ASSESSING DEVELOPMENT

IN AND THROUGH VISUAL ARTS:

CASE STUDIES OF FIVE HONG KONG PRESCHOOLERS

CHEUNG LAI HA

EDD 2005 Hong Kong Cohort

A thesis submitted to the Faculty of Arts and Social Sciences

University of Technology, Sydney

In fulfillment of the requirements of the degree of Doctor of Education

2014

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student: Production Note:
Signature removed prior to publication.

Date: 28 February 2014

ACKNOWLEDGMENTS

I am grateful for my supervisors' guidance and patience in the whole process of my study. Dr. Kitty teRiele helped me to start the thesis, Prof. Rosemary Johnston guided me to finish it, and Associate Professor Liam Morgan promised to be the co-supervisor in the later stage of the study.

I am greatly thankful for the support of the Hong Kong Institute of Education and the school team members of HSBC Early Childhood Learning Centre, including Dr. Chan Wai Ling (the school superintendent), Miss Kwan Shan (the principal), Miss Yip Choi Ling (the class teacher). Miss Yip's help in the process was a crucial factor for the successful collection of relevant data. Special thanks have to be given to the five children and their parents who helped to provide valuable information for this study.

I send my heartfelt thanks to the chief editor, Dr. Michael Dilena, who provided positive support and valuable comments to help me going through the last stage of my study. I also convey my gratitude to the professional assistance from my editors, Miss Alexandra Green and Mrs. Chan Law Lai Chun.

And, I am grateful for the support of my sisters, mother, friends and colleagues.

It is great to have them in my life!

Abstract

Facing the request on school quality assurance requested by the Hong Kong Education Bureau, the children's development is one of the four domains in assessing the quality of a pre-primary institution. However, assessing young children's aesthetic performance is regarded as a difficult task. This thesis aims to investigate what young children's development is in and through the visual arts, and how it can be assessed. It also aims to examine the validity of the *Hong Kong Performance Indicators (Pre-primary Institutions): Domain on Children's Development* in assessing children's development in visual arts by comparing with the findings found. This qualitative research assumes that children's development is individualized and holistic, not limits in aesthetic and creative areas in the visual arts activities, but also includes the physical, cognitive, emotional, social, and cultural areas reflected in portfolios. The assumption on holistic child development in visual arts is supported by Lowenfeld (1957), Fox and Schirrmacher (2012).

Case study on five four-year-old children was conducted for seven months in an early childhood institution. Direct observation on a 30-minute visual arts activity was recorded weekly in digital format. The data were analyzed and categorized in a form of electronic portfolio, served as evidences of the children's development. The children's various areas of development were presented with reference of assessment frameworks suggested by Lowenfeld, Fox and Schirrmacher. Different growth rates and patterns of children's development are found among the five children. And, the portfolio assessment can be regarded as one of the appropriate method for assessing aesthetic development as well as development in other aspects in early childhood

settings.

The study is the first in-depth research in assessing pre-school young children's development in and through visual arts activities in Hong Kong. It may serve as a reference for preschool teachers in assessing children's holistic development in and though visual arts, as well as a study on the validity of the Hong Kong Performance Indicators on children's aesthetic development (EMB & SWD 2003).

Key words:

assessment, visual arts, performance indicators, preschooler, early childhood, case study, portfolios

GLOSSARY OF TERMS

EDB / ED / EMB, Education Bureau

The Education Bureau (EDB) is responsible for education policies in Hong Kong. The Education Department (ED) and Education and Manpower Bureau (EMB) merged to become the new Education and Manpower Bureau (EMB) on 1 January 2003; and it was renamed to Education Bureau (EDB) in 2007.

SWD, Social Welfare Department

The Social Welfare Department (SWD) is responsible for social welfare policies including the family and child care service in Hong Kong. Children aged under three are within its scope of service.

CDC, Curriculum Development Council

The Curriculum Development Council is an advisory body appointed by the Chief Executive of the Hong Kong Special Administrative Region to give recommendations to the government on all matters relating to curriculum development for the school system from kindergarten to sixth form. Its membership includes heads of schools, practising teachers, parents, employers, academics from tertiary institutions, professional from related field or related bodies and representative from the Hong Kong Examinations Authority, as well as officers from the Education Department.

Pre-primary education

Pre-primary education in Hong Kong refers to the stage of education before primary school for children who are generally aged 0-6.

Preschooler

The preschoolers or young children normally aged 2-6 in Hong Kong pre-primary institutions. The preschoolers in this study are aged four.

Visual arts

It refers to the creation or products of drawing, painting, design, sculpture, etc.

Children's talk

It refers to the child's talk to himself, his peers, teachers, and others in this study. It may be sounds, exclamations, conversations, discussion, analysis, comments, praises, a talk on one's own artwork or others' work in art appreciation activities.

TABLE OF CONTENTS

Appendices

List of figures

CHAPTER 1

INTRODUCTION

The research reported in this thesis is a case study of how and what to assess of young children's development in and through visual arts activities. It is also a response to the Hong Kong mandatory assessment document, the *Performance Indicators (Pre-primary Institutions): Domain on Children's Development* issued by Education and Manpower Bureau and Social Welfare Department (EMB & SWD) in 2003. The research focused on the performance indicators of children's aesthetic development.

The contextual background of this study and the problems created by the Hong Kong Performance Indicators that led to this study are introduced in the first part. Since there are a range of similar terms in addressing the key words, such as early childhood education and visual arts, the operational definitions of key words are stated before introducing the research questions. A further study of key concepts continues in the literature review of Chapter 2. The research questions are followed by a brief overview of each chapter, the possible contributions and the limitations of the research.

1.1 An introduction to the development of early childhood education in Hong Kong

The Hong Kong Education Bureau (EDB, the latest title renamed in 2007 from the merge of Education Department (ED) and Education and Manpower Bureau (EDB) in 2003) uses different terms in official documents and on the website to introduce early childhood education, including “pre-primary education”, “Performance Indicators (Pre-primary Institutions)” (Education and Manpower Bureau & Social Welfare Department 2003) and “kindergarten education” (EDB 2013a).

Prior to 2005 when pre-primary schools were “harmonized” and kindergartens and child care centres unified (Education and Manpower Bureau & Social Welfare Department 2002), kindergarten education for children aged 3 to 6 was taught by kindergarten teachers and monitored by the Education Department (ED). Child care services for children aged 0 to 6 were carried out by child care workers and supervised by the Social Welfare Department (SWD). There were two separate sectors providing similar services for the care and education of a similar age group (3-6 years), but these were supervised by different government departments, regulated by different ordinances and subject to different forms of staff training.

After the harmonization in 2005, teacher’s qualifications and wages were mutually recognized and transferrable. Both sectors use the same new *Operations Manual for Pre-primary Institutions* (EDB & SWD 2006) and *Guide to the Pre-primary Curriculum* (CDC 2006).

Now, the term “kindergarten” represents kindergartens and kindergarten/child care centres, collectively referred to as ‘KG’ in Education Bureau’s web pages providing an overview of kindergarten, primary and secondary education (EDB 2013a). All “KG” are privately run but are registered under the Education Ordinance of the Education

Bureau and provide services for children from three to six years old (EDB 2013a). In 2011, about 157,400 children, approximately 91% of children aged 3-5 (Census and Statistics Department 2012), were enrolled in 946 kindergartens or kindergarten/child care centres (Information Services Department 2011).

All child care centres are still subject to the registration, inspection and control provided under the Child Care Services Ordinance and Regulations of the Social Welfare Department (SWD 2013). Few centres provide child care to children from birth to age 6, and most are for children aged 2-6. If they provide kindergarten education to children aged 3-6 in the same premises, they are also required to register and be monitored by the Joint Office for Kindergartens and Child Care Centres of the Education Bureau (SWD 2013).

It is confusing to define the age range of early childhood education (ECE) from the government information. Although the website of the Education Bureau (EDB 2013a) states that kindergarten education is provided for children aged 3-6, both the revised *Guide to the Pre-primary Curriculum* (CDC 2006, p. 4) and the official assessment document, *Performance Indicators (Pre-primary Institutions)* (EMB & SWD 2003, p. 7) declare that they aimed at teaching and assessing young children aged 2 to 6. Therefore, it seems logical to state that pre-primary education or early childhood education in Hong Kong refers to the education and care for young children aged 2 to 6, though the main financial subsidy for schools and parents starts when children are three years old.

1.1.1 Problems arising from demands for "School Improvement" and "Quality Assurance"

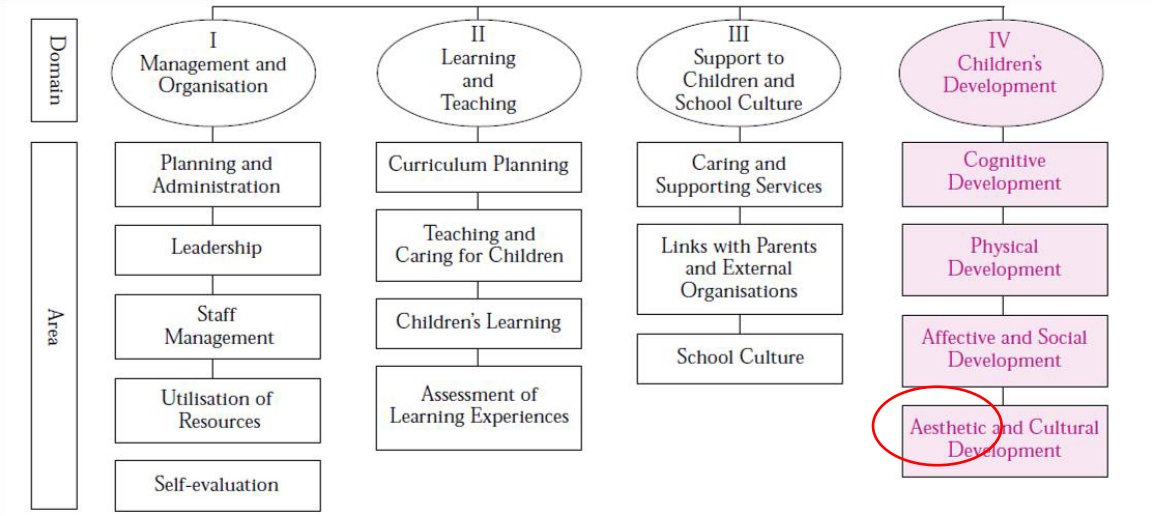
There is a great deal of emphasis on accountability in education across many countries at present. Teachers are asked to be accountable to parents, legislators, and the public. Providing for and conducting developmentally appropriate assessment of young children and their programs are some of the best ways that teachers can be accountable for what they do (Wong & Li 2010, p. 206; Morrison 2004, pp. 75-76).

A large-scale millennial education reform that influenced every sector of education was launched in 2000 to enforce quality education in Hong Kong, including the new quality assurance mechanism for early childhood education (Wong & Li 2010, p. 208). Schools had to undergo annual internal self-evaluations and external quality assurance inspection by members of the Education Department (ED). Both the schools and the ED inspectors used Performance Indicators (PIs) to assess the quality of education in the schools. Before ECE educators investigated whether PIs were an appropriate measure in early childhood education, the emphasis on learning outcomes in the official curricula and assessment documents of various countries (refer to Chapter 2) revealed a global trend in assessment and accountability. The quality assurance mechanism, including the use of the PIs is mandatory in Hong Kong, and the system is managed by the government. Once the inspections and assessments have been made, the inspection reports are uploaded onto the EDB website for public review (Wong & Li 2010, p. 208). Therefore, in 2000, it was a top-down government decision to implement the quality assurance mechanism policy, and ECE practitioners were instructed to carry out school self-evaluations (Figure 1.1) according to performance indicators, including the assessment of children's aesthetic development (the part in a red circle in Figure 1.2).

Figure. 1.1 Quality Assurance Framework in HK School Education (EDB 2008)

A set of Performance Indicators was specifically designed for early childhood education. The four sets of standards, *Performance Indicators for Pre-primary Institutions*, were gradually issued by Education Department & Social Welfare Department (EDB/EMB & SWD) between 2001 and 2003. They covered four domains of school work: i) Management and Organisation, ii) Learning and Teaching, iii) Support for Children and School Culture, and iv) Children's Development (EDB 2008). These were in turn further subdivided into areas, performance indicators (PIs), aspects, and items of performance as below:

Figure 1.2 Performance Indicators (Pre-primary Institutions) (EMB &SWD 2003, p. 4)



The quality review is fundamentally a standard-based approach to school improvement (Poon 2008, p. 24). For the first three domains, ECE practitioners were required to grade their own performance in four levels: excellent, good, acceptable and unsatisfactory. However, the Performance Indicators recommended teachers not to grade children's performance at four levels (EMB & SWD 2003, p.5).

The challenges faced by ECE practitioners were not only limited to the workload and anxiety in facing the external inspection, but also included the psychological burden caused by the mandatory transparency of visit reports (Wong & Li 2010, p. 227). The principal of a school rated a high performer in the external inspection said,

> I believe that the main problem was that the reports were made open… Remember when… the EDB put forward the QAI (quality assurance inspection), the whole early childhood education sector was immensely shocked… since the inspection reports would be made public and uploaded online. (Wong & Li 2010, p. 227)

It showed that the anxiety over a negative inspection report could have an adverse impact on a school in a highly market-driven context (Wong 2006 cited in Chan & Wong 2010).

This research did not investigate the whole set of Performance Indicators but only a very small part, the aesthetic development of children's development (a small part in the whole system marked with a red circle in Figure 1.2).

1.1.2 Intensification of pressure on quality assurance exercises due to the Pre-primary Education Voucher Scheme 2007

All early childhood institutions in Hong Kong are privately run and they are either non-profit-making or private-independent (Audit Commission 2013). Most relied on school fees collected from students for their funding, with some non-profit-making schools partially subsidized by the government before 2007. Basically, the early childhood sector was market-driven and keenly competitive in attracting students and resources in an oversupplied market (Ho et al. 2010, p. 251).

The voucher scheme had a profound impact on the early childhood sector. In 2007, the first five-year cycle of the Pre-primary Education Voucher Scheme started. It replaced the subsidy for non-profit-making schools. Between 2007 and 2012, the value of the vouchers gradually increased from HK$10,000 to HK$16,000 per child aged 3-6 who attended a non-profit-making school. In addition, for each voucher received, schools got an annual subsidy of HK$3,000 in 2007-2009 and HK$2,000 between 2009 and 2011 for the professional development of teachers. Even with increased government investment, the existing operation status quo of marketization undoubtedly continued (Poon 2008, p. 19).

At the same time, the government announced the minimum professional qualification of ECE teachers would be upgraded to certificate level by the end of the 2011-12 school

year, the last year of the five-year cycle (Information Services Department 2011, p. 150). In other words, the teachers who did not have certificates had to attend an in-service certificate course to meet the mandatory requirement by 2012.

The demand for quality assurance was intensified when the government connected passing the external quality assurance inspection with the continued subsidy of the Pre-primary Education Voucher Scheme in 2012-13. About 77% of 957 pre-primary institutions and 79% of 163,300 children benefitted under the Voucher Scheme in September 2012 (Audit Commission 2013). Therefore, about 737 schools and their teachers have to meet the requirements of the Performance Indicators in order to continue to get subsidies from the Voucher Scheme.

As a teacher-educator in early childhood education, my research was motivated by the need for an in-depth understanding of how to assess child development in the visual arts activities. Thus, this research is aimed at responding specifically to the Hong Kong Performance Indicators on children's aesthetic development.

ECE practitioners are expected to "collect evidence of children's development through various means, and then analyze and review children's development of abilities in certain areas" and "enhance the all-round development" (EMB & SWD 2003, p. 6) that builds on four aspects of development: physical development, cognitive and language development, affective and social development, and aesthetic development (CDC 2006, p. 16). The tables, flow charts and documents on the EDB's website provide a comprehensive and detailed structure for quality assurance by categorizing "domains", "areas", "performance indicators (PIs)", "aspects", "items of performance", and "children's development milestones"(summarized in Figure 1.3). The Performance Indicators are assessment tools for children's development including examples of

developmental characteristics (ED & SWD 2001, p. 4; EMB & SWD 2003).

Figure 1.3 The overall structure of Performance Indicators in Domain IV: children's development (EMB &SWD 2003, pp.13 & 29):

Area ➔	Performance ➔ Indicator (PIs)	Aspect ➔	Items of Performance	Children's development milestones
4 areas	8 PIs	15 aspects	79 items	15 charts
Cognitive development	Thinking ability	Logical thinking	7	10
		★Problem solving and creativity	6	10
	Language ability	Listening ability	5	10
		Speaking ability	6	10
		Reading ability	5	10
		Writing ability	5	10
Physical development	Physical movement	Coordination of gross motor skills	5	10
		Coordination of fine motor skills	4	10
	Health habits	Hygiene and self-care ability	5	10
Affective and social development	Affective development	Self-image	5	10
		Self-management and expression of feeling	6	10
	Social development	Social ability	6	10
		Sense of responsibility and social morality	5	10
Aesthetic and cultural development	Aesthetic development	★Creativity and ability to appreciate various forms of beauty	5 Fig. 1.5	10
	Knowledge and appreciation of different cultures	Knowledge and appreciation of local culture and other cultures	4	10

★ Repeated concept on creativity

However, some problems are found in the structure. For example, what does repeated concept on creativity mean? Do you mean the concept of creativity is repeated at different points in children's development?

1.1.3 Problems related to the practicability of Performance Indicators

With 17-years of work experience as an ECE teacher-educator, I doubt whether teachers can use the existing Performance Indicators to assess young children's

development. In particular, I have been led to ask:

1. To what extent can teachers clearly understand and interpret the whole set of Performance Indicators of children's development which covers four areas, eight PIs, 15 aspects and 79 items listed on six pages, as well as 15 charts of "children's developmental milestones" listed on another 15 pages, in order to conduct a quality evidence-based assessment of child development?

2. To what extent can ECE educators effectively carry out a quality self-evaluation of school performance according to the set of "comprehensive, practicable, reliable and valid" Performance Indicators (EDB, 2007; ED & SWD 2001)? Are the PIs "practical" in the view of ECE educators? Similar fundamental questions were also raised by Ho et al. (2010, p. 254).

Changing what the government suggests teachers do raises significant problems because it increases the workload of ECE practitioners to an overwhelming point, something that has been raised by some practitioners in England (Department for Education 2011, p. 35). Increased workload for teachers was one of the four challenges to be mitigated mentioned in a study on quality assurance in Hong Kong (Wong & Li 2010, p. 226). The workload pressure on practitioners is fourfold because the domain of "children's development" mentioned above in point 1 is only a quarter of the whole set of Performance Indicators (Pre-primary Institutions). The domains of "management and organization", and "support for children and school culture" are mainly the responsibility of school administrators. Domain II, "learning and teaching", depends on frontline teachers to collect evidence with reference to another set of four "areas", seven "PIs", 18 "aspects" and 46 examples of "evidence of performance" over 41 pages (ED & SWD 2001).

Teachers need to study at least 62 pages of PI documents to understand the two domains of “learning and teaching” and “children’s development” that are closely related to their work, in addition to providing supporting information on the other two domains to their school administrators who have to understand and compile evidence of school quality during the internal school self-evaluation.

The first cycle of the voucher scheme ended in 2012, and ECE practitioners have now had experience in assessing children’s development and developing portfolios for each child in their classes as recommended by the *Guide to the Pre-primary Curriculum* (CDC 2006).

However, I doubt that the assessment on children’s aesthetic development provides “comprehensive, practicable, reliable and valid” evidence as required by the Performance Indicators (EDB & SWD 2003, p. 3) if some descriptors of performance are not relevant and specific. Further discussion is continued in section 1.1.5.

1.1.4 The government’s support for schools using Performance Indicators

The Hong Kong Education Bureau does not encourage quality education just by setting rules and requiring institutions to self-assess school performance and pass external supervision. It has also offered numerous resources to assist ECE practitioners to provide quality education.

A review of the information provided about Hong Kong’s Quality Education Fund (QEF) offers insights into the approach to assessment in pre-primary education in Hong Kong. The QEF was established by the Hong Kong government in 1998, and it is the major

funding source for projects that promote quality education in Hong Kong. It supports non-profit-making initiatives in pre-primary, primary, secondary, special education, and also across different sectors (EDB 2013b).

From 2006 to 2011, many of the QEF projects in early childhood education that had substantial funding concentrated on teaching and learning; very few were on assessment. For example, two individual ECE institutions were granted nearly HKD$340,000 for their projects on enhancing teacher's questioning techniques for higher-order thinking among children, and, in 2010-11, to explore science fun in children's daily life (EDB 2013b). Two collaborative projects on promoting effective methods of teaching reading and writing Chinese characters, and enhancing children's mother language development through story packages have received a total of about four million in 2009-10 academic year. A project on creating and implementing assessment charts through observation of ECE classroom practice was funded with $180,000 in the 2008-09 school year.

Between 2001 and 2011, the Education Bureau provided over 38 million Hong Kong dollars to four projects initiated by the Hong Kong Institute of Education (HKIED), the largest early childhood teacher education provider in Hong Kong. The funding was to support self-assessment and the implementation of a preschool-based curriculum closely related to the implementation of performance indicators in the revised curriculum:

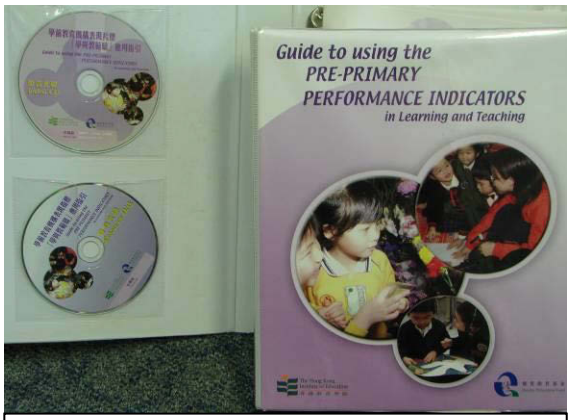


Figure 1.4 Guide to using the Pre-primary Performance Indicators in learning and teaching

(1) In 2001-03, the first of these Quality Education Fund (QEF) projects was

entitled “A self-assessment and self-improvement model for quality teaching in preschools” (Corrie 2000). The researchers worked with 12 ECE institutions to develop a model of assessment and improvement. The exemplars were published in the *Guide to using the pre-primary performance indicators in learning and teaching* (Corrie 2003). This interactive workbook has both English and Chinese versions and two CD-ROMs.

(2) In 2003-04, the project on “Assessing and Improving Learning and Teaching with the Early Childhood Performance Indicators Package” (Wong et al. 2002) can be seen as a follow-up to the previous study. It involved nine staff from the School of Early Childhood Education of the HKIED, and assisted 64 pre-primary institutions to implement school self-evaluations and improvements based on the performance indicators for “learning and teaching”. In 2004, Chinese exemplars of how to conduct assessment according to the Performance Indicators were published in the book, *Examples of early childhood institutions using the ‘Guide to using the Pre-primary Performance Indicators’ for self-evaluation and improvement* (*Wong et al.黃艾珍 2004).

(3) In 2005, QEF sponsored another project, called “A Curriculum-based Child-Assessment Model for a Quality Early Childhood Programme” (Wong et al. 2004), which aimed to construct an appropriate child assessment model that could be used by Hong Kong preschools and which would help teachers and principals use the performance indicators to assess children’s learning and development. It involved 15 staff and 15 ECE institutions. The exemplars of how to conduct assessment according to the Performance Indicators were published in a DVD-ROM and two books, *Evaluation charts for child development* (*Wong et al. 黃艾珍 2007a) and the *Guide to the Curriculum–based Child Assessment Model for the Early Childhood Programme* (Chinese version only) (*Wong et al.黃艾珍

2007b).

(4) In 2008-11, over HK$10 million was granted to a three-year project, "University-School Support Programmes: Empowering early childhood institutions in implementing an effective school-based curriculum". The project aimed to promote the child-centred learning for holistic development highlighted in the revised *Guide to the Pre-primary Curriculum* issued by EMB in 2006, and to build the curriculum leadership of 60 ECE institutions through school-based support. The experiences were shared in seminars and a book, *The Implementation of school–based curriculum in early childhood* (*Wong et al. 黃艾珍 2011).

The four projects carried out by researchers from the Hong Kong Institute of Education assisted 151 schools to improve learning and teaching, including assessment through effective implementation of the curriculum guide and performance indicators. About 18% (out of 856 local schools in 2011-12) of Hong Kong pre-primary institutions were directly involved in the projects between 2001 and 2011. The influence of the projects has been far-reaching. The public seminars, free information packs, publications about good school practice are available to all ECE institutions. Furthermore, the assessment guide produced in the third HKIED project was re-published in simplified Chinese (*Wong & Yung, 2012) in Beijing.

The performance indicators for children's development in the cognitive, physical, affective and social domains are, for the most part, written with specific and appropriate information. One notable exception is the performance indicators for children's aesthetic and cultural development.

In 2007, I was one of the 15 members involved in the Quality Education Fund project titled "A Curriculum-based Child-Assessment Model for a Quality Early Childhood

Programme" who helped to design an evaluation chart to assess children's aesthetic development. Although we found weaknesses in the structure of the indicators, we could not change the original contents that were officially listed in the "aspects" or "items of performance" in the Performance Indicators. All we could do was to follow the framework and respond as best we could to the established criteria. However, we did consider some items for deletion, such as willingness to participate in creative activities and show interest in various forms of beauty. These items are not key elements or highly relevant evidence in revealing a child's "abilities" in aesthetic appreciation or creativity. The study we produced attempted to reflect the multiple dimensions of artistic development in music and visual arts activities in Hong Kong early childhood education that went beyond the terms of children's aesthetic development listed in the Performance Indicators, such as knowledge and skills in the visual arts. Therefore, there is room for improvement in the chart evaluating aesthetic development.

1.1.5 An in-depth study of aesthetic development as reflected in the Performance Indicators

There are some "points to note" on how to use Performance Indicators (EMB & SWD 2003, pp. 4-7) which are also related to the assessment of aesthetic development.

First, schools should "collect relevant information" and "evidence of children's development through various means", not based on a single source of information, such as "regular observation, interviews and review of children's work, etc. to understand the situation of the children's development" (EMB & SWD 2003, p.5). For example, teachers should also take a photo of the child's activity and supplement this

with a brief description of the child's conversation about the activity (Figure 1.6).

Second, the Performance Indicators for child development are described as "Outcome Indicators" (EMB & SWD 2003, p. 4; 2001, p. 3). Since outcome or performance indicators should be a quantitative or qualitative measurement, often in comparison with an agreed standard or target (Dictionary 2013; Health Information and Quality Authority 2010, p. 7; Health Service Executive 2012; Bullen 1991), teachers should be able to show the children's outcomes, achievements, abilities, skills, knowledge and understanding, in other words, what the children really know and can do (Standards & Testing Agency of Department for Education 2012a, p. 9).

For the purpose of this study, the focus is narrowed to the key questions raised by the use of the following performance indicators for the assessment of children's aesthetic development. The first question is whether the items in the performance indicators are valid reflections of children's aesthetic development or ability to appreciate beauty.

Figure 1.5 Hong Kong Performance Indicators (Pre-primary Institutions): domain of children's development – aesthetic development

Aspect	Items of Performance
Creativity and ability to appreciate various forms of beauty	• able to use and try different materials and ways to express personal experience and feelings
	• willing to participate in creative activities
	• appreciate his/her own and others' work or performances
	• able to use imagination and creativity in art and design, music, dancing, imaginative play, role-playing and story-telling
	• show interest in various forms of beauty, and appreciate the beauty of life

Since the performance indicators in the other three domains have listed evidence of different levels of performance (ED & SWD 2001, pp. 7-46), it is reasonable to assume that the Education Bureau also expects schools to answer all the five items of

performance in the Performance Indicators on children's aesthetic development (Figure 1.5). Then, the possible responses are:

Figure 1.6 Possible responses to Performance Indicators (aesthetic development)

<table>
<tr><th>Items of performance</th><th>evidences</th></tr>
<tr><td>• Able to use and try different materials and ways to express personal experiences and feelings

Response: Yes, Ting was able to use pencil and coloured paper to express her experiences in Singapore
Doubt: Was the work or process creative?</td><td rowspan="4"> 

A15_M2U14_Ting_ “It’s Singapore… I’ve been there and South Africa….There is smoke above the (red) chimney… a child is bathing inside the (yellow) house.” The teacher asked why she could see the child inside the house. Ting replied that the door and window were closed.</td></tr>
<tr><td>• Willing to participate in creative activities

Response: Yes, she was.
Doubt: Was the attitude, willingness to participate in an art activity, valid evidence of creative development?</td></tr>
<tr><td>• Appreciate his/her own work and others’ work

Response: Yes, Ting took the initiative to introduce her artwork to the researcher.
Doubt: Was the action a valid indicator of her aesthetic development or ability to appreciate the work of others?</td></tr>
<tr><td>• Able to use imagination and creativity in art and design….

Response: Yes, Ting was able to use her imagination. She said there was a child bathing inside the yellow house.</td></tr>
<tr><td>• Show interest in various form of beauty and appreciate the beauty of life (attitude)

Response: Yes, Ting used pencil and coloured paper to make an artwork, and took the initiative to introduce her artwork to others.
Doubt: How should beauty be defined? What is the beauty of life?
Was the attitude, showing interest in beauty, valid evidence of aesthetic development or ability to appreciate beauty?</td><td></td></tr>
</table>

The responses from the child and teacher are direct answers to the established criteria.

This raises a number of further questions that should be asked of the teachers:

1. Are they appropriate items of performance and satisfactory responses? If yes, then these research questions nearly end here. If no, then the enquiries go on.
2. Have the children's responses provided "relevant information" or evidence to show their aesthetic development as indicated in the Performance Indicators?
3. Do the Items of Performance reflect a child's "creativity and ability to appreciate various form of beauty" in a valid manner as stated in the Aspect? Are they measureable, "practicable, reliable and valid" Performance Indicators (EDB & SWD 2003, pp. 3, 5)?
4. Why does creativity suddenly appear in the Aspect of Performance Indicators for aesthetic development as well as cognitive development (Figure 1.3)?
5. How can the performance of aesthetics and creativity be identified if most teachers do not have clear concepts of them?

The Performance Indicators in the Domain of Children's Development stated that it was not advisable to grade children's performance at four levels (excellent, good, acceptable, and unsatisfactory), like the rating scales in the Domain of Learning and Teaching (ED & SWD 2001, pp. 4, 7), or to standardize children's development by age. However, children's developmental characteristics in other areas, like motor skills and language, are defined for each year group from birth to age 6 in the *Guide to the Pre-primary Curriculum* (CDC 2006, pp. 80-92). The *Performance Indicators (Pre-primary Institutions)* also stated that,

> In respect to the criteria for the development of children aged two to six…, ten developmental characteristics are specified for each aspect of the performance indicators to reveal the progressive development of children and provide examples for reference. Though the developmental characteristics of each aspect are arranged in a hierarchical pattern, children may display only one particular developmental characteristic or more than one at the same time. (EMB & SWD 2003, p. 7)

Such statements contain examples of ambiguity and contradiction. If educators are not expected to grade their children's performance, then why is a 10-points progressive developmental milestone for each aspect listed in detail in Appendix 1.1 (EMB & SWD 2003, p. 29)? The Developmental Milestones in PIs were designed to define children's development in a hierarchical pattern. Why should they not be a standard for schools' reference and subject to fine tuning according to each individual's context? Why not ask schools to develop their own expectations based on similar criteria or theories of child development?

The Performance Indicators have the appearance of being based on the individual. It also states that "a child may excel in one area but display a less satisfactory level of performance in another" (EMB & SWD 2003, p. 6), and urges schools to "evaluate the effectiveness of teaching and learning", "improve the quality of learning and teaching continuously", and "cater for individual needs" (EMB & SWD 2003, p. 5). However, it also suggests to schools that they "use the results of children's data on either class or school level for self-evaluation, and reflect on the overall balance and appropriateness of the quality of the educational programmes and services provided" (EMB & SWD 2003, p. 6). Does this imply that the Performance Indicators are intended to have a dual function – (1) individual assessment for learning, and (2) group assessment for accountability or learning - two different purposes of assessment as defined by Nutbrown (2010, p. 241)? If so, the descriptive responses to the aesthetic performance indicators in Figure 1.6 can hardly be turned into measures of performance in class or at the school level, unless a checklist is used to record whether a child is able or unable to appreciate his own work.

Are these "points to note" in the Performance Indicators showing the paradox or flexibility for teachers?

Hong Kong Performance Indicators advise pre-primary institutions to consider their own teachers' understanding of the assessment tool before adopting it for self-evaluation (EMB & SWD 2003, p. 3). The purpose of this advice is unclear, since all schools are required to conduct a self-evaluation using the assessment tool in the daily practice, no spare time for better understanding before use.

The Performance Indicators also state that schools should set reasonable expectations for a child's performance and then monitor his or her development with reference to contextual factors (EMB & SWD 2003, p. 5).

However, is it too demanding if we expect an official assessment tool to be specific and clear enough to be understood and applied by the majority of teachers? What is the other "set of expectations about children's performance" that is even better and more valid than those stated in the PIs? Why are the EDB officials so confident that all schools can tailor-make their own set of expectations/ standards that are both valid and reliable, even though they know that many teachers have had only one-year of in-service teacher training?

Furthermore, there are doubts about the fundamental design of the performance indicators for aesthetic development:

(1) Have these performance indicators and items (Figure 1.5) in the mandatory document covered the appropriate aspects of children's development in the arts, including the visual arts? Do the arts, specifically the visual arts, only contribute to aesthetic and creative development? What about the emotional and physical growth that is often mentioned when we talk about the merits of the visual arts?
(2) Have the Performance Indicators accurately covered the appropriate items? In comparison, the performance indicators of cognitive, language, physical and social

development ask for evidence of performance mostly in the form of "observable abilities" and behaviours; i.e. thinking, language and social abilities, physical skills and social behaviours (EMB & SWD 2003, p. 8). Why do the indicators of aesthetic development ask for a wide range of evidence of: (i) attitude (willingness to participate; a show of interest), (ii) unclear and abstract outcomes/ performances based on philosophical concepts, such as aesthetics and beauty, and ill-defined terms, such as creativity, and (iii) sophisticated abilities, such as "the ability to appreciate various forms of beauty" (EMB & SWD 2003, p. 13)?

It is undeniable that education treasures the learning process in which the tangible (i.e. knowledge and skills) and intangible (i.e. attitude and value) learning can be nurtured that finally bring the learning outcomes. This is the task of a national curriculum. An official assessment should have its own functions and specific required outcome. A curriculum encourages teachers to nurture students' interest and love for arts and states the expected outcome but cannot force students to like arts. Therefore, some learning outcomes in a curriculum do not need to be evaluated; such as thinking activities in the process, interest in various forms or beauty, or the love for the creation of art (EMB & SWD 2003, pp.13, 29). If a performance indicator is a criterion by which a person's performance or achievement can be assessed by comparison with an agreed standard of target in order to promote accountability and quality (Dictionary 2013; Health Service Executive 2012; Health Information and Quality Authority 2010, p.7; Bullen 1991), then not every component or intangible learning in a curriculum is subject to be assessed. For example, the tangible outcomes of child development are chosen to be evaluated according to Hong Kong Performance Indicators (PIs); such as the reading skills, body balance or hygiene habits (EMB & SWD 2003, pp.10-11). The British Early Years Foundation Stage Profile (Standards & Testing Agency of Department

for Education 2012a, p.9) also focuses to assess and understand what student really know and can do. Therefore, attitude and value in the aesthetic development of Hong Kong PIs are not appropriate items of performance indicators in a mandatory assessment document.

Unlike other domains where there are detailed charts on children's developmental characteristics of physical, intellectual, language, social and emotional areas for each year group from birth to age 6 enclosed in the *Guide to the Pre-primary Curriculum* (CDC 2006, pp. 80-92), there are no basic references for aesthetic development. Neither the curriculum guide nor the Performance Indicators has provided a clear definition of aesthetic development and creativity, except in the glossary of terms in the appendix where creativity is defined as "abilities of proposing original ideas, responding to different circumstances, and thinking and appreciating things from various perspectives" (CDC 2006, p. 93). Words such as "creativity", "beauty", "imagination" and "appreciation" repeatedly appear in the document but are too abstract to be understood by most ECE educators to be useful in assessing child development.

The domain of aesthetic development is also different from other domains, such as language ability in cognitive development, since, for instance, in the latter, teachers already have the basic concepts and skills of the Chinese language. They have learnt about listening, speaking, reading and writing abilities since their primary education. The scope of assessment contents are clearly defined in the "aspects" of language ability in the Performance Indicators, and a number of references on child development are available to help them. Teachers can evaluate children's level of language ability according to the four classifications of excellent, good, acceptable and unsatisfactory without great difficulties.

