selection of a topic and a paradigm or view of the world (Creswell, 1994). According to Neuman (2000), a paradigm encompasses theories and methods, basic tenets about the nature of reality, the purpose of the research, major questions to be answered, theoretical approaches and methods for finding answers to questions. The two paradigms frequently discussed in the literature are interpretive and positivist paradigms (Creswell, 1994). Each represents a view of the world and methods or approaches for interpreting and understanding human behaviour (Creswell, 1994). According to Creswell (1994), paradigms generally address issues such as the nature of reality, the researcher/researched relationship, the role of values, methodological and rhetorical

assumptions. It is not necessary to pit the two paradigms against one another and as Patton (1990) has advocated a “paradigm of choices” seeks “methodological appropriateness as the primary criterion for judging methodological quality” (p. 39).

Guided by the aims of this research, my study does not seek to test or refute any hypothesis. Instead, it seeks to understand, examine and explore the perspectives, thinking and beliefs of the preschool teachers about the use of play in advancing children’s learning. My role as a researcher is that of an active participant who is involved in the meaning-making process of the teacher-participants, thereby explaining and interpreting the meaning of the events they have encountered.

Hence, an interpretive paradigm is appropriate as my research aims to understand preschool teachers’ perspectives and their behaviour in the classroom. As a researcher, I have to work within the premise that meanings are socially constructed and reality is not fixed and single, but is multiple and it changes through time (Creswell, 1994; Janesick, 1998). In addition, I have to present the teacher-participants’ intended views and perspectives with minimal personal biases (Creswell, 1994). According to Lincoln and Guba (1985), the role of the researcher in an interpretive paradigm is that of a passionate participant actively engaged in facilitating the “multivoice” reconstruction of the participants. In this study, I have to listen, describe, explain and reconstruct the personal realities of the preschool teachers as they share their beliefs and practices about teaching in general, and their perspectives and practices on the use of play in their classrooms to facilitate children’s learning in particular. Neuman (2000, p. 71) stated that the approach

“focuses on achieving understanding of how people create and maintain their social worlds”.

3.3 Research Approach

Within the context of an interpretive paradigm, this study employs a case study approach as the primary goal is to study the preschool teachers’ beliefs and practices concerning the use of play to enhance children’s learning. This approach is preferred as it allows the researcher to probe in-depth “processes rather than outcomes, in context rather in specific variables, in discovery rather than confirmation” (Merriam, 1998, p. 19). Case studies provide detailed examination of the “social object being studied” (Punch, 1998, p. 150) and the researcher can pay attention to the context and consider a range of events as they unfold (Stake, 1994; Yin, 2003). The case study approach is also adaptive as questions can be changed as the case develops and thereby, providing a much richer explanation of the phenomenon under study (Gomm, Hammersley & Foster, 2000; Punch, 1998; Stake, 1994).

In line with the interpretive orientation of this study, I have further enhanced the strengths of the study by using qualitative data as they provided richness of understanding of the phenomenon in a given context (Yin, 2003). The qualitative data consisted of verbatim quotations from preschool teachers about their experiences, opinions, feelings and knowledge that were obtained through interviews, observations of activities, behaviours and actions; and excerpts/quotations extracted from documents such as teachers’ reflective journals (Gomm, et al, 2000; Punch, 1998).

In planning for this case study, I was guided by the four parameters as recommended by Miles and Huberman (1984), described as setting (where the research site was); actors (who would be interviewed/observed); events (what the interview/observation was about); and lastly, the process (the nature of events undertaken by the actors within the setting). The research was conducted mostly in preschool classroom settings. Teacher participants were interviewed at a time and place convenient to them. Participating classes were observed during planned schedules, again to suit the teachers' and centres' convenience. The process included in-depth interviews, verification of interview transcripts, through clarification meetings, e-mails and telephone calls.

3.4 Sample Selection

Having selected the research approach, the choice of sampling techniques is dependent on the aims of the study as well as the nature of the study. As the aim of this research study was to understand the meanings of a phenomenon from the perspectives of the teachers, it was important to select a sample from which the most could be learned and uniquely suited to the intent of the study (Merriam, 2002). As I was a lecturer in an early childhood training institution, I had adopted convenience sampling strategy to identify early childhood teachers who were attending training courses at the institution to participate in my research study. This way, I was able to get access to a ready pool of qualified preschool teachers as potential participants for my study.

Given the limited human resources (as I am undertaking this research on my own), and bearing in mind of the need to balance manageability of data and sufficiency of participants to enrich the study, I invited eighteen preschool teachers to participate in this study. To mitigate the limitations of using a relatively small sample, I also employed a snowball sampling strategy by identifying participants or cases of interest from people with prior knowledge for this study (Patton, 1990). The selected preschool teachers would then recommend other teachers who were keen to participate in my study. The participants represented various aspects of diversity such as different types of preschool settings (kindergartens and child-care centres, operated by different entities), professional qualifications, working experiences, age and gender. These diversities provided better coverage and facilitated the discovery of theoretical questions, categories and interrelationships as well as maximising variations (Sandberg & Pramling-Samuelsson, 2005). These selection criteria are further explained below to enhance the credibility of this study.

3.4.1 Types of Preschool Setting

In Singapore, preschools are operated by various types of organisations including community foundations, religious-based bodies and private organisations (Tan, 2007), each with possibly different philosophical orientations. For example, the community-based preschools such as People's Action Party Community Foundation (PCF) charge lower fees and cater to a large number of children from the lower income families (Tan, 2007; Khoo, 2010). The philosophical orientation of community-based preschools is often aligned with mass appeal factors (such as affordability, accessibility and service to the community) (Khoo, 2010). These

organisations are different from private child-care centres that often cater to families from a higher social economic status (Khoo, 2010). To this end, I have selected participants from different centres so as to embrace the “effects” of centres’ culture in teachers’ perspectives and beliefs structures.

3.4.2 Early Childhood Teachers’ Professional Qualifications

In 2001, the Pre-school Qualification Accreditation Committee (PQAC), consisting of representatives from the Ministry of Education (MOE) and Ministry of Community Development and Sports (MCYS) was jointly set up to review all preschool teachers training courses (Tan, 2007). In Singapore, the minimum professional qualification for preschool teachers is a Certificate in Pre-school Teaching (CPT) which consists of 470 hours of training (Tan, 2007). For principals, they must complete 1200 hours of a two-tier diploma training to attain a Diploma in Preschool Education – Teaching, DPT (700 hours) and a Diploma in Preschool Education – Leadership, DPL (500 hours). In addition, MOE has also announced that by January 2008, each preschool centre must have at least 75% of their teachers trained at Diploma in Preschool Education-Teaching by 2008 (Pre-School Unit, MOE, 2008) and all other teachers must be at least certificate-trained in a preschool setting (Pre-School Unit, MOE, 2008).

The Ministry of Education (MOE) believes that the quality of preschool education depends greatly on the quality of training received by preschool teachers who in turn engage children’s learning more effectively (Pre-School Unit, MOE, 2008). This finding is also supported by the Organisation for Economic Co-operation

and Development (OECD) report which highlights that one of the key driving forces behind high quality early years education is high quality teacher training and education as these teachers are more knowledgeable pertaining to best practices (OECD, 2001). Hence, this study has included teacher-participants from diverse training backgrounds in order to capture different views and beliefs from participants.

3.4.3 Working Experience

Novice and experienced preschool teachers may harbour different perspectives and beliefs about the value of play to children's' learning. A study undertaken by Kim (2004) suggested that novice teachers believe in play but are unsure of its implementations whereas experienced teachers strongly believed in the importance of child-centred learning, regardless of the type of institution they had graduated from. Hence, for my study, I have invited teacher-participants with working experiences ranging from zero to five years, five to ten years; and more than ten years of working experiences to enhance the coverage of different perspectives of participants for my study.

3.4.4 Age

From my personal experience of working as a preschool teacher; as Head of Operations of a large community-based preschool organisation (from 1992 to 2003) as well as a lecturer in the early childhood education industry (from 2003 to present), I have observed that varying age groups of preschool teachers differ in the perspectives on how play can contribute, or not contribute, to children's learning. A possible reason may be due to differing degree of influences by the traditional eastern

cultural background affecting different age group of teachers. Hence, my research study has included young teachers (aged twenty to twenty-nine years), middle-aged (thirty to thirty-nine years) and matured preschool teachers (forty years and above) in the sample to maximise the variations in perspective takings.

3.4.5 Gender

In Singapore, about 0.5% of all preschool teachers are men (Ang, 2009). Of the ten thousand child-care and kindergarten teachers, less than fifty are men (Straits Times, February 16, 2011). As such, I am keen to involve two to three male preschool teachers to find out how male preschool teachers perceive, understand and experience play in an effort to maximise my sample composition. In a research study by Sandberg and Pramling-Samuelsson (2005) that involved ten male and ten female preschool teachers, it was found that male preschool teachers contributed with more playfulness and accentuated the significance of physical development than female preschool teachers who tend to value calm play and emphasise the importance of social development. I would like to investigate if this pattern also occurs in Singapore between male and female preschool teachers on the use of play in their classroom practices.

Guided by the above criteria and information regarding the relative quantum and percentage composition of total preschool teachers within each criterion sector, I used snowball sampling strategy (as mentioned above) to select participants in accordance to the set criteria through an elimination process. The selection of cases was therefore, not systematic but rather evolving as the research progressed.

Table 1 shows the demographic information of the participants interviewed, including their years of working experience, professional qualifications, age, gender and the type of preschool settings to establish an overview of the range of backgrounds of the teacher-participants in this study. Pseudonyms were used to ensure confidentiality.

Table 1: Profile of teacher - participants

S/No	Names of participants	Working Experiences	Highest professional qualifications	Age	Gender	Types of Preschool settings
1	HJ	21 years	DPL	48	Female	PCF 1
2	MK	15 years	DPT	42	Female	PCF 2
3	CC	7 years	DPT	42	Female	PCF 3
4	TI	9 years	CPT	25	Female	PCF 4
5	LY	15 years	CPT	53	Female	PCF 5
6	EK	1.5 years	DPT	35	Female	Religious-Church 1
7	GH	37 years	DPT	58	Female	Religious-Church 2
8	AD	3 years	DPT	41	Female	Religious –Mosque 1
9	TA	9 years	DPT	48	Female	Religious-Mosque 2

10	TL	13 years	DPL	38	Female	Private 1
11	HC	3 years	DPL	36	Female	Private 2
12	JT	6 years	DPL	44	Female	Private 3
13	AL	9 years	DPL	28	Female	Private 4
14	FD	3 years	DPL	32	Male	Private 5
15	ET	7 years	BSc	28	Female	Private 6
16	Lyn	2 years	BSc	31	Female	Private 7
17	RH	8 years	DPT	36	Female	Private 8
18	TE	10 years	CPT	55	Female	Private 9

3.5 The Settings

The eighteen selected teacher-participants worked in predominately three types of pre-school settings, namely community-based centres (operated by the People's Action Party Community Foundation, PCF), religious-based bodies (churches and mosques) and private organisations. Five participants were from PCF settings, four from religious-based bodies and nine participants were from private organisations. The majority of PCF preschools are located in the void decks of Housing and Development Board (HDB) estates and they charge lower fees and offer affordable kindergarten education to all children (Khoo, 2010). According to the five principals whom I spoke with, their centres are constantly operating at full capacity due to affordability and accessibility of their centres located within public housing

estates. In addition, the centres are also located near public or neighbourhood children's playgrounds to facilitate outdoor play programmes. Children attending their centres are from different ethnic and religious backgrounds.

Religious-based preschool settings, by contrast, are housed within the church/mosque compounds. I was informed by the participants that it is common for religious institutions to co-share spaces, for instance, using the church hall for children's play equipment from Mondays to Fridays, and dismantling/shifting the play equipment for religious purposes over the weekends. Such practices seem to compromise on the smooth operations and the learning experiences of the children at times. Outdoor play facilities are located within the compounds of these preschools.

Preschool centres operated by private organisations in this study are varied both in terms of classroom size and facilities/amenities. In particular, one private preschool centre which caters to the up-market segment of the early childhood education market has a ten thousand square feet school compound with outdoor playground created within the compound for private use. Another private workplace preschool centre is housed within a clubhouse and children can gain access to physical play in the theme park, which is located just next door. Other private preschool centres involved in this study operate typically out of rented private landed properties which are converted for preschool centre's use. Outdoor play is facilitated by smaller sandpit area, designated for such purpose within the rented compound.

3.6 Methods of Data Collection

According to Lincoln and Guba (1985), within the interpretive paradigm, there are multiple constructed realities. In order to best capture these multiple realities with thick description for my research study, semi-structured interviews and classroom observations were used as the primary sources of data collection; with teacher's reflective journals as the secondary source to best serve the purpose of my qualitative study.

3.6.1 Interviews

In order to probe participants in-depth but within the confines of the research aims and research questions, the semi-structured form of interview was preferred. Prior to the interview, teacher-participants were requested to complete a personal profile record form, detailing age, years of working experiences, educational and professional qualifications, and the types of preschool setting that they were working in. The purpose of these data was to ensure that participants meet the criteria set out for this research study (See Appendix 1).

To elicit the participants' perspectives about the phenomenon of play in enhancing children's learning an interview schedule was sent to the participants one to two weeks in advance. The interview schedule consisted of open-ended questions and probing guidelines where the teacher-participants were asked the primary questions and when necessary, I would probe further to find out more about their teaching beliefs. The interview schedule serves as a general interview guide for the researcher in outlining the topic for probing as well as to ensure that the important

areas are covered (Goodwin and Goodwin, 1996). It would also ensure uniformity from one interview to another (Goodwin & Goodwin, 1996).

The content of my interview schedule covered the following areas: the definition of play; benefits of play; roles of teacher in play and obstacles to adoption of play in classroom settings. These questions allowed “participant(s) to reconstruct (their) experience within the topic under study” (Seidman, 1998 p.9) (See Appendix 2). For example, for main research question 1: How do teachers in selected preschools in Singapore define play as a means to learning? The prompts and probes that helped to clarify the intentions of the primary question included: I would like to hear from you about “your beliefs on how children learn in a preschool setting”? I would also like to ask you to “think a little bit more about your philosophy on working with children”?

While interviews in quantitative research seek to validate an explanation or test a hypothesis, in qualitative research they have a diametrically opposed function (Books, 1997). According to Merriam (1998), interviewing is necessary when we cannot observe behaviour, feelings or peoples’ interpretation of them. Bearing that in mind, I commenced my sessions by initiating casual conversations on areas of general concerns such as the professional background, the numbers of classes they have taken, whether they would like to go for further professional upgrading in the early childhood sector and so forth. The intent was to create an atmosphere of trust, cooperation and mutual respect and to engage the teacher-participants meaningfully.

This was followed by questions that focus on the context within which each preschool teacher was working and his/her perceptions about the importance of play in children's learning. I also took time to encourage the participants to speak and explain about their experiences and thoughts as each teacher had "unique experiences, special stories to tell" (Stake, 1995, p. 63). Each teacher-participant was interviewed twice, with each interview session ranging in duration from forty-five minutes to an hour. The first interview was guided by a semi-structured interview schedule that was designed specifically for this study. These interviews were carried out at a time that was convenient for the participants. I also spent time clarifying what the participants said by repeating or rephrasing their comments back to them. Interviews were audio-taped and transcribed to obtain a record of interview data.

Once the transcript was completed, I met up with the teacher-participants (on some occasions, it was e-mailed to them) to cross-check and ensure the accuracy in content and interpretation of the meanings. The participant was given a week to review the transcript and made comments or revisions, if necessary. One participant made minor changes on the transcript as she would like to clarify a particular comment she made about her principal. Two other teacher-participants expressed the use of "filler" words such as "aiya, no la, ya, ah, uh" etc in their interview transcripts and wanted the readability to be improved. A "cleaned-up" version of the transcripts was done and participants were shown the amended version. The rest of the participants were satisfied with their interview statements. A second interview was carried out after my classroom observation to discuss and/or seek clarification(s) of the lesson observed and also clarifying statements made by the participants during their first interview.

3.6.2 Observations

Another primary data collection instrument used in this study was observation. As this research was concerned with investigating behaviours, observation methodology was suited for this purpose. Non-participant observation was selected for its ability to provide objective information as it did not rely on the reporting of involved subjects' perceptions (Merriam 1998; Kumar, 1996). At the beginning of each observation, I was introduced to the children and my role as an observer was made clear to them. Being a passive observer, I was able to watch and listen to activities and draw conclusions from the observations (Merriam, 1998).

Observations, lasting for about an hour, were carried out for all the eighteen participants' classroom activities to find out how their beliefs were reflected in their teaching. Observations focused on the types of pedagogical strategies the participants used, the materials they prepared for their lessons and how they interacted and scaffold children in their learning. Observations included activities during outdoor play, and core curriculum activities, such as a math activity or music and movement activity conducted by the teacher-participants. I kept records in the form of memos, detailing descriptions of the interactions and activities in this each classroom (Merriam, 1998; Stake, 1995). I also used an observation checklist to guide my observations such as teacher-participant's teaching strategies, provision of materials and planning learning environment (Bredekamp & Copple, 1997). This form of recording provides depth of insight which was important in case study research (See Appendix 3 and 4). A summary of the classroom observation records is presented in Appendix 5.

3.6.3 Documentary Data

Supplementing the two primary sources of data collection, I had also requested daily journals from the teacher-participants on their thoughts on play, their roles and assessments such as: How does the learning environment facilitate children's learning? What is the teacher's role in stimulating children's creativity? What are the various areas of development observed when children are playing? Although I had requested the participants to furnish five daily journals spread over two weeks, some had responded with three journals instead due to work constraints and commitments.

These multiple data sources of the interviews, observations and journals provided a rich collection of data. They would also allow for triangulation, which Patton (1990) described as a means of comparing and cross-checking the consistency of information derived at different times and by different means.

3.7 Administration of the Pilot Study

A pilot study was conducted in October 2007. The main purpose was to bring preschool teachers into the dialogue about their classroom teaching by providing them with an opportunity to express their beliefs and theories about the role and value of play in children's learning, how they planned for play in their curriculum, what factors enabled and constrained play in their classrooms.

The child-care centre in this pilot study was selected as I (in the capacity as a lecturer) knew that this child-care centre adopted a child-centred philosophy and had

incorporated play to enhance children's learning and development. The Principal recommended two teachers to participate in the pilot study. Both teachers had about five years of working experience in early childhood education. Professionally, one participant held a degree in early childhood education, while the other was pursuing her degree course. Prior to the commencement of the interview session, I explained to the two teacher-participants about the nature of my study, both verbally and on written consent form; and that the participants were free to participate or to leave the study at their own choice. Semi-structured interview was selected as this method allowed for openness to changes of sequence and forms of questions (Kvale 1996).

Guided by the four research questions, the following sub-questions were asked during the interview to elicit the process of understanding the concept and value of play by the two teacher-participants:

- i. How do you think children learn and develop?
- ii. What do you understand about children's play?
- iii. Do you think play is important? Why and why not?
- iv. What are the roles of teacher in play?
- v. What are some obstacles that you face in implementing a play curriculum?
How can this be improved?
- vi. What are some negative aspects that children learn when they play? How can this be overcome?

Each interview lasted about an hour. Audio recordings of the interviews were used to produce verbatim transcriptions of the interviews and the accuracy of the transcriptions was checked against the original tapes. To ensure credibility, the transcribed verbatim was authenticated by the teachers. Using procedure in Miles and Huberman (1994), responses of the interview questions were coded and categorised. The inductive analysis involved an initial general review of all the information, based on reading the two transcripts made during the interviews or soon after. Next, the data was reduced through meaning condensation of longer pages and decontextualisation via categorisation through the development of cluster codes that were used to sort the data (Creswell, 1998, Kvale, 1996). Finally, the data was interpretively recontextualised into emergent patterns and themes that were not immediately apparent in the text.

3.7.1 Pilot Study Results

The pilot study yielded four important findings. They were (a) teacher-participants' responses to the questions about the role of play in children's learning revealed a shared belief that the children should be given the freedom to engage in their activities and that they learn through interacting with their peers and the materials provided for in the environment, (b) teacher-participants understand play as being fun, hands-on, exploratory, and children construct knowledge in the process of playing, (c) teacher-participants perceived their roles in terms of being a supporter, facilitator and observer in setting the stage for play and evaluating children's learning during the process and (d) parents' insistence on having academic-type curriculum

was perceived to be a major hurdle to overcome before a play-based approach to learning could be adopted.

In this study, the two teacher-participants perceived play positively and agreed that play did contribute to children's learning. At the same time, this pilot study also revealed that some interview questions needed refinement as they were found to be ambiguous. In particular, the research question (iv), "What are the roles of teacher in play?" was unclear as it could be done by just observing the teachers' actions. In line with the research aims, the question has been revised to "How do teachers see their roles in promoting learning through play?" which could be researched through interviews.

Furthermore, Interview Question (v) was biased as it was "loaded" in a way that tended to lead participants to agree that there were obstacles and/or challenges on the use of play to promote learning. Likewise, for Interview Question (vi), the question tends to guide the participants to agree that there are negatives aspects of play in promoting children's learning. Interview questions (v) and (vi) were rephrased in the main study to read as "What do preschool teachers see as obstacles to using play as a means to learning?" so as to seek unbiased responses from the teacher-participants.

3.8 Administration of the Main Study

The main study commenced in April 2009. In line with the maximum variation and snowball sampling strategy adopted, I had identified three participants from my training institution who met the selection criteria as described in section 3.4 to participate in my study. I had also sought approvals from the principals of these selected centres, together with the participants' written consent (See Appendix 6 and 7). These three participants formed the "pioneers" of the snowballing process, upon which they were requested to recommend peers/colleagues as potential participants to this study, subject to the criterion conformity.

Arrangements were made with all teacher-participants regarding the interview and classroom observation dates. This was to ensure that all parties concerned were comfortable with the time schedules. One week before the interview, each participant was given the interview schedule to allow them sufficient time to think through and reflect upon the scope and areas of concern for the interview. I felt that sending out the interview schedule too early would result in non prioritisation whereas giving insufficient notice would result in respondents not giving sufficient considerations to their responses.

Interview venues were usually selected or suggested by the teacher-participants to suit their convenience. Such arrangements were important as it would put the teacher-participants at ease and provided an atmosphere conducive for them to speak freely and thoughtfully. Prior to carrying out the study, I explained the purpose of the study to the teacher-participants and clearly stated that participation was

voluntary and there was no obligation to participate in the research study if they did not wish to do so. I also kept a relatively unobtrusive profile during the interview process to minimise the risk of injecting subjectivity into the interview, as my role as a lecturer in the early childhood sector might influence the teacher-participants' opinions. The whole data collection exercise took about ten months to complete (Data collection started in April 2009, with the last interview session completed in January 2010).

3.9 Data Analysis

Data analysis in a qualitative study essentially involves organising what one has seen, heard and read so that one can make sense of what one has learned (Glesne, 1999). It involves synthesising the information from the various sources (interviews, observations and journals) in a coherent description of what is observed or discovered (Merriam, 2002). For this research study, data analysis was done concurrently with data collection (Merriam, 2002). The analysis was ongoing, subject to constant vision and revision (Janesick, 1998). This practice allowed ease of adjustments to the analytical process, even to the extent of redirecting data collection to “test” emerging concepts (Merriam, 2002).

Datasets for this study were derived from three data sources as previously discussed. To reiterate, they were (i) datasets from interviews; (ii) datasets from observations; and (iii) datasets from participants' reflective journals (documentary). These datasets were initially analysed independently and then combined for reporting in Chapter Four (See section 4.2: Data Analysis) in order to present a holistic and

synthesised coverage of the findings based on the three data sources in relation to the four research questions.

Details of data analysis for this study involved repeated readings of the interview transcripts, field notes and documents, highlighting words and phrases. It included the initial task of continually reducing the data through editing, segmenting and summarising throughout the data collection process (Miles & Huberman, 1994). Data was sorted and grouped to enable the next stage of coding to be executed. Through coding of displayed data in the form of texts and labels, I was able to organise the data by putting together themes and identifying patterns. As the patterns and themes were identified grounded in the data, they were grouped into categories and then refined and sorted into clusters of related categories (Miles & Huberman, 1994). Throughout the analysis, the inputs, reflections, and feedbacks of the participants were also sought to ensure the authenticity of the interpretation of the data. Direct quotes from teacher-participants were “used to capture the substance and nuances of participants’ perspectives and beliefs” (Goodwin & Goodwin, 1996, p. 111).

3.10 Validity and Reliability

Validity and reliability are important issues to be considered to ensure a high standard for the research. Validity in qualitative research is concerned with the trustworthiness and credibility (Patton, 1990; Guba & Lincoln, 1989), that is, the extent to which there is a correspondence between the way the participants actually perceive social constructs and the way the researcher portrays their viewpoints. To

address this issue, a synthesis of the strategies was adopted such as credibility, transferability and dependability (Guba & Lincoln, 1989). These techniques were further explained below to enhance the trustworthiness and credibility of my study.

3.10.1 Member Checking

To ensure credibility, my data was subjected to member checking where transcripts were returned to the teacher-participants for their comments and verification of accuracy (Patton, 1990). It involved sharing interview transcripts, observation field notes and asking questions during/after the sessions to ensure that teacher-participants' ideas were accurately represented (Guba and Lincoln, 1989). Further validation was achieved by discussing my analysis and conclusions with the teacher-participants (Maxwell, 1996). This member checking procedures were adopted to enhance the rigour of this study as explained earlier under section 3.6.1.

3.10.2 Triangulation

Triangulation refers to the checking of data from multiple and different sources such as interviews, observations, and journals which served as means of corroborating evidence derived at different times and by different modes (Patton, 1990). The triangulation process for my study began at the commencement of data analysis, after data from all three sources were collected to ensure a coherent description of what was observed or discovered (Merriam, 2002).. Data from the three sources were compared and contrasted to seek out areas of consistencies and/or contradictions, which were then noted and highlighted in the data analysis process.

3.10.3 Peer Debriefing

In addition, theoretical validation was achieved through regular presentation of emerging conclusions with competent peers familiar with the setting and the research study so as to explore and clarify meanings and interpretations (Guba and Lincoln, 1989). For my study, I had invited two lecturers from my Faculty Department as my competent peers to assist me in clarifying data and organising themes into categories.

3.10.4 Transferability

According to Guba and Lincoln (1989), transferability is used to judge the extent to which the findings can be applied to other contexts. Specific strategies used to achieve transferability include thick descriptions and prolonged engagement (Guba & Lincoln, 1989) to provide other researchers with enough information to judge the appropriateness of applying the findings. For the purpose of my research, I recognised that I was unable to have prolonged engagement with my teacher-participants that was often available to anthropologists, who typically could have closer ties with their participants or families. As I was using snowball sampling and my teacher-participants were recommended by peers or friends, I might not be able to develop a close working relationship with them over the duration of my study.

To mitigate this limitation, I had made detailed observations of my teacher-participants' classrooms to understand the context in relation to the data obtained from them to allow for transferability to other settings. I conducted two face-to-face interviews with my teacher-participants, (each lasting about an hour), over a two-month period. The second interview was usually carried out after the classroom

observation to discuss/seek clarification of the lesson observed and also clarifying statements made by the teacher-participants during their first interview. I would also spend time in their classrooms (about an hour), observing teachers interacting with the children and their classroom practices regarding the role of play in children's learning. Telephones conversations and emails were also used to seek clarifications and to actively engage my teacher-participants in discussions.

3.10.5 Dependability

According to Guba and Lincoln (1989), dependability refers to the stability of data over time. The researcher is responsible for describing the changes that occur in the setting and how these changes affected research study (Guba & Lincoln, 1989). To enhance the dependability of my study, I have maintained an audit trail of materials that documented how my study was conducted such as in field notes, audiotapes, interview transcripts, classroom observation records and data analysis of how the data were reduced, analysed and synthesised so that others could judge the dependability of my study (Guba & Lincoln, 1989; Merriam, 1989). To this end, I have captured the details of my classroom observation records in support of the findings to Research Questions One, Two, Three and Four presented in the next chapter (Chapter Four) (See Appendix 5).

3.11 Ethics

The issue of ethics is important in any research study and particularly so in qualitative research as “researchers are guests in the private spaces of the world” (Stake, 1994, p. 244). Researchers must exercise and observe a strict code of ethics such as protecting the anonymity of the participants and taking responsibility for what they write (Merriam, 1998). I have observed the procedures established by University of Leicester School of Education based on British Education Research Association guidance (BERA) (See Appendix 9) by taking appropriate steps to observe these injunctions, such as ensuring informed consent and voluntary participation of the teacher-participants were discussed and agreed upon prior to the commencement of the research study (Creswell, 1994; Merriam, 1998; Miles and Huberman, 1994).

Tapes and transcripts were used strictly by me and all information would be used for this research study only. Pseudonyms were used to ensure privacy of the participants. Interviews and observation summaries were checked with the teacher-participants to ensure that I had captured their intended meanings accurately and appropriately (Miles and Huberman, 1994). In addition, procedures were taken to ensure confidentiality of the teacher-participants. Each teacher-participant was given a letter stating the objectives and relevance of the study, assuring them of their anonymity and stressing their rights to withdraw from the study at any time. Parents of children to be observed were informed in writing about the aims of the proposed study. The non-participant manner in which the observation was carried out was explained to the parents to assure them that their children’s daily routine was not being affected in anyway (See Appendix 8).

3.12 Chapter Summary

Having established the need for this study, its aims and research questions in Chapter One, I have reviewed relevant literature on the researched topic in Chapter Two. Chapter Three of this thesis bridged the aims of the research with the outcomes by providing the linkage through its research design and methodology. The qualitative nature of this study befits an interpretive paradigm along with a case study approach so as to best capture the values, perspectives and beliefs of preschool teachers on the subject of children's learning through play. Additionally, I have also observed ethical issues such as protecting the anonymity of the participants, ensuring informed consent, voluntary participation and protection of data.

Chapter Four

Data Analysis and Findings

4.1 Introduction

This exploratory study attempts to reveal the perspectives and practices of early childhood educators in selected preschools in Singapore about using play as a means to promote children's learning. Having explained and justified the qualitative research design and methodology in Chapter Three, this chapter presents a detailed analysis of data guided by the four research questions to this study. They were:

Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning?

Research Question Two: What do preschool teachers see as the benefits of play as a means to learning?

Research Question Three: How do preschool teachers see their roles in promoting learning through play?

Research Question Four: What do preschool teachers see as obstacles to using play as a means to learning?

4.2 Data Analysis

In this study, data was collected from three sources, namely interviews, classroom observations and reflective journals of teacher-participants. Due to the ongoing nature of the data collection processes, my data analysis started soon after data was first collected and continued through the entire process (Glesne, 1999).

Collecting data and analysing them promptly allowed me to reflect on initial themes that emerged and to better understand the data collected (Glesne, 1999). In analysing my data, I have adopted the procedures advocated by Miles and Huberman (1994) of data reduction, data display, conclusion and verification. I started my data analysis with the reading of my interview transcripts several times before sorting my data into four broad categories based on my four research questions. I began data reduction by consolidating and organising data through selection, paraphrasing or subsuming patterns into major categories (Miles & Huberman, 1994). In this process, I wrote about my understanding of the data in a progressive manner such as how teachers defined play, what they felt were the benefits and obstacles of play, and instructional strategies they used in their classrooms together with the rationale for using these classroom practices. Interview transcripts, field notes and teacher-participants' reflective journals were read repeatedly and manually coded to identify initial patterns from the data in order to make better sense of the data.

In data display (Miles & Huberman, 1994), I continued to group my data and using the research questions as a guide; statements were read and re-read, looking for further similarities and differences of the data in the process. During this process, I have identified a large number of significant statements grounded in the data. As the analysis progressed, I began to generate subcategories within each research question and display this information into tables where I organised them into themes and categories. Significant statements were then grouped until all quotations were placed into its respective categories. In this study, the final analytical activity involved verifying patterns and seeking conciliations to conflicting data. Direct quotes were also used to capture the nuances of the teacher-participants' perspectives and beliefs

(Goodwin & Goodwin, 1996). These categories and themes will be discussed in section 4.3 (Findings).

As outlined in Chapter Three, section 3.9, the datasets derived from interviews, observations and participants' reflective journals were analysed independently at the initial stage and in the light of the research questions, and then combined for reporting in the following section in order to present a more complete and balanced coverage for my study (see section 4.3 - Findings). To add clarity to the contributory datasets for the research questions to my study, Table 2 was presented to serve this purpose.

Table 2: Analysis of datasets with data-gathering methods

Research questions	Data-gathering methods		
	Interviews	Observation	Reflective Journals
RQ 1: Definition of play	x	x	-
RQ 2: Benefits of play	x	-	x
RQ3: Roles of teacher	x	x	x
RQ4: Obstacles to play	x	x	x

To illustrate, datasets from interviews were analysed separately in the extraction of themes and categories to Research Question One (Definition of play). Subsequently, when observation datasets to Research Question One were obtained and analysed, the extracted themes and categories arising from the observation datasets to Research Question One were compared and contrasted against the prior themes and categories arising from interview datasets. This was done in an effort to combine commonalities and to include any additional theme(s) and category/categories that would ultimately form the complete resultant themes and categories for Research Question One. In this instance, participants' reflective journals did not contribute to Research Question One.

The above processes were repeated for Research Questions Two, Three and Four. For Research Question Two (Benefits of play), the combined datasets contributions were from interviews and reflective journals, whilst for Research Question Three (Roles of teacher) and Research Question Four (Obstacles to play), all three data sets contributed to the resultant findings as reported below in section 4.3 (Findings).

4.3 Findings

The three sources of data (interviews, classroom observations and reflective journals) yielded rich data pertaining to a range of issues, including the teachers' definitions of play, their beliefs about the nature of children as learners, the benefits of play, understanding of their own roles and responsibilities as teachers and

constraints they encounter in using play as a means to learning. These will be discussed in accordance with the research questions postulated for this study.

4.3.1 Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning?

Based on interview data, teacher-participants gave multi-dimensional definitions, ranging from defining the word broadly to engulfing a range of children's developmental domains such as emotional, social, physical and cognitive domains. For instance, play is interpreted as fun but play can be serious where children demonstrate creativity and problem solving skills. As I reflected on my findings, I further refined the categories by combining, renaming, and deleting them to ensure the developing categories effectively addressed the research questions. For example, in my category of "Play is fun", I had included separate forms like "fun", "happy", "enjoy" which were just different ways of saying the same thing and there was no significant difference among these terms. As the data organisation process progressed, I continued to refine my categories and display these categories in table format to gain an overview of the emerging patterns.

At times, feedback from teacher-participants' member checks allowed me to refine my categorical findings. For instance, when teacher-participants talked about "active discovery", some provided opportunities for children to initiate active discoveries on their own while others might be talking about guided discovery which was directed by the teacher-participant. This refinement process continued as a work-in-progress until saturation point where the final interpretations of the categories were

developed. Thus, for each of the teacher-participant, play had individualised yet multiple meanings. In all, two categories, together with eight themes were identified. They were (1) play is pleasurable and (2) play is learning opportunities; and these would be discussed in the following sections.

Category 1: Play is Pleasurable

All the teacher-participants described play as a pleasurable activity because it engaged children in many ways. The feelings may be the satisfaction of having achieved internal goals or the pure joy of running freely (Brewer, 2004). Three themes contributed to this overall impression within the first category and they were (i) Play is fun, (ii) Play is freedom of choice and (iii) Play is voluntary.

i. Play is Fun

Sixteen teacher-participants regarded play as fun and enjoyable. It gave children a sense of satisfaction and fulfilment while engaging with the activity. For example, teacher-participants made typical statements like:

Teacher TE: Play is fun and children are happy when playing

Teacher Lyn: Play means to have fun and enjoy.

Teacher EK: Play is fun, enjoyable and children can learn a lot merely by playing

Additionally, five participants also included the notion of “play is fun” to include outdoor and physical activity such as:

Teacher ET: Fun.....Running and motor skills, mess around. The more fun it is, the messier.

Teacher FD: Waving hands.....and running in the outdoor. Exploring places, faces and things. Children enjoy knowing that they have that sense of fun within an activity.

Teacher JT: They can jump, run.....fun.

While on this theme of “play is fun”, two teacher-participants further emphasised on the level of child’s engagement in the activity and play should not be regarded as frivolous (Degotardi, 2005). There should be a balance between play and engagement. For example, Teacher TI said,

Play is having fun. However, there must be a balance teaching using play because too much play then children don’t learn. Just play and play. So we need to guide play.

Teacher AD also commented,

I see a kindergarten is like a garden where the child goes in to play.....Play is fun and children are interested.... and they participate but if you let children have 100% of play, they’ll go out of control. They don’t know what is right, what is wrong. If you leave them to their own devices, they might get carried away. So there is still, have to have a balance. Sometimes you have to be formal at certain times, sometimes you have to be informal at certain times.

ii. Play is Freedom of Choice

On the second theme, “play is freedom of choice”, ten teacher-participants indicated that when children play, they choose materials, activities and playmates. They are in control of their own play, rather than it being imposed upon them by others (Brewer, 2004). For instance, Teacher AL said,

Play is freedom to choose and decide, free to do what they want to do in a fun way. Like when building house using Lego, children decide on how big they want to build the house, how many Lego to use.

In addition, Teacher FD emphasised on the degree of control he would exercise during play sessions in his classroom. He said,

It depends on how the activity is being controlled. If example, children like to play in the art corner but they have to finish work first before they could play, then it is no longer free choice play. For me, play is free choice. They can go about drawing with the markers and the chalk on the floor or the lab table, the OHP, the easels and the reading corner to read art books.

Two other teacher-participants expressed their approval of “free choice” play when these activities were consistent with teacher’s accountability. For example, Teacher TL said,

Play is freedom for children. But if teachers just do their work or sit around to relax....When come to play, they just set up the corners, put the things there for children...play from morning till evening.....that’s what I called to much free play with no one guiding the children. Do not benefit the children.

Teacher TA also commented,

Ok, play! You can do what you want. No interaction. Like when you send the children to the dramatic play, you tell the children, explain to the children what this corner is about. So if you just send the children like that, they don't know what they are doing....because no one shows them how to use it to play properly.

However, one participant, Teacher TL shared that while she would like to give choices to children, she had met with some challenges. She said,

Our school curriculum is rather academic with worksheets and exercise books. Only recently, centre tries to change and have more learning corners. Due to space constraints, not able to set up more learning centres and math learning centre is shared with K1 class. Difficult to have the flexibility to change and do what we want. Children will play when they finish doing an activity and I take out the manipulative and toys and distribute them in the classroom.

She would assign children to the two learning corners on a rotation basis during play. This practice was confirmed during my classroom observation of TL's class where the noise level was high as the centre worked on an "open concept" and the learning corners were cluttered. Children usually played in groups and learning corners were assigned by Teacher TL so that children would not "fight over the learning corners".

iii. Play is Voluntary

Ten teacher-participants associated “play is voluntary” as it was an activity pursued without ulterior purpose and, on the whole, with enjoyment or expectation of enjoyment. For example, Teacher HC shared that “children were not restricted during play and they can interact very freely. It’s stress-free for them”. For Teachers MK and TI, they regarded play as voluntary as the action was performed for its own sake, and not tasks given by an adult, which was an activity done for external reward or requirement (Wood and Attfield, 2005). For instance, Teachers MK and TI shared,

Teacher MK: It is not a test because it is a game, you can win or lose. Does not matter how your play.....whether you succeed or fail. No mark. No one will scold you. Tomorrow can play again. No stress. But school work is different. Below 50 marks, you fail...must work hard.

Teacher TI: During play, children no need to worry. Divert attention for a while from stressful work. Where they can interact with their friends, no need to worry so much that they must complete a task that the teacher gives, no worry.

Category 2: Play is Learning Opportunities

Under the second category, “play is learning opportunities”, eighteen teacher-participants focused on children’s interaction with the environment, materials, peers and significant adults to maximise learning from playing. Five themes that emerged from the data analysis were (i) hands-on, (ii) peer interactions, (iii) child-initiated, (iv) process-oriented and (v) guided discovery.

i. Play is Hands-on

All the teacher-participants in this study regarded play as hands-on, including the physical exploration of materials using their five senses. During the process of exploration, children discover the physical knowledge of materials such as things that are hard or soft; smooth or rough; bitter or sweet (Piaget, 1962; Santer et al., 2007). For example, Teacher AL believed that children need to be actively involved in a learning process,

Hands-on activities and provide things for them to feel and touch so that children can remember. Let them explore materials using their five senses – poking, hearing, and so on. For example, if we want them to learn “A”, we have to provide things ...like things that begin with “A” for them to feel and touch so that they can remember.

Within Teacher ET’s context of a classroom, she also shared that,

Children are very hands-on.....they like toys and colourful things and have natural attraction to it. Children don’t have abstract thinking yet so concrete materials actually help them to actually grasp the concept faster and then we can move on to the abstract parts.

ii. Play is Peer Interactions

Sixteen teacher-participants shared that play involved interactions with peers where children communicate to one another the theme, the expectations and intentions surrounding the play activity (Degotardi, 2005). During such interactions, children could be involved in associative play (Brewer, 2004) where children play together in a

“loosely organised” fashion (Brewer, 2004), such as running and chasing one another during outdoor play with no definite roles assigned or cooperative/dramatic play where each child accepts a designated role and is dependent on others for the play theme to succeed (Brewer, 2004; Santer et al., 2007). Participants shared how peer interactions took place during play. For example, during dramatic play, Teacher MK said,

Children enjoy this corner....they role-play and exchange ideas with one another and are very creative in imitating the sounds and behaviours of the animals.

Teacher TE also observed that during outdoor play,

A lot of social interactions.... Sometimes they tell their friends you know, you run on the grass... you cannot run on the pavement. They learn safety and take turn to share and foster friendships.

iii. Play is Child-initiated

Eleven teacher-participants described play as child-initiated where children were given the opportunities to explore based on their choice of activities rather than activities assigned by teachers. Teachers assisted in the play activities; work in collaboration and in partnership with children. For example, Teacher HC said,

Child-initiated activities...follow children's interests because children want to learn. There is intrinsic motivation to learn. The teacher can follow the children's interests. They will participate....put in effort, and they will pay attention. But if the child has no interest... most of the time you can force the child to sit in front of you but the child's mind is somewhere else...not listening.

Although Teachers ET and JT agreed that play is child-initiated, they were cautious to add that play should not be without a purpose:

Teacher ET: Children learn through play. I believe to certain extent we can allow child-initiated play.....but when it comes to learning concepts such as addition and subtraction....you cannot dump all the choices and expect the children to know the concepts. If children are required to learn from that kind of play it needs teacher guidance there.

Teacher JT: Child-initiated. Like give children choices and let them choose their activity. But teacher must see that it is appropriate, not everything children say we must let them do.

Teacher TE stressed the appropriateness of that activity performed by the child. If the child-initiated activity was within safe boundaries, she would allow it but not otherwise. She cited outdoor play as an example:

Children like outdoor and they learn physical actions like running, jumping....they play what they like.....but they must learn safety and take turns to share. As long as they listen...no pushing, no rushing that kind of thing. If they don't obey... they have to come back and sit inside and cannot go out play.

iv. Play is Process-oriented

Play is a basic activity of childhood and the process of play is where the learning occurs (Wood & Attfield, 2005). Because children learn through the process of playing, they need plenty of time and repetition of experiences. Six participants shared this belief. For example, Teacher EK said, “We know play is a process..... Children’s learning may not be evident immediately. Children need time to process their learning”.

FD mentioned that play was a process where the focus was on the process of play activity rather than the outcomes of the activity. He said:

Process. It is not just the product. We cannot produce an artist overnight.... we don’t expect a very perfect drawing.....Even when drawing an apple, they are represented in a circle and we know this child is able to interpret that image and process it.

Additionally, Teachers Lyn and TA associated play as a process to embrace a wide range of behaviours, skills and motivations (Moyle, 2005). They said,

Teacher Lyn: Play is an integrated part of children. Healthy glow, development.....and learning process across all domains. Through play, children get to play outthe concepts ...all these things.

Teacher TA: Play is activity to make learning fun. They develop social skills...peer guiding skills. They learn to create things.....they develop new ideas.... I mean it is their intellectual and creativity skills. It is everything.

v. Play is Guided Discovery

On the last theme within this category, all participants described play as a guided discovery where teachers select materials, plan activities and learning but children may choose the activities in order to discover specific concepts and made meaningful connections (Brewer, 2004). For example, in the classrooms of Teachers JT and FD, they would,

Teacher JT: For example, the theme “Garden”. Children went outdoors to learn about nature and look for insects, flowers, plants and others. They can touch and learn through hands-on experiences. Activities are followed up with class discussions to ensure children understand what they are learning.

Teacher FD: For painting. Painting with paint, how to blend colours, how to mix. Then they can explore after that and play around the materials. For sculpture, I will facilitate in terms of techniques like roll, pinch, squash and how to join clay and let children see the different forms like the eyes, nose and hair. Then the child will know and then explore.

During my classroom observations, I noticed that play was incorporated in seventeen teacher-participants’ programme (except Teacher LY’s classroom) in a way which appeared natural and fun. For example, in the classrooms of Teachers AD, TA, HJ, CC, EK, HC and FD, children had access to a wide range of materials to investigate with their peers. Time was provided for play activities and there were opportunities for large group and small group times. Children were engaged in meaningful activities; especially in Teacher ET’s class where children were doing a project on “Fish”. The project was initiated because children had taken an interest in fishes after one of their friends brought the videotape of “Finding Nemo”. Teacher ET

capitalised on the children's interests and the class decided to explore this topic further. She encouraged children's inquisitiveness and curiosity. She wrote down the answers as children spoke (for example, fish come in different sizes, there are different types of fish, they grow and die). What the children wondered about included why some fish are big and some are small? Why do they have colours? Do fish drink water? Do fish go to school like Nemo? As the lesson came to an end, children were given choices in deciding what they would like to explore for their next lesson.