It is not practical or reasonable to assume that most ECE teachers know about aesthetics and creativity and to ask teachers to assess children's "aesthetic" development or "creativity" if there is ambiguity in the definitions. Teachers need to be clear about the traits of aesthetic and creative development so that they can collect evidence to reflect children's aesthetic development. An example of such clear descriptors can be found in the "Items of Performance" in cognitive development (EMB & SWD 2003, p. 10), but such descriptors have not yet been developed for aesthetics and creativity. The unclear descriptors may lead to each teacher and school telling their own stories based on different assumptions of aesthetic and creative development without mutual understanding. Without a common definition for creativity and aesthetics, I doubt whether performance indicators can be regarded as an effective tool for assessing children's development in aesthetics and creativity.

1.2 The definitions of key terms

The lack of a clear system of assessment terminology and a specific age range for assessed children causes difficulties for curriculum writers, teacher educators, school administrators and practitioners to clearly and appropriately plan, design, monitor and assess child development. The ambiguity of key words has also caused inefficiencies and difficulties when implementing a literature review, especially when searching online. Besides the term "early childhood", there are problems with defining such concepts as "performance indicators", "arts", "art" and "visual arts" in the integrated curriculum, and "assessment" or "observation" when investigating how to assess child development in the visual arts. If the scope for observation and assessment of child development is wrongly set, then it is difficult to precisely reflect children's

development. For example, depending on how the terms “aesthetic” and “artistic” are defined, should we assess the “aesthetic development” or “artistic development” of young children? Some fundamental concepts, such as early childhood education, visual arts, are discussed in Chapter 1. Specific key terms, like “creativity” and “aesthetic development”, and methods of investigating child development, that involve a comparatively in-depth literature review on scholarly work, official curricula and assessment documents are discussed in the literature review of Chapter 2.

1.2.1 Early childhood education

Unlike the clear terminology defining primary / elementary education, there is a great variety of acceptable terms that have been used to describe the educational services for young children before formal school education begins: i.e. early childhood education, pre-primary education, early years learning, kindergartens, preschools, preschoolers,…etc. Some major concepts are listed below:

Figure 1.7 Terms used for educational services before formal schooling

Terms	Definitions
Infancy	from birth to 5 years (Shrimali 2008)
Infancy and toddlerhood	birth to 2 years (Berk 2008)
Early childhood	from 2-6 years (Berk 2008) 3 - 6 years (Cook & Cook 2010)
Early childhood education	Birth through age 8 (National Association for the Education of Young Children 2003; Hong Kong Institute of Education 2015) Casper & Theilheimer 2010; Feeney et al. 2009; Fung & Lee 2008; Snow, et al. 2008; Morrison 2004; Chan & Chan 2003; National Association for the Education of Young Children 2003; Isenberg & Jalongo 2001; Mac Naughton, et al. 2001; Krechevsky 1998; Kindler 1995; Wright 1994;

	Mc Whinnie 1992
Later childhood	From 5-12 years (Shrimali 2008)
Preschool (years)	The years between 3 and 6 (Feldman 2010, p.184) Brown 2010; Ho 2007; Rao & Koong 2000; Krechevsky 1998; Wortham, et al. 1998
Early years	*Early Years Learning Framework* for Children from Birth to Five Years (Australian Government Department of Education Employment and Workplace Relations 2009) *Early Years Foundation Stage* for Children from Birth to Five Years (Department for Education 2011) (UK) *Nurturing Early Learners: A Curriculum Framework for Kindergartens* in Singapore (Ministry of Education 2012) Ho, et al. 2010; Li & Wong 2008; MacIntyre 2007; Roberts-Holmes 2005; Smidt 2005; Eglinton 2003
Pre-kindergarten	4-years: *Prekindergarten Performance Standards* (New York City Department of Education 2003)
Pre-primary	2-6 years: *Guide to the Pre-primary Curriculum* (CDC 2006) (Hong Kong) 2-6 years: *Performance Indicators (Pre-primary Institutions)* (EMB & SWD 2003) (Hong Kong) Education Bureau 2013a, 2012b, 2007; Curriculum Development Council 2006 ; Corrie 2003; Curriculum Development Institute 1996
(Teaching young) Children	Fox & Schirrmacher 2012; Koster 2012; *Cheung 張麗霞 2011 & 2006; Brown 2010; Preschools and Infant-toddler Centers 2008; Isbell & Raines 2007; Talay-Ongan & Ap 2005; Warner & Sower 2005; Epstein, et al. 2004; Maxwell & Clifford 2004; Wright 2003; Jordan 2002; Gober 2002; Filippini & Vecchi 2000; Puckett 2000; Seefeldt 1999; Vecchi 1998; Mindes, et al. 1996; Thompson 1995; McAfee & Leong 2007; Spodek 1994; Beckett 1991

In fact, there are inconsistencies in terminology or a variety of terms are used even within the same set of documents. For example, the Singapore's curriculum framework used development in "early years", "kindergarten curriculum", and "pre-school education" on the same page (Ministry of Education 2012, p.4); and Project Spectrum used "preschool" under the series on "early childhood education".

In the local context, Hong Kong governmental departments adopt the terminology

somewhat loosely. For, example, a variety of terms appear within three paragraphs in the section of “early childhood education” of the Hong Kong Year Book 2008, including “kindergartens”, “kindergarten-cum-child care centres”, “kindergarten teachers”, “pre-school educators”, “kindergarten education”, “Guide to the Pre-primary curriculum” and “Pre-primary Education Voucher Scheme” (Information Services Department 2008, pp. 142-43).

On the other hand, the term “pre-primary education” is commonly found in major government education documents, i.e. the *Performance Indicators (Pre-primary Institutions)* (EMB & SWD 2003), the *Guide to the Pre-primary Curriculum* (CDC 2006), and the *Handbook on Quality Review for Pre-primary Institutions* (EDB 2012b), which are mainly for children aged 2 to 6. Among the official documents, the *Guide to the Pre-primary Curriculum* is comparatively more consistent in terminology. It mainly uses “pre-primary education”, “pre-primary institutions”, “pre-primary practitioners”, “teachers”, and “children”, and only sometimes “early childhood education” and “frontline practitioners” (CDC 2006, pp. 10, 11, 16, 24-26, 44).

The Hong Kong Institute of Education has more than 1,800 students enrolled in early childhood education programmes annually, and has provided training for 80% of Hong Kong’s kindergarten teachers over the years (Hong Kong Institute of Education 2010). It has been using the term “early childhood education” in the title of the department, as well as most teacher education programmes that cover the study of children aged from 0 to 8. As can be seen in Figure 1.7, it is obvious that “early childhood” is generally used more frequently worldwide than other similar terms, but some scholars still prefer to use the phrases “young children” or “children” when discussing the study of learning in this period.

To conclude, there is no definite terminology among scholarly work and even government documents in Hong Kong. In order to maintain a balance between a reasonable variety in writing and avoiding confusion, limited pairs of similar terms are alternately used in this study, such as “pre-primary education” and “early childhood education”; “pre-primary institutions” or simply “schools”; “teachers” or “ECE practitioners”. “Children” or “young children” indicate young children aged 2-6 in pre-primary education in this study, and especially the target group that is aged 4. The term “kindergarten” cannot cover all pre-primary institutions in Hong Kong and thus is not used in order to avoid unnecessary misunderstanding regarding the exclusion of “child care centres” in Hong Kong.

1.2.2 Visual arts

In modern usage the general term “art” refers only to the “visual arts”, but it is sometimes confused with the term “arts” that implies a range of disciplines broader than “art” (Wikipedia 2013b; Koster 2012, pp. 4-5; Fox & Schirrmacher 2012, p. 33; CDC 2006, p. 35; *Chang 蔣勳 1996, p. 15; Reid 1986, p. 31). The term “arts” usually covers literacy arts and performing arts that include music, dance, visual arts, magic, drama, theatre, opera and film.

The visual arts engage the sense of sight more than, but not excluding, the other senses, and cover a range of open-ended materials including drawing materials, paint, clay, textiles, and natural objects that offer children multiple ways to express and engage with ideas (Stevenson & Watt 2005, p. 150).

Visual arts specifically imply the activities that are related to drawing, painting, etching,

print-making, calligraphy, sculpture, construction, photography, architecture, conceptual art, digital art, artistic analysis, video games (Wikipedia 2013b; Fox & Schirrmacher 2012, p. 33; Koster 2012, p. 229; CDC 2002b, pp. 60-63; Reid 1986, p. 31), and mixed media, etc. Therefore, "visual arts" is not equal to "arts", but is a subset of the arts.

There are a number of similar terms describing art learning, i.e. art, visual arts, art and craft, art and design, etc. In the past, the term "art and craft" was commonly used in pre-primary and primary education in Hong Kong (CDC 2002b, p.46; Curriculum Development Institute 1996), while "art and design" was the subject title in secondary schools (CDC 2002b, p. 46). The term "visual arts" is used in the curriculum document, *Hong Kong Arts Education: Key Learning Area Curriculum Guide* (CDC 2002b), which adopts the unified term "visual arts" to represent art, craft, and design in primary and secondary education. It is seen as a component in "arts education", one of the eight learning areas, and schools are encouraged to create more space for drama, dance, media arts, and other emerging art forms in addition to the existing art and music subjects. Perhaps the new Hong Kong *Guide to the pre-primary curriculum* has borrowed the idea from the 2002 document, as it defines "arts" as one of the six learning areas, encompassing music, drama, dance and visual arts (CDC 2006, pp. 21 & 35). The use of the term "visual arts" is an improvement since it unifies the terminology across different levels of education. The term is also used in some references and official documents (Koster 2012, p. 228; Chen & McNamee 2007, p. 138; Althouse et al. 2003; CDC 2002b & 2003; Chen & et al. 1998; Thompson 1995; Wright 1994).

For the sake of clarity, the terms "visual arts" and "visual arts activities" are used in this study.

1.3 Research questions

Based on the previous questions raised, my research questions are:

(1) What should be assessed in and through early childhood visual arts activities?

(2) How well do the Hong Kong *Performance Indicators (Pre-primary Institutions)* assess children's aesthetic development in the visual arts?

(3) What information about children's development in and through the visual arts activities can be found in the Hong Kong local context?

1.4 Overview of the structure of the dissertation

Chapter 1 starts with the contextual background of Hong Kong early childhood education. The focus is narrowed to the analysis of Hong Kong Performance Indicators, specifically in aesthetic development. Then, the definition of the key terms of the study, such as early childhood education and visual arts is introduced before the research questions. The potential contributions to the literature and the limitations of the study are also introduced.

Chapter 2 is the literature review and continues the study on the nature of art and the conceptualization of aesthetics and creativity. School quality assurance, especially in assessing child development, is also reviewed. The study of official curricula, assessment documents, and different approaches to aesthetic and artistic development is concluded with a review of how to assess child development in and through the visual arts.

Chapter 3 introduces the research methodology. This dissertation presents the findings of a qualitative case study that took place over seven months of five 4-year-old children in an early childhood institution. Participant observation was adopted, and the data collected were recorded in digital format. The procedures of data collection and analysis as well as ethical considerations are stated.

Chapter 4 is the responses to the three research questions on what and how to assess children's development in and through the visual arts, and the analysis of the validity of the Hong Kong Performance Indicators in assessing children's aesthetic development. It is about the summary of the two concepts of aesthetics and creativity, and the individual report and conclusion of the five children's development in and through the visual arts, including physical, cognitive, emotional, social, aesthetic, creative, cultural and personal development, according to the holistic approach to assessment.

Chapter 5 consists of the summary of findings, conclusions, implications, and further recommendations.

1.5 Contributions to the field

The research presented in this dissertation aims to enhance the understanding on what and how to assess young children's holistic and especially artistic development in and through the visual arts. It also seeks to determine the validity and limitations of the Hong Kong Performance Indicators in the assessment of children's aesthetic development. The case study is also expected to offer some appropriate practices to help Hong Kong ECE teachers to assess children's development in response to the requirements of the Performance Indicators.

1.6 Limitations of the research

There are several limitations embedded in this research. First, this research was based on five case studies, and it is difficult to generalize a conclusion from such a small sample size. Second, there are different approaches in art assessment, and some researchers and ECE practitioners may not agree to the holistic approach chosen in the study. Third, there is a wide range of definitions on aesthetics and creativity; the concepts chosen in this research might not be accepted by some scholars and ECE teachers, though I think they are practicable assumptions. Fourth, the assessment methods in assessing child development between a doctoral study and classroom practice are different. Some adjustments have to be made before the methods can be applied in normal school life. Fifth, the study of child development in this project mainly focused on the researcher's observations; and different perceivers would have different interpretations on children's artwork, talk and behaviours in the visual arts. Pluralism could only help to solve the discrepancies to a certain extent. And, the assumption of "no unique right answer in art" still prevails. People are more lenient to the diversity of opinions in visual arts. Sixth, the qualitative case studies involved labour intensive processing. And, this research did not included contextual factors, and thus could not further study the contextual influences on children's behaviours in school.

CHAPTER 2

LITERATURE REVIEW

This research is about assessing and understanding child development in visual arts activities in early childhood education. It was a response to the *Hong Kong Performance Indicators: Domain on children's development*, which focuses on the area of aesthetics.

Since the descriptors of aesthetic and creative development in the Hong Kong Performance Indicators are not clear enough for teachers to use effectively, the first two parts of this chapter give a general review of the relevant research on Hong Kong school quality assurance practices, especially that use Performance Indicators to assess child development in early childhood education, and a review of the literature conceptualizing the nature of art and two key concepts: aesthetics and creativity. Later, the review investigates ways to study young children's development, and further extends to official curricula and assessment documents in other places in order to determine what should be assessed in early childhood visual arts activities, as well as to find out whether the assessment of young children's development in visual arts should extend beyond aesthetics and creativity. The review goes on to consider scholarly work on the assessment of young children's development, before selecting a framework and methods for assessing visual arts that were used for this research and might be also applicable for use by Hong Kong ECE practitioners.

2.1 An introduction to Hong Kong school quality assurance with an emphasis on assessing child development

Only a few studies and scholars (Li & Wong 2008 cited in Chan & Wong 2010, p. 235; Wong & Li 2010; Wong et al. 2008; Li & Wong 2008; Ho 2007; Wong et al. 2006) have investigated implementation issues related to the local quality assurance system in the Hong Kong early childhood education sector. Chan and Chan (2003, p. 12) have suggested the need for systematic research to examine the validity and reliability of the Hong Kong Performance Indicators and measurement tools after the release of the first set of *Performance Indicators (Pre-primary Institutions): Domain on Learning and Teaching* in 2001.

Other studies, such as the Quality Education Fund projects mentioned in Chapter 1, mostly focused on the first suggestion in Chan and Chan's study (2003, p. 12): the need to support practitioners in using appropriate measurement tools and procedures in order to assess schools' performances according to the Performance Indicators. The research reported in this thesis is probably the first to examine the validity of Performance Indicators in assessing children's aesthetic development.

Rao and Li (2009, pp.242-243) claimed that early childhood education was entering a very positive era in the history of Hong Kong education because the Hong Kong government had put enormous financial resources into teacher training, funding for research and projects through the Quality Education Fund, and the development of performance indicators for preschools. The annual quality assurance inspection reports also stated that classroom teaching had become more engaging, more child centered and more open to critical appraisal and evaluation. Furthermore, school leaders and teachers were tuned in to their pupils' voices and saw pupils as critical

evaluators responsible for their own learning (Education Bureau 2008 cited in Poon 2008, p. 24). A comparative study of the kindergarten evaluation systems in Taiwan and Hong Kong also stated that the Hong Kong evaluation system was a positive undertaking, and that Hong Kong schools were more open and willing to accept evaluation (Lin & Sung 2012, pp. 23, 28) than schools in Taiwan, despite the mandatory nature of the Hong Kong internal self-evaluation and external school inspection system. Poon (2008, p. 25) believed that with full transparency of operations and greater parental choice, market forces should drive forward continuous improvement in pre-primary institutions, resulting in Hong Kong children benefiting from quality education delivered by well-qualified teaching staff in a greatly improved learning environment.

However, there have been doubts about the quality assurance exercise. The intrinsic motivation for learning was weakened by the extrinsic motivation for results and the pressure to meet a tight deadline of mandatory qualification upgrades (Chan et al. 2009, p. 82). And, my own experience in helping teachers and student teachers to understand the Performance Indicators led me to have concerns that the Performance Indicators did not fully reflect children's development in visual arts activities.

Hong Kong preschool heads and teachers, who were "policy implementers" as well as "policy makers" (Ozga 2000 cited in Ho 2007, p. 503), had different expectations about how education could bring about the long-term development of young children. If early childhood policy was interpreted in different ways by practitioners, policies focusing only on formal structures and people in power might not bring long-term change (Yuen & Grieshaber 2009 cited in Chan et al. 2009, p. 83). I also doubted whether teachers interpreted the rather unclear items of the Performance Indicators on aesthetic development in different ways. Therefore, I agree with Ho (2007, p. 503)

that further studies, such as a study on good assessment practices in a preschool in Hong Kong (Chan & Wong 2010) were needed to examine the actual impact of implementing quality assurance policy at the pre-primary level and in classrooms.

The competence of teachers in conducting assessments is important because everything observed has to pass through the filter of the observer's mind, perspective, and unique way of viewing the world (Galper & Seefeldt 2009, p. 341). In Hong Kong, school leaders worried that teachers who had had only basic training were not ready to implement developmentally appropriate practices or to face the challenges brought by the new quality assurance exercise (Li & Wong 2008, pp. 128-129; Honig & Lim 2003 cited in Pearson & Rao 2006, p. 367).

Wong and Li (2010, p. 225) found that the schools and teachers who had been given moderate and low performance ratings in an external assessment were still struggling to comprehend how to implement basic self-evaluations, including understanding the Hong Kong Performance Indicators as the standard and criteria of self-evaluation. A teacher of a school given a moderate rating stated,

> My impression was that when (the government) required external evaluation and self-evaluation in 2000, you needed to do it immediately. But how? In fact, we did not know. My impression was that they were new to both the inspectors and us, both felt difficult, because these were instructions from the persons above. After all, how should they be carried out? Everyone was exploring. (Wong & Li 2010, p. 226)

The head teacher of a school with a low rating had the same problem,

> How do I myself view self-evaluation? I really don't know. At first, when receiving the four sets of Performance Indicators, you more or less just follow them.…I started to discuss with the teachers two years ago about Performance Indicators, but actually I myself have not yet fully grasped them. (Wong & Li 2010, pp.224-225)

Even a school which was regarded as high performer considered the professional quality of the teachers to be a major imperative and aimed to further upgrade the competencies of the staff in evaluation procedures (Wong & Li 2010, p. 227). This evidence shows the difficulty teachers had in understanding the Performance Indicators and in using them to conduct self-evaluation on the four domains of ”management and organization”, “learning and teaching”, “support to children and school culture”, and “children’s development”.

With more and more attention and resources being allocated to early childhood education, the assessment of early child development in the Hong Kong region became an urgent but difficult task for practitioners, researchers, and policy makers (Rao et al. 2012, p. 132). However, there are no globally accepted tests of early child development because of the concern that assessments developed in one country (usually Western countries) might not be valid in other countries due to cultural and contextual differences in content and assessment techniques (Sun et al. 2012 cited in Rao et al. 2012, p. 116). Therefore, it is important to develop assessment tools for child development that are relevant to a country’s specific goals (Rao et al. 2012, p. 116).

UNICEF in partnership with Columbia University launched the Early Learning and Developmental Standards Project in 2002 to deal with the lack of appropriate instruments for assessing and monitoring children’s early development and learning. The standards defined what children were expected to know and expected to do at particular stages in their development. This project resulted in the development of culturally appropriate standards in 43 countries all over the world, including several Asian countries, such as Cambodia, Lao, Thailand, Vietnam, China, and Korea by 2009 (Rao et al. 2012, pp. 116-117).

In 2006 and 2007, two Chinese child development scales were ready to be used by ECE practitioners respectively, namely the *Development Assessment Chart (revised)* (*Heep Hong Society 協康會 2006) and the *Evaluation Charts for Child Development* (*Wong 黃艾珍 et al. 2007a). The first chart was developed from teaching experiences, a literature review, and a validation study, the latter consisting of assessing such techniques as face validity, inter-rater reliability, and internal consistency (*Heep Hong Society 協康會 2006, pp. 2-4). It covered age progression for each year group from birth to age 6 in six domains - gross motor, fine motor, self-care, cognition, language, social and emotional development - providing great detail across 184 pages. The greatest weakness of this study was that it did not include aesthetic development which is the focus of the study reported in this thesis.

The second scale focused on various evaluation charts detailing child development (*Wong 黃艾珍 et al. 2007a), which were tailor made for the Hong Kong Performance Indicators (Pre-primary Institutions): Domain on Children's Development. The charts were developed by 15 early childhood education professionals as an assessment instrument for the Quality Education Fund project, "A Curriculum-based Child-Assessment Model for a Quality Early Childhood Programme", in 2007, and have undergone inter-rater reliability. The rating scale developed from these charts was considered an effective instrument in authentic child assessment for Hong Kong early childhood practitioners (Wong et al. 2008, p. 179). Although I was one of the designers of the tool for assessing aesthetic development, I see it as having limitations. In particular, since we were supposed to support the implementation of the official document on performance indicators in this government-funded project, we could not change the content of the Performance Indicators, even though some invalid items were found in the aesthetic area. The problems included the use of such terms as

"willing to participate in creative activities" and "show interest in various forms of beauty". These two items cannot be regarded as valid indications of a child's ability to demonstrate appreciation of beauty or creativity. We attempted to develop more comprehensive methods for assessing artistic development in music and visual arts activities by adding two items addressing knowledge and skills (*Wong et al. 黃艾珍 2007a, pp. 35-36). This adjustment implied that there was still room for improvement in the evaluation chart on aesthetic development.

The third child development scale introduced was the "Hong Kong Early child Development Scale (HKECDS)" for children aged from three to six years. The study underwent validation in 2011 and was published in 2012. It was developed from the scale with 142 items previously used by Opper (1992 & 1996), but was eventually trimmed down to 95 items in eight subscales: personal, social and self-care, language development, pre-academic learning, cognitive development, gross motor, fine motor, physical fitness, health and safety, and self and society (Rao et al. 2012, pp. 119-121). The scale has undergone a serious and intensive validation process by a team of academics using trials carried out on 300 children (Rao et al. 2012, pp. 120-122). In its final form, all the items on the scale could be administered to all children regardless of age by trained assessors.

However, it seems strange that the scale was claimed to be the first early child development one to consider the holistic development of preschool children and to incorporate current expectations of early child development in Hong Kong (Rao et al. 2012, pp. 115, 133), when the Heep Hong Society developed similar scales in 2006. The claim would have been more convincing if it had focused on what it had stated: (1) the work on the Hong Kong Early Child Development Scale "represented an effort to develop and validate a territory-specific early child development scale" which was a

culturally and contextually appropriate early childhood measure for Hong Kong; and (2) the "objective was to develop a measure that relied on direct assessment of children in lieu of teachers' or parents' reports and which reflected the goals and expectations for ECD (early childhood development) in Hong Kong" (Rao et al. 2012, pp. 117, 132).

However, the scale was exclusively for scholarly studies and could not be widely used by ECE practitioners to evaluate or understand child development because trained assessors were required. The school quality assurance system established by the Hong Kong Education Bureau was in fact a multi-level accountability system involving all stakeholders, including policymakers, school staff, parents, students, and the community (Chan & Wong 2010, p. 240). The government and the trained assessors of the project were no longer the sole gatekeeper of school quality. Even the children were valid assessors in self-evaluation (CDC 2006, p. 64). Moreover, the assessment areas and items of the scale were different from those in the Performance Indicators on the Domain on Children's Development, such as the exclusion of aesthetic development. It further confirmed the scale was for scholarly purposes and could not directly guide Hong Kong ECE teachers to assess their children's development according to the requirement of the Performance Indicators.

The area of aesthetic development is missing from many foreign and local reference books about child development (Bukatko & Daehler 2012; Casper & Theilheimer 2010; Cook & Cook 2010; Feldman 2010; McDevitt & Ormrod 2010; Berk 2009; Snow, Van Hemel, et al. 2008; MacIntyre 2007; Seefeldt & Wasik 2006; Pang 2002, *Heep Hong Society 協康會 2006; CDC 2006; CDI 1996), and it is even missing from the charts on developmental characteristics in the two versions of Hong Kong official *Guide to the Pre-primary Curriculum* (CDC 2006, pp. 80-92; CDC 1996, pp. 119-126). The reason for its exclusion or inclusion in official standards and scholarly works on child

development is not clear. No explanations have been given.

The following two studies revealed the neglect of artistry and creativity in assessing children's development in Hong Kong. A survey on the qualities that young children should have after receiving early childhood education (*Hong Kong Christian Service 香港基督教服務處 2002) revealed the marginal status of artistic development in Hong Kong. The 2,731 responses representing 4% of all Hong Kong ECE practitioners and 1% of parents ranged 25 qualities in four categories: extremely necessary (4), necessary (3), dispensable (2), and unnecessary (1). The highest five items were: self-care ability (3.54) and self-learning (3.49) were the top two, and artistic cultivation was ranked last and regarded as dispensable in the survey. This indicates why arts education is not treated with equal importance in the school curriculum and assessments in Hong Kong.

*Wong et al. 黃蕙吟 (2003) interviewed a group of eight leading figures in Hong Kong early childhood education and found that they thought the development of creativity was restricted by the teacher-directed approach and parents' attention on academic studies. Some teachers were enthusiastic, but they lacked training in assessing creativity. These attitudes imply a need for the professional development of teachers.

This research focused on how to assess young children's development in and through visual arts activities and explored how to meet the targets stated for aesthetic development in the Hong Kong Performance Indicators. The Performance Indicators required ECE practitioners to assess children's aesthetic development using the "evidence of children's development" (EMB & SWD 2003, p. 6). However, the two key concepts of aesthetics and creativity highlighted in the Performance Indicators were not specific enough. For example, they asked whether children were "willing to participate in creative activities", "appreciate his/her own and others' work", and "show

interest in various forms of beauty" (EMB & SWD 2003, p. 13). However, it is not clear that aesthetic development is the same as appreciation of beauty, and it is not clear exactly how we conceive beauty, creativity or ability of appreciation. Therefore, this study further examined the nature of art as well as two key concepts of aesthetics and creativity, with the purpose of finding practical definitions for these two concepts that could be applied by Hong Kong teachers.

2.2 Understanding the nature of art

2.2.1 The inter-disciplinary nature of art

Wright (2003, p. 180) once stated,

> Art as symbolic representation, as a language, can communicate across cultures, move us above the mundane, make thinking visible, create new possibilities, touch the heart, and stretch the mind. Art is a cognitive experience, a sensory experience, an aesthetic experience. Art is all of these things. (Wright 2003, p. 180)

If art is a language enabling communication across cultures and related to our emotions, then child development revealed in and through visual arts would be much more extensive and related to cognitive and emotional development. It would not be confined only to the aesthetic or creative areas stated in the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain on children's development* (EMB & SWD 2003, p. 13) but also cognitive aspect.

2.2.2 Visual arts in the integrated curriculum and their relationship to other areas of child development

A good integrated curriculum aims at an understanding of the outside world. The notion of an integrated curriculum is the predominant curriculum mode in Hong Kong early childhood education. It covers six learning areas, including physical fitness and health, language, early mathematics, science and technology, self and society, and arts (CDC 2006; CDI 1996). Art is not regarded as an independent subject in early childhood education, as it is in primary schools where there are separate art lessons. A thematic or inter-disciplinary approach in the integrated curriculum has influenced visual arts activities in early childhood education; many visual arts activities are used to support the learning of a theme (Fox & Schirrmacher 2012, p. 209; Koster 2012, p. 207). For example, learning how to play a guitar may lead to learning terminology in language and music activities, rhythm and songs in music and dance, shape and composition of patterns in mathematics and visual arts activities. The activities are an extension of the cognitive learning associated with the specific theme rather than about art particularly.

Unlike music activities and physical play that have clear individual timeslots for the whole class in the timetable of pre-primary institutions, art and craft activities often appear as part of small-group activities in which children rotate from one activity to another during a class session. The duration for a visual arts activity often only lasts for 15-20 minutes. Therefore, the child development found in visual arts activities in Hong Kong does not always focus on aesthetic development, and sometimes is more related to cognitive and physical growth.

2.3 Conceptualizing aesthetics

Fox and Schirrmacher (2012, p. 137) suggest that aesthetics is an abstract concept and that, although they feel it is important that children learn something about aesthetics, people may not be sure what the term entails. My examination of how aesthetics has been conceived begins with definitions and then extends to scholarly work on the topic.

Aesthetic definitions

The word "aesthetics" comes from the Greek "aisthetikos" which refers to perception of senses (Fox & Schirrmacher 2012, p. 137; Lankford 1992, p. 25; Skull 1988, p. 7). Dictionaries and encyclopedias (New World Encyclopedia 2013; Wikipedia 2013e; Free Dictionary 2009) suggest that aesthetics deals with the nature of art, beauty and taste, pleasing appearance, and the creation and appreciation of beauty. Some scholars have suggested that aesthetics is a branch of philosophy (Wikipedia 2013e; Fox & Schirrmacher 2012, p. 138; *Yip 葉學志 1998, p. 135; Chapman 1994, p. 3; Lankford 1992, p. 5; Skull 1988, p. 8) and that it is concerned with the judgement of value, involving an individual's pursuit of and responses to beauty (New World Encyclopedia 2013; Fox & Schirrmacher 2012, p. 13; *Yip 葉學志 1998, p. 135). Other scholars suggest aesthetics can be found in nature and objects in one's surroundings, and that it is the love, study, appreciation, perception or sensitivity to art form (Skull 1988, p.7; Fox & Schirrmacher 2012, p. 137). Some scholars have defined aesthetics as critical reflections on art, culture and nature (Wikipedia 2013e).

Aesthetics has sometimes been regarded as the study of beauty (New World

Encyclopedia 2013e; Spodek & Saracho 1994, p.460), and aesthetic enquiries have included questions, such as, “What is beauty? What are the criteria for beauty and ugliness? How can we judge, express or appreciate beauty (*Yip 葉學志 1998, p. 135)?” Socrates asked the question, “What is beauty?” over 2,400 years ago (*Ng et al. 伍振鷟 2000, p. 328); and there are still no clear answer. Santayana (1955 cited in Lankford 1992, p. 25) thought that to understand the perception of beauty is to understand the nature of aesthetic appreciation. Bosanquet’s (1892) definition of aesthetics (cited in Lankford 1992, p. 25) as “the philosophy of the beautiful” has been embalmed in the dictionaries; however, Kennick thought that it was too restrictive (cited in Lankford 1992, pp. 25-26).

Aesthetic theories in 18th century Europe identified two primary aesthetic qualities: the beautiful and the sublime (Davies 2012, p. 9). The sublime involved not only physical or artistic qualities but also spiritual greatness (Wikipedia 2014). Aesthetic qualities were related to pleasurable experience, which was counted as aesthetically positive, and to negative opposites - the ugly, the bland, the dull, or the dreary (Davies 2012, p.9). Aesthetic judgements also included terms such as witty, bouncy, lifeless, clumsy, sombre, dumpy, joyful, vivid, realistic, moving, sentimental, tragic, dainty, uncanny, handsome, gloomy, elegant, and garish. The joyful and elegant were likely to be beautiful. The uncanny, tragic, and moving were likely to be sublime.

Ginsborg (2005) says there were two main opposing traditions in 18th century Western aesthetics. The “empiricist” tradition of aesthetics stated that a judgement of beauty was an expression of feeling without cognitive content. The “rationalist” tradition claimed that a judgement of beauty consisted of the cognition of an object as having an objective property. Kant (cited in Ginsborg 2005) thought that there was an alternative to these two views which involved judgements of beauty based on both

feeling and a claim to universal validity. Adler (cited in *Ng et al.伍振鷙 2000, pp. 333-6) also thought that aesthetic judgement had both subjective and objective features. The judgement of an object could have two different aesthetic dimensions. The objective perspective was involved when the object was regarded “as admirable” and might require cognitive thinking and knowledge to understand its merits, i.e. Shakespeare’s sonnets. The subjective perspective “as enjoyable” is based on personal feeling, and the response is immediate. Adler’s idea relates to Kant’s theory in that the judgement of beauty can be universally communicable (*Ng et al.伍振鷙 2000, p. 336) or valid. Everyone who perceives the object ought to judge it to be beautiful and to share pleasure in it.

Scholars have also considered the issue of aesthetic response to uniqueness. While the judgement of some masterpieces may be universally valid and communicable, Spodek and Saracho (1994, p. 461) suggest that aesthetic perception also includes the ability to react to uniqueness and to reject clichés and the stereotypes. They say unique ideas and artwork should be respected.

Aesthetic response

According to Hobbs and Salome (1995, p. 17), an aesthetic response occurs when an artwork, or any object, is seen and enjoyed for its own sake and not for its use. Therefore, aesthetics in visual format involves the perception of visual elements, such as line and colour, and the feelings and spiritual inspiration aroused by these elements. In the realm of art, many people claim that aesthetic experience is one of the most sophisticated, important, and extraordinary aspects of human nature, and aesthetic experiences may involve intellect, emotion, behaviour, sensation, enculturation and

environment (Lankford 1992, p. 24). Skull (1988, p. 8) writes that aesthetics means the study of the relationship of art to other aspect of culture, such as religion, morality, science, industry and commerce besides philosophy. This develops the concept that aesthetics is not restricted to the visual arts.

However, aesthetics relates not only to visual arts and the other expressive arts like music, drama and dance, but also goes beyond them (Fox & Schirrmacher 2012, p. 137; CDC 2006, p. 35). Aesthetic experience is not unique to visual arts (Fox & Schirrmacher 2012, p. 137; Lankford 1992, p. 5). For example, many people claim to have aesthetic experiences while observing the grandeur of nature, and mathematicians and physicists have aesthetic responses to equations and theories. Their responses are similar to those who have strongly felt encounters with grandiose works of art (Lankford 1992, p. 5). In fact, aesthetic awareness can include smell, taste and touch.

Aesthetics in education

Lankford suggests that aesthetics might be defined as a group of concepts used to understand the nature of art for educational purposes. These concepts address all aspects of art, from process to product and response, and embrace both individual experiences and social phenomena (1992, p. 4). Even though Lankford points out that contemporary theories in aesthetics in the West seldom include beauty, he admitted that beauty was still a subject that attracted public interest and raised provocative questions (1992, p. 26). However, a discussion of beauty is unavoidable in examining the role of aesthetics and art appreciation in Chinese culture because the

Chinese terms for art “美術” and aesthetics “美感” share the common word “美” that literally means “beauty”. A discussion of beauty is still an important element of art criticism in Chinese references on art education (*Lee 李美蓉 2003; *So & Chow 蘇振明, 鄒品梅, et al. 2000; *Wang 黃壬來 1998; *Chiu 趙惠玲 1997).

Summary

The above summary of the literature on aesthetics has shown the great variety of dimensions involved in defining aesthetics. Without a clear definition of aesthetics, it is not evident how teachers should characterize aesthetics and measure children’s aesthetic development. It seems unlikely that ECE practitioners are ready to discuss artwork and beauty with children and consequently, they are not ready to assess children’s aesthetic development. Research on Hong Kong early childhood development (Wong & Li 2010, p. 226; Jones, Jones & Hargrove 2003, Person & West 2003 cited in Chan & Wong 2010, p. 236; Li & Wong 2008, pp. 128-129; Honig & Lim 2003 cited in Pearson & Rao 2006, p. 367) claims the need for teachers’ professional development and implies that teachers have difficulty in assessing children’s aesthetic development, especially when they do not clearly know what aesthetics is.

This study aims to find some practical definitions to help Hong Kong ECE teachers collect evidence of children’s aesthetic development in order to meet the requirements of the Hong Kong Performance Indicators. The evidence of children’s aesthetic development can be found in two areas: (1) children’s ability to appreciate art, and (2) their artwork. Children’s ability to appreciate art has been seen as the ability to appreciate and judge an object to be beautiful or sublime, ugly, pleasant or unpleasant, enjoyable or admirable, and natural or man-made (Wikipedia 2013e; New World

Encyclopedia 2013; Davies 2012, p. 9; Fox & Schirrmacher 2012, p. 13; *Yip 葉學志 1998, p. 135; Lankford 1992, p. 25; *Wang 黃壬來 1998; *Lee 李美蓉 2003; *So & Chow et al.蘇振明 2000; *Chiu 趙惠玲 1997). Various writers have claimed that the judgement of beauty:

- is based on both feeling and a claim to universal validity (Kant cited in Ginsborg 2005);
- can be subjective or objective (Ginsborg 2005; Adler cited in *Ng et al. 伍振鷟 2000, pp. 333-6);
- can be unique (Spodek & Saracho 1994, p. 461), universally communicable or universally valid (*Ng et al.伍振鷟 2000, p. 336);
- involves the study, appreciation, perception, and sensitivity to art forms (Fox & Schirrmacher 2012 p. 137; Skull 1988, p. 7), like line, colour and the feeling and spiritual inspiration aroused by these elements (Zhu 朱光潛 cited in *Ng et al. 伍振鷟 2000, p. 331) .