Teacher FD's classroom operated rather differently from the other classrooms that I had observed. His classroom served as an art room as well and children would get access to the materials independently. There were adequate tables/chairs and easel space, a wide variety of stationery such as papers of different sizes and colours, manuscript pens, scissors, pencils, markers, poster colours and crayons. Dough/clay was also available, together with dough play accessories to facilitate children's creative development. Materials such as buttons, shells, wires, brushes and chalks provided a rich experience for children to be involved in their art activities. At the time of the observation, the Kindergarten Two children were doing an activity on sculpting, exploring wires and pliers. Teacher FD let children explore wires, and the pliers and told them what these things were for. He explained about the activity (that they were going to create a big sculpture) and let the children decide among themselves what they wanted to do. The children discussed about their groupings, "Today you go this group because last time I go that group already". Some of them discussed with their friends and said, "I think this wire is a thin wire for

turning....turning”. Children were actively engaged among themselves and pursued their activities in unbounded creative ways.

From my classroom observations, Teacher LY stood out as unusual. During the interview session with Teacher LY, she provided clear views on defining play to be pleasurable and having freedom of choice; play was learning opportunities which were hands-on; and play was guided discovery. However, from my classroom observations, both informal and formal experiences were observed. Her classroom had literacy programmes in place to prepare children for primary school education. During the classroom observation (lasting an hour), Teacher LY taught children a language activity on how to decode (read) and encode (spell) words. She used flash cards to teach the different sounds of the alphabets, using fifty-five phonograms, such as sh, ee, ay, aw, en, n, ear and ur. Children were given spelling and were told not to erase mistakes so that the teacher would see their mistakes and be aware of their problems. When everyone completed their work, Teacher LY read a story “The Pear in the Pear Tree” by Pamela Allen. There was no interaction with the children during the story reading process. Though the activity was teacher-directed, Teacher LY was conscious of providing opportunities for children to play and interact during other informal sessions, such as during outdoor time where children’s activities were self-chosen.

4.3.1.1 Distinguishing Play and Formal Learning

Notwithstanding the mainstay of categories and themes grounded in the data of this study on definitions of play by teacher-participants, it was interesting to note that during the interview sessions, teacher-participants had also voiced and acknowledged that play should not be left entirely to children and that there must be some forms of structure in place. Also, some teacher-participants expressed the view that play could include academic content. For instance, Teacher LY was observed to have included teacher-directed activities in her classroom where children were assigned seats and taught how to decode (read) and encode (spell) words during a language activity.

To get better clarity on how participants in this study perceived play to contribute to academic and/or non-academic learning, they were asked the question about how they defined formal learning in the classrooms. Sixteen teacher-participants defined formal learning as “teacher-directed” where teachers gave instructions on how to accomplish a specific task, twelve participants mentioned “no choices” were given to children, and ten mentioned that formal learning involved “seat work”. For example,

Teacher TA: Like children have no choices. Teachers say, “You do this one, you use this one to count. You cannot use any other thing”. Of course, teacher-directed.

Teacher AL: Formal learning is child sits down and teacher explains what she has to say but does not provide hands-on opportunities for children. It is teacher-directed, not children-directed where everything is written on the board. Teacher decides on what to teach today and just delivered the concept.

Classroom observations of the teacher-participants revealed varying degrees of formal and informal learning. Teacher-participants used a combination of teacher-directed and child-initiated experiences in their classrooms. During direct instruction, they assumed a more formal teaching stance where they presented the lesson, modelled the activities, guided the children and provided feedback. Though academic skills like reading, writing and mathematics were taught, teacher-participants integrated academic skills with informal child-centred activities.

From the above observations, teacher-participants exhibited a clear understanding what formal learning was in classroom practices. For example in my classroom observations of Teacher CC, JT, TL, EK, RH, Lyn, FD, MK, GH, HC and TE, the pattern consisted of whole group activities where the teacher-participants conducted their class by introducing the concept, demonstrating the activity and directing the children to follow their lead. They checked the children's understanding by asking questions before proceeding on the lesson. Teacher-participants made the learning experiences as interactive as possible by providing concrete materials to use throughout the lesson, such as slices of watermelons to practice number concepts (from one to ten) in Teacher CC's class and using teddy bears counters in Teacher's JT class to practise counting and sorting by one attribute.

Teacher-participants also made the activities open-ended and gave choices to children to express. For example, Teacher EK gave choices to children to draw their own portrait and write three sentences about themselves as closure of the language activity on the theme "Myself". Others like Teachers Lyn, MK and FD allowed

children to make choices and work at their own pace at the various learning corners. For example, in Teacher FD's art class, children were exploring paint at the easel; drawing their own portrait or using the overhead projector to explore the shadows. Opportunities were provided for children to move around to explore physical environment and interact with peers and adults.

That said, teacher-participants' practices were generally geared towards using child-initiated approaches with some teacher-directed practices being infused within. From my classroom observations, teacher-participants recognise that teacher-directed practices do have a place in their classroom and children do need academic instructions. However, fifteen of the teacher-participants agreed that this approach should not dominate the classroom, and it should be presented in a fun and/or interesting way.

Summary of Findings to Research Question One

Table 3: Attributes of play as defined by teacher-participants

Categories	Frequency response	Teacher-participants
1. Play is pleasurable	18	MK, HJ, LY, CC, AD, TA, GH, JT, EK, AL, FD, Lyn, RH, TE, TI, ET, TL, HC
i. Play is fun	16	MK, HJ, ET, CC, AD, TA, GH, JT, EK, AL, FD, Lyn, RH, TE, TI, TL
ii. Play is freedom of choice	10	LY, TI, AD, EK, AL, ET, FD, HC, TL, TA
iii. Play is voluntary	10	TI, Lyn, TE, JT, TL, HC, MK, EK, AL, GH
2. Play is learning opportunities	18	MK, HJ, LY, TI, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT
i. Play is hands-on	18	MK, HJ, LY, TI, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT
ii. Play is peer interactions	16	MK, HJ, TI, CC, AD, TA, EK, AL, ET, FD, HC, Lyn,

		RH, TE, TL, JT
iii. Play is child-initiated	11	MK, HJ, AD, TA, ET, FD, HC, RH, TL, JT, TE
iv. Play is process-oriented	6	EK, FD, ET, HC, TA, Lyn
v. Play is guided discovery	18	MK, HJ, LY, TI, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT

Table 3 shows the attributes of play foregrounded by the teacher-participants in defining play. In interpreting Table 3, it should be noted that teacher-participants' understanding of play were selectively clustered on some of the eight themes listed. For instance, some participants focused on the child's pleasure in playing while others emphasised the level of engagement such as hands-on, peer interactions, child-initiated or teacher-guided. Next, I would proceed to explain the findings to Research Question Two.

4.3.2 Research Question Two: What do preschool teachers see as the benefits of play as a means to learning?

In discussing the benefits of play, all teacher-participants believed that play contributed to learning and development. Four categories, with eight themes emerged from the data analysis. They were (1) cognitive growth (2) social development, (3) emotional development and (4) physical development.

Category 1: Cognitive Growth

Data from this study revealed that all the teacher-participants held the views that play benefitted children in terms of their cognitive development. These included the child's ability to identify, classify, predict, draw conclusions and problem-solve. Two themes within this first category were apparent after analysing data from this study. They were (i) academic concepts and (ii) problem-solving.

i. Academic Concepts

All teacher-participants felt that well-planned play, both indoors and outdoors, contributed to enhancing children's literacy skills, mathematics and science concepts. Through creative and imaginative play, children gained mastery in their literacy skills such as phonological awareness, vocabulary, listening, reading, speaking and writing skills. For example, Teacher ET shared how children learn language skills (writing, vocabulary, reading, speaking and listening) when she had a mailbox corner for her children to send letters to one another. She said,

Children write mails for their friends....their names. Like "From Dennis ... to Sophia".....they write their names themselves, and then if they go and copy their friend's names by looking at their friend's cubbies, their labels. So that's where they learn copy and learn how to spell their own friend's name.

Teacher-participants also shared that play encouraged children's mathematical development. For example, Teacher TI elaborated how she provided materials such as table toys and blocks for children to:

Learn math like long, short, how much, quantity of blocks needed to create the structure, talk the shapes of the blocks that they used. They can count and during table toys session, they learn matching and positioning words, for example they see picture they must be tell me is it "under", "between". So they must be able to tell me in a complete sentence or simple sentence.

Teachers AL and HJ also made use of these opportunities to talk "mathematically" as children were engaged in play. For example,

Teacher AL: If the theme is on "Classroom". What we did was to show different pictures of chairs and tables and allow children to do matching.... chairs to chairs and table to table, so there's where the children learn through play and also learn to pronounce the words like "ch" – "chairs". Also ask children to look for things in the environment to match.

Teacher HJ: When I teach patterning.... during play, I will ask children stand in a row, like boy-girl- boy- girl, before they go to the corners. I also asked children to think of other ways of doing ABAB patterning during their play like when they play Lego, they can use blue-green-blue-green. This is called pattern.

In TA's journal reflection, she wrote how the children enjoyed their learning experiences when she brought them on a "neighbourhood walk",

We started the theme on "Occupation". Instead of reading books on occupation, we went for a neighbourhood walk and they could interview people about the work they do. They were very excited. They visited the shops and supermarket. Children looked and observed their surroundings. They also talked to the people in the shop and interviewed them about their roles and the things they sell. Back in class, children were very excited about what they have found and they were all very eager to share their learning experiences.... "Cashier got a lot of money", "Supermarket got a lot of canned food", "My mother buys noodles from the supermarket" and "Shop sells a lot of fish....I like goldfish".

Six teacher-participants also shared that activities such as music, role-play and imaginative play supported children's oral language abilities such as vocabulary and auditory discrimination skills as they listened to their peers and engaged in musical play. For example, Teacher EK shared that children remembered words better through:

Action songschildren used their body parts to relate to the song "Head and Shoulders, Knees and Toes". Sometimes, we play memory game using songs like "Simon says touch my knees"; another child will say "Simon says touch my knees and toes" and a third child will say "Simon says touch my knees, toes and eye".

Teacher RH also used music to teach children to remember names of occupations,

The theme is on “Occupation”.....there’s a song, like “Do you know the policeman, the policeman, do you know the policeman that lives in Tampines”. So maybe we can get different children to come up names of different types of occupation.

ii. Problem Solving

Fourteen teacher-participants said that play provided children with active learning and opportunities to solve problems (Brewer, 2004; Hirsh-Pasek et al., 2009; Branscombe et al., 2003). Problem solving involves problem identification, clarification, creation of ideas, organising tasks, setting rules, assigning roles, communicating and sharing ideas (Brewer, 2004). For example, Teacher TI recalled how children tried to use a variety of solutions to solve problem that she had posed,

We made a cake for you. “My cake? Is it my birthday”? Then they say, “It’s your birthday”. So I’ll say, “How old am I? Guess”? Then children say “five years old”? “How can teacher TI be five years old? I’m so old and if you are five years old and I am five years old, how can I be a teacher”? Then they will be like “ten”? They’ll keep guessing until I tell them I am this age so they say ok, I’m going to put candles. Children learn word cards on the label of each of the items.....We teach them the phonics. So they will be able to tell the sound like cup is “Kek”. So C is letter “c”, so “kek-up”.

While planning a field trip to the museum, Teacher EK recalled how children thought of creative solutions to problems. She said,

We discussed on how we go....such as how long it takes to reach our destination (Estimation). How to get there (exploring options - take bus/mrt); how much fares do we need to get there by mrt/bus (planning); If need to reach at 10 am so what time should we start? All these are learning and you empower children in making decisions. We teach them practical skills that could be helpful when they go primary school. Children also took pictures of the field trip and they described the place, what they saw and what they like – all these enhanced language skills, application of thinking, remembering.

Teacher ET also shared on how children problem solved during outdoor play episode. She said,

They were pretending to be sleeping beauty and being sleeping beauty there's only one. But there were four girls..... so started to talk to one another....they do dramatic so the first sleeping beauty pricks her finger on the needle, the second one pricks her finger somewhere else and then the other pricks her toe or something so the creative thinking part coming out.

In Teacher HJ's journal, she reflected how children used problem solving (such as repeating attempts to refine their play techniques) during their outdoor play,

I put two pails of water. And then small cups....two groups of children. They must take the water from here and fill up the pail. Then the children will solve the problem themselves. They cannot run, they cannot walk too fast. They must slow down to not spill on the floor. And another game is about

poison ball. They must solve more problem thinking skills. Because when I throw the ball they must avoid the ball. If got hit, must go out. Means the children must use their thinking skill that I cannot go to the ball. I must avoid the ball.....so how? A lot of strategies involved.

Category 2: Social Development

Eighteen teacher-participants related play to children's social development where they learn to relate to people and situations. Children learn skills to get along with others, developed attitudes, learn to collaborate and resolve social conflicts (Saracho, 2003). When playing with peers, children learn a system of social rules, including ways to control themselves and tolerate their frustrations in a social setting. Within this category, two themes emerged, namely, (i) turn-taking and (ii) learning to work with others.

i. Turn-taking

All the teacher-participants said that there was evidence of turn-taking when children played with one another. For example, Teachers FD, TL and HJ shared their thoughts,

Teacher FD: Social areas. Like they work in groups. They decided among themselves.some of them were talking, some of them were discussing.can I have this? You have to take turns. They wait....So they develop socially.

Teacher TL: They pick up a lot of social skills like lining up; taking turn to play see-saw, slides and ride the tricycle.

Teacher HJ: During dramatic play, children made the bottle of Pepsi. All the bottles I put water and tell them to pretend that it is Pepsi.... Then they love it and play, really sing happy birthday song, Chinese songs together. And they all learn taking turns when they come out with their own song to sing.

There was evidence that during play, children respond to their peers' feelings while waiting for their turn and sharing materials and experiences. For example, in her journal reflection, Teacher Lyn shared this observation,

Child J and W were playing with a deck of Dinosaur cards. Child RG was waiting for his turn. After a while, Child RG got a bit impatient and began to disturb his friends. I reminded RG about turn-taking and that he has to be respectful and patient to his peers, using "please" if he wants to play. Immediately, Child RG said that "Please can I play with you all"? The children played together.

ii. Learning to Work with Others

Fourteen teacher-participants shared that when children played, they learnt to work with one another. For example, Teacher TA said,

Through play, they learn to develop their social skills, share and take turns.....develop peer guiding skills. When they play they help their friends when they did something wrong. They'll say "Not like this no". They learn to create To interact, and then they develop new ideas and share ideas with each other.

In the reflective journal of Teacher HC, she shared how children take-turns and learn to work with one another during the play activities,

I was observing children during their outdoor play in the public playground....
I could see cooperation being present when children were playing in the field. They tell each other what to do when playing. Child L was instructing Child Y to follow her as she is the “Mother Goat” protecting the little goats from the monster under the bridge (children role playing the story on “Three Billy Goats Gruff”). Children take turns to be “Mother Goat” during the play.

Teacher JT also wrote in her journal how children interacted with their peers,

“I want to build MRT”, said Jeremy to his friends. Jeremy carried a basket of blocks, of different colours, and started laying them on the floor. He told his friends that they must first laid the tracks so that their MRT train can move along them. All his friends seemed to co-operate and they helped to lay down the “tracks”. Jeremy gathered his friends and told them to stand apart and formed different stations along the tracks. All his friends happily created the formation and David said, “Dover station”. Then Anna joined in and shouted, “Ang Mo Kio station”, while Rena exclaimed, “Commonwealth”. Just then, Jeremy announced to his friends, “Train is coming....choo...choo....choo...choo”.

Category 3: Emotional Development

Twelve teacher-participants described play as supporting children's emotional development as children were able to express their emotions, revealed their inner feelings and came to terms with emotional experiences (Santer et al. 2007). Two themes emerged under this category and they were (i) confidence building and (ii) sense of self-esteem.

i. Confidence Building

In this theme, eight teacher-participants felt that during play episodes, children gained a sense of success and that help them to build their confidence in doing chores and activities. For example, Teacher TI said,

They will have a memorable memory and tell their parents that they build this robot with their friends. They feel satisfied when they create something and feel proud when they tell me, "See teacher I teach my friend to build this thing".

Teacher Lyn also observed how play boosted children's sense of confidence during an art activity:

Two girls playing at art corner and they were trying to make paper boat. They told me they don't know and wanted me to show them. The two girls followed my demonstrations and did it. Child S was so happy and said, "Look at my boat, nice or not"? Child Y smiled and said, "Very, very nice". They were very happy with their own work and Child Y even wanted to teach her other friends also.

ii. Sense of Self-esteem

Five teacher-participants shared that play enhanced children's self-esteem as children prove to themselves, their own worth and the worth of others. For example, Teacher EK stressed that "Children build up their self-esteem when they are successful in doing things like stacking blocks, helping their friend to do things and putting on their shoes."

For Teacher CC, she said that during outdoor time, she would organise games and allow children to play in group. Children felt a sense of accomplishment when they were successful at the tasks given. She said,

I organised certain tasks like obstacle courses....balancing bean bags on their heads.....they played in groups of four children... like group games... when they achieve something and it adds group win, it's a sense of achievement for the children.

Teacher TA said that children felt a sense of self worth when they can do things for themselves. She said,

I observed this child drawing something on the sand instead of playing with his friends. He wrote number "9" many times on the sand and asked me to look at it. He seemed to enjoy it as he kept on writing on the sand and laughing with me. He has learned to write the number "9" and feels good and proud of himself.

In her reflective journal, Teacher RH shared how a child persevered in his play episode and felt a sense of accomplishment.

I was observing Child RL playing blocks with his partner. He stacked up the blocks and said to his partner, “A big house”. He continued to stack up the blocks in a line and told his partner that he was making a long train by placing rectangular blocks together. When the blocks stumbled onto the floor, RL said, “Oh! Oh! Spoilt already”. He stacked the blocks again and this time RL told me that he has made a horse. He took some time to create the “horse”. He then stood up and made the sound of the horse and happily, mimicked the action of a galloping horse.

Category 4: Physical Skills

On the last category of physical development, fourteen teacher-participants shared their views on the contributions of play to children’s physical development, which were further sub-categorised into two themes. They were (i) gross motor skills and (ii) fine motor skills.

i. Gross Motor Skills

Children achieved gross motor control through their play. Thirteen teacher-participants shared that children practiced all the gross motor skills of running, jumping and chasing during outdoor activities. For example, Teacher AL observed,

Children develop their gross motor skills. They learn spatial awareness like how to crawl through the narrow passage in the tunnel where they must be very careful; how to balance properly; they learn about the height of the

structure and it is pretty high; they learn colours because the ball pool is full of different colours.

Teacher JT said,

Gross motor skills...children enjoyed climbing, jumping, balancing and running around the playground.

ii. Fine Motor Skills

Ten teacher-participants also shared how children developed their fine motor skills during play. For example, Teacher LY said,

They will develop their motor skills....Children's muscles are not developed yet....let them do puzzles or interlocking cubes. This will hone their motor skills and muscles through puzzles and blocks. Otherwise if their muscles are too weak, they cannot hold a pencil and write properly.

Teacher FD said,

Physical development. The young ones learn how to use the simple art materials with their hands. The older ones used eye-hand coordination and how to form words using wires, doing sculpting, paper weaving, drawing and painting.

Teacher MK,

When children paint, they practice fine-motor using the brushes or colouring.... Wrist muscles and eye-hand coordination.

Summary of Findings to Research Question Two

**Table 4: Benefits of play to children's learning and development
by teacher-participants**

Categories	Frequency response	Teacher-participants
1. Cognitive Growth	18	MK, HJ, LY, TI, CC, TA, GH, EK, ET, HC, Lyn, RH, TE, TL, JT, AD, AL, FD
i. Academic concepts	18	MK, HJ, LY, TI, CC, TA, GH, EK, ET, HC, Lyn, RH, TE, TL JT, AD, AL, FD
ii. Problem solving	14	MK, HJ, LY, TI, CC, TA, EK, ET, HC, TL, JT, AD, AL, FD
2. Social development	18	MK, HJ, LY, TI, CC, TA, GH, EK, ET, HC, Lyn, RH, TE, TL, JT, AD, AL, FD
i. Turn-taking	18	MK, HJ, LY, TI, CC, TA, GH, EK, ET, HC,

		Lyn, RH, TE, TL, JT, AD, AL, FD
ii. Learning to work with others	14	MK, HJ, LY, TI, CC, TA, EK, ET, HC, RH, JT, AD, AL, FD
3. Emotional Development	12	HC, TI, Lyn, EK, CC, TA, FD, ET, AL, TL, TE, JT
i. Confidence building	8	HC, TI, Lyn, FD, AL, TE, JT, ET
ii. Sense of self-esteem	5	EK, CC, TA, ET, TL
4. Physical skills	14	LY, FD, MK, TE, RH, AL, HJ, TI, JT, AD, TL, CC, Lyn, ET
i. Gross motor skills	13	LY, FD, TE, RH, AL, HJ, JT, AD, TL, CC, Lyn, ET, MK
ii. Fine motor skills	10	LY, MK, TE, RH, HJ, TI, JT, TL, CC, FD

The above findings to Research Question Two exemplified teacher-participants perceptions on how play can benefit children's learning and development. Next, I will pursue the findings to Research Question Three.

4.3.3 Research Question Three: How do preschool teachers see their roles in promoting learning through play?

When children play, they are engaging in a complex process that affects all aspects of their development and the role of the teacher in play is critical, because the teacher must develop a repertoire of responses that are relevant and appropriate to meet the needs of the child (Santer et al., 2007). All teacher-participants had revealed wide ranging perspectives on their roles in promoting learning through play, such as participation, observation, planning, guiding, selecting materials and resources, setting up learning corners, and working in partnership with parents. Three categories of teachers' roles emerged from the data and they were (1) Engagement with children, (2) Reflective pedagogues and (3) Partnership with parents. These categories, together with the nine themes were discussed in the following sections.

Category 1: Engagement with Children

In the first category, all teacher-participants brought up varied views on their roles in engaging children to learn through play. These views were thematically grouped into five themes. They were (i) guiding behaviours, (ii) role model, (iii) demonstrating mutual respect, (iv) be a playmate and friend and (v) facilitator.

i. Guiding Behaviours

On guiding behaviours, all teacher-participants shared that they used verbal and behavioural techniques to manage classroom behaviours. They set out routines and classroom rules to ensure safety and respect for others; and provided boundaries within which children can learn and grow. For example, Teacher AD explained,

Like when children are angry....get very physical. Say words which are not appropriate. At the spur of the moment...the child just let go. Correct them. And then repeatedly remind them. ... Giving "time out".....tell them to cool down, "You have to chill out you know, cool yourself down". Teach children self-regulating skills.

Teacher FD shared how he guided children's behaviour by being assertive and yet respecting the children,

So the way I communicate, or even the way I speak to the children when I discipline them, I will kneel down. And then I will give a stern face, I will ask them a question. I will not shout at them, I will just speak in a very stern voice. Have to let the children realise that there's somebody who's in charge here.

Classroom observations of teacher-participants revealed that a majority (sixteen) of them guide children's behaviour using different approaches, including establishing class rules, modelling appropriate behaviour and setting routines. Rules were written and displayed at appropriate locations such as "We look after our toys", "We wash our hands before we eat" and "We take care of our books". For example in

Teacher AD's classroom, routines were well established and provided a predictable structure for children. Children were able to predict what would happen next with very few prompts. Her classroom environment encouraged independent learning as rules were displayed at most of the corners, stating the number of children who were allowed to be at the corner. Toys were labelled and children could freely access materials and resources. In my classroom observation of Teacher EK, she was assertive yet kind in managing a child's behaviour when the child was being disruptive to the class. Teacher EK reiterated the rules firmly and told a child not to interrupt her friend when she was talking. The child listened and understood.

ii. Be a Role Model

Teachers who value play often model appropriate behaviours to children during play situations. Ten teacher-participants shared that they modelled correct ways to play with objects, encouraged children to play with others to develop their social skills and also helped children to sustain their play scenarios. For example, Teacher Lyn shared how she modelled and sustained a child's play,

The child.....she don't know how to do construct a puzzle. So I let her try out herself first. But puzzles are of different sizes right? So let's say if she puts a smaller piece of puzzle into that picture and it cannot fit that size, so probably I will narrow down her choice. To a medium one and a large one. Then I will let her choose and to try out these two pieces. So from there, when I narrow down..... I'm doing scaffolding for her so she may try out the middle size. If the middle size cannot fit then she will take out and then she will try out the last one, the largest piece. And then when it fits right, I think this will let her achieve a sense of satisfaction that she has accomplished her task.

In my classroom observation of Teacher GH, she modelled appropriate behaviour for her children to emulate. Children in her class were playing balls in small groups. Child A, who has mild autism, needed more time to “throw the fire crackers” on the floor. Her peers got impatient with him and Teacher GH told them to be patient and explained to them why Child A needed more time than others. She then asked questions how the peers could help Child A during the next play episode and the play continued after that.

iii. Demonstrating Mutual Respect

Ten teacher-participants explained the need to teach and demonstrate the virtue of mutual respect by encouraging and showing mutual respect for one another. Comments that reflect stereotypes or prejudice should be handled sensitively through explanations given to the unacceptability of the act and feelings of the children (Santer et al., 2007). For example, Teacher JT shared how she observed a child stereotyping an inappropriate behaviour during dramatic play:

During dramatic play on “Family”, I saw this child stereotype, treated an Indian classmate as a “maid” at home corner. Teachers have to correct. Impart positive knowledge and correct them there and then so that play can be effective and children will not develop negative stereotyping towards other children, who are not good for them when they grow older.

Two other teacher-participants also shared how they demonstrated mutual respect by not interfering into children’s play as this would deny children of the

opportunity to make mistakes and negotiate solutions to social conflict (Santer et al., 2007). Teacher MK said,

I respect children during the activity and only intervene when the child needs assistance.

Teacher EK added,

Allow children to make mistakes and trust that they can solve the problems. Often teachers like to solve the problem for the child....for example, when a child has challenges in using a pair of scissors, teacher will want to do the cutting for the child, and the value of such experience will be lost. Teacher must know when to interrupt play. Cannot interrupt all the time because children will then depend on you every time.

iv. Be a Playmate and Friend

Fifteen teacher-participants joined children in their play when they were invited to do so. For example, in role-play, teacher-participants take on a role requested by the children, or they chose to play alongside children when they were reading, painting or playing at the blocks corner. For example, Teacher CC would join in the play and ask questions that would guide the children in thinking through their roles. She said,

Sometimes we play with them; we will make a case scenario where I'm sick. What will you give me? How will you treat me? And they will start oh you know, oh, I'll put this on you, I give you injection. You know? Yeah. So it's like we're the guinea pigs to it. Try to do stuff on us but it is from there where we know whether they, they are able to understand certain terminology like injection, doctors, what do doctor do, the language they use.

For Teacher AL,

Being a friend means listening to children expressing their feeling. I see myself as their friend when they tell me something that happened at home that their parents sometimes don't know. Sometimes, parents are shocked about the things we know from the children.

v. As Facilitator

Lastly, all teacher-participants played the role of a facilitator in children's play. They would provide appropriate materials and props for the play environments; observe children during play, not only for assessment, but also to facilitate appropriate social interactions and physical behaviours. In addition, as facilitators, teacher-participants also supported and extended learning through skilful open-ended questioning, conversational exchanges and encouraging children to find solutions to problems. The teachers acted as a scaffold, enabling children to move into new areas of understanding and development (Santer et al., 2007). For example, Teacher FD, during his art lesson,

When the child is looking at himself, he can see different forms..... in order to scaffold his learning even higher, rather than sketching lines on the clay, I will ask questions like how do you create more clay to the face? If you look at your eyeball, it looks like a ball. What if you try rolling a ball of clay, what do you think it'll look like?

Teacher ET said,

You facilitate them or teach them...like scaffolding learning...like when we build a tower, and when it keeps falling, we will say why don't you use a bigger piece of block at the bottom? Do you think it will work? Come, let's try it out.

Teacher JT would facilitate children's learning by,

Asking questions....see the child tells me the correct answers. Sometimes, when they are playing, I observe and listen to what they say. Like whether they got apply concepts that I taught them in class like vocabulary or whether they are able to tell the story I read to them.

Teacher RH would facilitate by providing props to extend children's language and play without "telling" them what to do. She would be an audience as children act out their favourite story using props and flannel board. She said this in her reflective journal,

I read the story "The Hungry Caterpillar" using props and flannel board and left the materials in the library corner. The next day, I watched how the children re-enact the story, using the flannel board and props to demonstrate their knowledge in a playful manner. They named fruits the caterpillar ate, some of them cannot remember the fruits ate on a certain day and children started to help one another to guess the correct fruit. The materials and props arouse children's interest and facilitated their learning.

During outdoor play, Teacher LY would watch the children in the playground and provide them with different materials like hula hoops, balls and bean bags of different colours to facilitate learning and to build on new knowledge on their existing knowledge. She wrote in her reflective journal,

Using a “shape song” sung to the tune of “Hokey Pokey”. We played this game during outdoor. When the colour was mentioned in the song, the children have to pick either the bean bags or balls of that colour and put them inside the hula hoop. Children enjoyed this activity and at the end of the lesson, I was sure that every child was able to learn identify colours in a playful manner.

For Teacher EK, she said,

Facilitating was being “prepared to change plans when children are no longer interested in the activity. It is important to follow the children’s interests”.

The above findings relates to the first category with five themes on the role of teacher-participants in engaging their children to promote their learning and development. The second category that emerged from the data in this study concerned teacher-participants’ views as reflective pedagogues and these perspectives were explained below.

Category 2: Teachers as Reflective Pedagogues

All teacher-participants said that they reflect and evaluate their own classroom pedagogies. They observed children and assessed their learning by evaluating their learning environment such as the variety of materials, experiences and strategies used to achieve the objectives suitable for the child's age and stage. Teacher-participants also shared that they adopted an array of strategies including direct instruction, asking questions, giving cues, listening, make suggestions and extend the experiences by offering new ideas or new materials to achieve their learning goals through playful interactions. Within this category, three themes emerged, namely teachers' roles as (i) observer, (ii) planner and (iii) evaluator.

i. Observer

In observing, all teacher-participants watched children's interactions with their peers and how they interact with the materials and resources. They also observed how children maintain their play episodes and look for any children who have problem playing or joining play groups. For example, Teacher ET explained how she carried out observations of children in her centre, in particular, a new child who had joined her centre,

I observe this Spanish girl who does not speak English. She has problem talking with her friends due to language problem so my goal for her is to pick up more vocabulary and to construct sentences using five or six words. I observe that she likes to play with a particular child and that child becomes her buddy. Through play with friends, she will be able to say things out.

For Teacher CC, she would observe to ensure resources and materials were challenging and encouraged the use of certain skills of the children.

The material that we gave them. Is it too difficult or is it too easy? If it's too easy we have to put in more challenging materials. Like for example, we ask them to do sorting, I'll throw them a lot of materials and "Can you do some sorting?" same things together also can...so it's up to them how they sort. Sometimes they sort by one attribute, and sometimes they sort by two attributes. But if we don't have enough materials ...every time, we ask them to sort by size (like "big" and "small") children get bored after a while.

In the reflection journals of Teachers MK and ET, they shared how systematic observation helped them to plan and provide developmentally appropriate activities for their children. For example, Teacher MK wrote,

Children are always attracted by animals. Through observations, I found out that my children love animals and they have many things to share about them. So when my centre did the theme on "Animals" in Term Two (April to June 2009), I suggested that we include a field trip to the zoo as well. I listed out what I have planned for the children like setting up the learning corners, collecting materials, borrowing books from the library and getting parents to sponsor books and materials too. It was hard work but when the classroom was set up, it looked like a "zoo" with charts and pictures, zoo figurines, table toys and books on animals.

And Teacher ET shared:

Week Two and Three seemed to have all cluttered together. Week Two went past like a rush with a feeling that nothing has been achieved. However, the children did engage in creative curriculum activities and it was a joy to see them enjoying themselves with the fitness fun activities. Through the activities, I observed that child J's participation was more and he was able to follow through a series of instructions and complete the race with the rest of the children. The children's behaviour and attention were also improving as they were able to gather their attention and concentration faster and grasp the concept and understand what the activity was about. The children's learning and eagerness were observed to have up a notch suddenly. The children were more eager and independent at table work and most of the kids were able to complete their work independently. The children's development has advanced. As we moved on through the weeks, the children's individualised goals became more focus and I was able to clearly see what each child needed to work on to help scaffold them and their learning.

ii. Planner

All teacher-participants served as planners. They shared that planning was a critical part of a quality programme for children. Specifically, planning was linked to the curriculum relevant to the context of each participant. All teacher-participants planned and organised themes and topics for the term. This would include managing resources and materials, and setting up learning corners to facilitate the learning experiences under each respective theme. For example, Teacher HJ said,

We must set the environment for children to learn, important thing is, how you want to set up. If you want to just teach and never plan, how can you

teach the children? When they role play “Family”, we put something like “Father”... like a shirt for fathers. Maybe mothers.....Then after when they role play, they will tell, I have a father, a mother, sister.

Teacher RH said,

If our theme is on “Occupation” ...I will plan to invite parents give talk about their jobs....I also plan my activities like I borrow books from library, use props and allow children to dramatise the story, borrow uniforms like policeman, soldiers, nurses.

For Teacher ET, planning could involve rotating resources and furniture in the environment. For example, when she observed that children were always playing at the dramatic corner and not block corner, she would,

Just change the position of the toys so it will look interesting or we just change the furniture and then they will be “whoo!” You know... “New furniture, new toys!” and then they’ll start playing to that. Also if you put with one same box of toys, they actually count as different things and they will create new things again.

My classroom observations revealed that teacher-participants’ role in planning was predominantly in the setting up of learning corners in their classes. The environment was arranged to provide opportunities for children to work in small groups and as a whole class. Most classrooms that I observed had at least two learning corners that guided the programme’s curriculum to varying degrees. Classrooms differ in (a) the amount of materials provided; (b) the accessibility of the

material to children; (c) the degree of choice for the children; and (d) the availability of space.

In the classrooms, such as those of MK, HJ, CC, TE, TI, RH, TL, EK, AD, HC, they had provided materials for children around themes in the respective corners such as dramatic/home corner and block corner. Children took on role-play scenes from the home, supermarkets, zoo and occupational roles. The dramatic corners were equipped with miniature representations of kitchen equipment (for example, stove, oven, utensils, pots and pans), household furniture, dolls, clothes, hangers, plastic food and other comparable items. Materials also represented other familiar areas such as the supermarket, zoo, doctor's office, garden, farm animals. Children used these miniature representations to dramatise their home life and took on roles such as fathers, mothers, teachers or policemen. They acted out the behaviour of these individuals and began to understand the demands and expectations of that role. For these teachers, play was viewed as a natural and typical part of their programme.

iii. Evaluator

As evaluator, all the teacher-participants observed how different play incidents served the needs of individual children and what learning was taking place as children participated in the activity. They kept records of children's development and used them as the basis for planning the programme and also making such information available to parents. Teacher-participants collected children's artifacts such as their written work, drawings and photographs of children at work as part of the documentary evidence. It is noteworthy to mention that all participants have

embarked on using portfolio to keep track of children's progress. Participants shared that parents enjoy seeing their children in action, and often these forms of assessments provide insight into how much learning is accomplished through play. For example, Teachers RH and ET said,

Teacher RH: We take photos when they are doing their manipulative play group and explain to the parents that your child can build something by using the manipulative and then they interact with each other. They share ideas with friends when they are playing. Whenever we capture something we make sure we jot down and can use to talk to parents.

Teacher ET: There's a checklist. It varies from different children and those children require more practice, then we plan more practices for them. We also take pictures of them during their engaged play because we set individualised roles for them. For example, if this child always use green colour, nothing else. So I will have an individualised goal for his creative development - to use more colours, explore more strokes and lines while engage in drawing and different art activities. So we'll collect all the art samples and we'll put it in individualised folder and we will analyse it. So for example, the first few pieces will definitely be all green, then next piece starting to form structures, starting to form circles, starting to draw something, then use more colours.....that's when we can actually show the improvement of the child. We will also show in a portfolio for parents to see.

Category 3: Partnership with Parents

Teacher-participants held the view that they had an obligation to explain to parents about their child's learning and development. They said that they felt accountable for children's learning and part of that responsibility was to be able to provide specific information about the children. All the eighteen teacher-participants agreed that they interacted with parents and the role as an educator was a prominent theme that emerged. To advocate for children's right to play, teacher-participants shared that they would gather relevant and appropriate evidence from their classroom activities and teachings that supported the play curriculum and would present the child's portfolio to parents.

i. As Educator

All teacher-participants felt that parents should respect children's play as children could learn and develop from their play episodes. To do this, they would show parents how play contributed to learning and development by showing them evidence in the form of children's artifacts such as their artwork, writing, photographs of models that their children had created, videotaping and audio taping the learning process through play as evidence. Teacher-participants would explain to parents through such evidence showing how learning was accomplished through play. For example, the following teacher-participants shared their role as educator:

Teacher TL: Shared with parents and showed them pictures of their children when they are playing and what they said/learn during the activity.

Teacher HC: Actually they expect we teach A B Cs, you know? Learning type, like teach the children like primary school. But what we actually do is

we educate children....we show about our hands on activities, photos of their work, and then art and craft work. When parents raise this concern, we normally tell them that the children must be happy when they come to school and when the child is happy then the school is good for your child. To learn yes, but the learning must be a positive experience for your child.

Teacher AL: What I normally do is to document down what the child say during the play and then for example, when the child learning numbers by stacking Lego, I will listen to the way he was able to count the Lego pieces such as one, two, three and whether he is able to rote count correctly (without skipping the numbers). So when the parents are around, I will bring the Lego out and the child was able to stack the Lego and count one, two and three. I mean that is the evidence. I believe is very strong evidence to show that the child is able to learn through play. I guess all this while parents still perceive play as a stigma and they don't believe in play. They find that the child just play and nothing. I have proved to this particular parent who does not believe in play that her child is actually learning numbers and language at the same time when she tries to interact with her.

Teacher HJ: I will tell the parents this is what your child learns. And I show them the picture. This is your child build the structure. They learn and taking turns when they play this construction. Sometimes parents say, just play only you know? But play, the definition is still play, but it is fun to children and they learn.

Teacher EK: My parents can be an issue (luckily, not all of them). In Singapore, parents have preconceived ideas about formal schooling and would want the preschool to teach in such a way to prepare children for formal schooling. So the preschools have to make considerations to meet parents' expectations. Parents want children to pick up practical skills like

how to write and read, and do a lot of homework so that when they are in primary one, they are used to the system of education. So if the preschool takes on a play approach, parents get very uncomfortable. Actually I think the play approach will also serve the same purpose except that it will take a longer time to see the benefits that it has on the children's learning but I guess parents would like to see very concrete evidence of their child's progress in the centre. Doing worksheets is an example. Sometimes, I think we need to educate our parents on the developmental milestones of young children like when they should be taught to do certain things at certain times. We show them the child's portfolio and photographs taken of the field trips and what the child says. A preschool should have a better understanding on child development and should educate the parents on this area. Then our preschoolers will not be so stress.

From the classroom observations on the eighteen teacher-participants, it was evident that all teacher-participants were consistently clear about their roles about the "brick-and-mortar" issues relating to their roles in facilitating, staging and planning children's play activities and provisions. Table 4 presents a summary of the roles of teachers of the eighteen teacher-participants in its respective three categories and nine themes.

Summary of Findings to Research Question Three

**Table 5: Summary of teacher-participants' roles
in promoting learning through play**

Categories	Frequency response	Teacher-participants
1. Engagement With children	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
i. Guiding behaviours	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
ii. Be a role model	10	CC, EK, ET, GH, HJ, HC, JT, MK, Lyn, AD
iii. Demonstrating mutual respect	10	JT, MK, EK, AL, Lyn, GH, HC, FD, ET, AD
iv. Be a playmate and friend	15	AD, ET, CC, FD, HC, MK, EK, Lyn, LY, TL, AL, RH, GH, TI, TA
v. As a facilitator	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET,

		FD, HC, Lyn, RH, TE, TI, JT, TL
2. Reflective pedagogues	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
i. As Observer	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
ii. As Planner	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
iii. As Evaluator	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
3. Partnership with parents	18	MK, HJ, LY, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
i. As educator	18	MK, HJ, LY, CC, AD,

		TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TI, JT, TL
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In summary, teacher-participants to this study revealed a sense of pragmatism in their views on their roles in providing learning through play. All the participants were observed to be focused and practised scaffolding roles in assisting children to learn. Through their reflective journals, they had also shown that they regularly “step-back” to look at what they done with the view of improving future classroom pedagogies. Last but not least, they showed (through their reflective journals) resilience in their efforts to explain how children could learn through play by educating the parents. Next, I will proceed to unfold the findings to Research Question Four.

4.3.4 Research Question Four: What do preschool teachers see as obstacles to using play as a means to learning?

All the teacher-participants acknowledged that they have encountered challenges in using play to promote learning. Participants discussed the constraints they had encountered. Based on their responses, three categories together with eleven themes emerged from the data and the categories were (1) structured constraints, (2) classroom management and (3) attitudinal constraints.

Category 1: Structured Constraints

In addressing the first category of obstacles to play, thirteen teacher-participants related structured constraints as a concern associated with using play in their classrooms. Within this category, five themes emerged from the data analysis and they were (i) time, (ii) resources, (iii) budget, (iv) space and (v) staff training.

i. Time

Ten teacher-participants voiced their frustrations on the issue of time management in using play to promote learning in their classrooms. For example, Teacher GH commented,

We have indoor play equipment...see-saws; simple obstacle equipment. But every time, we must push the equipment out on Monday, set it up and on Friday, we must take them down because on Sunday, church members need to use the hall. It is very troublesome...we don't have time....must look after my class.....so after a while, we don't play the equipment anymore.

Teacher EK said,

Time is another challenge. We need to do so many things like preparing lessons and teaching materials, doing observations, setting up learning corners.

Unlike other teacher-participants who linked time constraints to curriculum “overload”, Teacher AD expressed that her challenge in managing time was due to the philosophy of her preschool setting. Being a religious preschool, they got other obligations to society such as meeting with the community and religious groups on

some evenings. In so doing, Teacher AD informed that at times, she would have to forgo some of her curricular play time to accommodate to these community and religious obligations. She said,

We have to volunteer work and things like that. So we have to manage our time. So sometimes, we don't have enough time to do our work.... Like making props and doing the learning corners.

ii. Resources

Nine teacher-participants related the lack of resources as a concern associated with using play in their classrooms. For example, some typical statements by teacher-participants were:

Teacher MK: When children are engaged in play..... Insufficient resources such as story books, teaching aids such as cassettes, videos, and play materials. It is very troublesome.

Teacher TI: But the corner not much toys to put in. Children play the same toys every time.

Teacher HJ: Something like books. The books.... everything the same. We need new books. Because resources important. Sometimes I see, the things like example, my classroom is really lack of materials.

iii. Budget

Next, budgetary limitations were frequently brought up as a challenge. Nine teacher-participants raised this issue during their interviews. For example, Teachers ET and MK shared this concern:

Teacher ET: Creative things are always very expensive and we got budget constraint.

Teacher MK: We do not have sufficient funds to buy many books, so we borrow. Sometimes, get our parents to sponsor/donate children's books to our centres. If we do not do that, then the children will not visit this corner because many of our books are old and some are torn.

iv. Space

Eleven teacher-participants highlighted physical space limitations as another issue that hindered their efforts in using play to promote teaching. For example, the following teacher-participants shared:

Teacher TL: Some of the learning centres, for example, Math corner is shared with the KI classes. We will prepare our own materials.....put them in a plastic boxes due to space constraint.

Teacher AD: Cannot... have certain things....learning corners like if the children can do painting, give them a specific table to mess around but not enough space.

Teacher HJ: Also the constraint is space. Because the classroom is small. If we have bigger space it's better, much better for children to hands-on more space. Because you see.... this one is very cramp for the children to walk around.

v. Staff Training

Two teacher-participants voiced their concerns on the lack of trained staff in their centre that had impacted them in their classroom practices in using play as a means to learning. They said:

Teacher MK: Many of my colleagues are not well trained to set up corners and my partner is not trained at Diploma level and I have to do most of the setting up.

Teacher TL: We have integrated Montessori twice a week. You know Montessori right? They have a rigid way of learning you know. Like passing one level before they go to the next level of difficulty..... We are not well trained in using the Montessori materials. So how to teach? I really don't know la. I really don't know.

Teacher-participants also shared that the constraints that they encountered were interrelated sometimes. For example, teacher-participants like AL and GH said,

Teacher AL: Other than colleagues, I think time and materials are also challenges. I guess, sometimes, we really do not have much time with the children to explore a concept more. For example, we talked about "apple" and we may want to do more on this particular topic but due to the curriculum being planned for the year, we cannot extend the interest to the children. For materials, I guess it depends on budget. Quite restricted also. We cannot buy certain counters due to budget.

Teacher GH: Because we have a budget. Sometimes we want to put in more play. So teachers will feel that we should have this.... But we don't have it because it is out of the budget. Because church kindergarten works on

donations kind of thing. We won't want to over spend because there are priorities. We are a very small school. Space is tight. Cannot have fixed learning corners. Then we have time challenge.

Category 2: Classroom Management

In extending their views and experiences on obstacles they encountered in using play to teach in their classroom, eighteen teacher-participants raised concerns about classroom management. Within this category, two themes emerged and they were (i) children's behaviours and (ii) classroom composition.

i. Children's Behaviour

In this theme, children's inappropriate and socially unacceptable behaviours were central to all teacher-participants' discussions. They had concerns about children fighting over play materials, pushing, refusal to share and inappropriate use of languages. For instance, Teacher EK shared,

Limitations, there might be. A quieter or shy child may feel out of place sometimes as this child may take a longer time to get use to the environment. Also sometimes, children cannot share and they snatch toys from their friends. It is also common that boys tend to engage in rough play like "doing flying kicks" and push and kick (imitated from video games and television).