Evidence of children's aesthetic development can be seen when their artwork shows awareness when choosing particular art elements, such as colour, line etc. to express their ideas or (pleasant or unpleasant) feelings (Davies 2012, p. 9; Fox & Schirrmacher 2012 p. 137; *Ng et al.伍振鷟 2000, p. 330; Zhu 朱光潛 cited in *Ng et al.伍振鷟 2000, p. 331).

2.4 Conceptualizing creativity

The Hong Kong Performance Indicators indicate that the assessment of children's aesthetic development also involves "creativity". Teachers are asked to look for

evidence of children's development related to "creativity", "imagination", "willing[ness] to participate in creative activities", "use [of] different materials and ways to express personal experience and feelings" (EMB & SWD 2003, p. 13). One aim of this study is to address the issue of how valid and specific these descriptors of children's creative development are.

The literature on conceptualizing creativity reveals a variety of basic assumptions about creativity:

- There are no common definitions of creativity (Fox & Schirrmacher 2012, p. 5, 7; Koster 2012, p. 25; Zimmerman 2010, p. 85; *Wang 黃壬來 1998, p. 39);
- Creativity is a complex process with relationships among four "P"s - people, processes, products, place (Kozbelt et al. 2010 cited in Wikipedia 2013c), and social and cultural contexts also play a major role in determining creativity (Zimmerman 2010, p. 85; Runco 2006, pp. 124-128);
- People are not creative in a general sense; they are creative in particular domains, such as the visual arts or music (Zimmerman 2010, p. 85; Runco 2006, p. 123; Csikszentmihalyi 1988 cited in Kindler 2004b, p. 248; Gardner 1993, Sternberg & Lubart 1995 cited in Wright 2003, p. 4);
- All students should be viewed as having creative ability, but at different levels (Fox & Schirrmacher 2012, p. 17; Zimmerman 2010, p. 85; Wright 2003, p. 8; Torrance cited in *Wang 黃壬來 1998, p. 50);
- Creativity can be nurtured (Fox & Schirrmacher 2012, pp. 8-9; Koster 2012, p. 28; Wright 2003, p. 6; Torrance 1972, 1978, 1979 cited in *Wang 黃壬來 1998, p. 50).

Numerous studies have explained creativity as: an invention, a response, a process, a product, a skill, or an ability, and creativity has been seen as affected by personal

characteristics and environmental conditions, as involving uniqueness, diversity, purpose, value and problem solving ability, and as connected with previous experience (Fox & Schirrmacher 2012, pp. 7-9; Koster 2012, pp. 25-28; Wright 2003, p. 16; Isenberg & Jalongo 2001, p. 5). As there are no common definitions of creativity and many assumptions, it is very difficult for Hong Kong ECE teachers to find specific evidence of children's creative development. The following paragraphs consider the characteristics of various classic approaches to creativity. Some are applicable to this research and Hong Kong ECE practitioners' need to assess young children's creative performance.

Early childhood educators have long pondered whether creativity is a process or a product, as well as weighing the importance of the process and the product (Fox & Schirrmacher 2012, p. 6). Some young children play for the sake of playing without knowing what will result; and the value of the activity is in the doing, i.e. the process (Edwards 2006 cited in Fox & Schirrmacher 2012, p. 6). However, as some children develop skills in using art materials and techniques, they become interested in the product. Isbell (2007 cited in Fox & Schirrmacher 2012, p. 6) suggests that the importance of the product should be self-imposed and not demanded by adults. Koster (2012, p. 26) and Isbell (2007 cited in Fox & Schirrmacher 2012, p. 6) have similar views about the interdependent progression of the process and the product. The creative process or a creative set of behaviours can be seen operating whenever someone solves a problem or produces a unique product (Koster 2012, p. 26). Therefore, both the process and product are important aspects of assessing children's development in creativity.

Some researchers have regarded creativity as an integral part of how people think about and process information. For example, Wallas, in one of the first models of

creative process in 1926, identified four steps in creative thinking (Koster 2012, p. 26; *Wang 黃壬來 1998, pp. 39-40): (1) Preparation or the gathering of an idea; (2) Incubation or subconscious pondering of the problem; (3) Illumination or the "Aha!" moment when the solutions is discovered; and (4) Verification when the solution is clear. Creativity has sometimes been described as the ability to see a problem, form an idea to solve it, and then share the results (Torrance 1970 cited in Koster 2012, p. 25). It is seen as involving five steps: fact-finding, problem-finding, idea-finding, solution-finding, and acceptance-finding (Parnes 1977 cited in *Wang 黃壬來 1998, p. 40).

Guilford has proposed a model of intelligence that includes divergent thinking as one of the basic thought processes. It represents an individual's creative thinking and problem solving abilities, which can be defined as the ability to generate many different solutions to a problem (1986 cited in Koster 2012, p. 26; Guilford 1959, 1967, 1968 cited in *Wang 黃壬來 1998, p. 41; *Chen 陳龍安 1995, pp. 70-76) and which are regarded as the cognitive dimensions of creativity (Isenberg & Jalongo 2001, p. 7). Guilford's model involves the following:

(1) Fluency – being able to follow a train of thought and produce many related ideas in connection with an open-ended problem or question (Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7), i.e. a child thinks of many different ways to move like a bird (Koster 2012, p. 26), or uses a glass as a roller, a vase, a paper weight, as well as to drink from, to rinse his or her mouth, or to rear fish (*Chen 陳龍安 1995, p. 72).

(2) Flexibility – being able to use multiple approaches to solve a problem, think of ideas in different categories, or view a problem from various perspectives. This involves experimenting with different approaches if any given one fails (Fox &

Schirrmacher 2012, p. 8) or abandoning an old perspective if a new or more provocative idea suggests itself and redefining the problem entirely (Koster 2012, p. 26; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7). For example, a person changes the common use of a glass from a container that "holds" water, wine, fish, or flowers, to other uses, such as a knife by breaking it (*Chen 陳龍安 1995, p. 73).

(3) Elaboration – the ability to improve ideas by adding details or expanding them (Koster 2012, p. 26; Althouse et al. 2003, p. 127; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7), indicating comprehension of visual complexity and an extensive understanding of the characteristics of the objects or events represented. An example would be an elaborated rendering of a flower with pistils, stamens, petals, and leaves particular to its kind (Althouse et al. 2003, p. 127).

(4) Originality – being able to think of ideas or solutions that have never been thought of before (Koster 2012, p. 26). This involves producing unusual, novel, unique, or clever ideas, combining known ideas into a new form, or connecting the seemingly unconnected (Fox & Schirrmacher 2012, p. 8; Isenberg & Jalongo 2001, p. 7).

Torrance extended Guilford's approach by expanding the number of divergent thinking characteristics in the areas of problem-solving and thinking abilities from four to 17 (Torrance & Ball 1984 cited in *Wang 黃壬來 1998, pp. 41-43). These characteristics are: fluency, originality, grasping the essence, elaboration, openness, emotional expressiveness, storytelling articulateness, movement, expressiveness of titles, synthesis, unusual visualization, internal visualization, breaking boundaries, humour, richness of imagery, colourfulness of imagery, and fantasy. *Wang 黃壬來 (1998, pp. 46-49) applied Torrance's theory to pre-primary and primary children's art education

and illustrated their performance with examples in a four-page table, thus showing that it was possible to use Torrance's theory to analyze and understand young children's performance in divergent thinking.

Isenberg and Jalongo (2001, p.6) think that creativity is both a cognitive (thinking) and affective (feeling) process that is dependent upon a complex interplay of biological, social and psychological factors. Personality traits, such as curiosity, complexity, risk-taking, imagination and fantasy, have also been regarded as affective dimensions in the process of creativity (Isenberg & Jalongo 2001, p. 7).

Csikszentmihalyi's "systems approach" to creativity highlights the interaction of the individual, the domain, and the field (1988 cited in Kindler 2004b, p. 248). His study suggests that creativity is reflected in an individual's motivations, cognition and personality traits that come into play when solving a problem. This approach sees creativity in the interactions between the requirements of a particular field of study (domain, the culturally defined symbol system) and other experts (people in the field who control or influence a domain; i.e. art critics). Creativity is also found in interactions between an expert in a particular field and the public (Csikszentmihalyi 1996, 1997 cited in Koster 2012, p. 26). Kindler (2004b, p. 248) agrees that the systems view of creativity indicates a triadic, collaborative relationship between the individual, society, and culture in the creative process. However, unlike Isenberg and Jalongo (2001, p. 6), she thinks that creativity is neither biologically determined nor socially constructed, but built on certain psychobiological predispositions that are realized within a specific area of human endeavour (Kindler 2004b, p. 248).

These conceptions have led to a debate over two contradictory conceptions of how to view the origin of young children's creativity in visual arts. On the one hand, novelty

is considered relative to other people's ideas and processes (Wright 2003, p. 3). On the other hand, Lowenfeld and Brittain (1982, pp. 8, 71) state that every child is born creative, and they propose letting children develop without any interference from the outside world and with no special stimulation to encourage creative work.

Scholars have made considerable effort to characterize the personality traits that creative children and adults exhibit. The chart in Figure 2.1 shows that variety exists. Although no predominant set of criteria for creativity was found by the various scholars, some common traits, such as imagination, independence, flexibility and curiosity were identified. Wright (2003, p. 6), Fox and Schirrmacher (2012, p. 8) say that not every highly creative person possesses all of the traits.

Some scholars have suggested a specific set of traits for children because creativity in children looks different from that in adults (Torrance cited in Fox & Schirrmacher 2012, p.8; Koster 2012, pp. 27-28; Isenberg & Jalongo 2001, p. 9). The last column and coloured rows of Figure 2.1 highlight the relationship between the personality traits of creative people and the Hong Kong Performance Indicators:

Figure 2.1 Comparison of the personality traits of creative people generally and children specifically

Personality traits of creative people			Personality traits of creative children				Related to the Hong Kong Performance Indicators?
Davis 1992; Perkins 1981; Sternberg & Lubart 1995 #1	Gelineau 2004 #2	Amabile 1983; Csikszentmihalyi 1996 #3	Torrance #2	Koster #3	Isenberg & Jalongo	Runco	
				fantasy	fantasy		
		Imagine		Imagination	Imagination		Yes (imagination)
Originality	nonconformity		Originality		Unique feature of children's thought	Original	Partially (express personal experiences)
Independence	Independence; individualism	Intrinsically motivated	Self-feeling (self-importance & self-direction)	Spontaneity		Spontaneous / autonomy	Partially (willing to participate; show interest)
Energy	Impulsivity	Energetic					
Humour and ability to regress	A sense of humour; playful	Playful					
Curiosity	Curiosity		Curiosity				Yes (show interest)
Risk-taking	Take risks						
	Flexibility	Flexible	Flexibility				Partially (use different ways to express)
Attraction to complexity	A preference for complexity		Sensitivity to problems				
Artistic		Great pleasure in the act of creation					Yes (show interest)
Open-mindedness	Openness						
Perceptiveness	Strong sensory awareness						
Concentration		Highly persistent					
		Skilled in a particular area of learning					
Awareness of creativity							
Problem-redefining			Redefinition				
Need time alone							
Childlike qualities							
	Introversion						
			Insight				

#1 synthesized in Wright 2003, pp. 7-8
#2 cited in Fox & Schirrmacher 2012, p. 8
#3 cited in Koster 2012, pp. 26-28
#4 Isenberg & Jalongo 2001, p. 9

Some descriptors in the Hong Kong Performance Indicators (highlighted in orange) are related to the personality traits of creative people, such as spontaneity, flexibility and showing interest in creative activities. However, the levels of performance required

by the Performance Indicators are much lower. For example, spontaneity is a voluntary and internally directed action or manner that does not require external stimulus (Merriam-Webster 2013a). However, the fact that a child is "willing to participate in creative activities" (EMB & SWD 2003, p. 13), the second item in the Performance Indicators, does not indicate that the child shows initiative. The child may be just responding to an invitation from the teacher. So, the second item is not a precise performance indicator of spontaneity. And, one wonders whether a personality trait or attitude, such as spontaneity, is an appropriate performance indicator.

Some personality traits of creative people may provide valid evidence of children's development; some may not. For example, a child should not be regarded as creative even if he possesses many of the relevant personality traits. He may be energetic and curious about the environment, accept many different ideas, be willing to participate in activities and like to draw pictures independently and persistently, but may not be considered "creative". Neither the quantity of work nor engagement is a reliable indicator of a child's creative ability or performance in creativity. More substantial, observable and convincing performances or abilities are necessary. For example, a child may exhibit creativity by using multiple forms and rich colours to represent an experience. That type of action provides a clear picture of a child's creative levels.

The comparison in Figure 2.1 shows that some scholars regard imagination, fantasy, spontaneity and originality as the characteristics of creativity found in children. Koster (2012, p. 27), Isenberg and Jalongo (2001, p. 11) think that imagination and fantasy are the great creative assets of early childhood, and that imagination peaks during this time of a person's life. Imagination is included in the fourth item of the Hong Kong Performance Indicators (EMB & SWD 2003, p. 13). Isenberg and Jalongo

(2001, p. 11) define imagination as the ability to form rich and varied mental images or concepts of people, places, things, and situations that are not present. Active imaginations are the boundaries between reality and fantasy. For example, when a child said she had drawn "a flower with pineapple teeth", she was using both objective thought (what she knew) and intuitive thought (what she felt) to combine unrelated elements to produce a surprising new form. Her imagination and creative development are therefore revealed.

Fantasy can be regarded as a subset of imagination, involving the creation of imaginary worlds with vivid mental images or concepts that have little similarity to the real world (Koster 2012, p. 28; Isenberg & Jalongo 2001, p. 12). Children are freer from inconsistencies, convention, and literalness, and they often produce unusual and appealing juxtapositions and associations (Gardner 1993 cited in Isenberg & Jalongo 2001, p. 13). This ability, or "childlike quality" that Wright (2003, p.7) regards as one of the personality traits of creative people, is often the aim of artists (Koster 2012, p. 28; Isenberg & Jalongo 2001, p. 13). Pablo Picasso (cited Koster 2012, p. 28) once said, "Every child is an artist. The problem is how to remain an artist once he grows up". Similar idea was found in Project Zero (Davis 1997, p. 53) that children at age five were at the peak of their creativity.

Runco (2006, p. 128) developed a theory of "personal creativity" that suggests that children have the potential to construct original interpretations of experience. He defines children's creativity as behaviour that is original and spontaneous. He explains that children's creative potential is related to autonomy (independence of thought), a part of divergent thinking, and self-expression. Original ideas are unique or at least unusual, and they are found by thinking for one's self. In another words, children's creativity is the self-expression of original ideas based on independent

thought.

Originality is often seen as the most convincing indicator of creativity. However, there may be difficulty in identifying originality since the term has many definitions covering a wide range of complex ideas and expectations. A summary of the literature on characteristics of originality is provided in Figure 2.2 below.

Figure 2.2 The characteristics of originality in various approaches to creativity

Levels of complexity and expectation, ranking from the highest to the lowest	**Characteristics of original ideas or products**	**Researchers**
	Original / unusual = Novel Novel ≠ creativity Novelty in child = creativity? No, this is an example of the romanticizing of childhood Novel + appropriate + useful + quality + importance + high level of skill + as judged by others = creativity	Wright 2003, pp. 3-4
	Being able to think of ideas or solutions that have never been thought of before; recognition of creativity through evaluation and comparison to others. Fresh initiative/invention	Koster 2012, pp. 26-27 Merriam-Webster 2013b
	Original = unique	Isenberg & Jalongo 2001, p. 7; Merriam-Webster 2013b
	It has a low probability of occurrence	Isenberg & Jalongo 2001, p. 6
	Combining known ideas into a new form and connecting the seemingly unconnected	Fox & Schirrmacher 2012, p. 8; Isenberg & Jalongo 2001, p. 7
	Original = novel	Merriam-Webster 2013b; Koster 2012, p. 27; Wright 2003, p. 3; Isenberg & Jalongo 2001, p. 7
	Unusual	Isenberg & Jalongo 2001, p.7
	Children…construct original interpretations of experience… If (children) do produce something, it is unlikely to be original by adult norms. It is likely to be original only by the child's own standards. It is still original and useful.	Runco 2006, pp. 127-128

An interesting approach to understanding creativity comes from Kaufman and Beghetto (2009, pp. 2-5), who categorized four dimensions of creativity in Figure 2.3 below.

Figure 2.3 Four C Model of Creativity

Approaches	Title of the approach	Features
Big-C	Eminent accomplishments	Creative genius, novel, useful; i.e. Einstein, Freud, Churchill, Tolstoy Many theories have focused on Big-C and lead to the ideas that only certain people can be creative.
Little-c	Everyday innovation	Non-expert may participate daily; Produce perceptible product - novel, useful, unique, aesthetically pleasing in a social context; one's work is judged as more creative than the peer group's; The importance of identifying and nurturing creativity in everyday settings such as classrooms.
Mini-c	Transformative learning	Novel and personally meaningful interpretation of experiences, actions, and events; "Beginner's mind" aspects of creativity; All individuals have creative potential; Starts with the internalization or appropriation of cultural tools and social interactions; Not just copying, but rather a transformation or reorganization of incoming information and mental structures based on the individual's characteristics and existing knowledge.
Pro-c	Professional expertise	Represents the developmental and effortful progression beyond Little-c but not yet at Big-C status; Professional-level expertise in any creative area; Offers creative contributions to the field.

Kaufman and Beghetto (2009, p. 10) commented that there was too much new and exciting research being conducted that did not fall into the Little-c or Big-C categories. By focusing too narrowly on traditional distinctions of creativity (Little and Big Cs), they point out that there is the risk of overlooking the creative potential of children or minimizing professional-level creative productions of experts.

Among the four Cs, Mini-c creativity is most closely related to early childhood education, though it is not just for children. The inclusion of this category in the model of creativity helps to counter the neglect of students' potential by highlighting the importance of recognizing the creativity inherent in students' unique and personal meaningful insights and interpretations as they learn new subject matter (Kaufman & Beghetto 2009, p. 4).

The Mini-c category also emphasizes mental constructions that may not have been expressed in a tangible way, but still can be considered highly creative. Kaufman & Beghetto quoted Vygotsky who said:

> Any human act that gives rise to something new is referred to as a creative act, regardless of whether what is created is a physical object or some mental or emotional construct that lives within the person who created it and is known only to him. (Vygotsky 1967/2004, cited in Kaufman & Beghetto 2009, p.4)

The category of Mini-c creativity broadens the conceptions of creativity by recognizing that intrapersonal insights and interpretations, which often live only within the person who created them, are still considered creative acts (Kaufman & Beghetto 2009, p. 4). However, educators are likely to have difficulty in assessing children's development in creativity if the performance is not observable. Fortunately, this does not imply that Mini-c creativity is never expressed and the educators should wait for the moment when it is. Kaufman and Beghetto (2009, p.4) gave an example of Mini-c creativity in a four-year-old girl who said that she wanted to be a "mushroom princess" when she grew up. She had the Mini-c insight (which can be regarded as imagination by Isenberg and Jalongo 2001, p. 11) of combining two things she valued: mushrooms and princesses. Such everyday expressions of creativity were often overlooked in the scholarly treatment of creativity. By acknowledging these expressions as creative,

researchers and educators are likely to be in a better position to understand the genesis and development of creativity (Kaufman & Beghetto 2009, p. 4).

Among all the theories discussed in this chapter, the category of Mini-c creativity is the most inspiring, because it releases the tensions that exist among the contradictory approaches to some extent. It does not focus on classifying creative performance into existing categories, but attempts to understand the nature of creativity occurring among students before trying to illustrate the specific characteristics of each category by grouping them in a systematic way. In this dissertation, I have adopted this perspective and try to understand children's performance and ability with reference to the various characteristics of creativity mentioned so far.

Conclusions: the concepts of creativity applied in this research

While the conceptualization of creativity is still an ongoing process, Hong Kong ECE practitioners need some practical and applicable definitions to assess children's creative development in arts activities. Since the study reported in this thesis is an attempt to meet that need, the following section details the way in which the study drew on the concepts discussed in the above literature review. The assessment of children's creativity in this study was based on the following concepts:

(1) The Mini-c, transformative learning, of the four C Model of Creativity (Kaufman & Beghetto 2009, pp. 3, 11)
(2) Imagination (Koster 2012, p. 27; Isenberg & Jalongo 2001, p. 11)
(3) Fantasy (Koster 2012, p. 27; Isenberg & Jalongo 2001, p. 11)
(4) Self expression, personal creativity, or original interpretations of experience

(Runco 2006, p. 128); novel and personally meaningful interpretations of experiences, actions, and events (Kaufman & Beghetto 2009, p. 4)

(5) Flexibility and elaboration in divergent thinking ability (Fox & Schirrmacher 2012, p. 8; Koster 2012, p. 26; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7)

(6) Fluency in divergent thinking ability as supplementary (Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7)

(7) Originality in divergent thinking ability (Fox & Schirrmacher 2012, p. 8; Koster 2012, pp. 26-27; Runco 2006, p. 127; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7) with careful application

2.5 Investigative methodologies in the study of young children's development

There is a problem with the language that is used for the way that scholars and teachers study young children's development in visual arts activities. Indeed, the choice of words reflects individuals' conceptions of how to comprehend or assess children's development in visual arts that is also a focus of the visual arts curriculum.

We might regard the various conceptions of art education that lie across a broad spectrum, ranging from no assessment mentioned in the art references to a whole book about assessment. Some references to art teaching or an early childhood curriculum do not have any chapters on evaluation or assessment of children's performance or artistic development (*Poon 潘元石 2000; *Wang 黃壬來 1998; Colbert & Taunton 1990; Wachowiak 1985). At the other end of the spectrum, whole books are devoted to assessment young children development in early childhood (McAfee & Leong 1994, 2007; Mindes 2007). Studies that fall between these two extremes are related to "understanding" art or creativity (Parsons 1994; Wright 2010),

"observing and understanding" (Ahola & Kovacik 2007; MacIntyre 2007) or "documenting" (Filippini 2000) child development, and "observing and assessing" children's artistic development in the early years (Smidt 2005; Hobart & Frankel 2004; Hutchin 2003). Some references have a chapter or section on assessment (Fox & Schirrmacher 2012; Schirrmacher 1998; Kostelnik et al. 1993; Morgan 1991). Differing ideas can also be found in the same book. For example, the third edition of Lowenfeld's book, *Creative and mental growth*, included a chapter on "evaluation in terms of growth" and evaluation charts for each of the five stages of children's development in art (Lowenfeld 1957). However, the charts disappeared and the captions were changed to "preschematic drawings as a reflection of growth" in the 7th edition (Lowenfeld & Brittain 1982).

Nowadays, the field of childhood studies favours assessment. A number of official documents have used the term "assessment" in their early childhood curricula (Standards & Testing Agency of Department for Education of England 2012a; Australia Government Department of Education 2009; CDC of Hong Kong 2006) and kindergarten performance standards or indicators (New York City Department of Education 2003; Education Bureau of Hong Kong 2003). And, the term "assessment" has been widely used in publications on young children's development or visual arts education (Koster 2012; *Cheung & Wong 張麗霞, 黃潔薇 2012; Fox & Schirrmacher 2012; *Wong & Yung 2012 黃艾珍,容燕文; Beattie 2011; Glazzard & Percival 2010; Nutbrown 2010, p. 239; Galper & Seefeldt 2009, p. 329; Snow et al. 2008; Madeja et al. 2004; Epstein et al. 2004; Maxwell & Clifford 2004; Wong et al. 2004; National Association for the Education of Young Children 2003; Gober 2002; Clarke 2001; Isenberg & Jalongo, 2001; Puckett 2000; Krechevsky 1998; Wortham et al. 1998; Beattie 1997; Castiglione 1996; Mindes et al. 1996; Baron 1995; McAfee & Leong 2007; Wright 1994).

Reservations on using words like “assessment” to describe the study of how young children learn are partially explained in the section on Performance Indicators below. Another possible reason for concern with the terminology is the shift in educational trends. For instance, three decades ago, education in Hong Kong still focused on what and how to teach, matching traditional Chinese educational philosophy on the role of a teacher, “only ask how much we have worked, don’t ask for the outcome or how much has been received” (只問耕耘，不問收穫). The focus now has shifted to what students learn, which is also reflected in the use of terms in the presentation of curriculum development on the Hong Kong Education Bureau’s website (EDB 2013e). The curriculum is expressed through learning goals and key learning areas rather than teaching content. The emphasis is on the outcome; therefore various ways of investigating what students have learned are still needed. The most common ways of investigation are observations and assessment.

2.5.1 Defining observation, evaluation and assessment

Observation

In contrast to the quick, easy and one-dimensional view of watching, observation involves more intense focus on the object and reveals the real complexity and multidimensionality of an individual (Ahola & Kovacik 2007, p. 4). For example, watching a man who is taking photos quickly infers that he is definitely a tourist; however, observation involves watching the person more closely and finding other characteristics do not necessarily fit in the original inference. The man could be a city dweller who decided to take some pictures of the magnificent city. One may need to systematically study the subject in a variety of settings and under many conditions

(Ahola & Kovacik 2007, p. 4). As an observation is a sample of behaviour or development, the observer must be careful not to use it to plan further learning for the child until the findings are confirmed by several more observations. One observation will not provide a total picture (Hobart & Frankel 2004, p. 9).

Therefore, observation of children means to take careful note of everything said or done over a defined period of time in a particular setting or context (Smidt 2005, p. 18). A thoughtful observer draws on all that he knows about how children learn and develop to analyze these observation notes in order to make some judgement about what the child already knows, what the child is interested in or paying attention to, and what the child can do (Smidt 2005, p. 17). Smidt (2005, p. 1) even considers observation to be the best assessment tool for understanding how children are learning, and recommends embedding it in teachers' daily practices.

The basic reason to observe a child is to (1) understand the true nature of the child, including his own temperament, motivations, fears, likes, dislikes, etc., (2) develop a relationship with the child, (3) help plan for teaching of the child, (4) allow researchers to practice specific pedagogies, and (5) alert the observer to a child's special needs (Ahola & Kovacik 2007, p. 4).

Evaluation and assessment

Although some scholars have tried to define assessment and evaluation, there are different definitions and foci, and even confusion about the two concepts. Beattie (2011, p. 1; 1997, p. 2) defines assessment as the collecting, recording and analyzing of data for the purpose of making an evaluation about a student's progress and

achievement; while Morgan (1991, p.120) states that assessment involves a number of different criteria for making judgements if change and development are evident. Evaluation is literally considering the worth or value of the education offered. On the contrary, Beattie (2011, p. 1) and Eisner (1972, p. 201) think that evaluation is the ongoing progress of making judgements or decisions based on the interpretation of data and educationally relevant phenomena. McAfee and Leong bring the argument around to critical and practical issues of assessment, stating that,

> The term assessment refers to almost any form of measurement and appraisal of what children know and can do, including test, observations, interviews, reports from knowledgeable sources, and other means. …Some sources use test or measurement as synonyms for assessment (No Child Left Behind, 2002; Popham, 2005)….assessment involves several sources of information gathered at different times and in different situations, then recorded, integrated, and interpreted by people sensitive to children's learning (Airasian, 2001; Mendelson & Atlas, 1973) (McAfee & Leong 2007, p. 2).

The key points of assessment involve collection of several sources of information by relevant means over time, and interpretation of what children know and can do by people who are sensitive to children's learning; observation is regarded as one of the assessment methods.

Therefore, the term "assessment" is used in this research to describe the process and findings of children's development in visual arts activities. Since the term "evaluation" is also used with equal status to "assessment" in the official document on the *Performance Indicators (Pre-primary Institutions)* in Hong Kong, it is also applied in this study.

2.5.2 Why are children assessed or not assessed?

Some parents, teachers, and administrators might be suspicious of terms like “testing”, “evaluation”, and “assessment”, as well as attempts at evaluating children in the areas of creativity and art because there is a social assumption that children should be left alone to experiment as they wish (Fox & Schirrmacher 2012, p. 285; Galper & Seefeldt 2009, p. 335). That may explain why other ways of understanding children’s artistic growth that look more child-centred are used in schools, i.e. observation, portfolios (Fox & Schirrmacher 2012, p. 285).

A working paper on Benchmarks for Early Childhood Services in OECD Countries did not include any measure of child outcomes, but focused on developing 15 benchmarks on four areas: child health and family support, governance of early childhood services, access to services, and programme quality (Bennett 2008, p. iv). Cognitive outcomes were avoided in the working paper because they were determined to a significant extent by such elements as family and child characteristics, the quality of home care and social class (Bennett 2008, p. 11).

Meisels (1996 & 2007 cited in Bennett 2008, p. 11) introduced that most countries avoided testing young children, a position supported by early childhood experts who argued that such tests were often poorly designed and developmentally inappropriate.

From my point of view, such a position is difficult to uphold in Hong Kong because Performance Indicators are a mandatory policy designed to bring about “school improvement through quality assurance”. What can be done is to focus on how teachers can best operate in a difficult context and to provide evidences of children’s development that might lead to changes for school improvement in early childhood settings. A major problem is that few educators in Hong Kong pre-primary institutions

have clear concepts or adequate knowledge of how to evaluate children's aesthetic development. There is an urgent need for an appropriate method for finding out what young children can do and how such information can help educators to meet the needs of children and the requirements of the educational system.

The centre of the problem is not with the terminology, but is rather with the purposes of the assessment that affect the use of methods and the interpretation of results. Indeed, observation is an essential process in any form of assessment of early childhood learning activities.

Assessment has different rationales (Nutbrown 2010, pp. 239-240; Galper & Seedfeldt 2009, pp. 335-336; Eisner 1972, pp. 232-233):

(1) The assessment for teaching and learning outcomes involves identifying the details of children's strength, needs, knowledge, skills and understanding in order to build a detailed picture of a child's development and subsequent learning needs; assessment can be an important educational tool;

(2) The assessment for management and accountability outcomes analyses scores over narrative accounts of children's learning, measures children's progress in predetermined objectives and informs a variety of stakeholders including parents, teachers and other professionals about children's development;

(3) The assessment for research outcomes includes assessments used specifically in research projects, such as measuring aspects of early literacy of 3-5 year olds in the Sheffield Early Literacy Development Profile.

The first type of these three forms, the assessment for learning, is the most widely

discussed topic in references. It receives positive support from teachers and parents, as the main concern is to maximize children's learning and development potential. For example, the Hong Kong *Guide to the Pre-primary Curriculum* encourages teachers to observe and record children's activities to reflect on the learning process and development, improve learning and teaching strategies and review the overall curriculum (CDC 2006, pp. 58-60). The main dispute is usually on the second type, the assessment for management and accountability outcomes.

Nutbrown (2010, p. 241) highlighted the characteristics of the three purposes of assessment: it is an assessment for research outcomes (the third type), examining authentic learning and the development of individual children, a step in improving learning and teaching (the first type). This study also responds to the Hong Kong Performance Indicators (the second type), the assessment for management and accountability outcomes.

The characteristics of the three purposes of assessment (Nutbrown 2010, p. 241) have been extracted in the first three columns of the following table. The fourth column indicates the impact of their differences on this study and the adjustment applied herein.

Figure 2.4 The characteristics of the three purposes of assessment and the relationship with this research

＋ positive impact on the research: complementary, beneficial to all types;
— negative impact on the research: contradictory;
○ neutral: no significant impact

Assessment for teaching & learning outcomes ①	**Assessment for accountability outcomes ②**	**Assessment for research outcomes ③**	**Impacts on this study**
Assessment for learning outcomes	Assessment for accountability - focus on outcomes & measurable achievements	---	— heavy load for this study as it has to develop an assessment that covered outcomes of the first two types of assessment ①②
Main purpose is (learning and) teaching	Main purpose is accountability	Purpose is to add to knowledge	＋ this study is related to all three types of assessment, and it adds knowledge to the first two types
Focuses on individual	Focuses on age cohort	Focuses on samples	＋ same as above
Concerned with individual's details	Concerned with a sample of group performance	Concerned with performance of the sample	— heavy load as the study has to develop an assessment concerned with individual and group performance
Assessments required for each child	Some missing cases permissible	Some missing cases permissible	○ No direct relationship
Need no numerical outcomes to be meaningful	Numerical outcome provides meaning	Numerical outcome often essential	— ①②contradictory; has to develop multiple solutions and formats
Requires professional insight into children's learning	Requires competence in administration of the test	Requires competence in administration of the test	＋ complementary: both professional insight and competence in administration are required by a researcher
Requires ongoing professional development and experience	Requires short training sessions, learning the test material and practice	Requires short training sessions, learning the test material and practice	○ different requirements for professional training among the three forms

Ideally, the assessment for research outcomes should be similar to the assessment for teaching and learning, though with greater detail and complexity. Nutbrown (2010, p. 214) has pointed out the differences in the use of numerical outcomes. Indeed, it is possible and not too complicated to include, in addition to qualitative descriptions, a rating scale of children's various areas of development in (i.e. aesthetic and creative) and through art (physical, social, emotional, cognitive etc.) with reference to the British 2013 *Early Years Foundation Stage Profile* (Standards & Testing Agency of Department

for Education 2012a) and Lowenfeld's evaluation chart (1957, pp. 122-123). Certainly, the two assessment methods, qualitative description and rating scale, are based on different assumptions of children's learning. The first type of assessment focuses on an individual child's performance in artwork and behaviours, while the second type is related to grading with reference to a group or standard.

The rating scale will only be supplementary to the main assessment tool, the qualitative case study. Since this study investigates how to assess children's performance and achievement in the visual arts, it is worth trying different formats with which to interpret children's performances, including a qualitative description based on observation to reflect the individual growth in the visual arts and a rating system that aims to offer a preliminary overview of the progress of an individual with reference to established developmental patterns (e.g. Kellogg and Lowenfeld's drawing development) and the developmental pattern of the whole class. Similar methods are suggested in the British *Early Years Foundation Stage Profile* (Standards & Testing Agency of Department for Education 2012a, pp. 51-52). Teachers were expected to (1) write statements about the three characteristics of effective learning, including "creating and thinking critically", and (2) rate learning in "expressive arts and design" according to the 16th and 17th Early Learning Goals. The study also wants to show that teachers can use both methods to draw conclusions on children's development in visual arts.

2.5.3 Defining performance indicators

The Performance Indicators (Pre-primary Institutions) are an assessment tool for accountability in Hong Kong, and they have been used for internal evaluation of early

childhood institutions and for external supervision by the Education Bureau. Further details of its features are introduced later in this chapter. Here I focus on the general definition and application of performance indicators.

The clarification of terms is important because it indicates the way in which it may be possible to solve the problems in assessing child development in the aesthetic area. First, the definition and nature of a "performance indicator" should be clarified. According to dictionaries, someone's performance refers to notable action that shows how successful they are (Collins Cobuild 1995). A performance indicator is a quantitative or qualitative measurement, or any other criterion, by which the performance, efficiency, achievement, etc., of a person or organization can be assessed, often by comparison with an agreed standard, objective or target in order to promote accountability and quality (Dictionary 2013; Health Service Executive 2012; Health Information and Quality Authority 2010, p.7; Bullen 1991). Some health and management council and departments (Australian Government Department of Health and Ageing 2003; Bullen 1991) have even defined it as a quantitative measure of achievement or performance expressed as a percentage, index, rate or other comparison.

To conclude, performance indicators are the "measurable" criteria that enable decision makers to assess progress toward the "achievement" of an outcome, objective or target based on "evidence" or "relevant information".

2.5.3.1 The limitations of performance indicators

Kohler and Rigby (2003) were commissioned by the European Union to identify and

recommend a set of Child Health Indicators for use in all their member states. They dealt with neurological, social and moral aspects of development in their report, but moral development was eventually discarded as an indicator because they thought that norms and values varied too much between countries.

A similar problem exists for performance indicators of aesthetic development, because there are no clearly defined norms or criteria for either aesthetics or creativity. Aesthetics can involve a discussion of values at a philosophical level or personal aesthetic judgement, and there are no widely agreed definitions of creativity.

Such lack of agreement seems a shaky foundation for devising a system to assess child development of aesthetic sensitivity. So, should child development be assessed in this area? To what extent are Hong Kong performance indicators "measurable"? Are they "practical and valid" indicators or criteria for judging aesthetic or artistic development? Then, I examined the nature and validity of the five items in the Performance Indicators for young children's aesthetic development (EMB & SWD 2003, p. 13) through literature review of scholarly work, official curricula and assessment documents, as well as findings from the case studies.

2.6 Insights from curriculum guides and assessment documents from Hong Kong and other locations

Because this research has assumed that there are problems with the validity of Hong Kong Performance Indicators in the area of children's aesthetic development, it was thought that a review of curriculum guides and assessment documents on early childhood education or visual arts from different places might offer specific and valid

assessment content about the visual arts in early childhood. The review covered research on assessment on children's learning in the USA, the kindergarten-environment-rating scale in China, curriculum guides from Hong Kong, Australia and Singapore, and assessment documents, such as the *Project Spectrum*, *New York Prekindergarten Performance Indicators*, and the British *Early Years Foundation Stage (EYFS) Review* and *National Curriculum Assessment on EYFS Profile*. The implications for this research are discussed below, and the key terms of some documents have been extracted and compared in Figure 2.5.

A study using the Chinese Kindergarten Environment Rating Scale (CKERS) to investigate and challenge the effectiveness of the Beijing Kindergarten Quality Rating System (BKQRS) showed that vague and broad indicators and the improper implementation of an official rating system resulted in invalid judgements of school performance (Pan et al. 2010, pp. 186, 188-189, 200-201). It illustrated that even the official standards or existing national rating system in China could be critically challenged. The study above is an encouragement to my study since it is a challenge to the current official assessment tool. Since no related research has been conducted on the validity and reliability of Hong Kong Performance Indicators or the measurement tools recommended by Chan and Chan (2003, p. 12), this study is probably the first attempt to critically review a part of the Hong Kong Performance Indicators (Pre-primary Institutions), that is, the aesthetic domain of children's development.

Project Spectrum based on the theories of Gardner and Feldman developed a new means of assessing the cognitive abilities of preschool children that included 15 separate measures assessing 15 areas of competence in seven different domains of knowledge, such as language and visual arts (Krechevsky 1998, pp. 1-5). The project

was included in this chapter because a very specific and detailed assessment measure in visual arts that could strongly supported the viewpoints of this research was introduced in the project, and children in the study were also aged four. First, the project reconfirmed the view that artistic development also involved a wide range of cognitive abilities and skills in visual arts (Krechevsky 1998, p. 153). Second, it assessed children's abilities in the "visual arts", rather than in "aesthetic development". It shows the possibility of using specific terms, such as artistic development, rather than larger conceptual ones, such as "aesthetics" and "creativity". Third, the project embedded assessments in meaningful, real-world activities in the child's own environment (Krechevsky 1998, p. 5). Fourth, Project Spectrum reconfirmed the use of portfolios as an assessment tool. The art portfolio was the primary vehicle for assessment in the "visual arts" domain of the project, which consisted of a yearlong collection of all children's artwork supplemented by four structured activities (Krechevsky 1998, pp. 3, 154) and two reviews. Project Spectrum has served as an example for this thesis as I also conducted naturalistic observation of children's visual arts activities, and collected and assessed children's artwork on a weekly basis for half a year. Fifth, the Project Spectrum developed a sophisticated assessment tool for the visual arts that showed that a systematic and in-depth assessment of visual arts development was possible with children aged four. The Spectrum assessment of the visual arts had a scoring system with detailed descriptions of criteria for rating three elements in each of the following three areas: degree of exploration, levels of representation and level of artistry (Krechevsky 1998, p. 155).

My study chose not to adopt the assessment format developed by the Project Spectrum because it was far too detailed for the needs of the Hong Kong context, and the complexity and rigorousness of the content demanded high a level of professional

knowledge in that visual arts that could not be met by the majority of Hong Kong ECE practitioners. However, Project Spectrum showed that an in-depth assessment children's artistic development of expression and representation (ideas and feelings shown in the content of artwork) that have been included in the Hong Kong Performance Indicators (EMB & SWD 2003, p. 13) is possible. The capacity to use artistic techniques and visual elements was also shown to be a valid indicator of children's abilities, but this has not traditionally been part of the Performance Indicators.

An American curriculum-based assessment of children's learning in a naturalistic environment showed that the authentic assessment of children's learning using multiple methods, such as gathering evidence and documenting children's progress toward a set of indicators or program standards based on the Head Start Child Outcomes Framework (Grisham-Brown et al. 2006, pp. 45-47), is applicable in the early childhood sector.

Among all the official curricula or assessment documents, the newly published British national curriculum assessment, *Early Years Foundation Stage (EYFS) Profile* (Standards & Testing Agency of Department for Education 2012a) was found to be the most useful for this research in terms of assessment contents and methods. The 2012 EYFS was a revised version of the 2008 EYFS, and was based on the report of a review based on over 3,300 responses (Department for Education in 2011, pp. 2, 7).

The EYFS Review provided several insights that could be incorporated into the Hong Kong's Performance Indicators. First, it demonstrated that reliable and accurate assessment was based primarily on the teacher's knowledge of the child, which was gained predominantly from observation and interaction in a range of daily activities

and events. This knowledge provided information about “what children really know and can do” (Standards & Testing Agency of Department for Education 2012a, pp. 8-9). Second, the scope of assessment is established with clearly stated specific knowledge, skills and understanding. Third, the review set clear requirements for evidence to support accurate judgement, although there was no requirement that it should be collected or documented, on the contrary, it recommended that paperwork was kept to a minimum. It further stated that judgement had to be based on teachers’ evidence, including any material evidence, such as photographs or videos, as well as knowledge of the child, anecdotal incidents or observations, the child’s view of his or her own learning, and information from the parents or other relevant adults (pp. 12, 22). Fourth, it stressed that “processes are more important than the finished product which need not necessarily occur” (p. 30). Fifth, three out of the 20 assessment items were art-related; they were specific and concrete descriptors of “creativity” and “aesthetics” that could be understood by most teachers, rather than two abstract terms, such as “appreciate” and “show interest in various forms of beauty” (EMB & SWD 2003, p. 13). Sixth, British teachers were to decide which of three outcome bands - meets the level “expected”, “exceeds” that level (beyond the expected level) or is at an “emerging” level (not yet at the expected level) (Standards & Testing Agency of Department for Education 2012a, p. 11) - that best described a child’s development for each learning goal. In this the EYFS review is unlike the Hong Kong Performance Indicators for children’s development, which does not recommend grading children’s performance at levels (EMB & SWD 2003, p. 5). However, grading with reference to theories of child development may help to provide a quick reference of a child’s performance in related items, or may function as a preliminary diagnosis as to whether the child is in a normal pattern of growth.

The following Figure 2.5 shows the similarities and differences between the Hong Kong Performance Indicators (EMB & SWD 2003) and other curricula and assessment documents from Hong Kong and other locations. In the chart, similar key words are placed at the same horizontal level.

Figure 2.5 The comparison between the Hong Kong Performance Indicators (Pre-primary Institutions) and other curricula and assessment documents

Nature	**Assessment**	**curricula**				**Assessment documents**		
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Document	**HK Performance Indicators**	**HK Pre-primary curriculum**	**HK visual arts Curriculum**	**Australian curriculum**	**Singaporean curriculum**	**Project Spectrum**	**New York Prekinder-garten PSs**	**UK National assessment**
Year	2003	2006	2002a	2009	2012	1998	2003	2012
Area title	Aesthetic	Arts, aesthetic	Visual arts	(No specific art area)	Aesthetics & creative expression	Visual arts	Creative expression/ aesthetic development	Expressive arts and design
Learning / assessment field	Creativity, ability Attitude	Knowledge, Skills, value & attitude	Knowledge, Skills, value & attitude	knowledge, abilities, skills, dispositions	Knowledge, skills, dispositions	Cognitive abilities, skills	Competencies	Knowledge, understanding, skills; what child know & can do
Targets / assessment items related to visual arts	Imagination, creativity, materials, expression, ability to appreciate, beauty, love/interest, willing to participate	Imagination, creation, techniques, materials, elements, express, appreciate, cultures , interest, joy, cooperate	Imagination creativity, skills, materials, elements, express, appreciate, critical responses, cultural understanding	Imagination creativity, media, symbols, express, communicate problem solving	Imagination, create art, techniques, media, art elements represent ideas & feelings, talk about art	Exploration, skills, materials, art elements represent, artistry	Creating, techniques, media, art language express, plan, understand & share , show pride in sharing	Imaginative, creating, techniques, media, art elements represent, explore, share, problem solving, (original)
Evidence Required/ assessment method	Yes, evidence of children's development	Yes, portfolios, observation,	Yes , portfolios; enquiry, observation, test, peer assessment, process & outcome	Yes, observable evidence; examples given	Yes; online portfolio, observe and assess,	Yes, Portfolio, artwork & structured activities, ongoing assessment	Yes, Observe and assess; focused on creative process	Yes, photos, videos, observation, interviews, process more important
Grading	Not advisable	(pp. 20, 63)	Yes, grades or levels	--	--	Yes, 3 levels	--	Yes, 3 levels

1. *Performance Indicators (Pre-primary Institutions): Domain on Children's Development* (EMB & SWD 2003, pp. 13 & 29)
2. *Guide to the Pre-primary Curriculum* (CDC 2006)
3. *Arts Education: Key Learning Area Curriculum Guide (Primary 1- secondary 3)* (CDC 2002b)
4. *Belonging, Being & Becoming: Early Years Learning Framework for Australia* (Australian Government Department of Education Employment and Workplace Relations 2009)
5. *Nurturing Early Learners: A curriculum Framework for Kindergartens in Singapore* (Ministry of Education 2012)

6. *Project Spectrum: Preschool Assessment Handbook* (Krechevsky 1998)
7. *Prekindergarten Performance Standards* (New York City Department of Education 2003)
8. *National Curriculum Assessments: 2013 Early Years Foundation Stage Profile Handbook and Exemplifications* (Standards & Testing Agency of Department for Education 2012a & b)

Attitude was an assessment area that had not clearly declared, but was mentioned under performance indicators (EMB & SWD 2003, p. 13). Techniques and art elements are missing in the Hong Kong Performance Indicators, but are found in most other curricula and assessment documents.

The comparison reveals that the key elements in the assessment of the visual arts listed in other documents extended beyond those in the Hong Kong Performance Indicators, including the following qualities in various domains:

- Imagination, creation, creativity, and problem solving (creative);
- Skills / techniques (physical);
- Use of materials and media (physical and aesthetic);
- Use of art elements (aesthetic);
- Expression / sharing of ideas and feelings (cognitive and emotional);
- Appreciation / talk about art (aesthetic);
- Problem solving (creative);
- Cultural understanding (cultural).

This summary suggests that appropriate art assessment should cover not just aesthetic and creative development as mentioned in the Hong Kong Performance Indicators, but also other items of performance, such as physical, cognitive and emotional development (skills and expressing ideas and feelings) if a comprehensive account of child development in the visual arts is desired.

The most important point indicated by the summary and comparison of the documents is that "techniques" and "art elements" are not included in the Hong Kong Performance Indicators, when these are found in most of the other curricula and assessment documents, including the Hong Kong *Guide to the Pre-primary Curriculum*.

Second, only the Hong Kong Performance Indicators and *Guide to the Pre-primary Curriculum* use "aesthetic" as an area title. Two other assessment systems used a combined term, such as "creative expression/aesthetic development" or "expressive art & design", and another two used the term "visual arts". This suggests that there are no definite terms to describe the domain of development.

Third, creativity was regarded as a generic skill in the Hong Kong *Arts Education: Key Learning Area Curriculum Guide (Primary 1-Secondary 3)* (CDC 2002b, p. 22) and as a characteristic of effective learning in British *Early Years Foundation Stage Profile* (Standards & Testing Agency of Department for Education 2012a, p. 19) that can be found across all learning experiences. Creativity is not confined to arts education. Both documents offer a reasonable theoretical framework for curriculum and assessment that could solve the problem on repeated occurrence of creativity in the cognitive and aesthetic development in the Performance Indicators (Figure 1.3).

Fourth, all three of the curricula discussed above indicate that knowledge, skills, and attitude are three essential components of a curriculum. However, only cognitive ability (understanding) and skills (competencies) have been mentioned in assessing arts or visual arts, and "attitude" was not included in the assessment except for the Hong Kong *Guide to the Pre-primary Curriculum*. Even though Singapore's curriculum has included "enjoy art" in the first learning goal, its corresponding expected learning and development focused on observable performance, such as "explore materials of art" and "use a variety of lines….to express ideas and feelings in drawings" (Ministry of Education 2012, p. 68).

The British *National Assessment EYFS Stage Profile* offers a concise summary of the scope of assessment on child development with the words, "what children know and

can do" (Standards & Testing Agency of Department for Education 2012a, p. 9). The key concepts of assessment cover knowledge, understanding and skills that can be observable, but do not cover the features of attitude, such as willingness to participate or showing interest in various forms of beauty as in the Hong Kong Performance Indicators (EMB & SWD 2003, p. 13). Over 2,200 parents and practitioners in the British *Review Report of the EYFS Profile* said they would like to have their child's development and interest indicated in the student progress report (Department for Education 2011, p. 38). Such assessments, especially those targeted at the observable evidence of "performance," could be presented informally, rather than as statutory items in formal assessment documents.

The New York City Department of Education includes attitude in two performance indicators, "a child showed pride in his work", and "expressed interest in and showed appreciation for the creative work of others". These two indicators are expected at the 4th Performance Standard: "By the end of the year, prekindergarten children will begin to understand and share opinions about artistic products and experiences" (New York City Department of Education 2003, p. 23). An indicator requires observable evidence of competency, such as the ability to "use descriptive language to explain or formulate questions about a piece of artwork" (New York City Department of Education 2003, p. 23).

The review of the above official curricula and assessment documents suggests that we should try to focus on particular key elements for assessment, and not necessarily all the items in a curriculum. A metaphor on a creative ecosystem suggested by Csikszentmihalyi can be used to explain the relationship between assessment and the whole curriculum,

> To study creativity by focusing on the individual alone is like trying to understand how an apple tree produces fruit by looking only at the tree and ignoring the sun and the soil that support its life. (Csikszentmihalyi 1990 cited in Talay-Ongan 2005, p. 101)

This demonstrates that people need to investigate the interdependence of the social and physical systems in which individual children may be situated within a broader culture of creativity (Talay-Ongan 2005, p. 101). It seems reasonable to explain how to nurture the growth of children's creativity through the various aspects of a meaningful curriculum. However, the success of growing good apples or nurturing creativity still requires observable positive outcomes - the harvest of good apples or children's creative performance. Demonstrating children's abilities through evidence is still an indispensable part of assessment.

Official performance indicators should be precise and concise in order to keep the number of key items for assessment manageable, so that most ECE practitioners can understand them and are therefore able to collect valid, reliable and observable evidence that shows children's abilities or development in a particular area. The item on attitude should not be included in a statutory assessment or official performance indicators, but is a valuable supplementary item in internal school reports for parents.

Lastly, most of the curricula and assessment documents recommended observation and portfolio development as key assessment methods, something also supported by other ECE and visual arts educators (Fox & Schirrmacher 2012; Koster 2012, pp. 69-74; Galper & Seefeldt 2009, p. 340; Seefeldt & Wasik 2006, p. 148; Smidt 2005, p. 1).

2.7 Understanding children's aesthetic and artistic development

2.7.1 The lack of clear definitions for aesthetic/artistic development

No clear boundary had been defined between the term "aesthetic" and other related terms, such as "artistic or expressive arts", even among educators and curriculum writers. For example, the term "aesthetics and creative expression" is used in Singapore's *Curriculum Framework for Kindergarten*; "creative expression/aesthetic development" can be found in the *New York Prekindergarten Performance Standards*; "expressive arts and design" is in the British *Early Years Foundation Stage Profile*; and the term "visual arts" is used in the Hong Kong *Visual Arts Curriculum* and Project Spectrum.

Although aesthetics is not synonymous with the visual arts (Fox & Schirrmacher 2012, p. 137; CDC 2006, p. 35), the terms are sometimes interchanged. For example, Lankford (1992, p. 37) says,

> "….Wolf has described three related areas of artistic/aesthetic development: (1) making art …; (2) perceiving art…; and (3) inquiring about art, or asking questions about artistic intentions, the function of art, the means by which art expresses ideas and emotions, and the extent to which artistic and aesthetic experiences are cross-cultural.

Wolf (cited in Lankford 1992, p. 37) sets out the broadest scope of aesthetic development by including all aspects of art and embraces both individual experiences and cultural phenomena through the three related areas in Figure 2.6. However, some scholars have considered aesthetics in a narrower and more specific perspective that is related to art appreciation and criticism. For example, aesthetics is one of four components in the Discipline-Based Art Education (DBAE), a comprehensive art curriculum promoted in the USA (Greer 1993, pp. 94-95). Cromer (1990, p. 1) once said that, "Production of art has been the dominant area of instruction in art education for many years, while areas associated with the aesthetics of viewing art have matured more slowly."

The following Figure 2.6 compares a number of different perspectives on aesthetic development. It also shows that aesthetics is often regarded as art appreciation, a part

of art education or artistic development, and not an independent entity (Eglinton 2003, p. 3; Gardner 2003, p. 45; Greer 1993, pp. 94-95; Colbert & Taunton 1990, pp. vi-vii).

Figure 2.6 A comparison of different perspectives on aesthetic development

Educators	Title of the area	Components of the area (art education/aesthetic development)				
Wolf (cited in Lankford 1992, p. 37)	Artistic/ aesthetic development	Making art	Perceiving art	Inquiry about art (artistic & aesthetic experiences)		
Colbert & Taunton (1990, pp. vi-vii)	Art education	Creating art	Looking at art (interpret artwork)	Living with art (appreciate forms of beauty)		
Eglinton (2003, p. 3)	Holistic art programme (Artistic experience)	Art production	Encounters with art (reflecting on art)	Aesthetic experiences (experiences with beauty)		
Gardner (2003, p. 45)	Arts education in PROPEL	Production	Reflection		Perception	
Greer (1993, pp. 94-95)	DBAE	Art production	Criticism	Aesthetics		Art history

* aesthetic area art criticism that is related to aesthetics

For the purposes of visual arts education, aesthetics (Lankford cited in Fox & Schirrmacher 2012, p. 137; Lankford 1992, pp. 4-5; Skull 1988, p. 8) might be broadly defined as a group of concepts and methods used to understand the nature of art and to describe and comprehend aesthetic experience as it is related to all aspects of art, from processes to product to response, including both individual experiences and social phenomena. From this, a narrower or more specific definition of aesthetic development related to art criticism can be derived and applied in the classroom. Aesthetics will then be seen as the understanding of the work of art scholars such as aestheticians and art critics and as appreciation of the variety of art forms and activities in the art world (Chapman 1994, p. 25). Then, children's aesthetic development can be regarded as their abilities in perceiving, describing, appreciating and producing art forms.

Compared with information about and research on cognitive, physical, socio-emotional

areas of child development (Bukatko & Daehler 2012; Casper & Theilheimer 2010; Cook & Cook 2010; Feldman 2010; McDevitt & Ormrod 2010; Berk 2009; Snow, Van Hemel, et al. 2008; MacIntyre 2007; Seefeldt 2006; *Heep Hong Society 協康會 2006; CDC 2006; Pang 2002; Curriculum Development Institute (CDI) 1996), information and research on aesthetic or artistic development is limited. In fact, "artistic" development has been studied more than "aesthetic" development, which is often specifically regarded as engaging in art appreciation. Art references tend to use the term "artistic development" rather than "aesthetic development" to describe children's development in art education (Fox & Schirrmacher 2012, p. 91; Koster 2012, pp. 60-63; Isbell & Raines 2007, p. 109; Kindler 2004b, pp. 227-232; Koster 2001, pp. 347-348; Freedman 1997, p. 95; Kindler & Darras 1997, p. 17; Hurwitz & Day 1995, pp. 56-57; Kindler 1995, p. 10).

Based on different assumptions of the contributions and nature of visual arts education, artistic development has been interpreted in various ways according to different approaches, such as the art-specialized art evaluation (Eisner 1972), creativity-based art portfolio assessment scale (Althouse et al. 2003, pp. 131-132) , cognitive approach (Glazzard & Percival 2010, p. 3; Gardner cited in Koster 2001, pp. 62, 64; *Chien 簡楚瑛 1994, p. 141; Wolf 1992), as visual literacy (Johnston 2011, p. 622; Malaguzzi cited in Filippini & Vecchi 2000, pp. 3, 35; Vygotsky 1962 cited in Wright 1994, p. 29; Davis & Garnder 1993, p. 193), or a holistic approach (Fox & Schirrmacher 2012; *Malaguzzi 張軍紅等譯 1998, pp. 38-45, 222; Lowenfeld 1957). Further details of these approaches are introduced in the latter part of this chapter.

No one has been able to state with precision which kinds of aesthetic teaching and learning can or cannot occur at each grade or age level (Lankford 1992, p. 33). Fox and Schirrmacher (2012, p. 137) and Colbert and Taunton (1990, p. xviii) have claimed

that adults and even young children can appreciate beauty and beautiful things, although taste is individual.

Wolf, Perkins, Gardner, Winner and others research members of Project Zero's study of artistic development in children concluded that children in the primary grades typically enjoyed making and looking at art and appreciated artwork in personal and concrete ways, such as responding to favourite colours, an appealing subject matter, neatness, and realism (Lankford 1992, p. 37).

Fox and Schirrmacher (2012, pp. 137-138) even thought that aesthetics should be addressed in early childhood as young children are experts who are more proficient in this area than adults, because they examine their world with all their senses. Colbert and Taunton (1990, p. xviii) have claimed that children as young as four years old can state preferences for art with simple, personal, and judgemental criteria, and can perceive subtle aspects of the visual arts, such as style, theme and expression. These ideas support the assessment framework adopted for this study, especially the view that children's performance in visual arts involves different areas of child development, including cognitive, emotional aspects as well as aesthetic ones.

2.7.2 Research on aesthetic development

There have been only few studies that have treated aesthetic development, and most have focused on a specific area related to students' levels of ability or stages of performance in perceiving and appreciating beauty and evaluating artwork. Therefore, children's performance in art appreciation has been seen as a factor in assessing their aesthetic development. Although the studies below have laid a

foundation for understanding children's abilities in the realm of art criticism and the characteristics of different stages of aesthetic development, their relevance needs to be carefully examined since most of them, though still mentioned in recent publications, were conducted over 30 years ago.

Chapman (1994, pp. 3-4) has suggested that there were three levels of mastery in aesthetics in art education: (1) understanding and using basic art terms; (2) skill in logical thinking (middle/junior high school); (3) using aesthetic concepts when judging art (as experts do) – art criticism. Chapman's view implies it is unlikely that young children can reach level 3 which requires making judgements about artwork as experts do. Young children's aesthetic development is limited to the ability to use basic art terms in art appreciation at level one, and cannot reflect the meaning of what they had done stated in level two. However, the findings in this study tell a different story. Gardner and Winner (1976 cited in Fox & Schirrmacher 2012, p. 139) identified developmental stages of understanding art through interviews with 121 children from age four to adolescence. Young children aged four to seven had a simplistic understanding of art; and judgements about the artistic quality of a work were all equally acceptable. Gardner and Winner have emphasized technical aspects of an artwork, often seeming to believe that anyone can make art. Some children said that authorities, including parents, determined what was good.

Rosensteil, Morrison, Silverman, and Gardner (1978 cited in Fox & Schirrmacher 2012, pp. 139-140) identified developmental stages of critical judgement in art by interviewing children ranging from age six to sixteen. They asked questions about how one made judgement about art. They found that the first graders' performance was limited to identifying subject matter and colours, and they used terms such as "good" or "pretty" when critiquing art. Parsons (1994, pp. 3-5, 12-13, 18, 21-26) tried to

understand the development of aesthetic or critical judgement via a cognitive developmental approach, and found that there were five developmental stages in children's understanding of paintings. Many children in early childhood were at stage one: favouritism that was characterized by non-judgemental, non-discriminatory, freewheeling and highly personal perceptions of art (Lankford 1992, p. 38). Parsons stated that viewers in stage one rarely found fault with painting, no matter what its subject or style. They were citizens of the aesthetic domain by birth and not by education, and their response was strong and untaught. Possible responses were, "It is my favourite colour!"; "I like it because of the dog (*Tam 譚祥安 2001, p. 214; Parsons 1994, pp. 21-22, 26).

A classification of aesthetic experience proposed by Fox and Schirrmacher (2012, pp. 138-139) helped to identify what could be assessed in children's aesthetic development. Aesthetics involved attitude, process/experience, and response:

Aesthetic attitude referred to spontaneity, intense focus, a sense of joy or excitement, willingness to perceive as if experiencing something for the very first time (Fox & Schirrmacher 2012, p. 138). Aesthetic process was intrinsically motivating, and involved active engagement rather than passive taking in. Although indicators of aesthetic attitude, such as willingness to participate and showing interest, have been listed in the Hong Kong Performance Indicators of children's aesthetic development (EMB & SWD 2003, p. 13), they are not appropriate performance indicators because they cannot provide concrete evidence of children's abilities or performance in aesthetic development.

The aesthetic attitude and process usually results in an appreciative response, such as a feeling of being touched, a smile or heavy sigh (Fox & Schirrmacher 2012, pp. 138-139).

However, a laugh or internal feelings are not valid indicators of one's performance in the aesthetic area. Only the mental response which occurs in the form of a decision, judgement, or evaluation can serve as a valid performance indicator of children's aesthetic development. Valid evidence of children's aesthetic development can be displayed when children express their preferences, explain why they like the object or not, and apply simple criteria to discuss and analyze artwork. Their personal preferences, tastes, and responses that do not follow the crowd in believing that what is popular or current must be good (Fox & Schirrmacher 2012, p. 139) also provide strong evidence of aesthetic development.

The three-fold description of aesthetic performance (Fox & Schirrmacher 2012, pp. 138-139) in the previous section reveals the complexity and difficulty in assessing children's aesthetic performance through aesthetic attitude, process, or even response. It seems unlikely that aesthetic development can be sufficiently and precisely evaluated or reflected by a steady glance, a smile, a simple verbal expression or a judgement of good and bad art based on personal preference. Saying: "I like this drawing (of a dog) because of the dog (Parsons 1994, p. 22) does not indicate aesthetic development sufficiently for assessment. In fact, the characteristics of aesthetic attitude and process, such as openness, intense focus, contemplation and excitement, overlap with the characteristics of curiosity, creativity, or response in scientific exploration. Furthermore, the preference for a drawing of dogs is more related to social and affective development, rather than aesthetic development if the child likes dogs as a companion. Therefore, the aesthetic attitudes and processes that are reflected in children's experiences are unlikely to be useful elements in assessment. Of course, not all aesthetic responses can reflect child development in aesthetic area. Only aesthetic responses that are related to artistic elements, such as colour and

composition, can effectively reveal children's aesthetic development.

Lankford (1992, pp. 78-82) has stated that the evaluation of aesthetics in art education should be based on viewpoints from two sides: (1) educators who evaluated students' knowledge and performance, and (2) students who provided tangible evidence of their levels of growth and success.

In order to meet the requirements of the performance indicators, students' aesthetic development should be illustrated through their artwork, dialogues and behaviour that relate to visual concepts and elements, such as line, form, colour, texture and composition. Tangible and reliable evidence of the student's progress can be provided by both the teacher and the children.

2.7.3 Research on artistic development

The previous discussion shows that aesthetics has often been regarded as a part, but not the whole, of visual arts education or artistic development (Eglinton 2003, p. 3; Gardner 2003, p. 45; Greer 1993, pp. 94-95; Colbert & Taunton 1990, pp. vi-vii). Some art references write about child development in art activities using the term "artistic development" rather than "aesthetic development" (Fox & Schirrmacher 2012, p. 91; Koster 2012, pp. 60-63; Isbell & Raines 2007, p. 109; Kindler 2004b, pp. 227-232; Koster 2001, pp. 347-348; Freedman 1997, p. 95; Kindler & Darras 1997, p. 17; Hurwitz & Day 1995, pp. 56-57; Kindler 1995, p. 10). If a more comprehensive picture of children's development in visual arts is expected, ECE teachers may find it easier to assess children's artistic development rather than aesthetic development.

The major models or theories on artistic development can be characterized as emotional, cognitive, perceptual, developmental (Fox & Schirrmacher 2012, pp. 92-105; Hurwitz & Day 1995, p. 57; McWhinnie 1992, p. 270; Lowenfeld & Brittain 1982, pp. 54-64), physical (Fox & Schirrmacher 2012, p. 92; Lowenfeld & Brittain 1982, pp. 58-59), social, creative, aesthetic (Lowenfeld & Brittain 1982, pp. 60-64), and psychoanalytic (McWhinnie 1992, pp. 270-273).

2.7.3.1 The developmental approach

The developmental approach to artistic development is comparatively more practicable among the approaches used in the Hong Kong context, because Hong Kong preschools mostly use an integrated curriculum. Both the integrated curriculum and developmental approach emphasize holistic learning that includes physical, emotional, social, cognitive, creative and artistic areas. If ECE teachers assess only the areas of creativity and aesthetic development in visual arts activities as stated in the Performance Indicators (EMB & CDC 2003, p. 13), some areas of child development are likely to be neglected. Therefore, this research is based mainly on the developmental approach and includes some features of the cognitive approach to understanding children's growth in the visual arts. These issues are considered in the following paragraphs.

The developmental approach owes much to Kellogg, who collected over one million drawings done by children from the United States and other countries from the 1950s to the 1970s (Fox & Schirrmacher 2012, pp. 94-98; Isbell & Raines 2007, pp. 109-111; Koster 2001, pp. 60-62), and she developed her theories through the analysis of the patterns and forms found in those artwork. She identified 20 kinds of basic scribbles,

17 different placement patterns, and stages of development that included the design stage (3-4 years) and the pictorial stage (4-5 years).

However, the developmental theory of Lowenfeld (1957) on stages of artistic development has been the most widely recognized among theories on how to understand child development in art (*Malchiodi 2004, p. 17; *Wang 黃壬來 1998, pp. 12-20; McWhinnie 1992, pp. 270-271); and was adopted by many English and Chinese scholars in art education (Fox & Schirrmacher 2012, pp. 98-101; Ahola & Kovacik 2007, pp. 227-233; Isbell & Raines 2007, pp. 111-114; *Lam et al. 藍美容 2002, pp. 9-12; Koster 2001, pp. 61-63; *Poon 潘元石 2000, pp. 20-28; *So & Chow et al. 蘇振明 2000, pp. 28-32; *Luk 陸雅青 1999, pp. 24-32; *McWhinnie 麥克惠尼 1999, p. 326; Lowenfeld & Brittain 1982). Lowenfeld believed that the study of child's art was a means of understanding growth in various aspects, including emotional, intellectual, physical, perceptual, social, aesthetic and creative growth (Lowenfeld & Brittain 1982, pp. 54-64). The characteristics of development in children's art of the pre-schematic stage (4-7 years) are used in this thesis. In the pre-schematic stage children are likely to:

- Draw objects facing forward (physical, perceptual)
- Draw things that were important, relevant, or personally meaningful, e.g. family, pets, or friends (emotional, social, aesthetic);
- Draw how they felt or thought about an object, leading to omission, exaggeration, and distortion (intellectual, perceptual)
- Make very personal idiosyncratic symbols (intellectual, social, aesthetic, creative)
- Use colour randomly, not realistically (perceptual, aesthetic)
- Know that pictures communicate to others (intellectual and social)

This set of characteristics shows that children's development in and through visual arts involves more than just the aesthetic and creative areas.

The developmental theory has, however, been challenged. Kindler (2004b, p.236) doubted whether a student's artistic development was only judged by the drawing ability of realistic images in the final stage of reasoning (eleven to thirteen years) mentioned by Lowenfeld (1957). She also had doubts about the linear relationship between artistic growth and the complexity of drawing, suggesting that we should consider the intention of artist who could draw in great details but deliberately reduced details when he thought that the artwork would look prettier.

Matthews (2004, p.258, 260) further challenged the conventional wisdom of the "age-stage" relationship, with children moving from "primitive" to "advanced" modes of drawing as they grow older, and describing a progression starting from meaningless mark-making to a final visually realistic stage. Matthews (cited in Kindler 2004a, p.229) argued that even the earliest pictorial behaviour was linked with social and interpersonal contexts as well as expressive and representational purposes of the pictorial media created by very young children aged two to five - the scribbling stage (two to four years) and pre-schematic stage (four to seven years) suggested by Lowenfeld (1957). Matthews (2004, pp.292-293) stated that the developmental sequence was very variable, flexible and complex since the initially independent developmental trajectories were likely to intertwine. He suggested that the development of children's drawing should not be bound by different stages.

Despite these limitations of the developmental approach to describing children's development in art, this study took the view that there was still great value in using this approach. The linear developmental approach was still applied because it helped to provide a preliminary assessment of child's development according to developmental levels that provided a guide to normal rates of growth.

2.7.3.2 The cognitive approach/ visual literacy

The review of literature on approaches to describing young children's development in art revealed that the cognitive approach was also likely to be useful in analyzing children's development in visual arts in Hong Kong, because cognitive learning still played a predominant role in the curriculum and visual arts activities were often an extension of the theme-based learning.

Some scholars (Eisner 1978, Gardner 1990 and Ross 1987 cited in Wright 1994, p.29) argued that cognition was not only associated with thinking through discourse or number, but also making and appreciating artwork since visual arts was a tool for learning that integrated intuition and cognition, and a drawing is a process of knowledge and concept (Gee 2000, p.8). Some (Wolf 1992, p.947; Jensen cited in Puckett 2000, p.168) considered the work in the arts involved higher-order thinking: analysis, inference, problem finding, and problem solving from a psychological perspective; and arts activities engaged not just the hand or the ears but also the mind. Ahn's study of young children's understanding, through theirs narratives and artwork, came to a similar conclusion (2006, pp.ii-iii).

Some scholars concerned with cognitive aspects of children's development in art have considered cognition as a form of inner speech (Vygotsky 1962 cited in Wright 1994, p.29). They saw a drawing as a valid means of expression or external indicator of the state of the child's internal awareness and understanding of the self and the environment (Dellas cited in Gee 2000, p.9; Das 1988, Eisner 1978 cited in Wright 1994, p.29; Piaget & Inhelder 1948 cited in Davis & Gardner 1993, p.194).

Levinsteins (cited in*Poon 潘元石 2000, p.57) even said that children's drawings were not children's art, but a kind of language. Reggio preschools shared the features of the cognitive approach. Malaguzzi, the founder of Reggio Emilia approach, declared that a child had a hundred languages and ways of thinking, playing and speaking; and non-verbal languages actually incorporated many words, feelings and thoughts, many desires for knowing, communicating, and expressing themselves, and many means of doing so (Filippini & Vecchi 2000, pp.3, 35). Diana municipal preschool, one of Reggio preschools, was identified as the most avant-garde early childhood institution in the world by a panel of experts commissioned by *Newsweek* magazine in 1991 (Reggio children 2000, p.20). Neither words nor images were privileged but function together to contribute to meaning-making interdependently (Johnston 2011, p.620; *Poon 潘元石 2000, p.57).

In this view of children's development visual literacy is seen as including art knowledge or visual elements such as colour, shape, form, proportion, texture, composition, vectors, design, typography, image (Johnston 2011, p.622). At the same time, concepts such as colours, shape, form, pattern and proportion are also regarded as mathematical language (Seefeldt & Wasik 2006, p.249) or intellectual components (CDC 2006, p.91). They reveal the interdisciplinary nature of knowledge as well as ambiguity in classification of learning domains.

Therefore, this study took the view that assessment should seek to capture all the languages of expression when learning could be evidenced through a range of arts activities including visual arts (Glazzard & Percival 2010, p.3). The presentation after drawing was considered as an action that showed the child's ability to plan, an important feature in problem solving (Vygotsky 1978 cited in Davis & Gardner 1993, p.194). It explained why graphics and visual language in the theme on 'self' did not

only reflect a child's self-identity and aesthetic development, but also cognitive, affective/emotional, social growth (*Malaguzzi 張軍紅等譯 1998, pp.38-45, 222). Moreover, adults often underestimate children's intelligence and ability in expression ideas through graphics (*Chien 簡楚瑛 1994, p.141). Thus, this study took the view that assessment of child development in and through visual arts should go beyond aesthetic and creative aspects, more than what had been enlisted in the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain on children's development* (EMB & SWD 2003), and that graphics should, in part at least, be seen as visual language.

2.7.3.3 The U-shaped curve of artistic development

The idea U-shaped curve of artistic development (Davis, 1997) offered a new dimension in evaluating child artistic and cognitive growth in art. The U-shaped curve of artistic development showed that drawing development emerged early in a child's life at about five years, and submerged to the trough of the U-curve during middle childhood at age eight to eleven (Davis 1997, pp.47-51). Most individuals stopped drawing after middle childhood, their curve of development transformed from the "U" to a "L". It was only the artistically persistent who seemed to ascend in their development to the other high point of the "U" (Davis 1997, pp.51-53; Fox & Schirrmacher 2012, p.103; *Wang 黃壬來 1998, pp.21-23). Proponents of the U-shaped curve of artistic development did not regard young children's art as immature but valued the initiative and expressiveness; and evaluated by the principles or aesthetic criteria in modern art (*Wang 黃壬來 1998, p.23; Davis 1997, pp.47-51). When it was related to the development of creativity, the age of five was even labelled

as “the golden age of creativity” due to the “artful processes of thought” in children’s artworks (Gardner 1982 cited in Davis 1997, p.47).

However, the validity of the U-shaped curve of development has been challenged. Kindler (2004b, p.242) stated that subsequent studies conducted in diverse cultural setting that replicated Davis’s experiment consistently failed to yield the U-curve developmental patterns (Kindler 2001; Kindler, Liu, Pariser, & van den Berg, 2003; Kindler, Pariser, van den Berg, & Liu, 2001; Liu et al., 2002; Pariser & van den Berg, 2001 cited in Kindler 2004b, p.242). She suggested that the developmental theory of Davis (1997) was constructed on a very specific set of aesthetic values, such as the Western, modernist perspective of Davis’ judges that were not universally shared (Kindler et al. 2002, 2002a cited in Kindler 2004b, p.242).