Teacher TE also commented,

Some will fight, snatch toys. Some will grab all the toys... Then you have to explain to them... to share, and not to snatch. If not, accidents might happen and parents will not be happy and say children learn to fight when they play.

ii. Classroom Composition

The second theme to this category related to class composition such as teacher- to-child ratio and diversity of children in the class. Five teacher-participants shared this concern. Teacher ET was concerned about the mixed-age grouping and gender composition of her class. She perceived boys to be more physically active than girls in their dramatic play experiences, and more were inclined to engage in “rough and tumble” play, which was problematic for her.

Teacher JT considered that individual children's learning difficulties posed challenges to her on using play to promote learning. She referred to a child in her classroom that has mild learning difficulty, where she had to spent time managing the child as well as the rest of the children. Teacher JT said,

But sometimes difficult because all children like to play. They get angry when this child goes and disturb them. And we can only play thirty minutes.

MK also shared,

You see I have an autistic child in my class. He does not play with others or sometimes, he is slow to respond to his friends. His friends do not like to play with him. I have to hold him with me and that can be challenging because I need to manage other children as well.

Category 3: Attitudinal Constraints

This third category of constraints as perceived by fifteen teacher-participants to be a hindrance to play relate to the “intangibles” of attitudes of concerned parties. Four themes emerged from the data and they were (i) parental expectations, (ii) collegial support, (iii) management support and (iv) principal’s/supervisor’s expectations.

i. Parental Expectations

Participants’ sensitivities to parental expectations were often instrumental to their decision in using (or not using) play to promote learning in their classrooms. Eleven participants shared this concern. For example, Teachers MK and Lyn shared,

Teacher MK: In our Singapore context, many parents like to see their children doing worksheets and rote learning, not play. Parents are worried that their children will not be able to catch up in primary school because they play all the time in preschool. Every time, parents will ask this question. They want me to assure them that their children are well prepared for primary one education. They would like the centre to give spelling, learning of timetable and assessment books. Because, from books, children gained knowledge.

Teacher Lyn: In Singapore, parents feel that play is not important....is a waste of time. What they want to see is academic results. I do have parents say, “This is not what I want. Can we avoid this play for half an hour and let my child do this instead? I think my child will benefit more from this than play”. So I took away the half an hour.

While Teacher Lyn considered that a “process over product” approach was more appropriate, she nonetheless, would often accede to parental request to appease them.

In contrast, Teachers AL, CC, AD, FD, GH, HJ and TA did not see parental expectations as particularly influential in their contexts. They thought that explaining the importance of play to parents helped them to accept and understand its use in the classroom. Teachers interviewed cited instances when they were able to convince the parents that they knew what they were doing, and showed that they were doing the right thing with the children.

For example, Teacher HJ said,

So far parents, the challenges, I don't have with them. When I explain to them, they understand. Important... that's why I say parents' partnership important. You must know how to tackle parents first. During the meet parent session, sometimes parents ask how their child in school is and we tell them their child learns through play, and give them evidence like physically, for example, when they do this, their concept is what. Emotionally like if you cook at home then they come here also they cook. They follow your character. Then they have social, they socialize with their friends. We must tell the parents.

Teacher CC: No complaints.....all are very happy when we meet the parents. I showed them the portfolio. They are very glad the child can interact well and plays cooperatively. They are very happy.

Teacher TA: The parents do not complain so much because we show them pictures and we also meet them twice a year and then there are newsletters

that we tell the parents about our themes and what are the thing that we teach the children...words that children can write and then for math, what are the topics of math and how play is incorporated into all these through our newsletters. So far, parents no issue.

An exception to this view was put forth by Teacher AD, who said,

In my classroom, we don't have issues from parents about the way children learn through play and things like that. That's the thing. You know, if only parents would bring up their concerns, or their opinions.....but they never ask anything. Not many parents come up to me and say, give comments, agree or disagree with what we are doing. I'm sad to say that most of them are quite complacent".

Teacher AD seemed to express that she would like to see her parents giving more constructive feedback during her sessions. She said,

Only a handful shows enthusiasm for the children. The others are quite laid back. They tell me "You teach and I trust that you will teach my child well".

ii. Collegial Support

On getting collegial support, six teacher-participants said that they were more likely to implement a play curriculum if they had the support of their colleagues. For example, the following teacher-participants said:

Teacher TA: Sometimes teachers don't bother to clean up, so I must clean up and nobody bothers to put back the toys in the proper place.

Teacher AL: I do get challenges from my colleague. I think it is her age and how she is brought up. She is rather senior in this centre and she does not believe in play and setting up the appropriate learning corners. She went through the drill and test method. She believes in drilling.....memorise and do rote-counting without providing concrete experiences. She says how much can you teach children through play?

Teacher JT: Teachers find it tedious to change toys, to arrange the learning corners.... This is the main obstacle.

Teacher HJ: I love to do things altogether with the teachers. Sit down, discuss what to draw, you do your part I do my part. But sometimes my colleagues do not understand, they just do their own things and don't help.... setting up corners take time. You need to sit down, discuss but they don't want.

iii. Management Support

Four teacher-participants had also expressed their regrets in not being able to put the constructivist theories to use due to lack of management support. In one instance, Teacher MK said,

My management committee does not support, and then it is very difficult because they always say that children must do formal learning and parents are not happy if their children play every time.

Teacher HJ had the same sentiments:

Maybe we sometimes need support from the management. We must have approval to purchase materials. Like example our centre now doesn't have water play. We also don't have computers for my class. There's a lot of

learning literacy using the computer. Children learn a lot of words. But the management doesn't support us. They have other priorities sometime...

iv. Principal's/Supervisor's Expectations

More directly, three teacher-participants said that their principals' expectations were often instrumental in whether to use play in their classroom pedagogy. For example, Teacher MK said,

My principal told us to set up learning corners, it was very difficult. .. Not very helpful sometimes. She does not provide the necessary guidance.

Conversely, when colleagues, management and principals were supportive of the play curriculum, teacher-participants felt positively motivated. For example,

Teacher GH: My colleagues and principal are supportive, so that is a plus factor. My parents are quite open to it.

Teacher AD: Our management committee is very supportive of us. They allocate resources and things like that. Financial support. We have sufficient funds to look into books, to look into toys and things like that. And they are very supportive of this mode of teaching.

Teacher TA: My management is very close to each other and very good. We are working together.

Teacher CC: In my centre, the management is quite generous in terms of materials and for storybooks; we have uh, lots and lots of storybooks. Our centre has a grant of \$9000 because we have been getting good reports. Every year we did well, so it's like.....you will get a grant of \$9000. My

colleagues are also very nice people and we have been working together for many years.

Teacher EK: My colleagues and supervisor are very supportive. While time can be a constraint, we helped one another in our work and in that way, we can still manage our time.

Although teacher-participants had often spoken on these constraints separately, these constraints were very much linked to practice. For example, in the case of Teacher MK, a combination of parental objections, supervisor and management's lack of support on play-based activities together with logistical difficulties of a small classroom had asserted great pressure on her in the adoption on play to promote children's learning.

4.3.4.1 Overcoming constraints

Although thirteen participants shared that there were some form of structured constraints in preventing them to use play in their classrooms, they had, nonetheless, worked out strategies to overcome these constraints. For example, although Teacher TA acknowledged the lack of resources as a constraint, she did not view such constraint to be insurmountable. She said,

Pre-school teachers are just like “*garang guni” (*a Malay word which means collecting things that people throw away).....You make something out of it. But only sometimes, we got timing challenge because we must make our own materials ... prepare something for the children to play, the teaching aids or hands-on activities that I make for the children.

Sharing the same sentiments, Teacher LY said,

I have to use alternative books. So I take alternative books from libraries and other sources, it takes time. And preparing lesson, it really takes up a lot of time. Sometimes I stayed up to ten o'clock in the night, daily, for one whole month of March. And in January, I worked up to seven o'clock every night.....If the resources are there it's easy, you know you have these books here and the CDs. No CDs you have to look for alternative CDs. When you get the thing right, you feel proud. You managed to do it with the limited resources.

On budgetary and resources constraints, Teacher HJ said,

If they have budget, they will give us more. If they have no budget, they cannot give us. Cannot force them. As a teacher we think fast. OK, if we don't have budget, ok, recycle things also can give the children. Example say construction, we can use the box to make the, something like building blocks. That's why we must think fast. If you don't think fast, that's it.

The resourcefulness and commitments of these teacher-participants have often enabled them to work around these challenges and place focus on extracting values out of play-based curriculum. In my classroom observations of teacher-participants AL, JT, TL, GH, MK and HJ, space and materials constraints were observed to have valid concerns. It was also observed that Teacher GH had a child with special needs (autistic) under her care who needed special attentions and efforts from her in attempting to encourage him to interact and join others in play activities. In teacher TL's classroom, the play materials were stored in plastic containers and teachers have

to carry them to class. The mathematics learning corner was shared between K1 and K2 children.

In summary, the above findings to Research Question Four were encapsulated in Table 6, which presented an overview to what teacher-participants see as obstacles to using play as a means to learning.

Summary of Findings to Research Question Four

Table 6: Summary of obstacles encountered by teacher-participants

Categories	Frequency response	Teacher-participants
1. Structured constraints	13	MK, HJ, LY, TI, GH, AL, HC, Lyn, TL, JT, AD, TA, EK
i. Time	10	MK, HJ, LY, TI, AD, TA, GH, EK, AL, TL
ii. Resources	9	MK, HJ, TI, GH, AL, ET, TL, TA, LY
iii. Budget	9	MK, LY, TI, GH, AL, ET, HC, TL, HJ
iv. Space	11	MK, HJ, LY, TI, GH, AL, HC, Lyn, TL, JT, AD
v. Staff Training	2	MK, TL
2. Classroom management	18	MK, HJ, LY, TI, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT
i. Children's behaviour	18	MK, HJ, LY, TI, CC, AD, TA, GH, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT

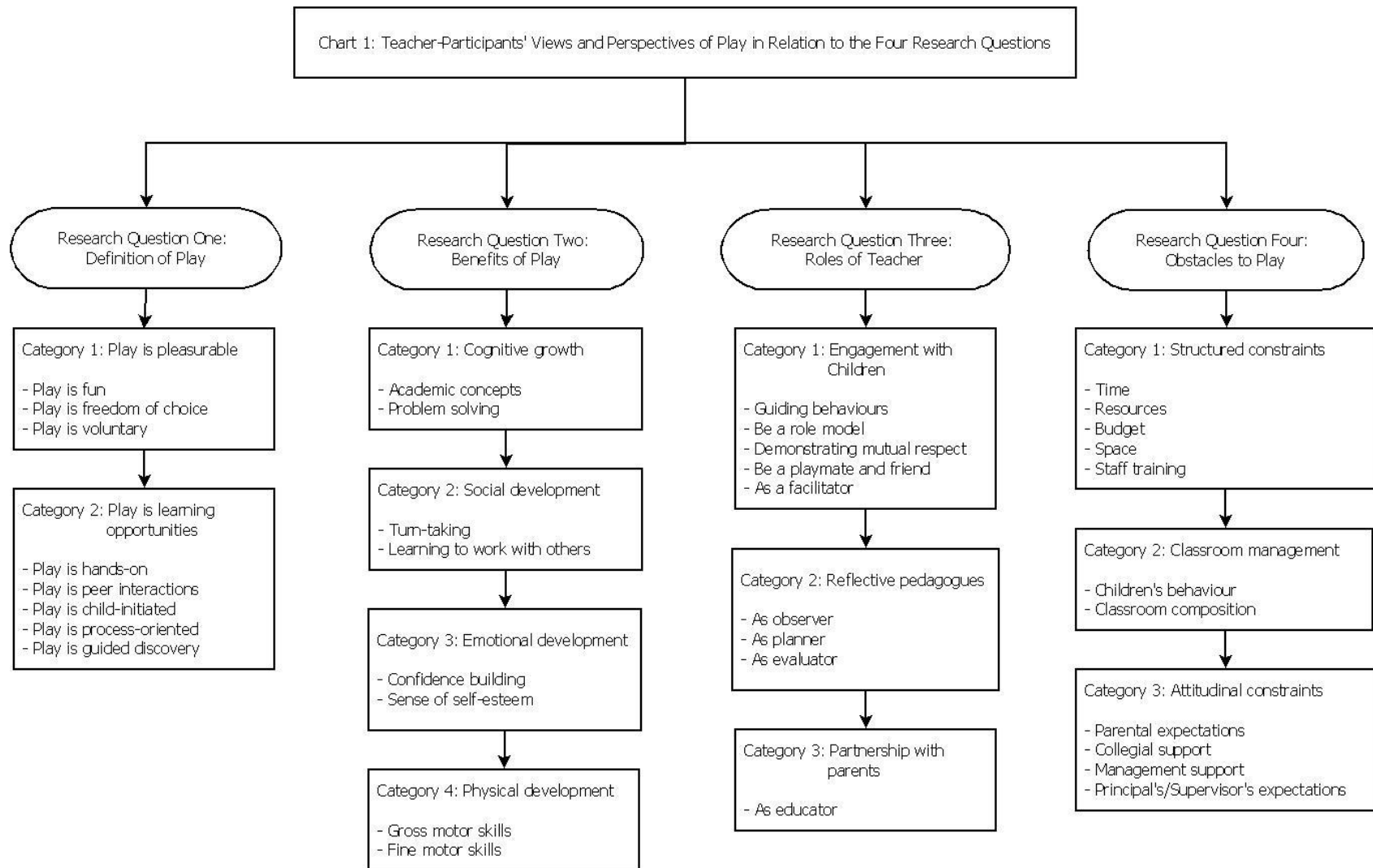
ii. Classroom composition	5	MK, TL, ET, GH, JT
3. Attitudinal constraints	15	MK, HJ, LY, TI, EK, AL, ET, FD, HC, Lyn, RH, TE, TL, JT, TA
i. Parental expectations	11	MK, LY, TI, EK, ET, HC, Lyn, RH, TE, TL, JT
ii. Collegial support	6	HJ, TA, AL, HC, TL, JT
iii. Management support	4	MK, HJ, LY, TI
iv. Principal's/Supervisor's expectations	3	MK, Lyn, TL

4.4 Chapter Summary

This chapter explained in detail the qualitative data analysis of this study based on three data sources, (i) interviews, (ii) classroom observations and (iii) reflective journals of teacher-participants. Grounded in the data, the analysis has provided evidence relating to the four research questions of this study through the findings as mentioned in sections 4.3.1, 4.3.2, and 4.3.3 and 4.3.4.

In unfolding the findings to Research Question One, teacher-participants had defined play in this study as pleasurable and providing learning opportunities. Findings to Research Question Two revealed that the teacher-participants related the benefits of play to be in the areas of cognitive, social, emotional and physical domains of children's learning and development. For Research Question Three, three overarching roles were expressed by teacher-participants in the findings. The roles were engaging with children; as reflective pedagogues; and partnership with parents. In probing the perceived obstacles to play, findings to Research Question Four pointed to structured constraints; classroom management; and attitudinal constraints as challenges in the use of play to promote learning in preschool settings. Chart One present an overview to the findings of this study in relation to Research Questions One, Two, Three and Four respectively.

Next, Chapter Five of this study will pursue these findings further by discussing them in relation to the theoretical frameworks of this study as well as the literature review presented in Chapter Two.



Chapter Five

Discussions

5.1 Introduction

In Chapter Four, the findings of this research study were presented. These findings were grounded on data obtained from the eighteen teacher-participants via interviews, classroom observations and reflective journals. Guided by the four research questions, the findings provided answers to:

- i. How do teachers in selected preschools in Singapore define play as a means to learning?
- ii. What do preschool teachers see as the benefits of play as a means to learning?
- iii. How do preschool teachers see their roles in promoting learning through play?
- iv. What do preschool teachers see as obstacles to using play as a means to learning?

These findings have also brought to light both consistent and contrasting viewpoints of the eighteen participants when compared to and linked with the literature reviewed in Chapter Two of this study. This chapter will address and discuss these comparisons and linkages with the literature review as well as providing plausible explanations to the findings of this study. The discussions will be

sequentially presented in line with the four research questions as have been consistently done in the previous chapter.

5.2 Discussions on findings to Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning?

All the teacher-participants held positive beliefs about children's play in contributing to learning and development and unanimously agreed that play is pleasurable for young children. As a group, the teacher-participants revealed multiple meanings of play. However, even though commonalities existed among some of the attributes used by teacher-participants to define play, (for instance, sixteen teacher-participants defined "play as fun", ten participants defined "play as freedom of choice", while another ten of them defined "play as being voluntary"), each has presented different views on play which were influenced by their beliefs and experiences. The diverse definitions provided by participants supported the assertions among early childhood researchers that different people describe play differently (Garvey, 1981; Rubin et al., 1983; Degotardi, 2005; Moyles, 2005; Brewer 2004; Wood, 2007; Hirsh-Pasek et al., 2009). As play is a dynamic process which develops and changes in complexity and context (Wood & Attfield, 2005; Moyles, 2005; Wood, 2007; Hirsh-Pasek et al., 2009), it is not unusual for participants to provide multi-facet dimensions in their definition on play.

Teacher-participants also described play as “learning opportunities” where children learned by constructing knowledge rather than being instructed by teachers. Teacher-participants made thematic comments like hands-on, peer interactions, child-initiated, process-oriented and guided discovery. Through these experiences, children construct their own knowledge by interacting with the environment and their significant others. The teacher-participants’ views were in line with Piaget’s (1962) and Vygotsky’s (1978) theories on the importance of sensory experiences and concrete activities discussed in the Literature Review of this study.

According to Piaget (1962), when children encounter new things, they relate them with their previous experiences and ideas. Through their curiosity, exploration and interaction with others, they assimilate new knowledge by building on their previous knowledge and accommodate the new information (Piaget, 1962). Vygotsky (1978) added that the child’s ability to learn constructively is dependent on the culture and social interactions as well as on his/her zone of proximal development (ZPD). In this study, fifteen teacher-participants had also made specific reference to contemporary theorists, especially Piaget and Vygotsky in guiding their definitions of play. For instance, the following teachers said,

Teacher AL: In Piaget where children learned through play. How we should teach children using concrete materials. Letting them explore the materials using their five senses.

Teacher HC: Yes....children they construct their own knowledge, based on their prior knowledge. Of course I also believe in this Vygotsky’s Theory. Children’s background makes a difference to how children learn. How children perceive other people’s interactions and the behaviours of others.

Teacher JT: I believe in Piaget and Vygotsky because Piaget said children learn through play and using senses. Let children learn from concrete materials first before teaching abstract things. Like teaching numbers, let them know what is number “5” before writing the word “five”. Also Vygotsky because he talked about scaffolding, how we can help children to go to another level by asking questions to help the child and not telling the child or doing it for the child.

Teacher MK: I like Vygotsky and Piaget. Vygotsky is good. He influences my teaching on scaffolding children’s learning. Scaffolding especially when I observe a child is having some difficulties in his activity, I will ask questions and give suggestions for the child to think and decide. Piaget believed that children learn through play using their senses and they learn things from simple to complex. When I planned for activities, I always teach the simple concept first. For example, when I teach about an apple, it is so much more meaningful to show the apple to the children. Let them touch and talk rather than doing the abstract way like writing the word “apple” and getting children to do rote learning.

These findings were consistent to other researchers who claim that children learn through direct first-hand and interactive experiences (Bruner, 1966; Vygotsky, 1978; Garvey, 1991; Bruce, 2001; Branscombe et al., 2003; Brewer, 2004; Degotardi, 2005; Wood, 2007; Hirsh-Pasek et al., 2009). In summary, teacher-participants had used differing dimensions in defining play. Some focused on play as being pleasurable while others emphasised a degree of engagement with peers and significant adults in their play experiences (Rubin et al., 1983; Garvey, 1991; Sutton-

Smith, 1997; Hughes, 1999; Bruce, 2001; Frost et al., 2005, Degotardi, 2005; Moyles, 2005; Brewer 2004; Wood, 2007; Hirsh-Pasek et al., 2009).

In the course of defining play, several teacher-participants emphasised that play in the classroom context had to be carried out with a purpose (to learn). In so doing, teacher-participants had made particular attempts to differentiate play from “formal” means to teach and learn. For example, fifteen teacher-participants shared that they did use “formal” approach to teach such as seat work and using worksheets but such teacher-directed activities, if used, were minimal. For example, the following teacher-participants said,

Teacher ET: A little bit of structured.... Because at the end of the day they are preparing for Primary One. We can't just let them play on a non-structured basis so. We don't print worksheets and make them do handwriting over and over and we don't do math like a whole worksheet on patterning. We teach them the concept and in the workbook there will be activities just to scaffold their learning, not rote-learning type where children write the same word over and over again.

Teacher TL: There must be a balance teaching using play because too much play, then children don't learn. Just play and play. So we need to guide play. Have a balance between teaching using play and formal teaching. Children, you give them too much play and don't monitor, you don't know if they have learned anything or what progress they are at.

Teacher CC: Once in a while, the children need to have some formal learning at least to get them to understand, be disciplined and listen instead of moving around.....learn and practice their listening skills instead of talking too much.

By formal learning we are able to impart so much more knowledge to them when they really sit down and listen because not all children will learn the same way as some who will play and learn but some will not learn when they play, so we have to cater for different types of children.

Teacher GH: The teaching is different now. I mix play into formal learning. No need worksheets every time.... Sometimes, we capture photographs of children when they are at play and show it to your parents. But sometimes... give worksheets.

Teacher HC: But at the end of the day, we also try to make our active learners, those very hands-on children, to be able to learn through listening. Because in Singapore context, if you are an active learner, hands-on learner, when you go to primary school, if you cannot sit down and listen to the story, you can't really you know, you cannot attend formal classroom learning because you must sit down and listen to teacher.

Such comments revealed the dilemma teacher-participants faced in reality. They often expressed they were not in favour of teacher-directed pedagogies, but nonetheless found themselves engaging in teacher-directed practices to varying degrees due to external pressures (for example, from parents) and deep-seeded cultural beliefs. They also had belief structures that support developmentally appropriate practices. Nevertheless, despite their child-initiated pedagogical inclinations, these fifteen teacher-participants (for example, Teachers ET, AD, TL, CC, EK, GH, TI, HC and RH) also practised a “mixed or integrated pedagogies” (Wood, 2007). Interviews and classroom observations showed that in practice, teacher-participants used a combination of developmentally appropriate practices and

developmentally inappropriate practices in their classrooms (for example, in the classroom observations of Teachers CC, TL GH and EK, scripted behaviours, defined as repeated patterns of routine practices were used) (Wein, 1995) where children were given worksheets to complete as closure of the activity. Although teacher-participants might believe that it was important for children to experiment on their own or to indulge in creative activities, they would still incorporate some forms of seat work in the classroom practices.

These teacher-participants had expressed the view that each pedagogical approach had its own merits and suggested using an eclectic approach to better meet the children's needs, such as using curriculum-generated play experiences to help children learn specific skills and concepts, together with play-generated curriculum to include activities that encourage children's spontaneous interests and creativity (Wood, 2007). Such a "middle-ground" approach avoids the work/play dichotomy, and the parallel subject-centred/child-centred dichotomy (Wood, 2007). The eclectic approach is advocated by some educators (Fowell & Lawton, 1992; Delpit, 1988; Honig, 1996), where teacher-directed instructions should contain rich knowledge, high comprehension skills and questioning, instead of narrowly defined academic skills; and children should be active seekers of knowledge, and use concrete materials to reinforce the learned skills (Fowell & Lawton, 1992). Findings of this study suggested that teacher-pedagogical practices fell along a continuum of child-initiated practice to teacher-directed practice (Buchanan et al., 1998; Charlesworth et al., 1993; Marcon, 1992; McMullen, 1999; Vartuli, 1999), similar to those discussed earlier in Chapter Two.

5.3 Discussions on findings to Research Question Two: What do preschool teachers see as the benefits of play as a means to learning?

Teacher-participants said that play contributed to children's learning and development in their cognitive, social, emotional and physical domains. These findings draw parallel to findings of other researchers (Piaget, 1962; Vygotsky, 1978; Broadhead, 2004; Hirsh-Pasek et al., 2009; Frost et al., 2005; Christie & Roskos, 2006; Neuman & Roskos, 1992; 1993). To this end, teacher-participants had provided various examples of how they used play experiences to direct children's learning and development. For instance, in language and literacy, teacher-participants demonstrated how classroom environments could promote functional and meaningful language and literacy skills such as reading readiness, sentence construction, emergent handwriting, and vocabulary by allowing children to choose and direct their own play and exploration, and relate the curricula to children's interest and everyday lives. They provided literacy-enriched props such as children's literature, interactive charts, nursery rhymes, stickers, markers, pencils, dictionaries, magnetic letters, erase boards and papers for children to engage in speaking, listening, reading and writing skills. In addition, all areas of the classroom and objects were clearly labelled and children's artwork, stories and writing were displayed at child's eye-level.

These views were consistent with findings from studies by Neuman and Roskos, (1992, 1993); and Christie and Roskos (2006), who reported that a relationship existed between play and literacy and when words were embedded in playful contexts, children could, learn better and faster. Teacher-participants also concurred with contemporary literature that play (such as dramatic play; play with

objects; outdoor play) contributed to the development of problem-solving capabilities, creativity and aesthetic appreciation in children and promoted the idea that there is often no right or wrong way to do things; and there are many possibilities in play (Wood, 2007; Spodek & Saracho, 2006; Brewer, 2004; Broadhead, 2004; Bergen & Mauer, 2000; Degotardi, 2005; Smilansky & Shefatya, 1990; Pellegrini, 1982; Rubin et al., 1983; Vygotsky, 1978; Piaget, 1962).

In logical mathematical thinking and scientific reasoning, teacher-participants shared that children developed mathematical concepts through different forms of play activities such as dramatic, block, water and outdoor play. Children learn patterning, shapes, sorting, matching, one-to-one correspondence, counting, addition and subtraction through these experiences. These findings were consistent with previous research studies where children developed various mathematical concepts through everyday play experiences (Ginsburg et al., 2008; Wolfgang et al., 2001; Varol & Farran, 2006).

In addition to cognitive gains, teacher-participants felt that play contributed to social interactions and emotional development in young children, such as turn-taking, learning to work with others, communication skills, perspective-taking, sense of confidence and self-esteem. These findings are in line with results of various researchers who claim that play provides attitudes and insights in support of children's development on the social and emotional aspects such as conversational skills, turn-taking, negotiating, cooperating, perspective-taking, feeling of competence

and self-confidence (Piaget, 1962; Vygotsky, 1978; Sutton-Smith, 1997; Sawyer, 1997; Broadhead, 2004; Wood, 2007).

Teacher-participants also voiced the view that play contributed significantly to the physical development of children. This finding is consistent with findings in a study by Davies (1996), who reported 68% of teachers in the study considered physical development, particularly body awareness, exercise and gross motor skills as important when children were involved in playful activities. In terms of physical development, literature supported the notions that play enabled children to exercise their muscles and minds within the safety of their play episodes under teachers' supervisions (Smith & Pellegrini, 2000). In my study, teacher-participants also believe that play contributes to the development of children's gross and fine motor skills; and body awareness, where children developed eye-hand co-ordinations, spatial abilities and skills which are important for children's healthy development.

Classroom observations also affirmed that teacher-participants included locomotor, non-locomotor and components of health-related physical exercises in their activities such as music and movement, art and outdoor play. In particular, Teacher FD (the only male teacher-participant in my study) had been observed to engage children with more playfulness and accentuated the importance of physical development in his classroom practice. Teacher FD said,

My female colleagues when they go out playing with the children, they just stay there. Be careful children, you don't fall. But for me, I will go up there and play with them. If they want to swing I'll show them how to swing and

then they will swing. But I also observe the safety aspects. Like when the child is playing with a big piece of chalk, outside drawing on the floor, my colleague will say. “Cannot play chalk...waste chalk”. But I will say, “Never mind, let them play and I will go and draw on the floor with them”.

These findings are consistent to the results of the research study by Sandberg and Pramling-Samuelsson (2005), where male preschool teachers contributed with more playfulness than female teachers (See page 72 of Chapter Three).

These views of children’s holistic development gained through the process of play were similar to research by Marcon (2002), who concluded that preschoolers in classrooms that encouraged child-initiated learning performed better academically and socially later when they were observed at the fourth-grade level compared to preschoolers in teacher-directed classrooms. In the Home School Study (Dickinson & Tabors, 2001), the researchers found that preschoolers who had more opportunities to engage in conversations with one another and with adults, had greater academic success in kindergarten. Play supported conversations that include opportunities to remember, reason, imagine, problem solve, predict, and hypothesise (Dickinson & Tabors, 2001).

5.4 Discussions on findings to Research Question Three: How do preschool teachers see their roles in promoting learning through play?

Teachers' beliefs about their roles were grounded in their own teaching experiences and professional knowledge (Spodek, 1988; Bowman, 1989). In order to teach, teachers operationalised their theories of children's learning and development, informed by their beliefs and professional knowledge (Spodek, 1988; Moyles et al., 2002; Berthelsen et al., 2002). Their perceptions on their roles were important because these perceptions would affect and influence their beliefs, which in turn lead to actions in their classroom practices (Spodek, 1988; Bowman, 1989; Vygotsky, 1978; Isenberg & Quisenberry, 2002). Two views were presented in literature and were discussed in Chapter Two of this study. These views were child-initiated and teacher-directed practices (Stipek & Byler, 2004; Spodek & Saracho, 2003; Hirsh-Pasek et al., 2009; Bredekamp & Copple, 1997). This polarisation has led to categorisation and labelling of teachings and the dilemma that teacher-participants in this study encountered.

As reiterated in my findings to Research Question One (section 4.3.1.1), the results of my classroom observations of the eighteen teacher-participants revealed that practices fell along a continuum of child-initiated practice to teacher-directed practice and these findings were similar to contemporary studies on teachers' pedagogical practices (Marcon, 1999; Vartuli, 1999). Teacher-participants were observed to "see-saw" back and forth between teacher-directed instructions and child-initiated practices, rotating between structured whole group activities to guided small group teachings. In most of my observations, whole group activities were used frequently to

start the lesson and children were given tasks such as writing activities during closure of the classroom activity. Concrete, hands-on materials were observed to be used in classrooms, but some of the play experiences were still teacher-guided with instructions provided by the teachers on how to accomplish a specific task such as providing materials from which the children may choose in order to discover specific concepts. My classroom observations had also revealed academic components were planned for lessons incorporating specific learning outcomes such as word recognition, literacy skills, phonemic awareness and number concepts. In some classes (for example, Teachers LY, CC, GH, TL and EK), activities were in the form of flashcards and worksheets were given to children to do as closure of the activities.).

Overall, these findings supported the notion that teacher-participants endorsed (DAP) beliefs to a large extent and conducted DAP activities regularly in their classrooms. Nonetheless, they did not discard DIP beliefs and engaged in DIP activities as well but to a lesser extent. As evident in numerous other research studies, teachers tend to use a range of instructional practices that were in between DAP and DIP (Buchanan et al., 1998; Marcon, 1992; Hatch & Freeman, 1988; Oakes & Caruso, 1990; Smith & Shepard, 1988; Wien, 1996; Vartuli, 1999).

Furthermore, teacher-participants also spoke passionately about their roles and expressed the importance of providing essential learning experiences to cater to the needs of children. Teacher-participants expressed their support for the tenets of developmentally appropriate practice (DAP) as defined by National Association for the Education of Young Children (NAEYC) (Bredekamp & Copple, 1997) and

aligned their roles in promoting learning through play by engaging with children, being reflective pedagogues and work in partnership with parents. To engage children, teacher-participants acted as role model, playmate and facilitator by setting the stage, creating and designing an environment that encouraged exploration, discovery and active engagement of children. They support children's learning in play by becoming co-players when invited, guiding and role modelling when the play episodes were about to be abandoned for the lack of knowledge or skills (Brewer, 2004; Frost et al., 2005).

They observed children and fine-tuned the environment to ensure that play flows well (Bilton, 2002). At this juncture, it is noteworthy to mention that theoretical support for the teacher as participant is provided by Vygotsky's (1978) sociocultural theory and his "zone of proximal development" (ZPD), defined as the "distance between the actual development level as determined by independent problem solving under adult guidance or in collaboration with more capable peers". According to Vygotsky (1978), this teacher-guiding role is especially important in a child's learning as Vygotsky (1978) views learning as a social process, where adults play a significant role in stimulating children's learning by providing planned assistance to guide, support and extend children's zones of proximal development.

During my classroom observations, it was noted that constructivist learning approaches were adopted by teacher-participants and integrated into the learning corners to enhance children's learning. These settings encouraged "sustained shared thinking" where adults and children were engaged in meaningful discussions, working

together in an intellectual way to solve a problem, clarify a concept and promote orchestration of cognitive and social activity (Siraj-Blatchford & Sylva, 2004). Teacher-participants in this study worked with children together on “high-interest” areas or projects. Except for Teacher LY, the rest of the participants had playful orientations such as using rhymes and action songs (language and literacy), number stories (mathematics), dramatisation and role-play (communication and creativity), and outdoor play to create environmental and spatial awareness. Teacher-participants also responded to children’s play choices and activities for example, by extending project work and field trips. Children could choose activities as individuals or as groups, be involved in free play, symbolic/pretend play, or play with objects. Overall, the findings of this study suggested that teacher-participants viewed the quality of teacher-child interactions as a critical component for supporting children’s development in the early educational programmes (Siraj-Blatchford, 1994; Vygotsky, 1978; Isenberg & Quisenberry, 2002; Frost et al., 2005; Trawick-Smith & Dziurgot, 2010).

As with other studies, this research found a discrepancy between one teacher reported beliefs and her classroom practices (Hatch & Freeman, 1988; Marcon, 1992; 1999; Oakes & Caruso, 1990; Bryant et al., 1991; Kontos & Dunn, 1993). As mentioned earlier, I have noted some inconsistencies in my classroom observation of Teacher LY when compared with her interview data. While Teacher LY spoke and advocated for a child-initiated curriculum, my classroom observation relating to her classroom practices showed otherwise. Much of her pedagogies observed were skewed towards teacher-directed approach where children were given seat work and spelling. It is conjectured that such observed inconsistencies may be a consequence

of her personal educational experiences which influenced her beliefs on the value of teacher-directed approach.

Further probing revealed that Teacher LY made reference to the centre's administration policy and said that this method was used to teach language arts (phonics) and literacy skills like listening, reading and writing. It was further observed that Teacher LY had instructed children on the correct sitting posture and how to hold a pencil properly. Teacher LY was fully aware that this was a traditional and formal approach to learning but believed that children must be trained to sit still and listen to teacher as these were the expected behaviours when children progressed to primary school education. It is not uncommon for educators to assent to the adage that "we teach the way we have been taught" and despite attaining professional qualification and training on early childhood education, Teacher LY is still embedded in the traditional view of teaching possibly due to her personal experiences and social influences which runs counter to developmentally appropriate practices (Sarason, 1991).

5.5 Discussions on findings to Research Question Four: What do preschool teachers see as obstacles to using play as a means to learning?

During interviews, the teacher-participants often interjected their discussions with snapshots of the challenges that they encountered in using play in their classroom. In all, they had identified three fundamental categories of constraints which had a profound impact on their classroom practices in the use of play to promote learning. These obstacles were i) structured constraints, ii) classroom

management issues and iii) attitudinal concerns. These constraints were mostly external to the teachers and were beyond their immediate control. It should also be noted that discussions on findings to research question four were context-bound as teachers' perceptions of obstacles to using play to promote learning were relative to and affected by the Singapore's social, cultural, governmental, economical and environmental landscape.

Within the first category of obstacles to play (structured constraints), teacher-participants had brought up some peculiar reasons for having time constraints to play which were unique to the Singapore's context. Three teacher-participants from the People's Action Party Community Foundation (PCF) preschool centres shared that they were assigned non-teaching duties in the form of community work (such as, involving in road shows - promoting their centre's programmes; and grassroots "meet-the-people" sessions of political parties). Such administrative roles had impacted on their teaching hours negatively as they needed to set aside their curriculum time to make preparations for such involvements. In two other cases, teacher-participants from a mosque and a church kindergarten needed to spend time clearing their classrooms for religious events on eve of weekends, thereby restricting children's playtime on such days.

With regard to training, two teacher-participants had commented that the lack of professional training of their colleagues had affected them in their use of play in their classrooms as they had to do all the classroom set-up, guide children as well as meeting up with parents. They shared that they preferred to work with colleagues

who were trained in early childhood education as such colleagues could provide them with peer support and opportunities for reflection, thereby reinforcing their beliefs towards developmentally appropriate practices. This finding runs parallel to the conclusion of similar studies (Snider & Fu, 1990; Mangione & Maniates, 1993; Sherman & Mueller, 1996; Cassidy & Lawrence, 2000) who found that teachers with academic degrees in early childhood education and in-service training (such as workshops, seminars) used more developmentally appropriate practices than teachers without early childhood education training.

The relatively low percentage of participants commenting on the lack of professional early childhood training may be due to the fact that the Preschool Qualification Accreditation Committee (PQAC), who oversee the training qualification of in-service preschool teachers in Singapore, has set a requirement that each preschool centre must have at least have 75% of their teachers trained at Diploma in Preschool Education-Teaching by 2008 (Pre-School Unit, MOE, 2008). Such regulatory requirement may have also explained why all the teacher-participants in this study have already acquired a least a basic certificate level in early childhood education (See Chart 2).

The findings on the second perceived obstacle to play, “classroom management” affirmed that teacher-participants regarded play fighting, aggressive behaviours, refusal to share and the use of verbal aggression as impediments in the process of implementing play. All teacher-participants had expressed “zero tolerance” policy towards rough and aggressive behaviours and they imposed

restraints (such as “time-out”) when such behaviours occurred. Notwithstanding, some research studies have noted certain benefits for rough play in early childhood classrooms as it allows children to practice skills in play setting that are not possible to duplicate in the “real world” and allows children to distinguish between aggression and play (Holland, 2003, Logue & Shelton, 2008). All teacher-participants also felt that rough play was “unacceptable classroom behaviours” and it was important to teach children social and self-regulating skills. They were concerned that parents would show displeasure if their child got hurt during these play scenarios.

On attitudinal constraints, teacher-participants acknowledged that parental expectations had a significant impact on their play-based curriculum. This issue of parental expectations can be best understood within the country’s wider cultural and educational context. In Singapore, the highly competitive, meritocratic and academic-oriented nature of main stream education system has influenced parents’ preference on preschool curricula orientation (Fan-Eng & Sharpe, 2000; Retas & Kwan, 2000; Ang, 2008). Parents’ expectations are often geared towards seeing observable deliverance such as greater emphasis on basic academic skill mastery, particularly in reading, writing and mathematics and teacher-directed activities in the form of worksheets and workbooks (Sharpe, 2002; Gopinathan, 2001; Heng, 2001). In addition, the eastern cultural tradition does not locate “play” within the “learning arena” (Yeo-chi Kong, 1994; Ang, 2006). Traditionally, in Singapore, learning means seat work, rote-learning, teacher-directed and “chalk-and-talk” in classrooms and not playing (Tan-Niam, 2000; Ebbeck & Gokhale, 2004).

Teacher-participants had shared that parents were lacking in their understanding of play and were more academically oriented in expectations. They found it difficult to enunciate the importance of play to parents who harbour views that if the children were playing, they were not learning. Similar issues on the lack of parental support or parents' lack of understanding of the child-initiated pedagogy were also highlighted in the several other studies (Buchanan et al., 1998; Haupt & Ostlund, 1997; Spidell-Rusher et al., 1992; Stipek & Byler, 1997; Vartuli, 1999; Hatch & Freeman, 1988; Shepard & Smith, 1988). Teacher-participants had voiced that educating parents on the benefits of play was important but at the same time, a challenging obstacle to overcome.

Six teacher-participants discussed the negative impact that collegial expectations have on their classroom practices. Kagan (1990) mentioned that teachers' attitudes towards play could be an obstacle to its implementation. Some teachers view play as interference (Korat, Bahar & Snapir, 2003); others are indifferent about play (Lindqvist, 2001) and yet others prefer to just teach and manage children in a traditional classroom setting (Hadley, 2002). Teacher-participants (such as TA, AL, JT and HJ) in this study shared similar emotions (See pages 158 and 159 of Chapter Four). Last but not least, the findings in this study also pointed to four teacher-participants expressing the lack of management support and separately, three teacher-participants shared that their principal's expectations were hindering them in the use of play to teach. These pressures had forced teacher-participants to "over-prepare" children for formal education (Smith & Shepard, 1988).

The above discussions on the obstacles to play in this study bear resemblance to Kagan's (1990) barriers on the implementation of play in classrooms. Kagan (1990) identified attitudinal barriers largely derive from different value orientations the administrative staff, colleagues and parents may hold towards play. In Kagan's study, structural barriers to implementing play involve limitations imposed by curricula, such as time, space and materials and functional barriers (closely associated with attitudinal barriers) where supervisors and administrative staff often place less importance on play as children progress through grades (Kagan, 1990).

5.6 Tensions between Beliefs and Practices

Throughout this study, it appeared that participants did encounter external constraints in differing types and intensities. Some participants were more affected than others. For example, Teachers TA, LY and HJ had explained how they dealt with these obstacles (See pages 161 and 162 of Chapter Four). Teacher-participants had also spoken about their experiences in dealing with their personal beliefs and the demand for "academic results" by parents. The ability to hold on to their beliefs and implement practices more aligned with developmentally appropriate practices (DAP) may be due to self-efficacy (McMullen, 1999). Several studies have found that teachers who expressed higher personal teaching efficacy have higher inclinations towards developmentally appropriate beliefs and practices (Buchanan et al., 1998; McMullen, 1999). In this study, teacher-participants had varied interpretations of their personal effectiveness towards the use of developmentally appropriate practices (DAP). Participants, such as Teachers AL, CC, GH and FD were more successful in

managing external constraints than others (for example, Teachers MK, Lyn, LY) who at times would resign themselves to the demands of the administration and parents.

Throughout the interview, I could sense the covert conflict that teacher-participants had in trying to reconcile the process of justifying what they wanted to do and against their actual doings. In addition, the teacher-participants' views on play reflected their beliefs which were influenced by their formal knowledge system (Bowman, 1989; Spodek, 1988). It is noteworthy to highlight that all eighteen teacher-participants were trained in early childhood education with fifteen of them possessing a Diploma in Preschool Education-Teaching (DPT) and higher (See Chart 2). Additionally, thirteen teacher-participants had been engaged in early childhood industry for over five years (Refer to Chart 3). Such training and working experiences provided teacher-participants with a knowledgeable platform about child development and play. Teacher-participants had also reported that their coursework and training in early childhood education was a major factor influencing their attitudes towards the adoption of a play-based curriculum. For example, Teachers TL and AL said,

Teacher TL: What I learned in my studies, my diploma in preschool teaching and leadership courses (DPT and DPL), also based on my experiences with my children, I find that children really learned a lot through play and hands-on experiences.

Teacher AL: Since attending my course in early childhood education...I believe the best way to teach is using concrete materials and let children use their five senses to explore through play.

These findings are similar to results of other studies (Nelson, 2000; Cassidy & Lawrence, 2000) where teacher-participants' beliefs, education, past experiences and personal factors of teachers are often reflected through their pedagogies. Other studies in the literature review also suggested that teachers who had taken course work or engaged in specialised early childhood education training are more competent and are more aware of children's development and learning (Snider & Fu, 1990; Mangione & Maniates, 1993; Sherman & Mueller, 1996).

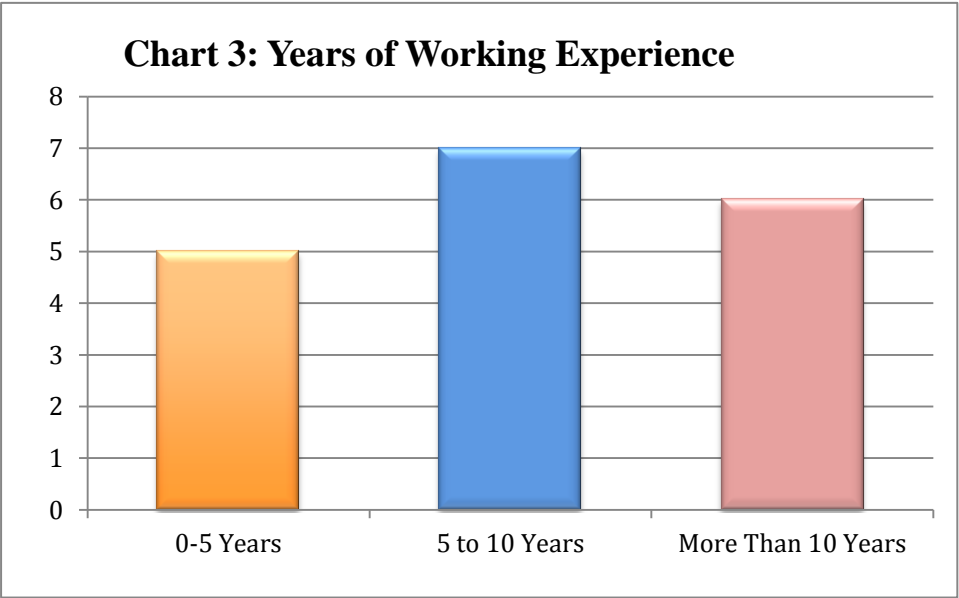
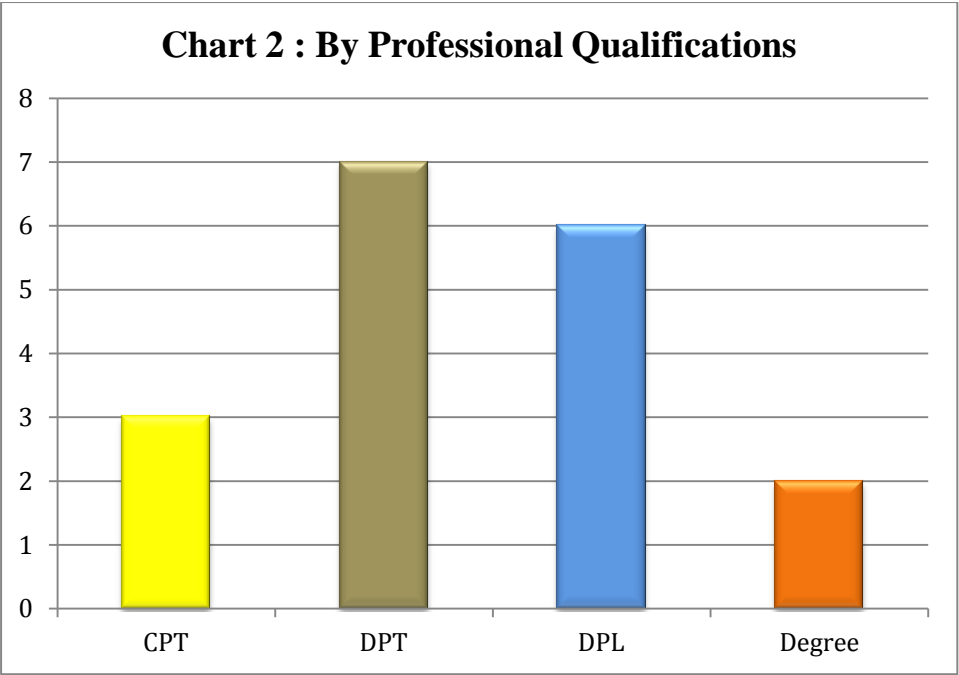
5.7 Chapter Summary

This chapter discusses the findings of this study in relation to the literature and theoretical frameworks revealed in Chapter Two. The findings to Research Question One were compared and contrasted with literature and previous research studies. In addition, play definitions were also discussed against the backdrop of what is considered to be formal learning by teacher-participants.