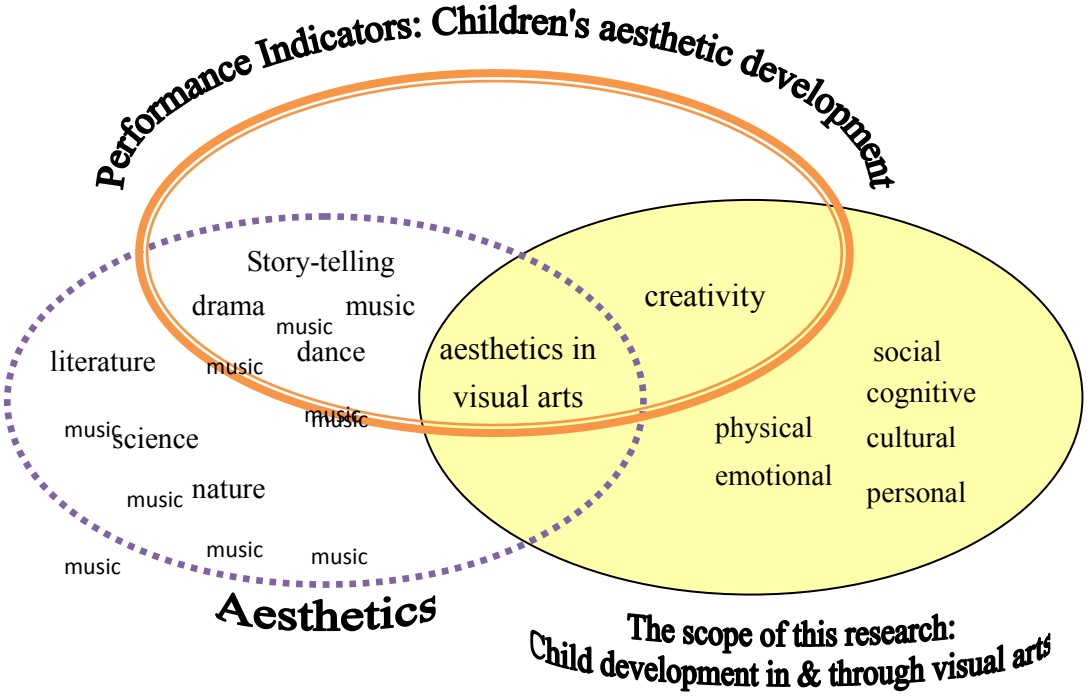
In spite of this criticism, I appreciated that the U-curve theory brought an alternative perspective apart from the linear progression of artistic development, and cherished the emphasis on children’s strength in expression of ideas, feelings or intuitions at this stage that resulted in impressive artwork, not only their realistic drawing skills.

2.7.3.4 Conclusion on artistic development

The review of official curricula, assessment documents and approaches of aesthetic and artistic development suggested that the specific definition of aesthetics that meant aesthetic judgement should be used in this research. It also suggested that the term “artistic development” was more appropriate than “aesthetic development” in assessing and describing the overall child development in and through visual arts. So, this study covered more areas of child development than merely the aesthetic and

creative required by the Hong Kong Performance Indicators. The relationship among the general concepts of aesthetics, aesthetic development mentioned in the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain on children's development (Performance Indicators)*, and the scope of this research is shown below.

Figure 2.7 The relationship among the general concepts of aesthetics, aesthetic development in the Hong Kong Performance Indicators, and the scope of this research



Aesthetics can be found in various forms, such as nature, dance and literature. The aesthetic development in the Performance Indicators covers "creativity" and some forms of aesthetics, i.e. music and visual arts. The areas common to both the Hong Kong Performance Indicators and this research are creativity and aesthetics/art appreciation. However, this research covers not only the two aspects required in the Performance Indicators, but also other areas of artistic development in and through visual arts, including physical, emotional, social, cognitive, cultural and personal development according to the developmental approach in understanding children's

artistic growth.

2.8 Assessing children's artistic development

My review of the literature showed a degree of consensus on what should be assessed in visual arts. The comparison of four official curricula and four assessment documents in Figure 2.5 revealed key areas for assessing children's development in visual arts that were more numerous than those listed in the Hong Kong Performance Indicators. Areas of assessment included:

- Imagination, creation, creativity, and problem solving (creative);
- Skills / techniques (physical);
- Use of materials and media (physical and aesthetic);
- Use of art elements (aesthetic);
- Expression / sharing of idea and feeling (cognitive and emotional);
- Appreciation / talk about art (aesthetic);
- Problem solving (cognitive and creative);
- Cultural understanding (cultural).

The literature review summarized four main approaches to assess young children's artistic development: (1) The evaluation chart specifically designed for the Hong Kong Performance Indicators; (2) the holistic approach; (3) art specialized evaluation; (4) general artistic process.

2.8.1 The evaluation chart specifically designed for the Hong Kong Performance Indicators

The design team of the third Quality Education Fund project mentioned in chapter 1 developed descriptors to illustrate three levels of children's performance on each key concept of performance (*Wong 黃艾珍 2007a). It was a tailor-made assessment tool; however, I regarded it as a compromise to the Performance Indicators' request because of its innate weaknesses in including inappropriate performance indicators on attitude and missing two key elements in art assessment: skills and knowledge. It was neither a complete response to the Performance Indicators nor a satisfactory arts assessment tool.

2.8.2 The holistic approach

Lowenfeld explained that art had traditionally been misinterpreted as being related mainly to aesthetics and creative product, and this concept was greatly responsible for the neglect of the other factors of growth (Lowenfeld 1957, p.48-49). He claimed that art assessment should not be limited to aesthetic and creative areas, and also included emotional, intellectual, physical, perceptual, social, aesthetic and creative growth (Lowenfeld & Brittain, 1982, p.54; Lowenfeld, 1957, p.48-58, 70-71). Minor differences were found within the holistic approach over decades. Fox and Schirrmacher (2012, pp.295-296) suggested a very similar artistic assessment instrument except using "cognitive" instead of "intellectual" and "perceptual" growth and an addition of the "personal" growth and "teaching children to self-assess". Koster (2012, p.69) also suggested similar holistic approach and claimed that children's artistic growth could be found in the process and products. This research was based on the holistic approach.

2.8.3 Art specialized evaluation

Eisner (1972, pp.212-230) offered an art specialized assessment framework which covered the productive, critical and cultural realms, using the categories: techniques, aesthetic-expression, creativity, and art criticism and culture respectively. He further introduced three types of contexts on making judgement about students' artwork by comparing it with the artwork of (1) their own, (2) the group, and (3) standard (Eisner 1972, pp.208-211).

Figure 2.8 Elaborated student evaluation grid (adopted from Eisner 1972)

Three types of artistic learning	**Three types of contexts for evaluation**		
	Student with Standard	Student with Group	Student with Self
Productive • Technical • Aesthetic-expressive * • Creative	* related to aesthetic, cognitive, emotional and social areas in Fig.2.9 & 2.10		
Critical • Art criticism			
Cultural			

Evaluation with self showed the student's competencies, could make progress vivid and increased both the student's motivation and his self-confidence in art. It was also recommended by the Hong Kong *Guide to the Pre-primary Curriculum* (CDC 2006, p.64) and other scholars (Fox & Schirrmacher 2012, p.296; Althouse et al. 2003, p.76).

Although Eisner (1972, p.210) worried that evaluation with group or the norm would lead teachers to commit the fallacy by assuming it was good when most children performed a particular way at a particular age, e.g. drawing in a way that most children did at that age (Eisner 1972, pp.209-210), it could be a preliminary assessment to detect the needs of deprived children. And, the uniqueness in a child's creative development could only be revealed by comparison with others. Evaluation with group was a dominant mode of evaluation in American schools in 1970's (Eisner 1972,

p.209) and is still an assessment method used by the British *Early Years Foundation Stage Profile* to identify young children's level of development in three levels by a norm-referenced evaluation: expected, emerging or exceeding (Standards & Testing Agency of Department for Education 2012a, p.11).

Comparing student performance with a criterion contributed not only to evaluation students' performance but also to instructional objectives (Eisner 1972, p.210). All these three assessment contexts can be applied in this study.

The art portfolio assessment scale (Althouse et al. 2003, p.126) was another art specialized art assessment which was greatly different from Eisner's approach. It was a 5-point rating scale specialized in assessing creative thinking of children's art development. It had 6 items to rate artwork in a portfolio, and 4 items to rate child's artistic behaviour over time. However, it was far so detailed and specific in creativity that it had not covered the aesthetic area required by the Hong Kong PIs; and covered only a part of children's overall growth in and through visual arts. It could hardly match the needs of the Hong Kong ECE teachers or be used in this research but suggested a rating scale for children's performance.

2.8.4 General artistic process

General artistic process was an assessment approach suggested by Wright (1994, p.34; cited in Fox & Schirrmacher 2012, p.294) who thought assessment in the arts in early childhood was appropriate through eight general artistic processes: discovery, pursuit, perception, communication, self- and social-awareness, skill use, creativity, analysis and critique. Wright (1994, p.34) further provided examples on how a teacher might

collect and code information about a children over a six month period based on the three main areas: (1) overall emphasis on the visual arts elements; (2) overall emphasis on the visual arts principles; and (3) involvement in the 8 artistic processes mentioned above.

Wright (1994) focused on showing children's interest and attention in the process rather than their performance or abilities. The assessment might not meet the expectations of general performance indicators, such as the *Australian Early Years Learning Framework* that requested for recognizable outcomes (Australian Government Department of Education Employment and Workplace Relations 2009), and the British *Early Years Foundation Stage Profile* that asked to understand what children really knew and could do (Standard and Testing Agency of Department for Education 2012a, p.9).

Moreover, the general process assessment approach is not easy to be understood by ECE practitioners who do not have specialized training in arts. They may not know how to relate the concepts, such as pursuit and contextualizing, as well as the child's use of visual arts elements and principles (Wright 1994, pp.34, 41) to assess young children's artistic development.

2.8.5 Summary of visual arts assessment

The following figure shows that the key points of many official documents and scholarly works covered areas of child development and shared similarities with the holistic approach of art assessment.

Figure 2.9 Comparison of different approaches on art assessment

Sources	1	2	3	4	5	6	7	8	9	10
approaches / growth	HK Performance Indicators	HK ECE	HK VA	UK EYFS	Lowenfeld	Fox & Sch.	Koster	Eisner	Althouse	Wright
physical	☑ (use materials)	Sensory experiences	skills	technique	physical	physical	physical	Technical skill		Skill use
cognitive	☑ (express experience)	Express thoughts		Express ideas	intellectual	cognitive	cognitive	Ability to understand	cognitive	Express ideas
(Language)		languages		Expressive arts			Symbolic language			communication
(perceptual)		senses			perceptual		perceptual	sensibility		perception
emotional	☑ (express feelings)	Enjoy, express feelings		Share feelings	emotional	emotional	emotional	Expressive feel		Express feeling
social		Express,	Personal, social	share	social	social	social			Pursuit, self- and social awareness
Creative	Creativity imagination	Creative imaginative	Creativity imagination	Imaginative original	creative	creative	creativity	Creativity, imagination	creative	Creativity, discovery
Aesthetic	aesthetic	Appreciate aesthetic sensitivity	Critical responses	Experiment colour, design etc	aesthetic	aesthetic	Spatial; artistic decisions	Critical, aesthetic, criticism	aesthetic	Analysis, critique
cultural		Different cultures	Arts in context, cultural					Cultural contextual		
personal						personal				
Self-assess		Feedback from children				Self-assess			Evaluate own work	Critique one's art products

☑ The key words were indirectly linked to the physical, cognitive or emotional areas

Sources:

1 Education and Manpower Bureau & Social Welfare Department (2003). Performance Indicators (Pre-primary Institutions): Domain on Children's Development. Hong Kong, Education and Manpower Bureau & Social Welfare Department. pp.13.

2 Curriculum Development Council (2006). Guide to the Pre-primary Curriculum. Curriculum Development Council. Hong Kong, Education and Manpower Bureau, pp.20, 35, 63, 64 &93.

3 Curriculum Development Council (2003). Arts Education Key Learning Area. Visual Arts Curriculum Guide (primary 1 - secondary 3). Hong Kong, Curriculum Development Council, pp.10-11.

4 Standards & Testing Agency of Department for Education. (2012a, November 2012). "2013 Early Years Foundation Stage Profile Handbook." National curriculum assessments, p.54.

5 Lowenfeld, V. (1957). Creative and Mental Growth. New York, Macmillan, pp.122-123.

6 Fox, J. E. and R. Schirrmacher (2012). Art and Creative Development for Young Children. Belmont, California, Wadsworth Cengage Learning, pp.295-296.

7 Koster, J. B. (2012). Growing Artists: Teaching the Arts to Young Children. New York, Delmar, pp.69, 80.

8 Eisner, E. W. (1972). Educating Artistic Vision. New York, Macmillan, pp.65-67, 71, 86, 95, 208, 212-226, 230-234.

9 Althouse, R., M. H. Johnson, et al. (2003). The Colors of Learning: Integrating the Visual Arts Into the Early Childhood Curriculum. New York & Washington D.C., Teachers College Press and National Association for the Education of Young Children, pp.76-77,126-132.

10 Wright, S. (1994). "Assessment in the arts: is it appropriate in the early childhood years?" Studies in Art Education **36**(1): 28-43.

The comparison showed that the holistic approach was more acceptable by many official curricula, assessment documents and scholars. Since this research was also

based on this approach, the search of young children's development would exceed the requirements of Hong Kong Performance Indicators, and would offer a more comprehensive overview of child development in and through visual arts activities.

In order to facilitate the interpretation and presentation of children's performance in various areas of development, the key concepts from mainly ten sources were extracted and classified into the following table for reference. The number at the end of the statement indicates its source. For example, the key concepts listed in the five items and examples (the ten children's developmental milestones) of children's aesthetic development in the Hong Kong Performance Indicators were numbered as 1 and 1* respectively. They were also highlighted in yellow for quick comparison with other references. The *italics* indicate concepts related to attitude. The summary of key concepts below can serve as a rich resource for describing children's performance.

Figure 2.10 A summary of children's performance from the different approaches of visual arts assessment

Areas of development	**Characteristics of children's performance**
Physical	**General:** Demonstrate gross and fine motor control (6,7,10); Sensory experiences (2,7) /awareness (10); (origin: cognitive) **Art specific:** Able to use different materials (1,3,4,7,10); Uses basic/different techniques (2,3,7,10); Visual art making (3); Completion of the art activity (6); (related to social: responsibility) Drawing human figures (6); (origin: cognitive) A lack of continuous omission/ exaggeration of the same body part? (5) Are the lines determined and vigorous? (5) Proper use of tools and materials (6); Has control over the materials; ability to handle with skills the technical characteristics of the materials with which he was working (8); Makes decision about how media be combined and changed (4).
Social	**General:** *Self-responsibility (6);* *Take initiative; stay on task (10);* *Able to work with others (2,7,10);* *To share resources & workload (2,7);* *Able to work alone and cooperatively (6);*

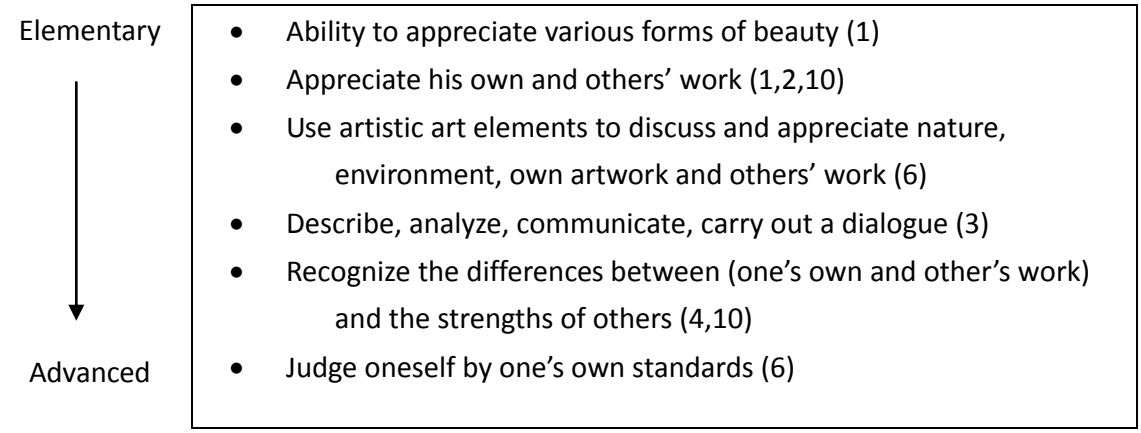
	Work with others and celebrate success (2); **Art specific:** Child art is a result of an interaction between genetic traits and environmental conditions (8: p. 95); Completion of the art activity (6); (origin: physical) Self- and social-awareness (10); Works with others to finish a creation (2); Expresses themes related to a definite experience (5) / surroundings (3,5); Self-directed rather than copying others (6); (related to creative) *Positive interaction between peers and teachers (7);* Is there any order determined by emotional relationships? (5) *Tolerates others' art ideas, styles and products (6); (related to aesthetic)* Recognizes the differences between (own and others' work) and the strengths of others (4,10). (origin: "being imaginative" in expressive art and design)
Emotional	**General:** Expresses personal emotions and/or feelings (2); Expresses themes related to themselves (3); **Art specific:** Expresses feelings, emotions, and personality through artwork (1,6,7,8,10); Self-assurance and confidence (6); (related to social) Enjoyment and pride in own work (6); Frequently changes concepts for man or trees, a lack of continuity (5); Definite in line and colour, showing the child's confidence in his work (5); The child's comfort level with art materials and others' artwork as expressed in arts activities (7); (related to aesthetic) Does it relate to things which are important to him? (5) Accepts own mistakes and unsuccessful attempts at art (6)/ tolerates frustration (10); Is there too much exaggeration? (5); distortion or exaggeration of things that are emotionally significant (6).
Cognitive	**General** (there is a close relationship between perception, language and visual arts)**:** Sensory experiences (2,7)/awareness (10); (related to physical) Express ideas, thought, personal experience (1,2,3); Reflect a knowledge of people, places, objects, experiences, and events of personal importance in the environment (6); Evidence of personal or public representation of subject matter recognizable to others (6); **Art-specific:** Child art is indicative of cognitive activity, concept formation and general intelligence (8: p. 95); Reflects a knowledge of line, shapes (6); Draws human figures (6); (related to physical) Able to produce a representational drawing of a man showing details (5); Able to relate colour to objects (5); Able to demonstrate a knowledge of colours and colour mixing (6); Has perceptual abilities to see visual qualities in the environment through a process of perceptual differentiation (8: p. 94); aesthetic-expressive (8: p. 216); Repleteness is similar to elaboration, as both qualities attend to details. Repleteness indicates knowledge of the subject, theme, or idea portrayed or expressed in the artwork, while elaboration demonstrates knowledge or particular details of individual subjects represented; i.e. a variety of flowers in a garden, and many details of the parts of a particular flower (9); Able to find out how to combine and change materials (4); Knows and uses art vocabulary/ symbolic language to communicate/ communication skills (2, 3, 6, 7, 10); (related to aesthetic)

	Articulates artistic goals (10), talks/ verbalizes/ reflects on own work (7, 10); (related to aesthetic) Knows (identifies) artistic elements such as colour, shape, line, space, mass, texture, pattern and balance (6); (origin: aesthetic) Uses visual arts elements of colour, value, line, shape, form, texture, space (10); Describe, analyze, communicate, carry out a dialogue (3); (origin: aesthetic) Has skill in understanding and creating ways to communicate through the arts (7); Indicates movements or sounds (in artwork) (5); Develops their own ideas through selecting and using materials (4,10); Demonstrates perceptual growth involving visual and spatial perception skills (7); Sees qualities that normally escape attention (8: p. 71); Makes comparisons, artistic decisions, orders the sequence of their actions (7); Something not confined to visual arts; i.e. higher order thinking (Wolf, 1992, pp. 945-946); Has the ability to express arts concepts graphically and through oral language (7); Uses the visual arts principles of rhythm, feeling, balance, proportion, overall composition, emphasis, movement, repetition, pattern, variety, unity (10); (origin: aesthetic) Understands art and why art was made in the past (6). (related to aesthetic)
Creative	**General:** Original ideas (2); Unique thought (1*); **Art specific:** *Demonstrates a willingness to experiment and explore with a variety of media (6);* Participates in creative activities (1); When the child is alone, does he spontaneously create in any medium (5)? Uses/experiments with a variety of media/materials (1, 2, 6,10); Demonstrates creative thinking (in visual arts) (3); Explores ideas from a variety of angles (10); Demonstrates fluency: i.e. various effects of lighter and darker grass or trees (9); Shows flexibility: ability to mentally push boundaries (Schirrmacher cited in 9); i.e. accidents of media, a drop of paint, developed to a richer expression (9); Shows imagination and creativity in art and design (1,2,3,10); Is imaginative in talking about the ideas and processes (of arts) (4)? Uses and challenges existing skills and knowledge (7); Demonstrates ways of creatively combining media, materials and artistic junk (6); Combines familiar elements in new ways (7); Solves challenging problems (7,10); Is self-directed rather than copies others (6); (origin: social) If the child works in a group, does he remain uninfluenced (5)? When the child is alone, does he refrain from imitating for imitation's sake (5)? Uses details, decoration and elaboration (6); Elaboration is evidenced when children add many details to their artwork; visual complexity is created (9); Demonstrates creative problem solving: demonstrates enjoyment, seeks and solves creative problems and devises them even where they did not exist; i.e. draws his own monsters instead of illustrating the monsters from a book (9); Makes individual and personally unique artistic statements (6); (related to aesthetic) Demonstrates creative thinking: fluency, flexibility, originality, elaboration, creative problem solving (9); Demonstrates originality: unique, unusual, or unexpected, exhibits personal, not stereotypical, symbols to represent ideas (9); Reflects originality, imagination, creativity (6); Demonstrates creativity: boundary pushing, inventing, boundary breaking, and aesthetic organizing (8).

Aesthetic	**General:** *Shows interest in various forms of beauty (1,2);* Appreciates the beauty of life (1); Has the ability to appreciate various forms of beauty (1); Demonstrates awareness and sensitivity to immediate surroundings, nature and environment (6,10); **Art specific_ process and product:** Does the child show a desire for decoration (5)? Enjoys processing with media and making artistic products (6); Expresses aesthetic sensibility (1*,2); Demonstrates awareness and sensitivity through various senses; i.e. looking, touching(6); *Shows a level of comfort with art materials and others' artwork as expressed in arts activities (7); (original: emotional)* Uses a variety of two-dimensional and three-dimensional artistic media (6); Shows aesthetic perception through colours and composition (1*); Demonstrates aesthetic thinking: composition (arrangement of elements of design) – appears to be intuitive in a child's early artistic development and is later taught by instruction (9); Demonstrates aesthetic thinking: expression – artwork shows feelings or emotional qualities; i.e. the viewers can "feel" the fuzzy petals of a flower; the shimmering heat of the sun; the jagged, sharp teeth of a shark (9); Demonstrates aesthetic-expressive aspect: aesthetic organization of forms in the work display a high degree of coherence and harmony, order and unity (8); For most artists the aesthetic organization of forms is a prime concern, but in children high aesthetic organization ability is relative rare (8); Use of visual arts elements of colour, value, line, shape, form, texture, space (10); (related to cognitive) Decides what to do with their work and participate in presenting the work (7); Is meaningful space well distributed as opposed to meaningless space (5)? Does the organization of the subject matter seem equally important to content (5)? Do colours appear to be distributed decoratively (5)? **Art specific_ talk:** Appreciates his own and others' work (1,2,10); Appreciates their surroundings in the process of creation (2); Demonstrates art appreciation (3), art criticism (3, 8), critical responses (3); Art criticism can be a type of evaluation (of children's growth) (8); Articulates artistic goals (10), talks/ verbalizes/ reflects on their own work (7,10); (origin: cognitive) Can talk about features of their own and others' work (4); Knows (identifies) artistic elements, such as colour, shape, line, space, mass, texture, pattern and balance (6); (related to cognitive) Knows and uses art vocabulary/ symbolic language to communicate/ communication skills (2, 3, 6, 7, 10); (origin: cognitive) Uses artistic elements to discuss and appreciate nature, environment, own artwork and others' work (6); Appreciates various perspectives (2); Appreciates artworks on a wide range of styles (6); Sees similarities and differences in artistic styles (6); Makes quick statements of preference - like and dislike - often provides premature closure; the student fails to see the work in any depth; matters of preference and taste cannot be disputed (8). Disputes can be found in matters of judgement, which consists of making statements about quality of visual form that can be supported by evidence, i.e. after being asked why (8).

	Art criticism: judgement about visual forms; contextual; description, interpretation, evaluation (8, 10); Describes, analyzes, communicates, carries out a dialogue (3); (related to cognitive) Makes individual and personally unique artistic statements (6); (origin: creative) Recognizes differences between (own and others' work) and the strengths of others (4, 10); Tolerates others' art ideas, styles and products (6); (origin in social) Uses the visual arts principles of rhythm, feeling, balance, proportion, overall composition, emphasis, movement, repetition, pattern, variety, unity (10); (related to cognitive) Demonstrates a sense of standards and quality (10)/ makes own artistic decision/preferences based on personal taste; i.e. choice of subjects, tools, materials, colours (6); (origin: self-assessment) Judges self by own standards, in spite of the criticism of others, is a life skill that is important for all children to learn (6); (origin: self-assessment) Understands art and why art was made in the past (6). (origin: cognitive)
Cultural	**Art specific:** Understands arts in context (3); Appreciates artwork of different cultures (2); Has the ability to understand the characteristics of the time and place in which art was created. … the cultural realm emphasizes an understanding of the period in human history through using works of art. … in assessing this type of learning, teachers want students to understand that the persons who created art are part of a human culture and reflect that culture in their art (8).
Personal	**Art specific:** Personal preference for certain media (6); Develops their own ideas through selecting and using materials and working on processes that interest them (4); (Preschool children's art) Individual's art is a manifestation of personality (8: p. 95); Goodenough & Harris stated that the identification of personality characteristics is not likely to be done easily (8).
Self-assess	**Art specific:** Children select their own item of works, such as drawings or stories, as subjects for conversation with teachers in a small group or for expressing their own views with their peers regarding the work (2); Encourages students to compare the quality of their earlier and later works; students' learning rates are revealed through comparison (8; p. 208); Encourages children to evaluate their own artwork, i.e. compare earlier stereotypical work on flowers in the class with an observational drawing of the garden (9); Demonstrates a sense of standards and quality (10)/ make their own artistic decision/preferences which were based on personal taste, i.e. choice of subjects, tools, materials, colours (6); (related to aesthetics) Judges oneself by one's own standards, in spite of the criticism of others, is a life skill that is important for all children to learn (6). (related to aesthetics)

Some key concepts in each area involve different levels of complexity and can be ranked in an ascending order. For example, some concepts of aesthetic development can be arranged from elementary to advanced level as below,



The highlighted key concepts of Hong Kong Performance Indicators are usually ranked at the beginning of the table that relates to the elementary level of children's performance. For example,

- imagination and creativity in art and design (1,2,3,10)
- demonstrate ways of creatively combining media, materials and artistic junk (6)
- combine familiar elements in new ways (7)

Comparing with some other key points that are explicit descriptions of children's knowledge and abilities, the Hong Kong Performance Indicators do not clearly show the kinds of children's performance expected in imagination and creativity. Even the highest level in the 10 exemplars suggested in the Performance Indicators, which expect children to show "aesthetic perception through colour and composition" (EMB & SWD 2003, p.29), are in the middle level of complexity. Though a few key concepts are vague, many parts of the summary offer explicit or observable examples or descriptors for ECE teachers to observe, understand, differentiate, describe and report on children's development in various areas and levels in visual arts activities.

Finally, a visual arts assessment framework for young children was specifically developed for this research. It was mainly compiled from the holistic approach suggested by Lowenfeld (1957), Fox and Schirrmacher (2012), and the British *2013*

Early Years Foundation Stage Profile Handbook (Standard & Testing Agency of Department for Education 2012a) to assess children's performance in and through visual arts activities. A child's performance could be interpreted according to the following framework:

Figure 2.11 The visual arts assessment framework for young children

	Characteristics of the child's performance	**Little/ emerging**	**Some/ average/ expected**	**Much/ exceeding**
Physical				
Cognitive				
Emotional				
Social				
Creative				
Aesthetic				
Cultural				
Personal				
Overall	(A written summary)			

Lowenfeld (1957)	none		some	much	
Early Years Foundation Stage Profile (2012a)	emerging		expected	exceeding	
Ahola & Kovacik (2007, p.35)	never	rarely	sometimes	often	always
Althouse et al. (2003, p.127) low to high	1	2	3	4	5

2.9 Ways to assess the child development in visual arts

In order to gather information about young children's development in and through visual arts, this study selected the following three means: authentic assessment, portfolios and observation. They are regarded as appropriate tools for understanding and evaluating child development in visual arts (Fox & Schirrmacher 2012, p.285; Koster 2012, pp.69-75; Nutbrown 2010; Wood 2010; Galper & Seefeldt 2009, p.329; Bredekamp & Rosegrant 1995 cited in Galper & Seefeldt 2009, p.340; Mindes 2007,

p.23; EMB & SWD 2006, pp.60, 65; Puckett 2000, pp.6-7, 242). The first two concepts are discussed below while observation is analyzed in Chapter 3.

2.9.1 Authentic assessment

Authentic assessment is the process of observing, recording, and documenting the work and ongoing learning that children do and how they do it, as a basis for educational decisions that affected individual learners (McAfee & Leong 2007, p.3; Mindes 2007, p.24; NAEYC, NAECS/SDE 1991, Northwest Regional Educational Laboratory 1991, Grace & Shores 1991 cited in Puckett 2000, p.7; Gullo 2006, p.449). The assessments engage children in tasks that are personally meaningful, take place in real-life contexts, and are grounded in naturally occurring learning activities (Epstein et al. 2004 cited in Galper & Seefeldt 2009, p.341). This assessment emphasizes emerging development, is performance-based and ongoing, occurs in many contexts, involves collaboration among learners, parents, teachers and professionals, directly measures actual performance in a skill, subject, or content area; and provides continuous, qualitative information that can guide the teaching (Puckett 2000, p.7).

This research used authentic assessment as the researcher merged with the school life of the target group, continuously observing and collecting data on the children's normal behaviours in visual arts activities. The research operated on a weekly-basis over seven months. No special programmes were designed for the children, and the research followed the class teacher's original teaching schedule. The process of the research stayed close to the real life of a teacher. The research findings would be more persuasive and the research and assessment method would be useful for ECE teachers.

2.9.2 Portfolios

Portfolio assessment was used to collect and record data in this research. Portfolios are widely used in educational setting as a means for examining and measuring children's progress (Fox & Schirrmacher 2012, p.294; Koster 2012, pp.71-75; Sewell, Marczak, & Horn 2003 cited in Gullo 2006, pp.449-450; Althouse et al. 2003, p.76) that can be reflected through process and product (Lankford 1992, p.80). Indeed, some official curricula and assessment documents have recommended the use of portfolios to assess children's development, for example the pre-primary curricula of Hong Kong and Singapore, visual arts curriculum guide of Hong Kong, and Project Spectrum (Figure 2.5). Epstein and her colleagues commented that one of the best ways to undertake meaningful student assessment was through the use of a well-constructed portfolio system (cited in Galper & Seefeldt 2009, p.341).

A portfolio is a purposeful and systematic collection of evidence of a child's learning, collected over time that demonstrates a child's efforts, progress or achievement as she/he is engaged in classroom activities (Althouse et al. 2003 cited in Fox & Schirrmacher 2012, p.294; Lubawy 2010 p.228; McAfee, Leong, & Bodrova 2004 cited in Galper & Seefeldt 2009, p.341; Gullo 2006, p.449; Althouse et al. 2003, p.76; Krechevsky 1998; CDC 2003, pp.46 & 47). It documents the learning process as it occurs naturally within the classroom context; and demonstrates what children know and can do (Gullo 2006, p.450). Moreover, portfolio assessment values the individual and is most useful for evaluating outcomes that are flexible or individualized, and it provides meaningful information related to the process of behavioural change over time. Then, a portfolio becomes a means of communicating with a wide range of

audiences regarding program accountability or child progress (Gullo 2006, p.450).

In order to meet psychometric standards of reliability and validity, Galper and Seefeldt (2009, pp.341-342) listed some conditions for a valid portfolio system: (1) guidelines for the selection of items; (2) criteria for judging merit; (3) multiple sources of data; (4) collection over a period of time; (5) the possible use of more formal entries such as rubrics, checklists, rating scales, and anecdotal records; (6) compilation at regular intervals (Gullo 2006, p.450); (7) possible use of less formal authentic measures including photographs, videotapes, audiotapes, writing samples, artworks, lists of books read. These were useful guideline for this study. Although there has been some debate about who should choose items for the portfolios, many ECE practitioners believe it should be shared with children and their families because the evidence can be used to interpret strengths, weaknesses, and progress over time (Galper & Seefeldt 2009, p.341).

However, a portfolio (Gullo 2006, p.450; Galper & Seefeldt 2009, p.341) may not be very useful if:

(1) it does not have plans on how to use the information;
(2) assessment goals are very concrete and uniform;
(3) assessment ranks children quantitatively or in a standardized manner;
(4) children are compared to standardized norms;
(5) standardization fails to capture the essence of the child;
(6) there is insufficient time;
(7) teachers lack training in collecting observational and performance-based evidence of growth, development, and achievement; and
(8) teachers have intentional or unintentional bias.

2.10 Ways to understand child development from artwork

We could assess the process and product in an art portfolio in order to understand a child's development in the visual arts; however, what could an ECE teacher observe, interpret and present the child's development from a child's artwork such as the drawing in Figure 2.12?

Figure 2.12 A drawing on paper by Ruby aged 3 years & 9 months; approx. A4

The evaluation of preschoolers' performance in visual arts activities was often regarded as a difficult task (Fox & Schirrmacher 2012, p.294; Thompson 1995, p.1; Wright 1994, p.28). Even adults appreciated the workings of young hearts and mind, they often found child art difficult to comprehend or to value (Thompson 1995, p.1).

Engel (1995 cited in Koster 2012, pp.75-76) recommended two practical approaches to evaluate children's visual arts: descriptive and developmental approaches:

(1) to describe the individual work and what it said about how the child was communicating through the art form;

(2) to compare the work's similarities with the work of other children at the same level; e.g. with reference to the approaches suggested by Kellogg, Lowenfeld, and/or Parsons on artistic and aesthetic development in previous Sections 2.7.2 and 2.7.3.

2.10.1 The critical approach: Feldman's four stages of art criticism

Wright (2003, p.179) stated that critique was a valuable tool for assessment and evaluation. A major conclusion of the Ohio State Seminar stated, "What an art teacher does – whether in art appreciation or studio instruction – is essentially art criticism" (Cromer 1990, p.43). It meant art teachers would describe, analyze, interpret, and evaluate works of art during the process of instruction (Feldman 1968 cited in Cromer 1990, p.43).

I agreed with Wright (2003, p.179) that Feldman's basic framework was a useful starting point for critique and could be applied by teachers and young children when they learn to read and appreciate their own or others' images or artwork. This research applied Feldman's approach on art criticism because it could provide an orderly and sequential procedure to interpret children's artwork (Feldman 1992, p.487). Feldman's approach had been widely used for over thirty years and influenced many scholars such as Smith, Mittler, Cromer, and Anderson etc. (*Lai et al. 黎明海 2001, p.47). Once, I used the "description", the first stage of Feldman's approach, to start a conversation with a girl aged 3 years and 9 months. The child's cognitive, aesthetic, creative, physical and social development were revealed through the talk over her own artwork (Figure 2.12) (*Cheung 張麗霞 2011, pp.21-26). ECE practitioners could try to understand children's artwork by following Feldman's four stages of art criticism (Feldman 1992, pp.487-510):

Description – a process of taking inventory, of noting what is immediately visible in an artwork, and the description is as complete as possible. For example, someone may say that there are five women in Picasso's Les Demoiselles d'Avignon. For an abstract painting, we describe the main shapes, colours, and other visual elements we see

without being judged.

Formal analysis – try to discover the relations among the things we have named. For instance, in the Picasso's five figures, we examine their organization as shapes, colours, and textures, and as forms with particular locations in space.

Interpretation – a process of finding the overall meaning of a work that the critic has described and analyzed by summarizing the evidence and forming a hypothesis.

Judgement – give an artwork a rank in relation to other works of its types. Feldman commented that this aspect was much abused and might be unnecessary if a satisfying interpretation had been carried out.

Feldman offered a systematic approach in guiding teachers to understand and interpret children's artwork. I agreed with Feldman that if an analysis and interpretation were concrete, the audience could understand the characteristics of individual child's development in visual arts and construct their own judgement.

2.10.2 Children's talk

Although most assessments in schools were done by teachers, children's talk provided the first-hand information that was authentic and valid evidence to reveal various aspects of their development in this study. It resembled the narrative approach used in social sciences research (Czarniawska 2005). Though some art educators thought that verbalizing about art was deleterious and reduced visual experience to verbal experience, Eisner (1972, p.226) stated that there was no reason why man should not use one of his unique intellectual tools, spoken language, as a tool for experiencing

visual arts. Although art criticism or verbal language was not and could never be a substitute for the visual language, it could function as a midwife to aesthetic experience; i.e. verbalizing the formal and sensuous qualities of the art object in terms of their impact upon feelings and intelligence (Feldman 1992, p.494; Eisner 1972, p.226).

2.10.3 Pluralism

How could we solve the problem if people had different interpretations or judgement on the same artwork, especially there was no right or wrong answer in art (Lowenfeld & Brittain 1982, p.11)? Perhaps, pluralism may be one of the solutions.

Pluralism refers to the coexistence of multiple perspectives in which no single approach gains all the support or attention (Lankford 1992, p.16; Atkins 1990, p.126). Pluralism is not diversity alone because mere diversity without real encounter would increase tension in the societies; and it is not just tolerance or isolation, since understanding of different viewpoints and communication are crucial (Eck 2006).

If there is no one universal aesthetics for all art forms (Hart cited in Lankford 1992, p.16) and fine art should not be regarded as superior to primitive art (Lankford 1992, p.16), then pluralism and co-constructivism share a common point that children's expertise is as valid as the teacher's (Jordan 2002, p.4). Anthropologists have also long advocated that artistic forms are best understood when viewed from the "inside", in terms of those who are directly involved in the creation and function of the object (Lankford 1992, p.16). Moreover, every culture has its own sense of artistic and aesthetic refinement, purposes, values and standards that are meaningful to the group from the

standpoint of cultural relativism (Lankford 1992, p.16). Then, does it also imply that children can have their own artistic and aesthetic standpoint, and a child's critique on artwork is no less valuable than an adult?

However, there are two different approaches when the artist's (child's) viewpoints are different from the teacher's interpretation:

(1) The insider is more accurate

In the anthropological or co-constructivist approach, the creator or child's expertise is frequently more accurate and detailed when the topic under discussion is outside of the adult's field of expertise but within the child's (Jordan 2002, p.4; Lankford 1992, p.16).

(2) The perceiver confirms the interpretation

Feldman thought that the artist (or the child) was not necessarily the best authority on the meaning of his or her work. The artist's view could not be swallowed whole but needed to be confirmed by the perceivers' own methods of analysis and interpretation. It implies that teachers should carefully select and interpret the ideas they perceive because it may not be the same as the artist's (child's) verbal expression.

It would be unwise or unnecessary to jump to a conclusion as each had its rationales. On one hand, I believe that the insider (the child who created the artwork) would be more accurate if the interpretation was about the personal motives and design of the creation, including the cognitive, emotional, social and aesthetic elements that the child wanted to express in the work. On the other hand, I agree with Feldman that

teachers or perceivers had their interpretations. They might consist of formal analysis of the aesthetic, technical, and creative aspects of the artwork.

Thus, there is never just one interpretation of an artwork; and an individual's personal response is as valid as a critic's, especially if someone looks and thinks carefully about what he sees (Bohm-Duchen & Cook 1991, p.5). The main purpose should be the better understanding of the artwork after observation and active listening of multiple voices and meanings (Nutbrown 2010, p.239; Wood 2010, p.208). Perhaps, we can include interpretations on both sides.

2.11 Conclusion of the chapter

To conclude, studies conducted on the implementation of Hong Kong Performance Indicators have shown that teachers' training and competency cannot face the challenges brought by the quality assurance (Chan & Wong 2010; Wong & Li 2010; Li & Wong 2008; Honig & Lim 2003 cited in Pearson & Rao 2006).

The introduction in Chapter 1 has explained that some descriptors of performance indicators are not specific enough and appropriate. The assessment of children's aesthetic development became more complicated when literature review on aesthetics and creativity showed that there are no common definitions in creativity; and aesthetics covers a vast range of definitions.

So, in order to help teachers to meet the requirement of Hong Kong Performance Indicators for children's aesthetic development, this study focused on finding practicable definitions that may contribute to the collection of observable and relevant

evidence to illustrate children's aesthetic development.

The study of seven more official curricula and assessment documents revealed that the term "artistic development" is more appropriate than "aesthetic development" since aesthetic development in arts education usually refers to the ability to appreciate art. The term should also include techniques and art knowledge. Moreover, children's development in visual arts goes beyond creative and aesthetic development to also cover physical, cognitive, emotional, social, cultural and personal development. Therefore, this study developed a visual arts assessment framework (Figure 2.11) that adapted from the holistic approach of art assessment to assess young children's development in and through visual arts.

The literature review of this research was a tough job since the fields on aesthetics, creativity, and assessment of young children's visual arts were not well-defined and covered a lot of topics. The continuous revision of topics helped me to develop a better understanding of the Hong Kong Performance Indicators on aesthetic development as well as an appropriate assessment to illustrate young children's holistic development in and through the visual arts.

Chapter 3 explains how the study sought to answer the research questions by assessing five young children's development with the aid of the assessment framework in five case studies.

CHAPTER 3

RESEARCH METHODOLOGY AND ETHICAL CONSIDERATIONS

The chapter on methodology starts at introducing the overall research approach, then followed by research design, data processing, methods of verification, data interpretation, ethical considerations, and conclusion.

3.1 Overall research approach

3.1.1 Research questions

(1) What should be assessed in and through early childhood visual arts activities?

(2) How well do the Hong Kong Performance Indicators (Pre-primary Institutions) assess children's aesthetic development in the visual arts?

(3) What information about children's development in and through the visual arts activities can be found in the Hong Kong local context?

3.1.2 The relationship between the research methodology and the nature of assessment in visual arts

The choice of research methodology is governed by the epistemology on the nature of research questions perceived by the research investigator and the format of data collected. The key questions of this research are about the assessment of young children's development in visual arts. In the epistemological perspective on the

nature of art and art education, some scholars have developed viewpoints that favour the use of subjectivist approach which assumes the knowledge of the social world is personal, subjective and unique, in contrast to the positivist view that perceives knowledge as hard, objective and tangible (Burrell & Morgan cited in Cohen et al. 2004, pp.6-7). The positive view ignores intention, individualism and freedom and neglects hermeneutic, aesthetic, critical, moral, creative and other forms of knowledge (Cohen et al. 2004, pp.17,19) that are cherished by this research.

For instance, Lowenfeld and Brittain (1982, pp.7-8) stated that art was primarily a means of expression for a child; and no two children were alike as each child differed even from his earlier self. Art became a language of thought for him, and his expression changed as he grew. Schirrmacher (1998, p.94) thought one of the aims of early childhood education was to foster the development of unique individuals, not to mass-produce robots. Therefore, children can choose from available materials, tools, techniques and images and use them in their own unique way; and there is no preset idea about what the end product will look like (Koster 2001, pp.16, 20; Rogers cited in Koster, 2001, p.85).

Some scholars further pointed out that assessing art activities was such a difficult task that simple grading was inadequate:

> For many early childhood educators, assessment is a difficult concept to embrace especially in arts for young children in which symbolism, aesthetics, and personal expression are central features. The traditional notion of assessment, where a letter or number grade is assigned to young children's endeavours or products, usually has no place in early childhood education. (Wright 1994, p.3)

Eisner (1972, p.208), an American renowned art educator, suggested evaluative statements by the teacher to illustrate the characteristics, strengths, and limitations of

the students‘ development in art and other areas rather than letter grades in the assessment.

This research agrees that art activities are usually rich in personal and distinctive features and contain multiple variables that cannot be appropriately measured by statistics or analyzed by a quantitative approach. Thus, a qualitative research approach is more appropriate for this research.

3.1.3 Qualitative research method

This study has adopted a qualitative approach. Creswell (1998, p.15) pointed out the advantages of qualitative research that matched the needs of this study:

> Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.

Qualitative approach intends to present a detailed or close-up view of the topic (Creswell 1998, p.17); and it involves an in-depth interpretation of each child’s overall development with reference to dialogue, behaviour and visual images. I agree that the situation should be studied in its natural state, without the intervention of, or manipulation by, the researcher (Gibbs 2007, p.xi; Hammersley & Atkinson cited in Cohen et al. 2004, p.22). Moreover, the qualitative and interpretative approaches believe there are multiple interpretations and perspectives on single events and situations as the reality is multi-layered and complex (Cohen et al. 2004, p.22). In the contemporary world, there is never just one interpretation of an artwork; and each individual feedback is as valid as a critic’s, especially if he/she looks carefully and

thinks about what he/she sees (Bohm-Duchen & Cook 1991, p.5). Therefore, there are three sources of interpretation collected in this study : (1) the children's artwork and talk on their own and others' artwork, (2) the investigator's interpretations of their work and behaviours, and (3) the teacher's comments. They form the "thick descriptions" that provide multiple interpretations and the situation is examined through the eyes of participants rather than solely the researcher as the reality is multi-layered and complex (Cohen et al. 2004, p.22).

3.2 Research design

3.2.1 Qualitative case study

Some researchers have slightly different definitions on case study. Creswell (1998, p.61) stated,

> Whereas some consider 'the case' an object of study (Stake, 1995) and others consider it a methodology (e.g. Merriam, 1988).

Case studies can be regarded a strategy of inquiry in which a researcher explores in depth a program, event, activity, process, or one or more individuals (Creswell 2009, p.13). Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake 1995 cited in Creswell 2009, p.13).

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin 2003, pp.13-14) and it is strong in reality (Cohen et al. 2004, p.184). It can capture a single event which sheds light on a person or situation. Thus, the significance rather than frequency is a hallmark of case studies that offer the

researcher insight into the real dynamics of situation and people; and the researcher typically observes the characteristics at the level of an individual unit (Cohen et al. 2004, p.185).

Case studies can be based on both quantitative and qualitative evidence (Yin 2003, pp.14-15). Stake (1995, p.39) described quantitative research methods were trying to nullify context in order to find the most general and pervasive explanatory relationships. Generalization was the important aim. He continued that quantitative researchers regularly treated uniqueness of cases as 'error', outside the system of explained science, while qualitative researchers treated the uniqueness of individual cases and contexts as important to understanding, and particularization was an important aim in qualitative research. In this research, a qualitative case study design was applied and aimed at particularization - to illustrate individualized child development.

A case study relies on multiple sources of information and evidence, including observations, interviews, audio-visual materials, artifacts, documents and reports (Creswell 1998, pp.61,63; Yin 2003, p.8), which need to converge in a triangulating fashion (Yin 2003, pp.13-14).

To assess an individual young child's development in the process of taking part in art activities over six months, the study has collected multiple sources of information and feedback from different sources of evidence found in the real-life context in the school, including:

- the child's artwork;
- the child's performance and dialogue in the process of art production;
- the child's other documents including daily journals and reading reports that consist of graphics and written words;

- the class teacher's comments; and
- the researcher's interpretation.

The accumulation and triangulation of a rich and vivid collection of events which build up a more comprehensive evaluation of a child's holistic development in visual arts activities with chronological reference becomes evidence to support theoretical statements (Cohen et al. 2004, p.182) such as the revised assessment framework for visual arts that was initiated by Lowenfeld (1957, pp.122-123), Fox and Schirrmacher (2012, pp.295-296). The evaluation of child development in and through visual arts is concerned with statements rather than statistics. We use the qualitative case study approach to seek greater understanding of the case and to appreciate its uniqueness and complexity, embeddedness and interaction with its context (Stake 1995, p.16).

3.2.2 Criticism of the qualitative case study

Though a case study approach has its merits and is adopted in this research, there re a few criticisms:

(1) the difficulties in generalization (Cohen et al. 2004; Hamel, Dufour & Fortin 1993; Stake 1995; Stake 2005; Yin 2003);
(2) the lack of rigor in case study research (Hamel, Dufour & Fortin 1993; Yin 2003); and
(3) problems in cross-checking and observer bias (Cohen et al. 2004; Hamel, Dufour & Fortin 1993).

First, case studies are seen as problematic because they provide little basis for scientific generalization (Stake 2005, p.447; Yin 2003, p.10). Yin (2003, pp.10-11) argued that

case studies were generalizable to theoretical propositions which tended to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization). Stake explained that generalizations based on a case or a few cases might be considered as “petite generalizations”; and even intrinsic case study could be seen as a small step toward grand generalization (Campbell, Flyvbjerg & Vaughan cited in Stake 2005, p.448; Stake 1995, p.7).

Moreover, the contribution from a case study research could lead to naturalistic generalizations, i.e. conclusions arrived at through personal or vicarious experience (Stake 1995, pp.85-87). Narrative descriptions in case study research contribute to a reader’s vicarious experience while assertions from the research work with a reader’s existing propositional knowledge to modify existing generalizations. To assist the reader in making naturalistic generalizations, case study researchers need to provide adequate raw data prior to interpretation so that the readers can consider their own alternative interpretations. It is very useful to this research. Children’s narratives captured in video clips can serve as convincing evidence of their development in the activities.

I agree with Stake (1995, p.8) that particularization is the essence of case study. Findings for individual child’s unique development provide answers to the third research question. However, it may also help to explore the applicability of the assessment tool as a step towards generalization. Therefore, both particularities and generalization in the case studies are important findings.

Case study research has been perceived to have a lack of rigor, allowing sloppy or equivocal evidence to be included and has not followed systematic procedures (Yin 2003, pp.10-11). Case studies are being criticized because they result in massive,

unreadable documents (Yin 2003, p.11). This criticism is lessened by collecting data in a systematic portfolio classified by coded activities and analyzing relevant data into an evaluation chart of child development constructed with reference to the assessment frameworks of Lowenfeld (1957, pp.48, 67-71,122-123; Lowenfeld & Brittain 1982, pp.54-64; *Wang 黃壬來 1998, pp.174-175), Eisner (1972, pp.208-233), Fox and Schirrmacher (2012, pp. 294-295). The interpretation of the cases can be presented systematically according to categories of the assessment framework.

Finally, problems in cross-checking and observer bias have been identified (Cohen et al. 2004, p.184). This study tries to improve the situation by providing evidence or interpretations from various sources (triangulation). Apart from the researcher's interpretation, the children's (transcribed) talk and artwork in art activities, the class teacher's comments and other documents provide multiple sources of evidence to illustrate the children's development. Moreover, all the data are stored in coded digital folders, and later categorized in different domains of child development according to the assessment framework mentioned above. Though the data are massive, they are systematically compiled and retrievable.

3.2.3 Different types of case studies

This research involves three different types of case studies: intrinsic, instrumental and multiple case studies. They are introduced below.

3.2.3.1 Intrinsic case study

In the first stage, each individual's performance in different domains is analyzed to create an understanding of the unique child's development in and through visual arts activities. It is an intrinsic case study that provides a unique example of real people in real situations with a chronological narrative of related events. It shows human systems having a wholeness or integrity to them rather than being a loose connection of traits (Sturman 1997, p.61; Creswell 1998, p.15; Yin 2003, p.2; Cohen et al. 2004, p.181). Though the uniqueness is important, I agree with Stake that each case may be similar to other persons and programmes in many ways or unique in many ways. We seek to understand both the particularity and ordinariness of the case itself (Stake 1995, pp.1, 3; Stake 2005, p.445).

3.2.3.2 Multiple case study

Five cases are collected from five young children in this study. A number of cases may be studied jointly in multiple case study to investigate a phenomenon, population, or general condition since individual cases may or may not be known in advance to manifest some common characteristics (Stake 2005). They may be similar or dissimilar. It is instrumental to better understanding, and perhaps better theorizing about a still larger collection of cases (Stake 2005, pp.445-446). It is obvious that a single case cannot show a child's "uniqueness" without comparison with others, e.g. in creativity. A few cases in this research may reveal the uniqueness as well as commonality of a particular case, or even a general feature among them.

In the second stage, this study presents each child's development in different domains

through a systematic categorization in an assessment framework. It contributes to a better understanding at two levels, the individual performance as well as the "uniqueness" and "commonality" across the five cases.

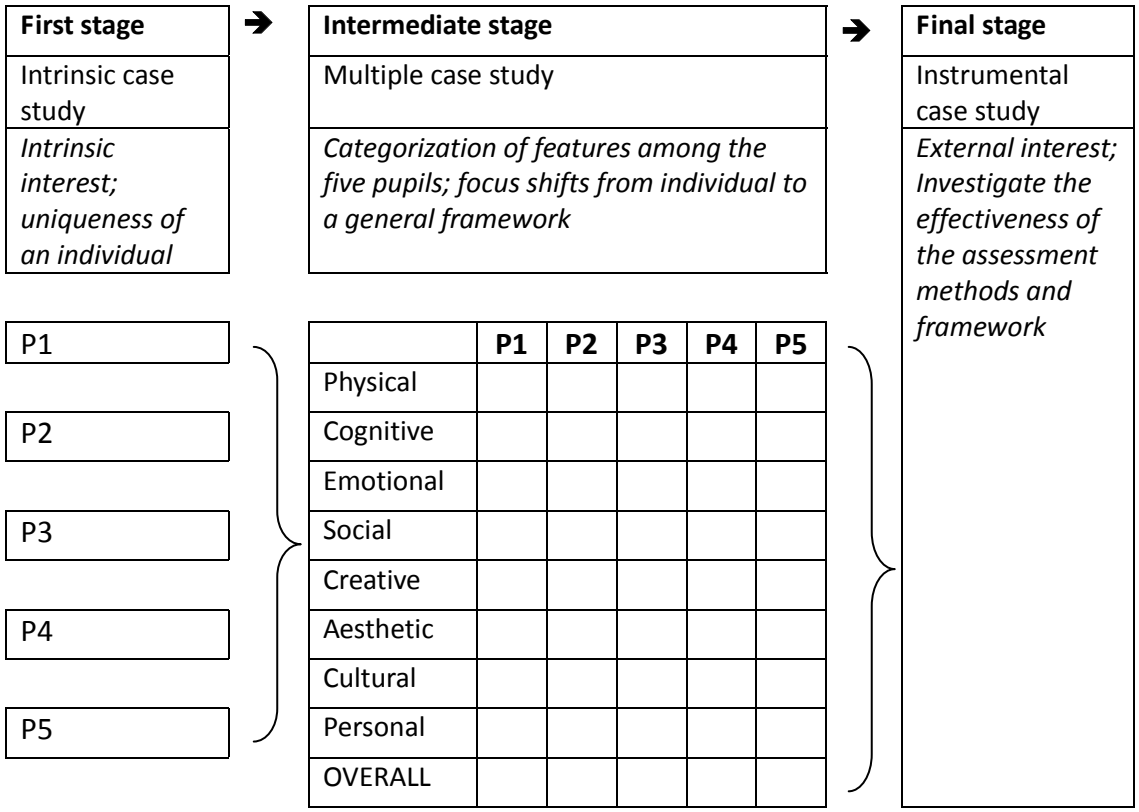
3.2.3.3 Instrumental case study

The findings in the first two stages are used as supporting evidence to illustrate the effectiveness of the methodology in assessing young children's development in visual arts activities in the final stage.

If the use of case study is to understand something else other than the particular case itself, i.e. to illustrate an issue or to draw up a generalization, it can be taken as an instrumental case study (Stake 1995, p.3; Stake 2005, p.445; Creswell 1998, p.62). The case is still examined in depth but it becomes secondary interest and plays a supportive role to help pursue the external interest (Stake 2005, p.445). However, we can simultaneously have several interests, particular and general. There is no hard-and-fast line to distinguish intrinsic case study from instrumental but rather a zone of combined purpose, which applies to this research.

The relationship of the three types of case studies in this research is shown below.

Figure 3.1 The functions and relationship of different types of case studies



In the first stage, five intrinsic case studies on five children (P1-P5) are conducted. Each child's report is an intrinsic case study which reflects the unique personal development in and through visual arts. In the second stage, the data of five intrinsic cases are re-organized into different domains of development. The categorization shows the common and difference among the five cases. It helps to create a better understanding of each individual and consolidates the assessment framework for evaluating child development in visual arts. Therefore, the multiple case study is an instrumental case study too. The whole study has a combined purpose which aims to describe each child's development in an intrinsic case as well as the effectiveness of the assessment method in an instrumental case.

3.2.4 Participants and setting

3.2.4.1 The choice of the age group

The 4-year-old group was chosen because the research intended to include the children's verbal and visual expressions that were regarded as important elements of the data and methodological triangulation (Cohen et al. 2004, pp.114-115).

The evaluation of child development in and through visual arts is mainly based on children's talk and behaviours in the process, their artwork and adults' judgement. The children's talk in art making and appreciation can assist adults to have a better understanding of their thinking, intentions and meaning of their artwork. The situation is similar to an artist introducing his own artwork to the viewers.

Children of four to five-year-old are generally capable of speaking clearly, and communicating with others in simple phases or sentences (*Heep Hong Society 協康會 2002). While most three-year-olds have implicit knowledge of formal grammatical categories (Valian cited in Berk 1991, p.369), they may not yet be able to speak clearly. On the other hand, children older than five may have diversified their focus of expression to spoken and written languages other than visual language. Among the 3 to 5 years groups, the diversity of children's abilities in speaking and drawing in 4-years is the greatest. A great variety of child development may be found if good samples are selected.

Most children at age four have gone through the Scribbling Stage and are able to draw simple shapes (Lowenfeld & Brittain 1982, pp.36-37). The next stage is usually referred to as the Pre-schematic Stage (4 to 7 years) where children make their first representational attempts. Here children draw the typical head-feet representation

of a person, and begin to draw a number of other objects in their surrounding environment. These figures or objects appear somewhat randomly placed on paper and can vary in size considerably. These first representational attempts provide an opportunity for adults to converse with children about their drawings. Children of this age are usually eager to explain and show what they have done without self-consciousness. The rich diversity and rapid development of children's verbal and visual presentations serve as valuable sources of data for the study.

3.2.4.2 The number of cases chosen

Scholars have different views on the number of cases to be selected in a study. McAfee and Leong (2007, p.58) regarded the optimal group size for positive, cooperative interaction was three to five children. Creswell (1998, p.63) was concerned that choosing more than one case diluted the overall analysis and reduced depth. In contrast, Yin (2003, p.47) offered a brief summary on the functions of different number of cases in multiple-case studies:

> Each case must be carefully selected so that it either (a) predicts similar results (a literal replication) or (b) predicts contrasting results but for predictable reasons (a theoretical replication). The ability to conduct 6 or 10 case studies, arranged effectively within a multiple-case design, is analogous to the ability to conduct 6 to 10 experiments on related topics; a few cases (2 or 3) would be literal, replications, whereas a few other cases (4 to 6) might be designed to pursue two different patterns of theoretical replications.

Yin (2003, p.47) further reminded us that the decision to undertake multiple-case studies could not be taken lightly. The carrying out of a multiple-case study could require extensive resources and time beyond the means of a single student or independent research investigator. Every case should serve a specific purpose within

the overall scope of inquiry.

I agree with Yin (2003, p.51) that we should carefully make decisions according to available resources and potential desirable outcome originated from the reflection of a number of case replications – both literal and theoretical. I initially thought that four cases were optimal to reflect greater diversity in child development and might lead to different patterns of theoretical replication (Yin 2003, p.47). The number of four children was also the upper limit for quality video recording in a single shot with ordinary equipment. In terms of feasibility, my main concerns were the limitation of time, manpower, equipment and the capability to collect and interpret the amount of qualitative data, including review of video clips and transcription. The balance between the limitation of resources and variety of cases studied has to be maintained. Since this research does not aim at a large quantity but an in-depth qualitative interpretation of a child's performance and investigating the appropriateness of the assessment method, it should be kept to a manageable size with reasonable validity and diversity in order to fulfill the research objectives.

However, five cases were eventually selected mainly due to the advice of my first supervisor, Dr. teRiele. The fifth case could be taken as a buffer or supplementary data to enrich the database. Diversity would be maintained in case of drop out or sample mortality (Cohen et al. 2004, p.178). The importance of a "spare sample" became prominent when a child was often absent from school in the first few weeks. Later, an attendance record was designed to record the children's attendance rate as well as the nature of visual arts activities (Appendix 3.3). Luckily, all five case studies could be completed in this research.

To catch the critical moments of all five children simultaneously in the same shot could

be difficult. Fortunately, the class teacher was very helpful by arranging the target group to sit together around a small table and often invited some of them to introduce their own artwork after the production. The researcher could conduct close observation of the target group quietly with minimal intervention. The focus of a video shot was usually on two to three in the group at any one time.

3.2.4.3 The choice of the target group

Stake, Creswell and Yin offered useful advice on the selection of samples in case study.

The first criterion is the practical considerations of hospitability and accessibility because we should maximize what we could learn through the cases (Stake 1995, p.4). Since our time and access for fieldwork are always limited, we should approach cases which were easy to get to and hospitable to our inquiry. This was the starting point for selection of children for this research. My first meeting with the class was at an outdoor drawing activity. A preliminary selection exercise was conducted through an observation on fifteen four-year-old children in a child centre in December 2006. When I found no problems of hospitality and accessibility in the group, I started to identify the final five children.

The second criterion is the selection of samples with representativeness. Purposeful sampling (Creswell 1998, p.62; Yin 2003, p.52) helps to select cases that show different perspectives on the problem, process, or event a researcher wants to portray. We may select ordinary cases, accessible cases, or unusual cases (Creswell 1998, p.62). We should choose the case from which we feel we can learn the most and that may mean the most accessible one (Stake 2005, p.451). Potential for learning is a different

and sometimes superior criterion to representativeness. However, we need to carefully consider the uniqueness and contexts of the alternative selections (Stake 1995, p.4) because the balance and variety were important in multiple case studies (Stake 2005, p.451).

Since this study is related an in-depth evaluation of individual child development in and through visual arts activities, I agree that it is better to learn a lot from an atypical case than a little from a seemingly typical case (Stake 2005, p.451) in order to provide sufficient data for analysis. An ordinary case that maximizes what we can learn becomes a case with representativeness. Therefore, this study looks for cases with greater potential for learning. At the same time, each child's performance is regarded as unique in the artistic perspective. So, the real problem is the search for cases with greater variety. There is a difficulty in sample selection which is the "uncertainty" in outcome as individual cases might or might not be known in advance to manifest any common characteristic; and might be similar or dissimilar, with redundancy or variety Stake 2005, p.446). Prior knowledge of the outcomes is preferable in the selection of two or more cases in multiple case studies (Yin 2003, p.52) before identifying the ordinary or unusual case.

Eventually, the target group was chosen by a criterion-based selection (Cohen et al. 2004, p.143) that was largely based on the observation of children's drawings, dialogues and behaviours in the first visit. The interpretation of this observation served as the deduction or prior knowledge of the outcome. The criteria were:

- To select children with different levels of performance in visual arts (Yin 2003, p.52; Creswell 1998, p.62; Stake 2005, p.451). For example, children who were weak, average and good at drawing in terms of variety and representativeness;

- To identify children who enjoyed talking with friends or adults. They would be accessible cases that maximized what we could learn (Stake 1995, p.4; Stake 2005, p.446);
- To select children of different genders, three boys and two girls to study whether they would have different focus in visual representations in terms of variety and different perspectives (Creswell 1998, p.62; Stake 2005, p.451; Yin 2003, p.52)
- To seek the class teacher's advice on the preliminary choice of the target group at the end of the visit to reassure the researcher's choice of samples had met the criteria above.

Although the selection exercise was based on only one visit, it provided sufficient prior knowledge (Yin 2003) due to both my extensive experience in observing children's performance in visual arts and the teacher's detailed knowledge of each child. The choice aimed at finding the best cases that would illustrate individual child development. The depth, variety, uniqueness and representativeness of cases were the main concerns in the selection.

Finally, five cases were chosen with differences in gender and levels of maturity in drawing:

(1) Yeung, a quiet and slim boy, could draw comparatively detailed picture with controlled lines. He seemed to be the child who drew best among the fifteen children in the outdoor drawing activity.

(2) Lok, a strongly built boy, was eager to introduce his own work to others. However, he could not draw recognizable figures yet and seemed to be one of the children who were weak in drawing.

(3) Chole and Ting, two girls, were working as a pair and their conversation went on

smoothly and constantly. Their verbal expression was expected to provide rich data to facilitate the methodological triangulation and improve the validity and reliability of the study. Their drawings were of average level in the group.

(4) Ka was an active boy of average performance in drawing and speaking. His development might serve as a sample of intermediate level.

The names were short form of their full names with regards to the ethical considerations. Though a balance of genders is kept in the case selection, gender difference in child development is not the prime concern in the study. Rather, I expect the cases to reveal each child's unique individual development as well as test the assessment method. The findings might lead to the formation of patterns for literal or theoretical replications.

3.2.5 Strategies for data collection

There are formal and informal methods for data collection (McAfee & Leong 2007, p.61). Formal methods are usually research instruments, clinical techniques, or standardized tests which have limited uses in classrooms and require special knowledge and expertise to interpret correctly. They are not used in this study. Instead, informal methods that involve normal classroom activities and track developmental progress are used. These methods include documentation, archival records, interviews, direct observations, participant-observation, physical artifacts (Yin 2003, p.85; McAfee & Leong 2007, p.61) and audio-visual materials (Creswell 1998, pp.61, 63). They are reliable sources of evidence and commonly used in doing case studies. No single source has a complete advantage over the others while the various sources are highly complementary (Yin 2003, p.85). A good case study therefore wants to use as many

sources as possible.

In visual arts, assessment should focus on both products and processes (Beattie 1997, p.6; Lankford 1992, p.80). The three basic types of assessment that are suitable for the study of creative expression are observation, interaction and product analysis (Goodman cited in Isenberg & Jalongo 2001, p.404; Eglinton 2003, p.60). Therefore, this study uses a wide range of strategies for data collection including:

(1) Observation (children's behaviours and dialogues in visual arts activities recorded in videos);
(2) Artifacts (artwork recorded in photos) and documents (children's drawings in other school time, daily journals and reading reports recorded in photos); and
(3) Interviews of the class teacher (note-taking and audio recording).

The sex, age and the impression formed when the researcher first met the children was introduced in the beginning of interpretation of each child's development.

Although additional information about personality, family background and academic performance provided by the teacher might help the researcher and readers have an idea of the child, these contextual data had not been collected in order to avoid the influence on the interpretation especially in social and cognitive areas. For example, even the teacher informed the researcher that child A was a cheerful boy, the researcher still needed to observe and collect evidence before justifying the teacher's and researcher's own judgement. Since family background might involve many areas and it was difficult to define the extent of influence on the search, the analysis would be too complicated to handle. For example, three children in this study were confirmed as the only child in the family; however, there were no evidences that showed the impact of this factor among their artwork and behaviours. Even if child C

was the only child in the family and there was only a girl found in some of her pictures, it would still be too rush to come to a conclusion that the child was showing herself. The relationship of their family members was more influential on child development than the facts of family background; however, the former data was difficult to collect and analyze. Therefore, this research concentrated on interpreting children's performance that was primarily based on the evidences observed in artwork, dialogues and their performance in the process.

The three types of data are introduced below.

3.2.5.1 Observation of children

At the heart of every case study lies a method of observation (Cohen et al. 2004, p.185) which is also recommended as an appropriate tool for assessing young children's performance, especially in arts education (Fox & Schirrmacher 2012, p.287; Mindes 2007, p. 59; Smidt 2005, p.1; Eglinton 2003, p.60; Hutchin 2003, p.1; Gober 2002, p.4; Isenberg & Jalongo 2001, p.403; Wright 1994, p.28). Many official curricula and assessment documents also recognize observation as the main assessment method for evaluating young children, e.g. in Hong Kong, Australia, Singapore, New York City, England (CDC 2002b, 2006; Australian Government Department of Education Employment and Workplace Relations 2009; Ministry of Education 2012; New York City Department of Education 2003; Standards & Testing Agency of Department for Education 2012a; Hutchin 2003, p.1).

Although the child is the best and most direct source of authentic assessment data, information from self-reporting is difficult to obtain such as what a child is thinking and

feeling, or attitudes and dispositions (McAfee & Leong 2007, p.56). Then, observation is more productive than interview if the study involves young children with severe communication difficulties (Gillham 2000, p.48). Galper and Seefeldt (2009, p.334) even commented that historically no other method of assessing children has had as powerful an impact on the field of child study as that of observation. They suggested that observation could be defined as "watching to learn" as adults began to understand what children were feeling, thinking, and learning through observation. Such observations should be skillful and well-planned (Hutchin 2003, p.22).

Cohen et al. (2004, p.305) further introduced the attractiveness of observational data as follows:

> …. they offer the researcher the opportunity to gather 'live' data from 'live' situations. The researcher is given the opportunity to look at what is taking place in situ rather than at second hand (Patton, 1990: 203-5). This enables researchers to understand the context of programmes, to be open-ended and inductive.

Yin (2003, p.92) also agreed that a field visit to the case study "site" created the opportunity for direct observation.

Nevertheless, Hutchin (2003, p.23) expressed the difficulties in processing the data from observation with the example of the Foundation Stage Profile, in which many statements were broad summary statements, and very few of them could be considered as easily measurable. They required the kind of ongoing evidence that could only be collected through observing children in action.

There is no doubt that observation is widely recognized as an assessment tool especially in both early childhood and arts education. Therefore, we need to find a systematic way to process the rich data and generate interpretations.

3.2.5.1.1 The types of observation chosen

This research adopted a direct observation (Yin 2003, pp.85, 92-93) as I visited the site in person and recorded the behaviour of the five children by a video camera. As this research aimed to gather first-hand data from live situations in school, I stayed quietly and passively as an observer-as-participant who was introduced to the class as a visitor or the teacher's assistant. The role had less extensive contact with the target group than complete participant and participant-as-observer, with reference to the different degree of participation in a same linear grouping of naturalistic observation (LeCompte & Preissle cited in Cohen et al. 2004, pp.310-312). The documentation of their activities through video camera was a normal practice in this school which the children were used to. Most of the time, I kept silent except for inviting the children to further explain the issue in a few words at some critical moments to ensure sufficient data collected.

Furthermore, it was a semi-structured observation to gather data to illuminate issues without complete pre-determination (Cohen et al. 2004, p.305). The dialogues or actions of a critical incident or repeated actions observed are selected as evidences of individual child development and classified into different domains of a revised assessment chart with reference to the previous frameworks suggested by Lowenfeld, Eisner, Fox and Schirrmacher. As it was a revised draft and subject to further revision in the process of analysis, the framework could result in adjustment, combination or deletion of domains. Therefore, the semi-structured observation lied on a continuum between hypothesis-testing and hypothesis-generating (Cohen et al. 2004, p.305), though closer to the former.

3.2.5.1.2 The recording of observation

Since the study involved interpretation of the actions and dialogues of five children in art activities, pure observation with field notes could not capture the key issues of the cases with sufficient details simultaneously. Therefore, audio-visual recording was used for each visual arts activity or clay activity in the study. The data of different scenarios in the same day were recorded as movie clips (MPG) mostly by a Sony digital video camera and were stored in an activity folder.

Audio-visual recording is a powerful recording device (Erickson cited in Cohen et al. 2004, p.313). It enables revision of each individual child's performance in the group one by one and minimizes the risk of missing monumental occasions facilitating a precise and most thorough form of oral and visual record. The dialogues in video clips are transcribed into written text. Audio, visual and written records provide convincing evidence to support the researcher's interpretation and have the capacity for completeness of analysis and comprehensiveness of material, reducing the dependence on prior interpretation by the researcher (Cohen et al. 2004, p.313). To a certain extent, they can reduce the criticism of being biased in qualitative data collected through observation.

3.2.5.1.3 The limitations of observation

Mindes et al. (1996, p.68) pointed out that appropriate use of observational methods depended on skillful, knowledgeable teachers who must know and understand

child-development milestones, as well as were sensitive to cultural, individual, and situational variations for the attainment of these milestones. As teachers are familiar with the curriculum and instruction principles, that mean they must know how children learn and how the subject matter is organized. It is a demanding requirement. A question arises: even if the researcher can fulfill the request, can this method be widely adopted to assess children's development?

3.2.5.2 Artifacts and documents

The artifacts in this study are art products which are the outcome of a process or procedures such as a painting or sculpture (Beattie 1997, p.6). If the artifacts have relevance, they can be an important component in the overall case (Yin 2003, p.96). The advantages of collecting products are:

- The products capture information that would be difficult to put into words;
- The use of materials can reveal information about several aspects of development and steps in learning;
- The collection of works shows progress over a period of time through comparison (McAfee & Leong 2007, p.68),

The five children's artwork in each visual arts activity observed are recorded in digital photos (JPEG) as data for further analysis. Each child has produced about twenty pieces of drawings, paintings, product design or ceramic work throughout the course of the research. There are fewer pieces if they were absent from any activities.

The daily journals and reading reports that are the children's normal parts of the

classroom practice are collected as well. Together with the children's drawings at other school time, they are regarded as supplementary data because they consist of the children's written and graphic representations of their learning. They provide additional visual data apart from those collected in the art activities observed. Their journals, reports and drawings were recorded in digital photos (JPEG).