With regards to the benefits of play in Research Question Two, teacher-participants categorised cognitive, social, emotional and physical as the main benefits of play towards children's development. Their emphasis on cognitive and social development run parallel to Piaget's Cognitive Theory and Vygotsky's Sociocultural Theory reviewed in Chapter Two of this study and provided congruencies in support of these two theoretical perspectives which were used as the conceptual framework to guide this study.

Findings to Research Question Three revealed that teacher-participants' roles were consistent with practices reviewed in the Chapter Two. They took on roles such as facilitator, role model, playmate, observer, planner, evaluator and working in partnership with parents.

Last but not least, findings to Research Question Four were discussed, highlighting practical issues that early childhood practitioners faced in the Singapore early childhood context. The perceived obstacles (structured constraints, classroom management issues and attitudinal constraints) in using play to teach were discussed in context with the Singapore's social, cultural, economic and governmental backdrops in order to add clarity to the discussions. Having discussed the findings to all the research questions in detail, the final chapter (Chapter Six) of this study will present the conclusions, implications and recommendations of this research study.



Chapter Six

Conclusions, Implications and Recommendations

6.1 Introduction

The focus of this study is on the research topic: “Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years”. Guided by four research questions, this study has probed and provided answers to these research questions through its findings grounded on data obtained from three sources, namely, participants’ interviews, classroom observations and documentary evidence (teachers’ journals).

To reiterate Research Question One: How do teachers in selected preschools in Singapore define play as a means to learning, teacher-participants had categorically expressed their views that play is pleasurable. Subsumed under this first category, the themes were play is fun, play is freedom of choice and play is voluntary. Play is also learning opportunities where children learn through hands-on, peer interactions, child-initiated, process-oriented and guided discovery.

Next, Research Question Two: What do preschool teachers see as the benefits of play as a means to learning, findings from the study revealed that teacher-participants were of the opinion that play contributed to the cognitive growth (academic concepts and problem solving); social development (turn-taking and

learning to work with others); emotional development (confidence building and sense of self-esteem); and physical development (gross and fine motor skills).

For Research Question Three: How do preschool teachers see their roles in promoting learning through play, the findings of this study revealed that participants perceived their roles to include engagement with children (guiding behaviours, role model, demonstrating mutual respect, playmate/friend and as facilitator); as reflective pedagogues (playing the roles of an observer, planner and evaluator) and working in partnership with parents (as educators).

Lastly, Research Question Four: What do preschool teachers see as obstacles to using play as a means to learning, the findings of this study had identified three categories of obstacles, namely, structured constraints (time, resources, budget, space and staff training); classroom management (children's behaviours and classroom composition); and attitudinal constraints (parental expectations, collegial support, management support and principal's/supervisor's expectations).

6.2 Limitations of the Study

Although the findings of this study have addressed the four research questions thoroughly, it must be highlighted at this juncture that these findings were subjected to the following limitations. They were:

- i. The results of the study must be interpreted within the context of the small sample of eighteen teacher-participants. The findings, though illuminating in its own case-worth, have to be used and placed in this perspective. While generalisation of the study may not be possible, it is nonetheless possible for other researchers to use the findings of this study to gain useful and valuable insights on the research topic in early childhood education, guided by audit trail and rich contextual descriptions of the study.
- ii. This is an exploratory study and involved early childhood teachers' perspectives on the four aspects of play, namely definitions of play; benefits of play; role of teachers in promoting learning through play; and the obstacles to using play to promote children's learning. Due to manpower, time and resources constraints, it is not possible for me to obtain broader and deeper understanding of teacher-participants' perspectives on these four areas through additional interviews, classroom observations and obtaining participants' journals covering a longer period.
- iii. Although I have employed a strategy of maximising variations to select participants in an attempt to mitigate the effects of possible skewed sampling which may lead to bias findings, it should be noted that out of the eighteen teacher-participants, there is only one male participant in the study. I had planned

for two to three male participants to be involved but it was unfortunate that two potential male participants had resigned from their work centres and were not contactable subsequently.

- iv. It is important to recognise that my position as a lecturer in an early childhood education institution may affect the data collected on the perspectives and practices of the teacher-participants (LeCompte & Preissle, 1993). Teacher-participants might engage in “showcase” pedagogies rather than doing what they normally practised in their classrooms. They might “dissemble, present an ideal self, or tell the researcher what they think the researcher should or wants to hear” (LeCompte & Preissle, 1993, p. 344).

6.3 Contributions of the Study

As an exploratory study, the interviews revealed that regardless of professional background, working experiences, age and types of preschools, all teacher-participants interviewed, except Teacher LY were inclined to the child-centred and play-based pedagogy. For this group of teachers, their beliefs appeared to have been shaped by their professional training and their experiences in teaching children, which possibly explained their inclinations towards adopting the tenets of developmentally appropriate practice and a play-based curriculum. Yet, there also existed tensions and dilemmas that teacher-participants in this study faced in implementing a play-based curriculum to promote learning. On the one hand, teacher-participants voiced their inclinations towards using the play-based curriculum. Yet, in practice, teacher-participants in this study were faced with differing obstacles which

hindered or prevented them from doing so. Such tensions and dilemma faced by teacher-participants brought out another dimension to the research topic which is highly relevant to the current Singapore preschool education environment and context. This dilemma warrants a prioritised address by preschool teachers and practitioners advocating the advancement of the play-based curriculum and developmentally appropriate practices in Singapore.

Although such tensions and dilemma are also frequently faced by early childhood practitioners in both Western and neighbouring Asian countries, such as Hong Kong, Taiwan, South Korea, (Buchanan et al., 1998; Haupt & Ostlund, 1997; Spidell-Rusher et al., 1992; Stipek & Byler, 1997; Vartuli, 1999; Hatch & Freeman, 1988; Shepard & Smith, 1988; Li, 2004; Hsieh, 2004; Kim, 2004), the recent Singapore's government emphasis on early childhood education (Shanmugarathnam, 2003; Lee, 2008), the influx of western early childhood education practices into Singapore (Straits Times dated 16 February, 18 February and 27 February, 2011), together with merit-oriented and highly competitive education system (Gopinathan, 2001; Heng, 2001; Ang, 2006); the Chinese cultural influence and parental demands for an early academic start (Ang, 2006; Lim & Torr, 2008) have collectively widened the extent of this dilemma and deepened the tensions in the Singapore context.

6.4 Implications for early childhood practices

This research study revealed that the majority of the teacher-participants (fifteen out of eighteen) dealt with these tensions by adopting a “middle-ground” approach. They were always conscious of the fact that activities should be child-centred and children should be allowed to play freely and happily, but at the same time, purposefully. Nonetheless, the extent and level of readiness to relinquish traditional teacher-directed practices in favour of adopting play-based pedagogies by early childhood teachers in Singapore varies. For example, Teacher LY felt uncomfortable to adapt activities to interest children. She perceived teacher-child interactions as one in which the child listened and followed instructions given by the teacher. Within the fifteen teacher-participants who had advocated for play-based curriculum, some had voiced reservations on their colleagues’ support to use the play-based pedagogy (for example, Teachers TA, AL, JT and HJ). Such comments by these teacher-participants had provided further evidence that early childhood practitioners in Singapore were responding to a changing society, changing policy and curricular requirements, and changing pedagogical beliefs in differing ways.

The presence of contrasting groups of teachers seem inevitable in the Singapore’s transitional phase in early childhood education, where the concepts of play and ever changing orientations of educational innovations seem to conflict with the traditional ways of teaching children (Lim & Torr, 2008). As Careless (2000) points out, teachers whose viewpoints are congruent with an educational innovation will be positively disposed towards its implementation. They show signs of professionalism in their perception of themselves as teachers and are willing to meet

the challenges and tensions positively (Careless, 2000). If, however, the teachers' beliefs are incompatible with the innovation, they will be likely to resist the change (Careless, 2000).

Here, it will serve the early childhood industry in Singapore well to structure two levels of changes in the development of early childhood teachers as professionals, targeting individuals in the provision for professional development as well as institutional strategies to support this professional development. All participants in this study had taken professional courses or attended training on child development and had knowledge about child development and play. To this end, early childhood practitioners should continually avail themselves of professional development training as such training not only advances new knowledge (both theoretical and pedagogical), but also serves to influence teachers' belief structures and attitudinal dimensions towards using play as a curricular tool. Studies have shown that in-service training of early childhood teachers helps to improve the quality of early childhood classroom environments and prepare teachers to handle pressures of early academic preparation and challenges of differing expectations with third parties (for example, parents, principals/supervisors, management) (Mangione & Maniates 1993; Sherman & Mueller, 1996; Smith & Croom, 2000, Wien, 1996).

On the institutional front, educational policy makers and others involved in preschool education such as professional organisations, administrators and researchers have to keep pace with development in the field of early childhood education. They can provide support to early childhood teachers by way of creating conducive climate

to adopt and adapt to education innovations and developing classroom environments which support play-based learning. In addition, administrators could provide teachers with structural support such as teaching resources, appropriate play materials and time, visits to other school sites and attend related early childhood education conferences to update teachers with knowledge of current early childhood best practices. Early childhood teachers should be empowered to act on improving classroom curriculum and teaching methodologies after their professional training.

Knowledge about child development and early childhood education is equally important to the community-at-large and in particular, parents. Teacher-participants in this study expressed persistent parental concerns about using play to promote children's learning and development. A possible reason may be the parents' lack of knowledge or understanding about the early childhood education. Parents' beliefs about how children learn are formed from a mix of personal and cultural experiences, including their own experiences in education. This is a clear signal to early childhood educators, advocates and policy makers that this attitudinal obstacle requires concerted and targeted educational campaigns (such as "parent education" classes) to help inform and change the mindset of parents to accept early childhood education innovations.

Changing cultural mindsets is complex and rarely straightforward (Fullan, 1991). A collaborative culture encouraging teaching for understanding seems crucial. There can also be dialogues between teachers, administrators, professional organisations and parents about play-based curriculum and their importance for young

children's development and learning. This means that when designing and assessing a play-based curriculum for children, the beliefs, values and practices of a given community's cultural context must be considered, and that play in educational settings have to factor in differences of localised beliefs and practices. Understanding the benefits of play help educators and stakeholders to recognise play as a conduit to learn and develop rather than as a challenge (Spodek & Saracho, 1998).

On the world stage, countries are continually working on improving their early childhood practices in an attempt to address the quality and the accountability issues of early childhood education (Bertram & Pascal, 2002). Therefore, it may serve Singapore early childhood education well to continue upgrading the level of early childhood professional training in Singapore. In this respect, it is noted that in Asian countries like South Korea and Japan, the majority of early childhood teachers are graduate-level trained (Kim, 2004; Bertram & Pascal, 2002). In Japan, the majority of the early childhood teachers held similar qualifications as elementary school teachers who are university-trained as a norm, with a minimum of three years early childhood training experiences (Bertram & Pascal, 2002).

Perhaps the time is ripe for Singapore to consider benchmarking her early childhood education entry qualifications of teachers to such Asian countries and raise the bar and target for preschool teachers to be university-trained so as to achieve comparable standards like her advanced Asian counterparts instead of the current practices where the academic profile of preschool teachers' entry qualification is at secondary school level. At present, pre-service teachers may be disadvantaged by not

having tertiary educational background which may hinder the effectiveness of imparting professional early childhood knowledge to them.

6.5 Recommendations for future research

There has been growing international concern to put in place high quality education and care services for young children (Bertram & Pascal, 2002). Research, including longitudinal studies spanning over two decades in western countries, demonstrated that high quality early childhood education helps prepare young children to succeed in school and become better citizens (National Association for the Education of Young Children, 1996; Bredekamp & Copple, 1997; Burts et al., 1992; Schweinhart & Weikart, 1997; Hirsh-Pasek et al., 1990; Marcon, 1992; Sylva & Pugh, 2005; Wood, 2007).

From the research front, the scale of this study can be expanded using a larger sample by including more preschools and teachers to share their experiences. The scope of this study can also be meaningfully extended to embrace perspectives of administrators and parents as their perspectives may serve to complement the perspectives of early childhood teachers in addressing potential gaps and challenges to be addressed by educational policy makers.

This study has opened a small window to a neglected area, which is listening to the voices of Singaporean preschool teachers. Further research is needed to understand more fully the beliefs of different groups of early childhood practitioners. From a wider perspective, in-depth research studies on differing aspects of play and

best practices on how teachers can effectively extend learning through classroom pedagogies should be identified and commissioned by both the Ministry of Education (MOE) and Ministry of Community Development, Youth and Sports (MCYS), in order to build up a pool of research-based evidence in support of early childhood best practices grounded in the Singapore context and experience. Findings from these studies can then be used to fine-tune existing early childhood education policy frameworks and/or formulate new tenets to suit future circumstances and early childhood educational landscape development.

More importantly, further research needs to be undertaken on developmentally appropriate practices and eclectic approaches at preschool levels with the view of harvesting the positive attributes from these approaches. Also, with the high level of prioritisation in education, it is timely to deploy resources to undertake longitudinal studies in an effort to ascertain the long-term benefits of engaging our children in early childhood education.

6.6 Conclusion

As noted earlier, the early childhood landscape in Singapore has entered into a transitional phase (Ang, 2006). Of late, multinational early childhood service providers have made significant presence in the Singapore's early childhood industry (Straits Times, 18 February, 2011). Along with their presence, these early childhood education providers have heightened the exposure of Western and international early childhood practices, grounded in child-oriented pedagogies and play-based curriculum in Singapore (Straits Times dated 16, 18 February and 27 February, 2011).

However, with over 80% of the Singapore's indigenous population being Chinese and having strong Confucianism orientations, tensions in the acceptance of such play-based curriculum is evident (Ang, 2006). Even though robust theoretical and research connections exist between play and children's learning (Piaget, 1962; Vygotsky, 1978; Brewer, 2004; Broadhead 2004; Degotardi, 2005; Wood, 2007; Hirsh-Pasek et al., 2009; Frost et al., 2005), there are contradictory forces at work such as parents, administrators and even some early childhood teachers have this pervasive attitude that play does not contribute to learning and development (as indicated in the findings of this research study).

Overcoming these challenges and biases will require a multi-pronged strategy by teachers, stakeholders and researchers. To-date, even with the introduction of the Kindergarten Curriculum Framework which prescribed the play-based curriculum to preschool teaching, not all classrooms subscribed to a play-based curriculum (Ang, 2006 & 2008). Many early childhood teachers tend to adopt a "middle-of-the-road" approach, combining teacher-directed and child-initiated approach to teaching (Buchanan et al., 1998; Marcon, 1992; Hatch & Freeman, 1988; Oakes & Caruso, 1990; Smith & Shepard, 1988; Wien, 1996). To this end, it is important that the early childhood teacher education programmes in Singapore emphasise the incorporation of play in the early childhood curriculum so that early childhood teachers are well versed in play theory, research and more importantly, how to use play as a curricular tool to help children learn and develop multi-dimensionally. There is also a need to inculcate better advocacy of play to concerned parties so that parents, administrators, policy makers and the like are cognisant of the educational benefits of play.

Both classical and contemporary research studies have indicated the importance of play in children's learning (Brewer, 2004; Broadhead 2004; Degotardi, 2005; Wood, 2007; Hirsh-Pasek et al., 2009; Frost et al., 2005). The current study highlights the different perspectives and beliefs held by teacher-participants. Teachers' beliefs are important as they determine the extent to which they will support and encourage children to play in their classroom settings; participate appropriately in children's play activities; and be an advocate in children's play. This ongoing dialogue is important as both history and research have informed us that any attempts to make changes to preschool education without considerations of the voices and thoughts of classroom teachers who are involved in the realities of teaching have often resulted in superficial change fraught with misunderstanding and misinterpretation (Walsh, Smith, Alexander, & Ellwein, 1993) or even worse, strong resistance to change (Sarason, 1996).

Singapore has always placed a premium on education that will now begin before primary school (Khoo, 2010). The tide of change in Singapore's early childhood education has been set in motion with education innovations being recognised by the government and introduced by early childhood education institutions (Ang, 2006). The willingness and ability of early childhood education practitioners in Singapore to accept and advance such educational innovations (play-based curriculum included) will ultimately move the early childhood education towards a more creative and innovative way of learning for children.

6.7 Chapter Summary

This study explored early childhood teachers' perspectives and practices on children learning through play in the Singapore context. In the earlier chapters, the research aims, significance of the study, review of literature, methodologies used in the study, analysis of data and findings, and discussions of findings have been addressed. In this concluding chapter, answers to the four research questions are summarised and presented. These answers, which are grounded in the findings of this study, should be read within the context of the limitations of the study. Nonetheless, this study has made meaningful contributions to the existing pool of play literature by way of recognising the voices of early childhood practitioners in the Singapore preschool context. From a practical viewpoint, the implications and recommendations for actions arising from the findings of this study are highlighted in section 6.4 and section 6.5. The closing comments of this study are presented in section 6.6 of this chapter.

Appendices

Appendix 1: Personal particulars form

Name: _____

Age: _____

Gender: _____

Professional qualifications (Please tick):

Professional Qualifications	CPT	DPT	DPL	Degree
Year attained				

Years of experience working in an early childhood setting: _____

Number of years taught in the current school _____

What is the predominant age group of children that you teach? _____

Which of the following best describes your preschool?

Type of preschool setting	Please indicate accordingly
Business organisations	
Religious Bodies	
Community Foundations	

Appendix 2: Schedule of interview questions

Research Aim One: To understand preschool teachers' perspectives on what is meant by play?

Research Question One:

How do teachers in selected preschools in Singapore define play as a means to learning?

Guiding Questions:

- Can you tell me about your centre's philosophy? How is this philosophy being practised in your centre?
- Can you describe your beliefs about how children learn in a preschool setting?
- Can you think a little bit more about your own philosophy about working with children? What do you believe are ways to teach young children? Why?
- Can you tell me which theories of child development have been most influential to you? How has it shaped your beliefs about teaching?
- What do you understand by the term 'formal learning'?
- Do you believe children are only learning when you are teaching using a formal approach? Why and why not?
- What do you define 'play'? What does 'play' mean to you?

Research Aim Two:

To understand preschool teachers' perspectives on how play contributes to children's learning

Research Question Two:

What do preschool teachers see as the benefits of play as a means to learning?

Guiding Questions:

- Can you tell me about the types of play you provide in your classroom?
- Can you share with me on how do children learn through the various types of play that you have just mentioned?

- Do you see any benefit in play? Why and why not?
- How do you assess learning? What evidence do you have that children are learning through play?

Research Aim Three:

To understand preschool teachers' perspectives regarding their practices in implementing the play curriculum.

Research Question Three:

How do preschool teachers see their roles in promoting learning through play?

Guiding Questions:

- Can you describe your roles as a preschool teacher? What do you do?
- How do you provide opportunities for teaching through play?
- Can you describe how you plan your classroom physical environment to support children's learning through play?

Research Aim Four:

To understand preschool teachers' perspectives on obstacles they encounter in using play to promote learning in preschool classroom context.

Research Question Four:

What do preschool teachers see as obstacles to using play as a means to promote learning?

Guiding Questions:

1. Have you ever been challenge when implementing the play curriculum?
2. How do these challenges/obstacles impact on the quality of your provision for play?
3. How might some of the challenges/obstacles you have identified be addressed?

Appendix 3: Classroom observation report

Name of Teacher-Participant: _____

Date and Time: _____

Describe the centre

Describe the classroom: (For example, how many children? what are the learning corners? Classroom ethos)

What was the teacher doing? (Describe the lesson being observed; how did the teacher guide, motivate and get involved with the children?)

Appendix 4: Classroom observation checklist

a. Planning Learning Environment

	Yes	No	Remarks
Space for gross motor equipment and play			
Art activities and materials			
Music and movement experiences			
Block play			
Provision for sand/water play			
Dramatic play			
Books and pictures and language activities			
Nature and science activities			
Maths and number experiences			
Use of Television, video and/or computers			
Environment sets up to allow for rich assortment of materials and activities, such as active versus quiet; open versus closed; simple versus complex			

b. Teaching strategies and interaction

	Yes	No	Remarks
Provision of concrete, hands-on experiences, play and teaching			
Supervision and guiding children; set clear expectations			
Allow choices in play experiences			
Literacy instruction			
Math instruction			
Sufficient time allocated for play			

Teacher as planner, facilitator, evaluator, role model			
Participate in play activities			

c. Provision of materials

	Yes	No	Remarks
Materials are developmentally appropriate, allowing for different levels of use and learning styles			
Accessibility of materials allowing children to know what is available , where it is used and to be kept			
Open ended materials/objects			
Closed ended materials			
Materials are rotated to maintain challenge and children's interest			
Adequate supply of materials			
Diversity in types of materials			
Materials in good conditions			

Observer's comments:

Appendix 5: Summary of classroom observations of teacher-participants

Lessons observed	MK	HJ	LY	TI	CC	AD	TA	GH	EK	AL	ET	FD	HC	Lyn	RH	TE	TL	JT	Fq
Motor skills										√									1
Math					√												√	√	3
Language	√		√			√		√	√					√		√			7
Project Work											√								1
Music and Movement		√											√						2
Art and craft				√			√					√							3
Science															√				1
Total observations																			18

Teacher AL

Activity: Outdoor (Motor skill) 11 K1 Children	It was an outdoor activity. Children were at a theme park (which was located next door to the centre). Teacher AL told the children to line up and reiterated the rules, such as turn-taking and helping one another. Teacher AL gave choices to children to choose play structures and also their playmates. She interacted with the children and would occasionally remind them of the safety aspects such as holding on to the handrails when climbing the play structures. When children asked Teacher AL to participate in the “Mother Hen” Game, she agreed and was a member in the team. She followed instructions given by the children. They assumed different roles such as playing the “Eagle” and “Mother Hen”. Children enjoyed the outdoor activity. They were running, balancing, climbing and interacting with their friends. Teacher AL gave ample notice to the children before she ended the activity. Teacher AL’s classroom was small and some of the learning corners were shared with other classes. It was an open concept and children’s cubbies were used to demarcate boundaries between the classes.
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Teacher CC

Activity: Mathematics (Number concepts 1 to 10)	It was a small group teaching of eleven children. Teacher CC tuned in with a number rhyme and explained that children would be learning how to rote count number concepts 1 to 10. Teacher CC wrote the numbers 1 to 10 on the board. Children repeated after her. She gave each child a slice of water melon and asked them to count the number of seeds in it. Children could discuss with peers. Teacher CC asked questions to gauge children’s understanding. She talked about the colours of the flesh, skin and seeds. All children were given an opportunity to talk about their slice of watermelon and the number of seeds found in it. For closure, children were given worksheet with a picture of a slice of watermelon and were told to fill in the number of seeds they had counted during the activity. Print-rich environment and children’s work were displayed. Comprehensive range of
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22 Nursery children	blocks and dramatic corner has a variety of props and costumes and children had spaces for various types of play – alone, in small groups or with the whole group. Children could choose what they wanted to do during their play time.
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Teacher JT

Activity: Mathematics (Sorting by one attribute) 13 Nursery children	Teacher JT tuned in with a song on “Teddy Bear” and explained the activity. She told the class that they were playing a “sorting” game. Children were given concrete materials (toy bears) and they told to sort by one attribute, according to “big” and “small”. Teacher JT wrote the words “big” and “small” on the board. To ensure children understood the concept, Teacher JT demonstrated further by showing them pictures of animals and cars (elephant and the mouse; bus and car) and asked children to compare the size. She asked questions to gauge children’s understanding such as finding things in the classroom that were “big” and “small”. She distributed the toy bears to the children. Children placed their bears according to the sizes into two baskets, labelled “big” and “small”. Teacher JT played “guessing” game with children –which basket has more bears? She asked children to think and problem solve. Children decided to count the two baskets of bears. There were 8 small bears and 5 big bears. For closure, children went to the learning corners (table toy and dramatic corner). Though the classroom was small, Teacher JT made it look “busy” with children’s activity and most materials were made from recycled materials.
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Teacher TL

Activity: Mathematics (Subtraction story) 15 K2 children	Teacher TL explained and tuned-in lesson. Children were given paper napkins and Teacher TL set rules like “No taking of raisins from friends”. She started the lesson by asking children to count twelve raisins and put on the napkin. As children counted, Teacher TL walked around and observed that the children counted correctly. She told children to eat three raisins and ask them to count “three”. Teacher TL then asked children for the balance left and children counted aloud. She repeated with two other examples. She then invited children to create their number story. Initially, some children stated “small number” like taking away one, two raisins. When children realised that raisins could be eaten each time, a child create his number story and said “eat all the eight raisins, how many left?” and the whole class echoed “zero”. Children burst into laughter and enjoyed the activity. Children learn number concepts one to twenty. Every child was given an opportunity to participate. For closure, children work in groups of five to solve five problem sums in the worksheets while Teacher TL observed. Each group appointed a “leader” to lead the discussion. There was social interaction and children used manipulative to assist in solving the problems. Materials were kept in plastic containers and the Math corner was shared with the K1 class.
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Teacher AD

Activity: Language (Eating junk and healthy food) 18 K1 children	It was small group teaching of nine children. Teacher AD tuned-in by asking children to recall the types of food they had for breakfast. She wrote the answers on the board – bread, biscuit, cornflakes, milo and milk. She also showed pictures of food – explained what are “junk” and “healthy” food. Next she used video to provide the visual. The video has repetitive phrase like “Are you hungry? Yes I am, Yes I am”... and a food item would appear – meat, fish, vegetables, types of fruits, French fries, sweet, canned drinks and others. Teacher AD replayed the video and invited children to guess and name the food item. Children giggled and were having fun during the lesson. There were opportunities for interactions between peers and teacher. Children were able to read the words “junk” and “healthy” food. For closure, children were given choices to the learning corners while Teacher AD taught the second group of children. Classroom setting encouraged independent learning, with rules to guide behaviour. Toys/materials were labelled and children could get access to the materials easily.
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Teacher GH

Activity: Language (Story telling) 5 Nursery children	Teacher GH read the story on “Festival” to the children. She used a big book and introduced the title of the book and author of the book. She read aloud and pointed at the words. After the first reading, she reread and explained the pictures and asked questions. She also used props (for example, red packets; oranges; fire-crackers to introduce these concepts). After the story session, she role-played with the children and pretended to be a friend visiting them during Chinese New Year. Children were giggling as Teacher GH acted like a ‘child’ in the story. Teacher GH was warmth, patient and gave wait time. Teacher GH had a child who was autistic (mild). She kept the child closed to her and was very patient in encouraging the boy to interact with peers. When the child was unable to throw the "fire crackers" after the count of three, she told the child "Fire cracker is not
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	working light again and count three". She also explained to the children why this child needed more time to do an activity and asked the children to suggest ways to help this child. Worksheets were given as closure of the lesson. Children coloured the fire crackers and mandarin oranges. The classroom was small and learning corners (such as dramatic and language) were shared with other classes.
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Teacher EK

Activity: Language (Listening, speaking and creative skills) 18 K2 children	Teacher EK used pictures and story books of babies to arouse interest. Children find the learning meaningful because they described themselves using their own photograph. She provided cues and children were given freedom to express their thoughts. Teacher EK asked open-ended questions and the class was lively and interactive. Although some children did make grammatical mistakes, she subtly re-phrased the correct sentence for the child. When a child was disruptive in class, Teacher EK reiterated the rules and reminded the child to pay attention and respect her peer when she was talking. For closure of the lesson, Teacher EK asked children to draw their own portrait and write three sentences – she gave them choices to decide what to write. The classroom was filled with relevant hands-on materials – props and costumes for pretend play; table toys; puzzles; templates for shapes; and books of different genres.
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Teacher TE

Activity: Language (Names of animals) 25 K1 children	It was small group teaching of twelve children. Teacher TE invited children to recall their experiences (using photographs taken) during the zoo field trip. She used a feely bag to arouse attention and curiosity; and tuned-in with the song "Old MacDonald Had A Farm". She used a big book to show and explain the different types of animals. All the children were able to recall and name the animals they saw. Some described the habitat and the food the animals ate. There were interactions and participations and children could link their learning experiences with the field trip to the zoo. As closure of the activity, Teacher TE asked children to pick an animal from the feely bad – named the animal, the sound it made and described the animal. Learning corners were equipped with props and toys, mostly made from recycled materials.
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Teacher Lyn

Activity: Language (Parts of our body) 18 K1 children	Teacher Lyn tuned-in using a song "I Am Glad I'm Me". She used mirrors for children to look at themselves and also their friends and see what is "special" on their faces. Children were giggling and there were interactions with peers and teacher. Children were excited and proud to talk about themselves. Teacher Lyn facilitated when children cannot read words like "dimples", "mole". She also asked open-ended questions to gauge their understanding. Classroom was displayed with children's work related to the theme 'Myself'. Rules were displayed. Block and dramatic corners located side by side, to facilitate children's dramatic play. Children given choices of two learning corners after the activity – art and language corners.
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Teacher MK

Activity: Language (Show and tell) 23 K2 children	Classroom has three learning corners, all furnished with interesting materials and props – animal masks, snap games, crosswords; word bank activities. Teacher MK started lesson by showing photographs taken on the field trip to the zoo. She showed children five finger puppets of zoo animals and asked the children to describe it. She then showed them the flash cards and asked children to describe the animal – name, eating habit and habitat. When a child cannot provide with the correct name, she asked the peers to assist the child. Teacher MK was patient, responsive and observant. She ensured every child participated in her activity and adopted teaching strategies including direct instruction (on teaching the names of animals and correct pronunciation); questioning and paraphrasing. Children could play at the dramatic, block and art corner.
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Teacher LY

Activity: Language (One-syllable spelling) 23 K2 children	Teacher LY tuned-in by telling the children that it was important to read and write. The activity was to learn how to decode (read) and encode (spell) words. Flash cards were used and teacher taught the different sounds of the alphabets. Teacher LY went through with the children 55 phonograms – such as sh, ee, ay, aw, en, n, ui, ear, etc, using flash cards. Next, the children were given spelling and they have to write their names and date. Children were not given erasers and were told to cross out the mistakes so that the teacher would see their mistakes and be aware of their problem. The spelling words were: tree, top, soup, we, seed. Teacher LY would say the word and ask the children what was the sound they heard. Children would then say the sound and write the phonogram on paper. She also wrote the phonogram on the board. The children were told to raise their hands if the answers differ. When everyone completed their work, Teacher LY collected their work. Teacher LY read a story “The Pear in the Pear Tree” by Pamela Allen. There was no interaction during this story reading process.
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Teacher ET

Activity: Project “Fish” 14 K1 and children	The children were doing a project on ‘Fish’. Children’s interests were aroused after a child brought the video on “Finding Nemo”. Teacher ET capitalised on children’s interest and project was initiated. Teacher ET brainstormed and listed children's response on what they know and what they want to know. She encouraged children’s inquisitiveness and curiosity. As the children spoke, she wrote down the answers on the white board. Teacher ET asked open-ended questions; active discussions mostly initiated by children. As a closure of the activity, Teacher ET and the children discussed what they would like to do for the next few lessons such as visiting the wet market or aquarium; visit community library to do research on fish; or to create a wall mural about fishes. Classroom is bright and ventilated. Children’s works were displayed and learning corners were equipped with material and props, which promoted self-learning.
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Teacher HC

Activity Music and movement (Body awareness) 10 Nursery children	Teacher HC informed the class that they would be having a music lesson – developing body awareness (walking, running, jumping, etc). She tuned-in with warmth up activity like “stretching” as high as possible. She would model the “wrong” action sometimes and children were alert to her actions and corrected her. She made the activity fun and interesting. For example, "Walk if teacher hit the tambourine twice; hop if teacher hits the tambourine three times". Once the children understood her instructions, the activity commenced. To give choices to children, Teacher HC asked children to suggest other alternatives like jumping; marching and galloping. Children were laughing and enjoying the activity.
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Teacher HJ

Activity: Music and movement (Parts of our body) 22 K2 children	Teacher HJ explained the activity and asked children to name their body parts and its functions. All children responded positively. In order to create more body awareness, Teacher HJ introduced music to the activity and asked children to dramatise the action song “Going On A Bear Hunt”. She used a tambourine to create more excitement and fun in the activity. Children used their bodies to perform the various motor skills - jump, climb, and stand on chairs and there was no intervention from Teacher HJ. Learning has become meaningful and children became more aware of their body parts and discovered the motor abilities of their bodies. Teacher HJ’s classroom was well decorated with children’s work. Learning corners were equipped with props and accessories related to the theme ‘Myself’. The math and block corners were shared with the K1 classes.
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Teacher TI

Activity: Art (Balloon printing) 8 K1 children	Teacher TI prepared all the necessary materials and explained the activity. She also demonstrated how to fill the balloons with water. Children were able to follow the instructions. Children were given the choice as to how much water to fill. There were laughter and fun as children were trying to hold the balloon without dropping it. Teacher TI assisted children who have difficulty to fill the balloon with water. When the activity was in progress, Teacher TI walked around and asked open-ended questions like what colour is that? How did you get this colour? What happen when you mix red and blue? It was a hands-on activity and children learned primary and secondary colours during this activity. Classroom was displayed with children’s work. Hanging mobiles were aesthetically displayed. Classroom was bright and ventilated.
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Teacher TA

Activity: Art (Making vehicles) 16 Nursery children	Teacher TA explained the activity: Children would be able to name the parts of the car such as wheels; doors, windows, wipers and mirrors; and also demonstrate their creative skills in designing their own car. Teacher TA prepare the materials -tissue boxes, crayons, markers, glue, scissors and scrap materials such as magazines and explained the process. Children were given a choice in their selection of materials and to choose the colours they liked. Children could also draw pictures or cut pictures from the magazines. Teacher TA would walk around and asked open-ended questions like: Can you tell me what vehicle are you making? Who drive this vehicle? Children's artworks were displayed; learning corners were equipped with appropriate selection of materials and books.
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Teacher FD

Activity: Art (Sculpting) 12 K2 children	Teacher FD set up the materials and explained the rules in handling the art materials. He let children explored wires, pliers and explained how to use them. Next, he explained the activity (that they were going to create a big sculpture) and let the children decided among themselves what they wanted to do. There were interactions and active discussion as children were negotiating and deciding what to do and who they want to work with "Today you go this group because last time I go that group already".. Some of them were like, "I think this wire is a thin wire for turning turning". Teacher FD asked open-ended questions and gave time for children to think and answer. There were discussions and interactions amongst the children. Children were given choices and they could move around to observe what their friends were doing. The art room was bright and well organised to allow children to use the materials independently. It was spacious and equipped with a variety of art materials – stationery, dough, clay, buttons, shells and wires to facilitate children's creative development.
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Teacher RH

Activity: Science (Baking) 12 Nursery children	This activity was not related to the theme but a celebration of Fathers' Day. Teacher RH explained to the children about Fathers' Day. To show appreciation and love to their fathers, they would be making cookies. Teacher RH prepared all the materials and demonstrated how to make dough. Children observed this process. Teacher RH gave rules and reminded children to observe safety and food hygiene for this activity. Teacher RH named the ingredients and demonstrated the baking process. It was hands-on and children used their senses to touch the flour; dough and taste (for example, sugar is sweet). Children were engrossed in their own creation and given choices to decorate their cookies for their fathers. Classroom was small but pleasant and conducive. Children's works were displayed and learning corners were equipped with materials- props and toys.
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Appendix 6: Consent form for centre

Dear Principal/Supervisor

Request for permission to carry out research study at centre

Thank you for participating in my research study entitled: “Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years”.

The purpose of this study is to find out the preschool teachers’ perspectives on play to promote children’s learning and how their perspectives affect their classroom practices. This research study forms part of the course work for the Doctorate of Education programme offered by the University of Leicester. This course work is supervised by Professor Janet Ainley, Director, School of Education, and University of Leicester.

I am seeking your Centre’s permission to participate in this study. My study will involve_____ (Name of teacher-participant) who has volunteered to participate in this study. Data collection techniques will consist of two interviews sessions, each lasting about an hour and one observation session of about forty-five minutes. Notes will be taken during the observation session and interview sessions will be tape-recorded and transcribed. The data collection process will be arranged at the convenience of your Centre and staff.

Any information that is obtained in connection with this study and that can be identified with your centre and your staff will remain confidential; and will be disclosed only with your permission. Your response will not be linked to your centre in any written or verbal report of this research study.

If you have any questions about the study, please let me know. I can be contacted at 8383-1800.

I look forward to your support and approval.

Thank you.

Yours faithfully

Chen Fong Peng
Ed D candidate 2005
University of Leicester

Appendix 7: Consent form for teacher-participant

Dear Teacher

Participation in Research Study

Thank you for taking part in my research study entitled: “Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years”.

The purpose of this study is to find out the preschool teachers’ perspectives on play to promote children’s learning and how their perspectives affect their classroom practices. This research study forms part of the course work for the Doctorate of Education programme offered by the University of Leicester. This course work is supervised by Professor Janet Ainley, Director, School of Education, and University of Leicester.

I am seeking for permission to include you in this study on teachers’ perspectives and practice with regard to the role of the play in children’s learning in preschool settings. With your consent, I will carry out observation in your classroom when you are engaging with children (one observation) for forty-five minutes. Notes will be taken during the observation session. I will also be conducting two interview sessions with you (each session lasting about an hour). Interview sessions will be tape-recorded and transcribed.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Your response will not be linked to your name in any written or verbal report of this research study and you have the right to withdraw from the study at any time.

If you have any questions about the study, please let me know. I can be contacted at 8383-1800.

Yours faithfully

Chen Fong Peng
Ed D candidate 2005
University of Leicester

Appendix 8: Consent form for parent

Dear Parents

Permission to observe children in class

(Name of childcare centre: _____)

My name is Chen Fong Peng. I am a postgraduate student currently pursuing my Doctorate of Education with the University of Leicester. I am currently doing a research paper entitled: “Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years”.

The purpose of this study is to find out the pre-school teachers’ perspectives on play to promote children’s learning and how their perspectives affect their classroom practices. This research study forms part of the course work for the Doctorate of Education programme offered by the University of Leicester. This course work is supervised by Professor Janet Ainley, Director, School of Education, and University of Leicester.

I will be observing your child’s teacher in her interactions with children during one of the classroom activities for forty-five minutes. Observation will be non-participative and I want to assure you that your child’s daily routine and learning will not be affected in anyway.

Please let me know if you have any questions about the study. I can be contacted at 8383-1800. I thank you for your understanding and support in this matter.

Yours faithfully

Chen Fong Peng

Ed D candidate 2005

University of Leicester

Appendix 9: Research ethics review

This checklist should be completed for every research project that involves human participants. It must be completed before potential participants are approached to take part in any research. It will be used by the module tutor to identify whether a fuller application for ethics approval needs to be submitted or whether the research can proceed without this.

Section I: Project Details

1. Project title:	Children learning through play: Perspectives and practices of early childhood educators in Singapore preschools serving children aged four to six years.
Statement of Research Purpose	To focus on the preschool teachers' perspectives on play to promote children's learning and how their perspectives affect their classroom practices.
Project Aims/ Research questions:	<p>Research aims:</p> <ul style="list-style-type: none">• To understand preschool teachers' perspectives on what is meant by play.• To understand preschool teachers' perspectives on how play contributes to children's learning.• To understand preschool teachers' perspectives regarding their practices in implementing the play curriculum.• To understand preschool teachers' perspectives on obstacles they encounter in using play to promote learning in a pre-school classroom context.

Research questions:

1. How do teachers in selected preschools in Singapore define play as a means to learning?
2. What do preschool teachers see as the benefits of play as a means to learning?
3. How do preschool teachers see their roles in promoting learning through play?
4. What do preschool teachers see as obstacles to using play as a means to promote learning?

Proposed methods: A case study approach using qualitative methods of data collection:

- Two interview sessions for each participant with each session lasting about an hour,
- One classroom observation (lasting about forty-five minutes) and
- Documentary evidences such as reflective journals, brochures, minute newsletter, daily activity plans)

Method of recruiting research participants Invitation and voluntary participation

Criteria for selecting research participants The criteria used during the selection include:

- types of preschool setting
- early childhood teachers' professional qualifications,
- work experiences,
- age
- gender

No. of Participants 18

Section II: Applicant Details

2. Name of researchers (applicant): Chen Fong Peng
3. Status (please click to select): Postgraduate
4. Email addresses: fp_chen@hotmail.com
- 5a. Contact addresses: 91 Lorong Marican, Singapore 417300
- 5b. Telephone numbers
a) Hp: 83831800
b) Home: 67425436

Section III: For Students Only

6. Module name and number or

MA/MPhil course and department:

7. Module leader's name:

8. Email address:

9. Contact address:

Section IV: Module Tutors/Dissertation Supervisors Only

Please tick the appropriate boxes. The study should not begin until all boxes are ticked:

The topic merits further research ☒

The student has the skills to carry out the research ☒

The participant information sheet or leaflet is appropriate ☒

The procedures for recruitment and obtaining informed consent are appropriate ☒

Comments from module tutor: This is a well-designed study, and the ethical aspects have been adequately addressed.

Section V: All Research Applicants

Please outline below whether or not your research raises any particular ethical issues and how you plan to address these issues.

- Ensuring informed consent and voluntary participation of the teachers
- Principals/Supervisors are informed and permission sought and agreed upon prior to the commencement of the research study.
- Tapes and transcripts will be used strictly by the researcher and all information will be used strictly for this research study only.
- Pseudonyms will be used to prevent identification of the participants.
- Interviews and observations summaries will be checked with the participants to ensure that the researcher captures their intended meanings accurately and appropriately.
- Procedures will be taken to ensure confidentiality of the participants.
- Each participant will receive a letter stating the objectives and relevance of the study, assuring the teachers of their anonymity, stressing their rights to withdraw from the study at any time.
- Parents of children to be observed will be informed in writing about the purpose and aims of the proposed study. The non-participative manner in which the observation is carried out will be explained to the parents to assure them that their children's daily routine will not be affected in anyway.

Are you using a Participant Information and Informed Consent Form?

YES ☒ NO ☐

If YES, please paste copy form at the end of this application.

Have you submitted a Risk Assessment Form YES ☒ NO ☐

Now proceed to the Research Ethics Checklist

Section VI: Research Ethics Checklist

Please answer each question by ticking the appropriate box:

	YES	NO
1. Does the study involve participants who are particularly vulnerable or unable to give informed consent? (e.g. children, people with learning disabilities, your own students)		X
2. Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited? (e.g. students at school, members of self-help group, residents of nursing home)		X
3. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people in non-public places)		X
4. Will the study involve discussion of sensitive topics (e.g. sexual activity, drug use)?		X
5. Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involves invasive, intrusive or potentially harmful procedures of any kind?		X
6. Will blood or tissue samples be obtained from participants?		X
7. Is pain or more than mild discomfort likely to result from the study?		X
8. Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?		X
9. Will the study involve prolonged or repetitive testing?		X
10. Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?		X
11. Will the study involve recruitment of patients or staff through the NHS?		X

12. Measures have been taken to ensure confidentiality, privacy and data protection where appropriate X

13. I have read the University of Leicester Code of Research Ethics X

If you have answered 'no' to all questions, paste copy of any Participant Information/Informed Consent Form at end of this document and then sign and date the form overleaf and then submit form to the Resource Centre. You should also all retain a copy of the form.

If you have answered 'yes' to any of the questions in Section VI, please return to Section V and ensure that you have described in detail how you plan to deal with the ethical issues raised by your research. Answering yes to questions does not mean that you cannot do the research only that your proposal raises significant ethical issues which will need careful consideration and formal approval by the Module Tutor and possibly by the Department's Research Ethics Officer prior to you commencing your research. If you answered 'yes' to question 11, you will also have to submit an application to the appropriate external health authority ethics committee. Any significant change in the question, design or conduct over the course of the research should be notified to the Module Tutor may require a new application for ethics approval.

Signatures

Date

Principal Investigator/Students

(all students must sign

Supervisor/module leader/research ethics officer (where appropriate)

Please paste copies of information/informed consent forms in here before submitting to Supervisor/Module Tutor:

Professor Janet Ainley

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