3.2.5.3 Interviews with the class teacher

Gillham (2000, p.60), Morrison and Kvale (cited in Cohen et al. 2004, p.270) set out several types of interview along a series of continua. At one end of the continuum was a formal and structured format or questionnaires with numbers, statistics, objective facts, and quantitative data. At the other end was an open-ended and informal style with transcripts of conversations, comments, subjective accounts, and word-based qualitative data. This study uses semi-structured interviews (Bogdan & Biklen cited in Cohen et al. 2004, p.270) which lie between the two extreme approaches. They are guided interviews or conversations with a few open-ended key interview questions rather than structured queries (Cohen et al. 2004, p.271; Yin 2003, p.89; Gillham 2000, p.60). They cover topics and issues that are specifically prepared in outline form in advance. An interviewer can decide sequence and working of questions in the course of the interview. It increases the comprehensiveness of the data and makes data collection somewhat systematic for each respondent. Logical gaps in data can be anticipated and closed. Interviews remain fairly conversational and situational (Cohen et al. 2004, p.271).

Semi-structured interviews were conducted with the class teacher. The class teacher was the key informant in the research who provided overall comment on the five

children's performance at different periods of time. Her comment is one of the data resources on the five children's development in visual arts activities.

A schedule was prepared and it was sufficiently open-ended to enable the contents to be re-ordered and expanded with new avenues and further probing to be included (Cohen et al. 2004, p.146). Three interviews were conducted at the beginning, the midst and the end of the research period, i.e. January, May and July 2007. Similar questions were applied in the three interviews (Appendix 3.1). They aimed to examine whether there were any changes in the teacher's perception of the five children's development in art activities at these three stages. The first two interviews were conducted by note-taking while the last was audio-taped and transcribed.

3.2.6 The duration and capacity of data collection

The research data from different resources were collected in the whole second semester from January to July 2007. A schedule of visits (Appendix 3.2i-ii) was developed with consent from the class teacher and the head-teacher of the school. Each party kept a hard copy for reference.

According to the initial schedule, the maximum number of visits on visual arts activities would be eighteen. Later, the class teacher advised me to observe their clay activities as well. Consequently, seven activities on clay were video-recorded as well as seventeen art activities, leading to twenty-four activity folders. Moreover, seven sets of children's drawings, daily journals and reading reports were collected so that the total is thirty-one folders of data.

Some children were absent from time to time in the first two months of the data collection. There was a threat that less data might be collected from those children or even mortality of data collection would appear. Therefore, an attendance record of the five children (Appendix 3.3i-iv) was developed to record the absence and trace the progress of data. Finally, no child has been absent for more than 4 activities. Since there are no dropouts among the five children, a rich database is formed. Five personal folders clearly illustrate the distinctive characteristics of each child development in various domains.

3.3 The data processing

3.3.1 The formation of database from observation

Nisbet and Watt (cited in Cohen et al. 2004, p.189) suggested three main stages in undertaking a case study:

(1) To commence with a very wide field of focus, open phase without selectivity or prejudgement to catch the dynamics of unfolding situations;
(2) To focus progressive by enabling a narrower field of focus and identifying key foci for subsequent study; and
(3) To prepare a draft interpretation

Since observation is a superior method in collecting data on non-verbal activity, it is the main data collection method in assessing child development in this study. Useful suggestions about collecting field notes in observation (Cohen et al. 2004, pp.188, 311-313) or descriptions of children's performance could be applied:

- record the notes as quickly as possible after observation;
- quick, fragmentary jottings of key words/symbols;
- transcriptions and more detailed observation written out fully;
- descriptions of events, behaviour and activities;
- ongoing notes, either verbatim or categorized in situ;
- entries on a pre-determined schedule, using taxonomic or categorical systems.

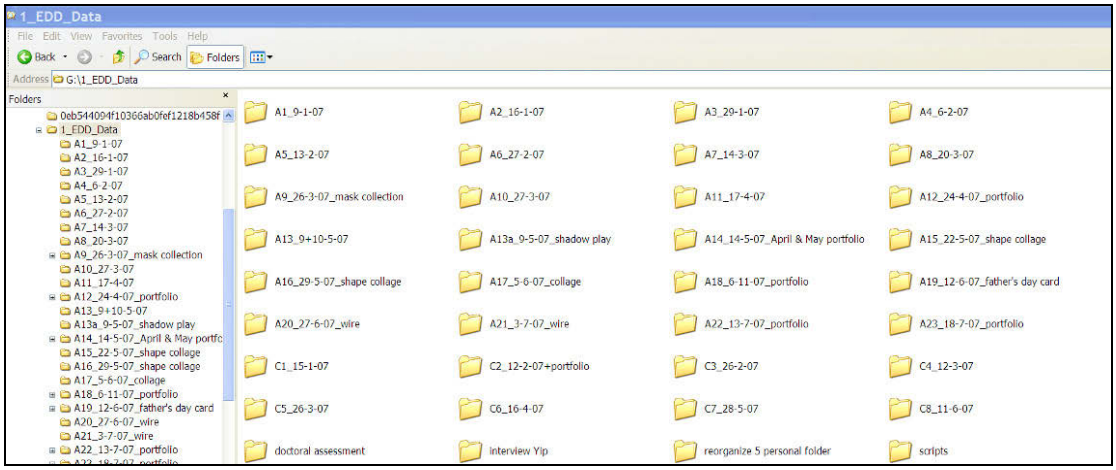
The note-taking or anecdotes of observation is the most important part in data processing in this study. Anecdotes are brief episodes of student behaviour selected to highlight student growth (Isenberg & Jalongo 2001, p.405). Since the research applied audio-visual recording, the note was based on the video review rather than in situ. The 'replay' mode offered a better alternative than note taking in situ because the researcher might miss a critical moment while writing. The video clips allowed unlimited reviews of the first-hand data and enabled the accurate record of critical issues. It maximized the merits of the methods above, overcame the possible partiality of the observer's view of a single event and the tendency towards only recording the frequently occurring events (Cohen et al. 2004, p.313).

3.3.2 A coding system and the data processing on observation recorded in digital videos

This study followed a similar pattern as audio visual recording was applied to collect data from the five children as much as possible without prejudgement in the first stage. A coded system was designed to create an efficient filing and retrieval system for processing the vast pool of data, and was used to identify data sources in the findings chapter, as follows:

The video clips of the process of children's work as well as photos of the product of each visual arts activity on Tuesdays were stored in a folder coded with date and "A" which represents visual arts activities; i.e. drawing, painting, collage, 3-D design; e.g. A1_9-1-07. A folder coded "C" to store record of ceramic work on Mondays; e.g. C1_15-1-07. There were twenty four activity folders, including 17 on visual arts and 7 on ceramic (Figure 3.2). Documents such as children's reading journals and other drawings were coded in seven folders ended with the term "portfolios". For example, A12_24-4-07_portfolio meant the portfolio collected in the 12th visit on Tuesday. Each picture or video clip had its own file name set by the digital devise on the date of creation.

Figure 3.2 The digital database of all visual arts activities



Then raw data were further processed:

- The dialogues in video clips were transcribed into Chinese text (MS word) by two student helpers by the end of 2007. The transcripts were not a full version of transcriptions and only the dialogues of each child were transcribed in separate paragraphs. Their identities had not been traced by the student helpers. After identifying and describing the critical incidents of the children's behaviours or

development in the video clip, the researcher occasionally referred to the transcription, copied and pasted the exact Chinese wordings into the video written analysis (Appendix 3.4) as a kind of convincing evidences of the children's growth. Therefore, the transcription served as a supplementary database that allowed quick retrieval of transcription on the critical moments and increased the speed and reliability of the written analysis. Since the video clips were repeatedly reviewed by the researcher, the transcription of critical incidents selected was carefully re-examined and revised if necessary. The validity and reliability of data were protected.

- The artwork' photos in each folder were printed on A4 papers (Figure 3.3) and noted with children's names, such as 'Lok, Yeung, Ka, Chole and Ting' to facilitate the transfer of photos from an activity folder to a personal folder. Key points were marked directly next to the pictures if possible. For example, 'Lok – needs to peep at classmate's work before he works on his own drawing of a guitar'. The notes helped the interpretation of individual and group performance, and the development of five personal folders.

Figure 3.3 A colour print of photos in a folder of activity A10 and remarks

A coding system and categorization of child development were developed based on

literature before the review of video clips. Analysis and recording were carried out alongside the observations, using this system.

An assessment framework of child development in visual arts was developed in chapter 2 with reference to the evaluation frameworks of Lowenfeld (1957, p.48, 67-71, 122-123; Lowenfeld & Brittain 1982, pp.54-64; *Wang 黃壬來 1998, pp.174-175), Eisner (1972, pp.208-233), Fox and Schirrmacher (2012, pp.294-295). The characteristics of the children's behaviours and critical incidents observed in each video clip were first identified with their names and colour code, e.g. Lok in red; and then further classified into different areas of development in abbreviations with reference to the summary of children's performance in Figure 3.4, such as physical, cognitive, creative or emotional as follows:

Figure 3.4 Assessment framework of child development

	P1	P2	P3	P4	P5
	Lok	Yeung	Ka	Chole	Ting
Physical (p)					
Cognitive (co: col/cop)					
Emotional (e)					
Social (s)					
Creative (cr)					
Aesthetic (a: al/ap)					
Cultural (cu)					
Personal (pe)					
OVERALL					

Furthermore, I attempted to distinguish the abilities in verbal and artistic representation in both cognitive and aesthetic areas. Some children were remarkable in verbal presentation but less outstanding in artwork, while some were quiet but produced impressive pieces of work. Therefore, the cognitive and aesthetic areas were further divided into: (1) cognitive development in language (col) and production

(cop), that resembled the rich representation of visual basic elements stated in the Spectrum assessment in visual arts (Krechevsky 1998, p.159); (2) aesthetic development in language (critical responses) (al) and production (ap) which was similar to aesthetic and expressive aspects of the artwork mentioned by Eisner (1972, p.216), or expressivity, repleteness and aesthetic sensibility in the level of artistry mentioned in the Spectrum assessment in visual arts (Krechevsky 1998, p.161) . However, the fine coding, e.g. "al" were seldom used in later stage because the differentiation was trivial or insignificant. The following figure is an introduction of the coding system in the analysis of video clips.

Figure 3.5 The coding system in the video analysis

Video clip		**Useful data**	**Description/ interpretation**	**Evidences**
A4_ M2U28		X	T introduced Lunar monster.	
A4_ M2U30		Lok_p	After watching T's demonstration, Lok still needed more guidance. He looked at Ting's work for at least five times in a minute. He also watched other's work, i.e. Ka's after 3 min. After 9 min., he worked quietly on his drawing, and occasionally glanced at others' work. But his work was not a copy of others.	 A4_ M2U30 _1056_Lok stopped drawing after drawing the two ears, started to watch Ting's drawings.
A4_ M2U30		Ting _a	Ting asked Lok about the size of the monster's mouth (aware of the design of others_about the size and the colour). Lok had not offered any reply. Later, she discovered the change of colours in ears and mouth in her work with joy.	Ting: 點解你畫咁細個嘴巴嘅? Ting: 粉紅色呀！(around 0630)…變成綠色呀！哈！(the ears and mouth)

"A4_M2U28" represented the video clip M2U28 recorded in visual arts activity A4 (Appendix 3.2) which was not related to children's development and marked with a "x". "A4_M2U30_1056" showed Lok was watching Ting's drawing in the video M2U30 of A4 folder after the video had played for 10 minutes and 56 seconds in the video analysis (Appendix 3.4). His name "Lok" and physical development "p" were marked in the

cell. Lok's behaviours were highlighted by red bars which enabled a quick search for a particular child's development throughout all the activities without reading the text, and facilitated to construct his personal folder. His behaviours in critical incidents were described in English, and visualized by capturing the visual image in the video clip. It could done by clicking the "pause" in the VCD/DVD Player (VLC Player) first, then used the button "print screen" on the keyboard and "paste" the image on a MS word file. The image could be further edited by using "crop" under the "format" in the tool bar. No special equipment was required except finding the appropriate programme to play the video. The image could not be captured in Windows Media Player and appeared as a black box when pasting from "print screen". The Chinese text of Ting's verbal expression was copied from the transcription which served as strong evidence of her aesthetic sensitivity and competency, and her development was interpreted in English.

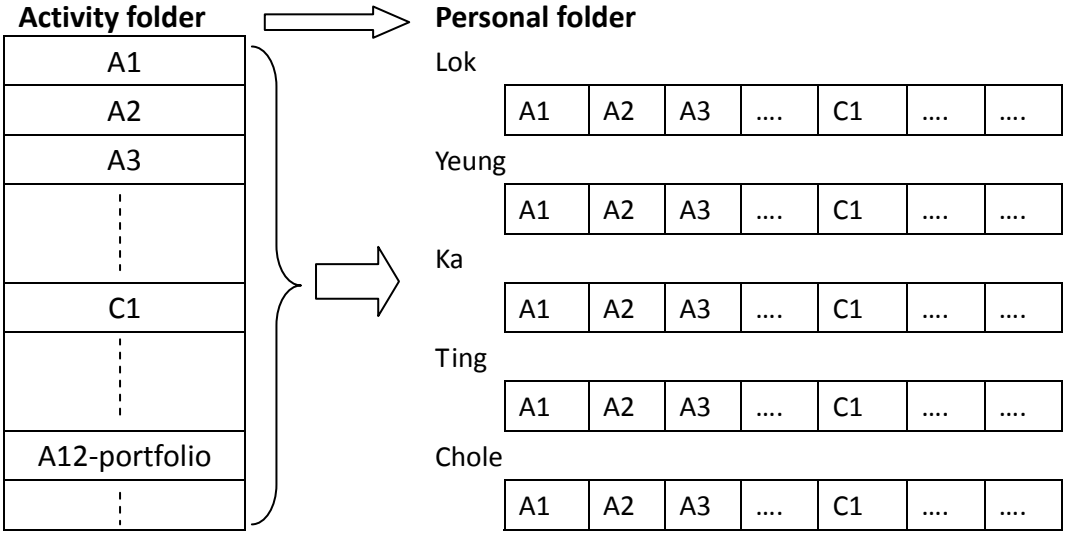
The assessment framework facilitates the categorization and provides a clear picture of the child development in different domains found in each activity. Then, a systematic database is developed which serves as an analysis grid for content analysis (Gillham 2000, p.74).

The transcription was written in Chinese in order to keep the origin contents of children's talk. Most direct translation of simple Chinese wordings worked well but implicit meanings behind some special Chinese words might not be fully retained. However, the researcher tried to keep the drawback of translation to the minimum by choosing the most appropriate English wordings, or supplemented by additional description if needed.

Moreover, the photos of artwork from all activities (A1-A21, C1-C8) and documents

could be sorted out and transferred into five different individual personal folders; namely Lok, Ka, Chole, Yeung and Ting. Then, five personal folders are developed as follows:

Figure 3.6 The transference of photos from activity folder to personal folder



Since each photo has been marked with an original code and date of creation by the digital camera, a child's development can be traced through the visual representations shown in the photos with quick reference to chronological order in the personal portfolio. Hard copies could also be printed out to facilitate the analysis.

3.3.3 Critical incidents, event sampling and visual records

The significance rather than frequency is a hallmark of case studies that offers the researcher an insight into the real dynamics of situations and people (Cohen et al. 2004, p.185). The concept of significance here is not used in terms of statistical significance in a quantitative paradigm, but rather means qualitatively important. Instances of

behaviour of quantitatively significant few are cherished in this study as they have different functions. The critical incident may be non-routine but very revealing to an important insight into a person or situation (Cohen et al. 2004, p.310) while the repeated behaviours may show a child's habit or preference which is one of the personal characteristics in child development.

Therefore, both critical incidents and event sampling (Cohen et al. 2004, pp.308, 310) are applied in the study. Critical incidents and the statements for event sampling are sought through the whole process of video review. They appear as a form of anecdotes. Once the statement in event sampling is found, the counting of frequency starts. For example, the frequencies and chronology of peeping at another's work throughout all art activities in seven months. A freeze-frame snapshot of the critical incident in a video clip can be transformed into a JPG photo in the dissertation if the visual image is a crucial evidence to show a particular behaviour that is not replaceable among the cases.

With the aid of these methods, the observations are gradually transformed into visual, written and numerical records that become convincing evidence in supporting the researcher's interpretation of individual child development.

3.3.4 Field notes and transcription from interviews on the class teacher

Although the interview questions were written in English, all three interviews on the teacher were completed in Chinese on 17 January, 11 May and 16 July, 2007. Field notes have been used in the first two interviews while the last one was recorded by a digital recorder and later transcribed into Chinese by a student assistant. The

researcher further reviewed transcription by listening to the interview again. Field notes in the first two interviews were recorded in Chinese by the researcher who tried to write down the key points of the teacher's exact wording immediately after speaking. Occasionally, some key points were repeated verbally in front of the teacher while the researcher was writing them to ensure the written words could catch the essence of the spoken language. Only the relevant parts of the field notes and transcription were translated into English, for analysis and for use in the thesis.

3.3.5 Rating scale

Checklists and rating scales are additional means for gathering information about a child's development on each criterion on a list of skills, knowledge, abilities or developmental traits that can be called items of descriptors (Ahola & Kovacik 2007, p.27). For example, the possible responses to the performance indicators (aesthetic development) were presented in a form of check list with two choices for each item; e.g. yes or no (Figure 1.6 in chapter 1).

With reference to 5-level rating scale in the art portfolio assessment scale (Ahola & Kovacik 2007, p.27; Althouse et al. 2003, p.127), three-tier rating scales of British Early Years Foundation Stage Profile (Standards & Testing Agency of Department for Education 2012a, p.52) and Lowenfeld's evaluation chart of child's growth (Lowenfeld 1957, pp.122-123), this research used a 3-tier rating scale to measure levels of performance through observation (of videos), and provide a quick and systematic way to record (Ahola & Kovacik 2007, p.27; McAfee & Leong 2007, p.93) developmental information of various areas of child development in visual arts (Figure 3.4) as well as the five items in Hong Kong Performance Indicators (aesthetic development).

Of course, the reliability of rating/ judgement will be higher if investigator triangulation or inter-rater reliability is adopted. However, this research intended to find out a practical way that could be used by early childhood teachers who sometimes work alone or on different groups in the classrooms. Therefore, time triangulation is more feasible to be applied in early childhood settings. For example, diachronic reliability can be maintained if a teacher shows stability of grading similar performance over time; or synchronic reliability if he/she can group performance of similar level at the same time (Cohen et al. 2004, p.113).

Figure 3.7 The visual arts assessment framework for young children used in this study

	Characteristics of the child's development	*Little/ emerging	*Some/ average/ expected	*Much/ exceeding
Physical				
Cognitive				
Emotional				
Social				
Creative				
Aesthetic				
Cultural				
Personal				
Overall	(A written summary)			

Although it is relatively easy to learn to us and provide a method of observing an individual, there are a number of disadvantages to using rating scales (Ahola & Kovacik 2007, pp.27, 30-31: McAfee & Leong 2007, p.93). For example, good rating scales are difficult to construct; and even the best rubrics cannot include all relevant characteristics. And, it relies heavily on the interpretation of the observer that may be perceived as subjective and biased, and the parents and other teachers have little idea of why or how the rater determined the child's performance on any given item.

And, it is only limited to observable indicators and cannot give any other information of an event. For example, we observed a child who was able to clip hands; however, we did not know whether he clapped hands in time with a march (motor), or in rhythm to a beat (artistic/creativity), or to appreciate another child's accomplishment (social). Therefore, rating scales are used merely one piece in the puzzle of the child's development (Ahola & Kovacik 2007, p. 31).

At the same time, Ahola and Kovacik (2007, p. 31) suggested some measures to increase the validity and reliability of rating scales; i.e. the inter-rater reliability by rating with more than one assessor; adding "comments" to give a bit of an explanations as to why the assessor rated an item in a certain way; making sure the checklist was valid and reliable; e.g. the Mental Measurements Yearbook (Spies & Plake 2005 cited in Ahola & Kovacik 2007, p.31).

In this research, the description in case study serves as the "comments", otherwise the rating of the item looks vague and less meaningful to the individual child's actual development (Ahola & Kovacik 2007, p.31). Because many studies on child development and developmental stages do not include the artistic area (mentioned in Chapter 2: section 2.1), then the characteristics of child's development in visual arts in Figure 2.10 that were based on developmental theories of Kellogg, Lowenfeld and other scholars which can provide a criterion and norm referenced basis for this study in a broad sense. Moreover, the performance of the whole class where the target group stayed could serve as the norm reference, too.

3.4 Methods of verification

Both validity and reliability are essential to establish the credibility of effective research (Cohen et al. 2004, pp.105, 117; Wiersma 1995, p.9). Several different types of validity are adopted in this research, including triangulation in internal validity, reactivity, effects and halo effect. Reliability is maintained by the use of a protocol.

3.4.1 Validity

Since validity is a requirement for both quantitative and qualitative research and reliability is a necessary precondition of validity, this study strives to maximize validity which is a matter of degree rather than an absolute state (Cohen et al. 2004, p.105).

External validity refers to the degree to which the results can be generalized to the wider population, cases or situations. Although *generalizability* is a sine qua non for positivist researchers, it is attenuated in naturalistic research (Cohen et al. 2004, p.109) as argued in relation to case study research earlier in this chapter. External validity is more concerned with the comparability of and the translatability of the research (Wiersma 1995, p.223; Cohen et al. 2004, p.109). This research aligns with the suggestion of Lincoln and Guba (cited in Cohen et al. 2004, p.109) who argued that it was not the naturalistic researcher's task to provide an index of transferability; but they should provide sufficiently rich data for the readers of research to determine whether transferability was possible. Transferability requires detailed description in this respect. External validity is not the main focus of this study.

3.4.1.1 Internal validity

Validity of qualitative research for the most part is established on a logical basis, and providing an argument for validity requires well-documented research and a comprehensive description (Wiersma 1995, p.223). Among various types of validity, internal validity seeks to demonstrate that the explanation of a particular issue or set of data which a research provides can actually be sustained by the data; and it concerns accuracy in some degree (Cohen et al. 2004, p.107). This research tries to address internal validity in the following areas (LeCompte & Preissle cited in Cohen et al. 2004, p.108):

- The authenticity of the data (the ability of the research to report a situation through the eyes of the participants);
- The credibility of the data;

Fairness can be a factor contributing to the issue of authenticity when there is a complete and balanced representation of the multiple realities in and constructions of a situation (LeCompte & Preissle cited in Cohen et al. 2004, p.108). In this study, the ideas and comments of the various parties, i.e. the five children, the class teacher and the researcher, are important elements in the interpretation. The analysis is based on the multiple realities constructed by each participant in the research. The choice of the target group is a good balance of difference in visual-expressive ability and sex. The requirement on authenticity is fulfilled to a large extent.

Regarding credibility in naturalistic inquiry, it can be addressed by:

- Prolonged engagement in the field;
- Persistent observation (in order to establish the relevance of the characteristics for

the focus);

- Triangulation (of methods, sources, investigators and theories) (Lincoln & Guba cited in Cohen et al. 2004, p.108)

The first two requirements are addressed by twenty four regular on-site observations with a uniform observation mode for seven months. The research has applied various methods and sources of data collection that facilitate triangulation and enhance the validity.

3.4.1.2 Triangulation

Triangulation has been generally considered a process of using multiple procedures or perceptions to clarify meaning, verify the repeatability of an observation or interpretation and to reduce the likelihood of misinterpretation (Stake 2005, pp.453-454). As no observations or interpretations are perfectly repeatable, triangulation helps to identify different realities because it serves to clarify meaning by identifying different ways of assessing the case (Flick & Silverman cited in Stake 2005, p.454). Moreover, it assumes that any bias inherent in particular data sources, investigators and method would be neutralized when other data sources, investigators and methods are used (Creswell cited in Clarke 2005). Since objective reality can never be captured and we know a thing only through its representations, Flick does not regard triangulation as a tool or a strategy of validation, but an alternative to validation (Denzin & Lincoln 2008, p.7).

Since triangulation is the simultaneous display of multiple, refracted realities (Denzin & Lincoln 2008, p.8), it is regarded as a powerful way of demonstrating concurrent

validity, particularly in qualitative research; and it may be defined as the use of two or more methods of data collection in the study of some aspects of human behaviour (Cohen et al. 2004, p.113). This research has adopted several methods in data collection which lead to methodological triangulation (between methods), time triangulation (longitudinal studies) and investigator triangulation (Cohen et al. 2004, pp.112-113).

3.4.1.2.1 Methodological triangulation

This may refer to the use of the same method of different occasions or different methods on the same object of study (Cohen et al. 2004, p.113). In order to achieve a high level of internal validity**,** this research applies the latter approach and tries to collect data from the following three methods to investigate child development in art activities:

(1) assessing children's artwork and journals;
(2) Observing the process of children's behaviours and dialogue in the art activities; and
(3) Interviewing the class teacher with regard to each child's performance.

Each method provides a piece of information and a more holistic picture could be constructed by combining, comparing and cross-checking the different parts. Different methods are able to measure different phenomena which lead to complementarity of methods (Greene, Caracelli & Graham, cited in Tashakkori & Teddlie 1998, p.43). The method contributes to the formation of a highly trustworthy interpretation which is supported by evidence.

3.4.1.2.2 Time triangulation

The reliability of this research is enhanced by the time triangulation: diachronic reliability that is related to stability over time while synchronic reliability that is related to similarity of data gathered at the same time (Kirk & Miller, cited in Cohen et al. 2004, p.113).

A poor work may be caused by a low mood or unfamiliarity with the topic at one time; but better involvement and performance may be found the next time. Diachronic reliability can be achieved by repeated visits and observation, which is the main focus of this study. It is difficult to assess a young child's performance in art activity on a one-off basis, i.e. a single visit. A comparatively more reliable evaluation could be achieved through observing a complete learning process, starting from idea generation to the production of an artwork. It may last for a day, or even a month. The greater the number of observations, the greater the reliability of the data might be; and it may enable emergent categories to be verified (Cohen et al. 2004, p.314).

The target group was visited weekly and data collected from January to July 2007 with reference to the mutually agreed schedule of visits (Appendix 3.2i-ii). In total, there are twenty four on-site observations. The data collection over the whole semester enables the researcher to categorize the different domains of child development from the rich database. A particular learning activity may sufficiently support the analysis on physical and aesthetic growth, but may not have any clues for social or cultural areas. It enables more accurate data to be analyzed at the individual / micro level. Therefore, charting growth of the same individual is useful (Cohen et al. 2004, pp.176, 178). Information on each child's development in different domains are collected

through various art activities in the whole second semester to build up a complete picture and reveal the holistic development of a child in different dimensions.

Synchronic reliability would not be obvious because the five children may have different visual expression and level of involvement even in the same activity, unlike singing or running.

While some children have considerable change or growth in development over the six months, others have consistent performance that successfully contributes to diachronic reliability, a kind of the time triangulation (Cohen et al. 2004, p.113). Nevertheless, the positive, negative and discrepant cases can contribute to the modification of preliminary interpretation to accommodate the data (Cohen et al. 2004, p.150).

Time triangulation (Cohen et al. 2004, p.113) is also applied in the interviews of the class teacher. The three interviews with nearly the same questions conducted at different points in time aim to investigate the consistency or change of teacher's perception of each child's development in visual arts over the six months under study.

3.4.1.2.3 Investigator triangulation

This refers to the use of more than one observer in a researcher setting. The careful use of two or more observers independently can lead to more valid and reliable data (Wiersma 1995, p.222). If the data divergence is minimal, then one may feel more confident in the data's validity. If their data are significantly different, one may suspect a biased approach has been followed and thus should be further investigated

(Cohen et al. 2004, p.114).

In this study, the method is applied in a broad sense. The researcher and the class teacher are the two investigators who stay in the same site and observe the learning process of five and 15 children respectively. Both offer their own perspectives of multiple, refracted realities in a crystallization process (Denzin & Lincoln 2008, pp.7-8). The interpretations can consist of similar or different viewpoints of the five children's development.

At the end of the study, the researcher and the teacher generally shared similar ideas on the child development of Yeung, Ting and Chole; and a bit different comments on Lok and Ka whom the researcher rated higher in their cognitive and creative areas of growth. With the support of multiple and refracted realities in researcher triangulation (Denzin & Lincoln 2008, p.8), the theoretical framework of pluralism and constructivist approach in data interpretation mentioned in 2.10.3 and 3.5.2 respectively, the similarities and differences between investigators offer a multiple perspectives on each child's development in and through visual arts.

3.4.1.3 Reactivity

Both reactivity and halo effects may threaten the validity of research. Reactivity effects or Hawthorne effect appear if respondents behave differently when subjected to scrutiny or being placed in a new situation (Cohen et al. 2004, p.116; Ahola & Kovacik 2007, p.7). ECE teachers have rich experiences in participating in research. The children in this laboratory school are also used to the frequent visits of visitors and student teachers. They are familiar with visual recording that is a common form of

documentation in the school.

As the research mainly involved observation and record of children's performance in a natural setting, no special activities or structured interviews had been designed for the five children except inviting them for a brief introduction of their work when the researcher could not get sufficient data in assessing their performance in critical incidents. I was introduced as a visitor and a helper of the teacher to the whole class. Since the children knew that I was responsible to record their performance in visual arts activities as other teachers did, they did not have any significant reactivity effects on my presence. The reactivity effects could be kept to a minimal level, and the validity of the research could be maintained.

3.4.1.4 Halo effect

The researcher identified the potential group by her own observation before seeking advice from the teacher. It helps to reduce the halo effect**,** where the researcher's knowledge of the persons may exert an influence on subsequent judgements (Cohen et al. 2004, p.116). Halo effect in the teacher's interviews was not an issue although I had known the teacher before the study because the focus of the interviews was on the performance of the third party - the five children. It did not concern with her personal particulars or self-reflection of teaching. Her professional sharing in interviews resembled to one of her normal teaching duties in assessing child's development in different domains that was presented in the school's formal assessment forms.

Another risk might be caused by my knowledge of and pre-relationship with the school.

However, my positive impression towards the school does not have any direct or significant influence on my interpretation of individual child development. First of all, I did not know the children before the study. And, the role of observer-as-participant has successfully helped me to keep a professional distance from the children.

3.4.1.5 The role of a researcher

Various scholars point out the importance of a competent researcher in a high quality research. A well-trained and experienced investigator is needed to conduct a high-quality case study because of the continuous interaction between the theoretical issues being studied and the data being collected (Yin 2003, p.58). The idea is emphasized by Cohen et al. (2004, p.141) who claim that highly reflexive researchers are acutely aware of the ways in which their selectivity, perception, background and inductive processes and paradigms shape the research. They are actually research instruments. For assessing children, one of the most valuable yet rarely acknowledged assessment tools in educational practice is the sustained, thoughtful day-to-day observation of student behavior by a competent and professional teacher (Wassermann cited in Isenberg & Jalongo 2001, p.404).

A case researcher has different roles. They may include teacher, participant observer, interviewer, reader, storyteller, advocate, artist, counselor, evaluator, consultant (Stake 1995, p.91) and listener (Yin 2003, p.59). Since selection of data sources can be left too much to chance, the researcher should have a connoisseur's appetite (Stake 1995, p.56) for the best persons, places, and occasions. 'Best' usually means those that best help us understand the case, whether typical or not. Being a good observer is not a normal, natural activity as it requires discipline and concentration – without

which the researcher cannot see (Gillham 2000, p.49) in an unbiased way (Yin 2003, p.59).

Gillham (2000, p.28) realized researchers of integrity were constantly challenging and scrutinizing themselves; and he tried to respond to the request on objectivity of a case study researcher. He (2000, p.27) stated that researchers' preconceptions and expectations might be regarded as prejudices that were normal and most of them were of little importance. More sinister than prejudices were our preferences. Not just what you expect to find, but what you want to find. Gillham (2000, pp.25-28) explained that objectivity in the absolute sense might be an impossibility but it did not mean that researchers could immerse themselves in an uncritical subjectivity. He further suggested a number of ways to encounter the challenges on integrity or trustworthiness of naturalistic research. Researchers could strive for a level of detached honesty which acknowledged their own place in the scheme of things. In a sense, they decentred from themselves. The first step is to get their expectations and preferences out into the open.

Following the first advice, here I state my preferences and expectations of the school into the open. I know that the school curriculum promotes children's independent thinking. Uniform pieces of artwork from strict instructions are unlikely to be found in this school but not uncommon in other Hong Kong kindergartens. The freedom and resourceful learning environment in visual arts activities may result in diversified artwork and problem solving skills in the process. Then, the unique personal child development in various aspects would likely be found, which fulfills one of the objectives in this research. This is why the school was my first priority in finding a partner for the research.

Furthermore, Gillham thought that a researcher could keep a level of detached honesty and enhanced the validity of study by: being open-minded and absorbing the culture with eyes and ears open in the whole process; looking for discrepant data; triangulation; being alert to the representativeness and creditability of data by disregarding nothing in tacit or explicit knowledge; checking one's ideas and explanations with those in the culture; peer consultation; theory-building and the analysis of negative evidence (Gillham 2000, pp.28-33). In another words, he provided a preliminary draft on a protocol for a valid case study that the researcher should follow.

An experienced kindergarten teacher once asked me who would collect the data for my research when I consulted her opinion on the dissertation. She realized there were great discrepancies in the selection and interpretation of data among researchers which could greatly affect the reliability of the research. The validity and reliability could hardly be kept if the data collection and interpretation were done by others.

In fact, the teacher pointed out one of the strengths and sometimes a criticism on qualitative interpretative researcher. As the researcher in the study, I collected, processed and interpreted the data myself. To a large extent, the validity and reliability of the interpretation could be addressed by the professional training in visual arts and art education and rich working experiences as follows:

- a distinction in art in the Hong Kong Certificate of Education (HKCEE, the public examination for high school leavers)
- 2-year full-time teacher training with an elective in visual arts
- 1-year full-time advanced course for art teachers
- 3-year part-time certificate in design

- 1-year full-time B.Ed. programme with the focus in art
- 2-year part-time M.Ed. programme with a dissertation on studying art curriculum
- 8 years working experience as an art teacher in secondary schools
- 2-3 years working experience as an assessor of art papers in HKCEE
- 19 years working experience as a teacher educator in art education, including assessment of kindergarten teachers' performance supported with relevant evidence collected through observation in on-site visits
- participation in several art exhibitions with various media
- had been a docent in the Hong Kong Museum of Art from 1995 to 2005, and awarded as the outstanding docent in 1999 and 2000

The information above might state the eligibility of the researcher in doing an interpretative research in visual arts assessment. Although I did not have much frontline experience in assessing young children's development in visual arts, my professional training in art education and experience in assessing students' art and teaching performance helped me to construct to a valid and evidence-based interpretation of children's development.

3.4.2 Reliability

Reliability in qualitative research is essentially a synonym for consistency and replicability over time, instruments and over groups of respondents. It is concerned with precision and accuracy. There are three principal types of reliability: stability, equivalence and internal consistency (Cohen et al. 2004, p.117). Yin (2003 pp.37-38) explained that if a later investigator followed the same procedures as described by an

earlier investigator and conducted the same case study all over again, the later investigator should arrive at the same findings and conclusions. It emphasizes on doing the same case over again procedurally, not on 'replicating' the results. The goal of reliability is to minimize the errors and biases in a study.

LeCompte and Preissle (cited in Cohen et al. 2004, p.119) further explained that the canons of reliability for quantitative research may be simply unworkable for qualitative research. The former approach assumes the possibility of replication if the same methods are used with the same sample then the results should be the same with a degree of control and manipulation of phenomena. Nevertheless, the premises of naturalistic studies include the uniqueness and idiosyncrasy of situations and the study cannot be replicated.

Denzin and Lincoln (cited in Cohen et al. 2004, p.119) suggested several ways to address the demand on reliability as replicability in qualitative research:

- Stability of observation (same interpretation of observation at a different time or place);
- Parallel forms (same interpretations on different phenomena during the observation)
- Inter-rater reliability (another observer with the same theoretical framework interprets the phenomena in the same way)

This study addresses the issue on reliability with the first two suggestions mentioned above. With the use of audio visual recording and the twenty four on-site visits on visual arts activities by the same researcher, the stability of observation and parallel forms are achieved to a large extent.

3.4.2.1 Protocol

Reliability in a case study is a problem if a systematic documentation of the procedures is not adopted. Yin (2003. pp.37-38, 67, 102) recommended to develop a case study protocol, and a formal and presentable database to increase the reliability or credibility. The reliability can be enhanced if a chain of evidence is maintained (Yin 2003, p.105). This research has developed a database with a coding system and an evaluation framework that can clearly categorize critical incidents and patterns from the observational data (refer to Chapter 3: 3.2.5 to 3.3.5). It has a high level of data auditability as it enables retrieval and cross-checking of data (LeCompte & Preissle cited in Cohen et al. 2004, p.108).

Regarding a case study protocol, it should include the following sections (Yin 2003, pp.68-69; Sturman 1997, p.65):

- An overview (objectives and issues)
- Field procedures
- Fieldwork analysis is documented
- Data collected can be retrieved and re-analyzed
- Biases and negative instances should be reported
- A guide for the case study report

Though the structure of this chapter shows that the systematic procedures in the research methodology have met most of the requirements above, an outline is designed below with reference to the detailed set of stages formulated for a naturalistic research by Hitchcock and Hughes, LeCompte and Preissle, Bogdan and Biklen (cited in Cohen et al. 2004, pp.140-153):

Figure 3.8 The protocol of the research

The stages in planning naturalistic research			The protocol of this research
Stage 1	Locating a field of study		Research questions; case study in a kindergarten; observation in situ
Stage 2	Addressing ethical issues		listed below
Stage 3	Deciding the sampling		age group, sample size; criterion-based selection
Stage 4	Finding a role and managing entry into the context		observer-as-participant; the whole second semester
Stage 5	Finding informants		target group; selection procedures
Stage 6	Developing and maintaining relations in the field		Observation in situ; the timetable of visits; regular meetings in 7 months
Stage 7	Data collection in situ		Observation with audio-visual recording; artworks; documents of reading and writing; interview
Stage 8	Data collection outside the field		Informal interviews and consultations on related professionals before the start of the research
Stage 9	Data analysis		
	Step 1	Establish units of analysis of the data	Activity folder as unit; Formation of database
	Step 2	Create a domain analysis	Coding system; categorization of data into an evaluation chart by: anecdotal record, critical incidents and rating scale
	Step 3	Establish relationships between domains	Personal folders - built with the data transformed from the evaluation chart
	Step 4	Making speculative inferences	Interpret the performance in an activity with visual or written evidence
	Step 5	Summarizing	Conclude the development in different domains of each child
	Step 6	Seeking negative and discrepant cases	Compare the five cases and find out which one fails to reveal the progress
	Step 7	Theory generation	No particular theories; may show Lowenfeld's model and the research methodology are useful to the assessment, and various aspects of children' growth in art activity
Stage 10	Leaving the field		Everyone left naturally as the semester ended in July
Stage 11	Writing the report - report facts; trustworthy - strive to be informal - ethical practice in writing - enable checking back - human instrument		- Interpret the performance with evidences found - include the children's talk and visual records - follow the written consent - keep a retrievable database; - researcher's professional

3.5 Data interpretation

3.5.1 Analytic strategies and techniques

The analysis of case study evidence is one of the least developed and most difficult aspects of doing case studies because the strategies and techniques have not been well defined (Yin 2003, pp.109, 115; Yin 2009, pp.127-136). The best preparation for conducting case study analysis is to have a general analytic strategy to define priorities for what to analyze and why. In the absence of such strategies or alternatives, that case study analysis would proceed with difficulty and the researcher might have to "play with the data" in a preliminary sense, as a prelude to developing a systematic sense of what was worth analyzing and how it should be analyzed (Yin 2003, pp.115, 138).

The four strategies proposed by Yin (2003; 2009) are "relying on theoretical propositions", "developing case descriptions", "examining rival explanations" and "using both qualitative and quantitative data". Any of these strategies can be used in practising five specific techniques for analyzing case studies: pattern matching, time-series analysis, cross-case synthesis, logic models, and explanation building. The first three strategies (Yin 2003, pp.111-114; Yin 2009, pp.127-136) as well as the first three techniques have been applied in the study.

First, this research assumed that different domains of child development are found in visual arts activities besides the aesthetic and creative areas requested by the Hong Kong Performance Indicators, such as the holistic approach in art assessment (Lowenfeld 1957; Fox & Schirrmacher 2012). It served as theoretical propositions and guided the analysis. In order to show the different domains of child development, the critical incidents or evidences of children's development found in activities and

artifacts become the “case descriptions” which are categorized in an art assessment framework that was revised from the approaches of Lowenfeld, Eisner, Fox and Schirrmacher. The technique of “pattern matching” (Yin 2003, p.116) is used when an empirically based pattern of child development of a single case could be built up when the performance was compared with existing approaches, such as the developmental approach of children’s artistic growth developed by Kellogg (1969), Lowenfeld and Brittain (1987) (cited in Fox & Schirrmacher 2012, pp.99-100; Koster 2001, p.63), or the summary of children’s performance adopted from different approaches of art assessment in Figure 2.10 in chapter 2. Stake (1995, p.78) stated that the search for meaning in the interpretation was a search for patterns that were often known in advance but sometimes they emerged unexpectedly from the analysis. If the patterns coincide, the results may help a case to strengthen its internal validity (Yin 2003, p.116).

Probably, evidence of a child’s development in all areas of the holistic approach of art assessment cannot be found in an observation of a single case. Thus, multiple case studies and constant observations over six months are arranged in the process of data collection. Time-series analysis helps to trace the events or changes of the cases over time (Yin 2003, p.123), while cross-case synthesis shows the cross-case patterns (Yin 2003, p.135) which may display the similarities and differences among the five children’s development in various domains.

3.5.2 Constructivist approach in data interpretation

The data interpretation of this research is based on the constructivist approach. Stake (1995, p.99) once stated that most contemporary qualitative researchers nourish the

belief that knowledge is constructed rather than discovered. In the viewpoint of constructivism, Stake (1995, p.92) explained few interpretations cast an entirely neutral glow and have the same meaning to different readers. He continued,

> No aspects of knowledge are purely of the external world, devoid of human construction. ...The understanding reached by each individual will of course be to some degree unique, but much will be held in common. Although the reality we seek is of our own making, it is a collective making. (Stake 1995, pp.100-102)

Research is not helped by making it appear value free (Stake 1995, p.95). Qualitative researchers accept difference in interpretation. Following a constructivist view of knowledge, a researcher is not required to avoid delivering generalizations but is encouraged to provide readers with good raw material for their own generalizing (Stake 1995, p.102). Therefore, the interpretations of children's performance made by the researcher and the class teacher might be common or different. And the researcher tried to provide description of the child's behaviours that allow readers to make their own interpretations.

3.6 Research Ethical Considerations

When a research involves the use of human participants, ethical and legal considerations are of concern (Wiersma 1995, p.431). The Australian National Statement on Ethical Conduct in Human Research 2007 (National Health and Medical Research Council, NHMRC 2013) outlines the ethical considerations in conducting human research, including values, principles, risk, benefit and consent. It emphasizes respect for participants, research merit and integrity, justice, and beneficence that help to shape the relationship between researchers and research participants on the basis of mutual trust and ethical equality.

3.6.1 Approval from the UTS Human Research Ethics Committee

A human research can be conducted only with ethical approval (NHMRC 2013) from the human research ethics committee concerned before the data collection. For example, this research obtained approval from the UTS (University of Technology, Sydney) Human Research Ethics Committee (HREC) in December 2006 (The clearance number: UTS HREC Ref No 2005 - 062P) before the start of data collection in January 2007. The approval implies that the proposal did not contravene the National Statement on Ethical Conduct in Human Research nor the UTS policy and guidelines relating to the ethical conduct of research.

Facing the National Statement's pursuit for merit and integrity in human research, a research has to be justifiable by its potential benefit to improve social welfare and individual wellbeing with appropriate methods and a thorough study of the current literature (NHMRC 2013). This research aims to illustrate how to assess young children's development and what the growth is in and through visual arts, it helps to enhance adults' understanding on children's development in visual arts and to carry out quality assurance in schools requested by Hong Kong Education Bureau. The National Statement states that human research has merit if it is conducted or supervised by persons with experience, qualifications and competence that are appropriate for the research. In fact, UTS supervisors guide the researcher to follow the ethical conduct and oversee the whole process. The chapters on literature review and methodology offer related knowledge on the topic and appropriate research methods to support the research as requested by the National Statement.

The National Statement claims that respect is central among values of ethical conduct. Ethical research needs to ensure that participants not only provide their consent freely,

but that they have enough information about the research to know exactly what they are consenting to. The UTS HREC prefers that both the information to potential participants and their consent are in written form.

This research involves participation on a voluntary basis that matches the requirement of the National Statement on ethical conduct in chapter 2.2 (NHMRC 2013), and at least there is no risk or harm would likely be happened on them, that is further requested in the application for approval of UTS HREC. Although the concern for children is the centre of ethical considerations in the research, the schedule of obtaining the consent for this research starts from the school, teacher, parents and then children. Different written consent forms that clearly stated the commitment, permission and right to withdraw were sent to various parties, including the partner school, the teacher and children's parents. Written consents from the first three parties were successfully collected by the end of December 2006, and the objectives of the research were verbally explained to children in the first meeting in January 2007. No negative expression or hiding away appeared among the five children in the video shootings.

Since I was one of the curriculum consultants for the school and have known the teacher before the project, my position might infringe the ethical consideration of research as our pre-existing relationship may exert pressure on the school's or the teacher's decision of participation. This study has paid attention to the rights, privacy, dignity and sensitivity of different participants, including the school, the class teacher, parents and children that are stressed by the UTS HREC and the National Statement on Ethical Conduct in Human Research (2007) issued by NHMRC of Australian Government.

3.6.1.1 The right, privacy and dignity of participants: the school

First of all, a partner school has to be sought because this research involves on-site observation on pre-school children's art activities. The laboratory kindergarten is my first priority since it has a relatively strong culture in research and involves in a numbers of projects every year. Research is not strange to the teachers, parents and children.

The partner school is a kindergarten in the school group of Hong Kong Institute of Education. It has a close relationship with the Department of Early Childhood Education (ECE) of the institute. For instance, some staff members in the department, including the researcher, are providing support for its curriculum development and staff training. The department head was the superintendent of the school board, and the principal had a dual role and was also a lecturer in the department when the research was conducted. One of its missions is to facilitate the conduct and dissemination of research and development projects in early childhood education by its staff and ECE (ECLC - Hong Kong Institute of Education HSBC Early Childhood Learning Centre 2006). In return, the school offers support for the department on school visits, attachment schemes and research.

My pre-existing relationship with the school did not arouse any ethical problem as the school has established a formal mechanism in monitoring projects conducted in the school. ECE colleagues and I were required to submit our research proposals in the designated application form. The school's advisory committee could approve and decline our applications. The written consent from the school was granted in September 2006. A timetable that marked the dates of my visits and video-recording in the six months was sent to the school and teacher for record in January 2007 after

consulting the teacher's advice. All four parties, the school, teacher, parents and children, were clear about the objectives, content of video shooting and the schedule of the project in different details. It fulfills the basic requirement of the National Statement (NHMRC 2013).

3.6.1.2 The right, privacy and dignity of participant: the teacher

The research is on a voluntary basis, and teachers were not obliged to participate in any research. The teacher's willingness in participation was treated with respect and care by the school as well as the researcher. Both the teachers and children were the final decision makers of what they would like to do in the class.

After getting the approval from the school advisory committee, the principal advised me to approach a particular teacher after considering all three K2 teachers' experience and workload. In the first meeting with the teacher, the objectives, duration and commitment of the research as well as her freedom in the participation were clearly introduced verbally. The details were stated again in an English invitation letter and a consent form for the teacher. She was informed of my understanding of her difficulties and other alternatives if she could not join the research. If it really happened, I would look for another K2 class in ECLC or even another school. She could feel free to make her decision; in addition I could exert no impact on her appraisal or status in the school. The class teacher quickly accepted my invitation to the research in our first meeting. Moreover, she advised me to extend the data collection to include observation of clay activity on Tuesdays as well. It showed her support to the research.

Through verbal explanation and the letter, the teacher clearly understood that the objectives of the study were related to the five children's development rather than her own teaching performance. She was also informed that the constructivist approach, the prevailing learning concept in ECLC, would be adopted in this research as well. Although the reality we seek is of our own making, it is a collective making. The researcher triangulation is the simultaneous display of multiple, refracted realities (Denzin & Lincoln 2008, p.8). Therefore, we might construct different or common viewpoints of child development. The application of her comments on child development was clearly explained to keep the worry about interviews with her to the minimum.

3.6.1.3 The right, privacy and dignity of the participant: students' parents

When the child is first admitted to the school, the school issues a consent form to each child's parents to seek for their approval in allowing the child to participate in general activities, research and publication in the school. It is similar to the standing parental consent mentioned in the chapter 4.2 of the National Statement (NHMRC 2013).

Since the five children are only about 4 years old and the capacity to understand their own right and what the research entails is limited, specific parental consent are further sought according to the clause 4.2.12 of the National Statement. Though the school has got initial consent from parents, this study prepared its own set of invitation letters and consent forms for the five children's parents in December 2006. The purpose of the research, the extent of commitment required on participants and the right to withdraw from the research at any stage (NHMRC 2012) were clearly stated in a Chinese letter and a consent form for parents, while the English versions are prepared

for the application for approval from the UTS HREC.

Similar to the letter for the teacher, a more detailed Chinese invitation letter was prepared to invite the parents to join the study which could contribute to the better understanding of child development. The letter also stated that the result of the research would be presented in academic publications, seminars and teacher training workshops for the sake of enhancing understanding and assessment of child development. They had the freedom to join and withdraw from the project or check their data in the process. As requested by the UTS Human Research Ethics Committee, the reference number of the research and correspondence to the committee were also stated at the end of the invitation letter.

There were two additional options for parent's choice in the consent form. They could sign the consent form and agree for their child to join the project, but could also choose for the child's real name and for photos in the activities not to be shown in public reporting if the parents ticked the boxes for these two options. The practice was familiar to the parents because the school had already asked for similar permission. The children's names (usually in short form) and photos in activities might appear in the school's publications, e.g. parents' newsletter "Rainbow bridge" (ECLC 2011) and the bilingual book "Sky and Earth" (*Cheung & Ma 張麗霞, 馬秀琼, 2006).

Figure 3.9 Photos in "Rainbow Bridge". A girl (L) said, "I want to make a red Chinese drum for dancing." 2011

Their written consent on participation and publicity of the research were obtained by the end of December 2006. Parents of all five children agreed to join the project and

none have ticked the boxes for the additional options in the consent form. Therefore, the research is authorized to use children's names (first name in the research) and photos.

3.6.1.4 The right, privacy and dignity of participants: children

The children participants are last introduced but not the least important. Since the research method is based on naturalistic observation of children's development, children's participation is indispensable in the research. It justifies the involvement of children in the research which should take good care of the ethical consideration especially involving young children required in chapter 4.2 in the National Statement in ethical conduct (NHMRC 2013).

The National Statement in chapter 3.1 also requests a clear rationale on the purposive sampling of qualitative research. The selection criteria of participants in this research have been clearly stated and justified in previous part of this chapter, which aims to collect rich information to answer the research questions, keep biases to the minimum and maintain the justice required in the clause 3.1.9 of the National Statement. The research also does not involve any benefits or exploitation of participation.

There are ethical considerations specific to young children in UTS HREC and the National Statement. The chapter 4.2 in the National Statement (NHMRC 2013) states a researcher should respect the children's capacity in understanding what the research entails and their consent if appropriate, though there are no fixed ages to levels of requirement.

This research is conducted according to the UTS HREC criteria and the National Statement. The research respected children's right and kept at low risk to children by the following four ways: verbal explanation for the 4-year-old research participants, no sign of dislike on being video-taped from the children, written consent from their parents and the companion with the class teacher during activities.

The researcher and the teacher explained that the researcher was doing documentation and studying what they did in visual arts activities in the first formal meeting with the whole class, including the five research participants. Since video shooting and photo taking by staff are common practice for documenting and reporting children's learning in the school, children were not strange about my presence. If any participants refuse to be recorded by hiding away from the camera, the researcher will take it as a sign of disagreement and stop involving the child as a research participant. Written parental consent was sought beforehand; and each video recording was conducted with the companion of the class teacher in school.

3.6.2 The interpretation of research findings

Regarding the dignity and sensitivities in human research, critical evidence-based interpretation (Yin 2009, p.188) and positive statements are the main contents of the next chapter on data interpretation because the research aims at illustrating children's development or progress in visual arts activities rather than pointing out their deficits in learning. Statements that would arouse uneasy feeling or embarrassment should be avoided (Hancock 2006, p.67).

3.7 Conclusion

Case study is a desirable research method for this study because it helps to answer the research questions directly. The empirical inquiry investigates the child development in visual arts activities within its real-life context (Yin 2003, pp.13-14) and provides rich description that are convincing evidence to illustrate different aspects of child development in visual arts activities. This chapter has outlined both the background to the approach and the specific aspects of the research design, in order to enhance the trustworthiness of the research.

The findings from the data interpretation are divided into three parts in the following chapter, building on the three stages of the research design as illustrated in Figure 3.1. First, five cases are interpreted with brief description of the moments that can illustrate specific area of child development with reference to the assessment framework of child development (Figure 3.4). Each case is an intrinsic case that shows the unique and individual differences, and tries to answer the first research question on child development. Second, the common and different key features of child development among the five cases are highlighted to show the diverse pattern in child growth which helps to outline a general picture of child development and to answer the first research question in a wider spectrum. Third, the success in the interpretation of each child's development in the previous two parts implies the effectiveness of the assessment method which fulfills the purpose of instrumental case study and portfolio assessment could be a useful tool to evaluate a child's development in visual arts activities.

CHAPTER 4

ANALYSIS AND INTERPRETATION

The chapter is divided into four parts. The first three parts are responses to the three research questions listed below, and the last part is the summary of the findings. The research questions are:

(1) What should be assessed in and through early childhood visual arts activities?

(2) How well do the Hong Kong *Performance Indicators (Pre-primary Institutions)* assess children's aesthetic development in the visual arts?

(3) What information about five children's development in and through visual arts activities can be found in the Hong Kong local context?

4.1 What should be assessed in and through early childhood visual arts?

This question has mostly been answered in Chapter 2 through the review of the relevant key elements of scholarly work, official curricula and assessment documents.

The findings for this question come from three areas of research. The first area aims to find out what should be assessed in aesthetic and creative development. This includes clarifying the concepts of aesthetics and creativity, the two key concepts highlighted in aesthetic development of the Hong Kong *Performance Indicators: Domain on children's development* (EMB & SWD 2003). The second is a summary of what other official curricula and assessment documents in and outside Hong Kong have

included to assess child development in the visual arts. The third area is the summary of the key elements for assessing children's development in and through the visual arts, drawing upon ten resources that are closely related to art assessment.

4.1.1 Key concepts of aesthetics that can be assessed

Teachers have to know what aesthetics is before conducting an assessment of children's development in this area. Aesthetics is a branch of philosophy (Wikipedia 2003e; Fox & Schirrmacher 2012, p. 138; *Yip 葉學志 1998, p. 135; Chapman 1994, p. 3; Lankford 1992, p. 5; Skull 1988, p. 8), and concerns the judgement of value, involving an individual's pursuit of and responses to beauty (New World Encyclopedia 2013; Fox & Schirrmacher 2012, p. 13; *Yip 葉學志 1998, p. 135). Currently, aesthetics means the study of the relationship of art to other aspect of culture, such as religion, morality, science, industry and commerce, in addition to philosophy (Skull 1988, p. 8).

Aesthetics is not synonymous with art, and aesthetic experiences are not unique to the visual arts and the other expressive arts, like music, drama and dance. Aesthetics, however, goes beyond them (Fox & Schirrmacher 2012, p. 137; CDC 2006, p. 35; Lankford 1992, p. 5). Aesthetics in a visual format involves the perception of visual elements, such as line and colour and the feeling and spiritual inspiration aroused by these elements (Zhu 朱光潛 cited in *Ng et al.伍振鷟 2000, p. 331).

Aesthetics was once defined as the philosophy of the beautiful (Bosanquet 1892 cited in Lankford 1992, p. 25). However, the foci of contemporary theories in aesthetics in the West seldom include beauty; and Santayana (cited in Lankford 1992, pp. 25-26) thought that understanding the perception of beauty is the key to understanding the

nature of aesthetic appreciation.

There were thought to be two aesthetic qualities: the beautiful and the sublime. These were related to pleasurable experience that was counted as aesthetically positive, while their negative opposites were the ugly and the bland, dull, or dreary (Davies 2012, p. 9). Pleasure and pain were not subordinated to beauty and ugliness; they were the nature of beauty and ugliness (Hume 1711-1776 cited in *Ng et al.伍振鷙 2000, p. 330). Beauty is found in our daily lives in the natural and man-made world around us (*Ng et al. 伍振鷙 2000, pp. 328-336; Fox & Schirrmacher 2012, pp. 137-8; Lankford 1992, p. 26).

Aesthetic judgement had both subjective and objective features (Adler cited in *Ng et al.伍振鷙 2000, pp.333-6). The objective perspective was involved when the object was regarded “as admirable”, and might require cognitive thinking and knowledge to understand its merits. The subjective perspective, classified “as enjoyable”, was based on personal feeling and immediate response. And, the judgement of beauty could be universally communicable (Adler cited in *Ng et al.伍振鷙 2000, p. 336) or universally valid (Kant cited in Ginsborg 2005).

This research adopted a broad definition of aesthetics and collected evidence of aesthetic development in two areas: (1) the symbolic representation of pleasant or unpleasant feelings or cognitive thinking, using art vocabulary like colour, line… etc.; and (2) subjective or objective judgements of the beautiful, ugly, sublime, enjoyable or admirable in natural or man-made objects. The judgement of beauty could be universally communicable.

4.1.2 Key concepts of creativity that can be assessed

The concepts of creativity that could be applied to assess child development include:

(1) the mini-c creativity, transformative learning, of the four C Model of Creativity (Kaufman & Beghetto 2009, p.3) such as a mushroom princess
(2) Imagination (Koster 2012, p.27; Isenberg & Jalongo 2001, p.11)
(3) Fantasy (Koster 2012, p.27; Isenberg & Jalongo 2001, p.11)
(4) Self expression, personal creativity, or original interpretation of experience (Runco 2006, p.128); novel and personally meaningful interpretation of experiences, actions, and events (Kaufman & Beghetto 2009, p.4)
(5) Flexibility and elaboration in divergent thinking ability (Fox & Schirrmacher 2012, p.8; Koster 2012, p.26; Wright 2003, p.10; Isenberg & Jalongo 2001, p.7)
(6) Fluency in divergent thinking ability as supplementary (Wright 2003, p.10; Isenberg & Jalongo 2001, p.7)
(7) Originality in divergent thinking ability is a strong indicator, but it should be applied with further elaboration since scholars have defined it in various ways and with different levels of complexity (Fox & Schirrmacher 2012, p. 8; Koster 2012, pp. 26-27; Runco 2006, p. 127; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7)

4.1.3 Summary of children's development from different approaches of art assessment

After viewing the official curriculum guides in Hong Kong, Australia, and Singapore, and assessment documents in Britain and USA, specifically New York City, it is possible to state that child development in and through the visual arts is not limited to the

aesthetic and creative development emphasized in the Hong Kong Performance Indicators. The key elements in visual arts assessment extracted from the documents include:

- Imagination, creation, creativity, and problem solving (creative)
- Skills / techniques (physical)
- Use of materials and media (physical and aesthetic)
- Use of art elements (aesthetic)
- Expression / sharing of ideas and feelings (cognitive and emotional)
- Appreciation / talking about art (aesthetic)
- Problem solving (creative)
- Cultural understanding (cultural)

The summary of curricula and assessment documents (Figure 2.5) shows that teachers should focus on specific key items during assessment, rather than all elements in a curriculum. For example, assessment should focus on a child's knowledge and abilities, but not attitude. Therefore, attitudes like "show interest in various forms of beauty" or "willingness to participate in creative activities" listed in the Hong Kong Performance Indicators (EDB & SWD 2003) should not be included as performance indicators.

The summary of official documents from the various countries mentioned above shows that a portfolio is an appropriate assessment form, and assessment should be based on artwork and observation of process only. There should be observable evidence to show "what children know and can do" (Standards & Testing Agency of Department for Education 2012a, p. 9). Moreover, grading performance on three levels was also suggested in some documents, such as Hong Kong *Visual Arts Curriculum Guide*

(Primary 1-Secondary 3) (CDC 2002b) and British *Early Years Foundation Stage Profile* (Standards & Testing Agency of Department for Education 2012a).

Since there is wide use of an integrated curriculum in Hong Kong early childhood education, visual arts activities are often closely related to cognitive learning. Occasionally, they are related to learning about media, visual elements and cultural factors in Chinese and Western festivals. At the same time, the interactions among children and the teacher in the process of visual arts activities may also reflect their social, aesthetic and cognitive development. Therefore, a holistic approach is more appropriate than an art-specific approach to understand and assess child development in and through the visual arts in the early childhood.

The following summary comprises key concepts of art assessment extracted from ten relevant documents or references. These documents offer some concrete descriptors in performance indicators and are categorized into different areas according to the holistic approach. The summary provides explicit or observable exemplars for teachers to observe, then describe, interpret, differentiate and present children's performance and abilities developed in and through visual arts activities.

Figure 2. 10 A summary of children's development from the different approaches of visual arts assessment

Areas of development	Characteristics of children's performance
Physical	**General:** Demonstrate gross and fine motor control (6,7,10); Sensory experiences (2,7) /awareness (10); (origin: cognitive) **Art specific:** Able to use different materials (1,3,4,7,10); Uses basic/different techniques (2,3,7,10); Visual art making (3); Completion of the art activity (6); (related to social: responsibility) Drawing human figures (6); (origin: cognitive) A lack of continuous omission/ exaggeration of the same body part? (5) Are the lines determined and vigorous? (5)

	Proper use of tools and materials (6); Has control over the materials; ability to handle with skills the technical characteristics of the materials with which he was working (8); Makes decision about how media be combined and changed (4).
Social	**General:** *Self-responsibility (6);* *Take initiative; stay on task (10);* *Able to work with others (2,7,10);* *To share resources & workload (2,7);* *Able to work alone and cooperatively (6);* *Work with others and celebrate success (2);* **Art specific:** Child art is a result of an interaction between genetic traits and environmental conditions (8: p. 95); Completion of the art activity (6); (origin: physical) Self- and social-awareness (10); Works with others to finish a creation (2); Expresses themes related to a definite experience (5) / surroundings (3,5); Self-directed rather than copying others (6); (related to creative) *Positive interaction between peers and teachers (7);* Is there any order determined by emotional relationships? (5) *Tolerates others' art ideas, styles and products (6); (related to aesthetic)* Recognizes the differences between (own and others' work) and the strengths of others (4,10). (origin: "being imaginative" in expressive art and design)
Emotional	**General:** Expresses personal emotions and/or feelings (2); Expresses themes related to themselves (3); **Art specific:** Expresses feelings, emotions, and personality through artwork (1,6,7,8,10); Self-assurance and confidence (6); (related to social) Enjoyment and pride in own work (6); Frequently changes concepts for man or trees, a lack of continuity (5); Definite in line and colour, showing the child's confidence in his work (5); The child's comfort level with art materials and others' artwork as expressed in arts activities (7); (related to aesthetic) Does it relate to things which are important to him? (5) Accepts own mistakes and unsuccessful attempts at art (6)/ tolerates frustration (10); Is there too much exaggeration? (5); distortion or exaggeration of things that are emotionally significant (6).
Cognitive	**General** (there is a close relationship between perception, language and visual arts)**:** Sensory experiences (2,7)/awareness (10); (related to physical) Express ideas, thought, personal experience (1,2,3); Reflect a knowledge of people, places, objects, experiences, and events of personal importance in the environment (6); Evidence of personal or public representation of subject matter recognizable to others (6); **Art-specific:** Child art is indicative of cognitive activity, concept formation and general intelligence (8: p. 95); Reflects a knowledge of line, shapes (6); Draws human figures (6); (related to physical) Able to produce a representational drawing of a man showing details (5); Able to relate colour to objects (5);

	Able to demonstrate a knowledge of colours and colour mixing (6); Has perceptual abilities to see visual qualities in the environment through a process of perceptual differentiation (8: p. 94); aesthetic-expressive (8: p. 216); Repleteness is similar to elaboration, as both qualities attend to details. Repleteness indicates knowledge of the subject, theme, or idea portrayed or expressed in the artwork, while elaboration demonstrates knowledge or particular details of individual subjects represented; i.e. a variety of flowers in a garden, and many details of the parts of a particular flower (9); Able to find out how to combine and change materials (4); Knows and uses art vocabulary/ symbolic language to communicate/ communication skills (2, 3, 6, 7, 10); (related to aesthetic) Articulates artistic goals (10), talks/ verbalizes/ reflects on own work (7, 10); (related to aesthetic) Knows (identifies) artistic elements such as colour, shape, line, space, mass, texture, pattern and balance (6); (origin: aesthetic) Uses visual arts elements of colour, value, line, shape, form, texture, space (10); Describe, analyze, communicate, carry out a dialogue (3); (origin: aesthetic) Has skill in understanding and creating ways to communicate through the arts (7); Indicates movements or sounds (in artwork) (5); Develops their own ideas through selecting and using materials (4,10); Demonstrates perceptual growth involving visual and spatial perception skills (7); Sees qualities that normally escape attention (8: p. 71); Makes comparisons, artistic decisions, orders the sequence of their actions (7); Something not confined to visual arts; i.e. higher order thinking (Wolf, 1992, pp. 945-946); Has the ability to express arts concepts graphically and through oral language (7); Uses the visual arts principles of rhythm, feeling, balance, proportion, overall composition, emphasis, movement, repetition, pattern, variety, unity (10); (origin: aesthetic) Understands art and why art was made in the past (6). (related to aesthetic)
Creative	**General:** Original ideas (2); Unique thought (1*); **Art specific:** *Demonstrates a willingness to experiment and explore with a variety of media (6);* Participates in creative activities (1); When the child is alone, does he spontaneously create in any medium (5)? Uses/experiments with a variety of media/materials (1, 2, 6,10); Demonstrates creative thinking (in visual arts) (3); Explores ideas from a variety of angles (10); Demonstrates fluency: i.e. various effects of lighter and darker grass or trees (9); Shows flexibility: ability to mentally push boundaries (Schirrmacher cited in 9); i.e. accidents of media, a drop of paint, developed to a richer expression (9); Shows imagination and creativity in art and design (1,2,3,10); Is imaginative in talking about the ideas and processes (of arts) (4)? Uses and challenges existing skills and knowledge (7); Demonstrates ways of creatively combining media, materials and artistic junk (6); Combines familiar elements in new ways (7); Solves challenging problems (7,10); Is self-directed rather than copies others (6); (origin: social) If the child works in a group, does he remain uninfluenced (5)? When the child is alone, does he refrain from imitating for imitation's sake (5)? Uses details, decoration and elaboration (6); Elaboration is evidenced when children add many details to their artwork; visual complexity is created (9); Demonstrates creative problem solving: demonstrates enjoyment, seeks and solves

	creative problems and devises them even where they did not exist; i.e. draws his own monsters instead of illustrating the monsters from a book (9); Makes individual and personally unique artistic statements (6); (related to aesthetic) Demonstrates creative thinking: fluency, flexibility, originality, elaboration, creative problem solving (9); Demonstrates originality: unique, unusual, or unexpected, exhibits personal, not stereotypical, symbols to represent ideas (9); Reflects originality, imagination, creativity (6); Demonstrates creativity: boundary pushing, inventing, boundary breaking, and aesthetic organizing (8).
Aesthetic	**General:** *Shows interest in various forms of beauty (1,2);* Appreciates the beauty of life (1); Has the ability to appreciate various forms of beauty (1); Demonstrates awareness and sensitivity to immediate surroundings, nature and environment (6,10); **Art specific_ process and product:** Does the child show a desire for decoration (5)? Enjoys processing with media and making artistic products (6); Expresses aesthetic sensibility (1*,2); Demonstrates awareness and sensitivity through various senses; i.e. looking, touching(6); *Shows a level of comfort with art materials and others' artwork as expressed in arts activities (7); (original: emotional)* Uses a variety of two-dimensional and three-dimensional artistic media (6); Shows aesthetic perception through colours and composition (1*); Demonstrates aesthetic thinking: composition (arrangement of elements of design) – appears to be intuitive in a child's early artistic development and is later taught by instruction (9); Demonstrates aesthetic thinking: expression – artwork shows feelings or emotional qualities; i.e. the viewers can "feel" the fuzzy petals of a flower; the shimmering heat of the sun; the jagged, sharp teeth of a shark (9); Demonstrates aesthetic-expressive aspect: aesthetic organization of forms in the work display a high degree of coherence and harmony, order and unity (8); For most artists the aesthetic organization of forms is a prime concern, but in children high aesthetic organization ability is relative rare (8); Use of visual arts elements of colour, value, line, shape, form, texture, space (10); (related to cognitive) Decides what to do with their work and participate in presenting the work (7); Is meaningful space well distributed as opposed to meaningless space (5)? Does the organization of the subject matter seem equally important to content (5)? Do colours appear to be distributed decoratively (5)? **Art specific_ talk:** Appreciates his own and others' work (1,2,10); Appreciates their surroundings in the process of creation (2); Demonstrates art appreciation (3), art criticism (3, 8), critical responses (3); Art criticism can be a type of evaluation (of children's growth) (8); Articulates artistic goals (10), talks/ verbalizes/ reflects on their own work (7,10); (origin: cognitive) Can talk about features of their own and others' work (4); Knows (identifies) artistic elements, such as colour, shape, line, space, mass, texture, pattern and balance (6); (related to cognitive) Knows and uses art vocabulary/ symbolic language to communicate/ communication skills (2, 3, 6, 7, 10); (origin: cognitive) Uses artistic elements to discuss and appreciate nature, environment, own artwork

	and others' work (6); Appreciates various perspectives (2); Appreciates artworks on a wide range of styles (6); Sees similarities and differences in artistic styles (6); Makes quick statements of preference - like and dislike - often provides premature closure; the student fails to see the work in any depth; matters of preference and taste cannot be disputed (8). Disputes can be found in matters of judgement, which consists of making statements about quality of visual form that can be supported by evidence, i.e. after being asked why (8). Art criticism: judgement about visual forms; contextual; description, interpretation, evaluation (8, 10); Describes, analyzes, communicates, carries out a dialogue (3); (related to cognitive) Makes individual and personally unique artistic statements (6); (origin: creative) Recognizes differences between (own and others' work) and the strengths of others (4, 10); Tolerates others' art ideas, styles and products (6); (origin in social) Uses the visual arts principles of rhythm, feeling, balance, proportion, overall composition, emphasis, movement, repetition, pattern, variety, unity (10); (related to cognitive) Demonstrates a sense of standards and quality (10)/ makes own artistic decision/preferences based on personal taste; i.e. choice of subjects, tools, materials, colours (6); (origin: self-assessment) Judges self by own standards, in spite of the criticism of others, is a life skill that is important for all children to learn (6); (origin: self-assessment) Understands art and why art was made in the past (6). (origin: cognitive)
Cultural	**Art specific:** Understands arts in context (3); Appreciates artwork of different cultures (2); Has the ability to understand the characteristics of the time and place in which art was created. … the cultural realm emphasizes an understanding of the period in human history through using works of art. … in assessing this type of learning, teachers want students to understand that the persons who created art are part of a human culture and reflect that culture in their art (8).
Personal	**Art specific:** Personal preference for certain media (6); Develops their own ideas through selecting and using materials and working on processes that interest them (4); (Preschool children's art) Individual's art is a manifestation of personality (8: p. 95); Goodenough & Harris stated that the identification of personality characteristics is not likely to be done easily (8).
Self-assess	**Art specific:** Children select their own item of works, such as drawings or stories, as subjects for conversation with teachers in a small group or for expressing their own views with their peers regarding the work (2); Encourages students to compare the quality of their earlier and later works; students' learning rates are revealed through comparison (8; p. 208); Encourages children to evaluate their own artwork, i.e. compare earlier stereotypical work on flowers in the class with an observational drawing of the garden (9); Demonstrates a sense of standards and quality (10)/ make their own artistic decision/preferences which were based on personal taste, i.e. choice of subjects, tools, materials, colours (6); (related to aesthetics) Judges oneself by one's own standards, in spite of the criticism of others, is a life skill that is important for all children to learn (6). (related to aesthetics)

(1) Concepts listed in the five items of children's aesthetic development in the Hong Kong Performance Indicators

(1*) concepts listed in the examples, the ten developmental milestones, developed for children's aesthetic development in the Hong Kong Performance Indicators.

Italic - Concepts that are related to attitude

1 Education and Manpower Bureau & Social Welfare Department (2003). Performance Indicators (Pre-primary Institutions): Domain on Children's Development. Hong Kong, Education and Manpower Bureau & Social Welfare Department. pp.13.

2 Curriculum Development Council (2006). Guide to the Pre-primary Curriculum. Curriculum Development Council. Hong Kong, Education and Manpower Bureau, pp.20, 35, 63, 64 &93.

3 Curriculum Development Council (2003). Arts Education Key Learning Area. Visual Arts Curriculum Guide (primary 1 - secondary 3). Hong Kong, Curriculum Development Council, pp.10-11.

4 Standards & Testing Agency of Department for Education. (2012a, November 2012). "2013 Early Years Foundation Stage Profile Handbook." National curriculum assessments, p.54.

5 Lowenfeld, V. (1957). Creative and Mental Growth. New York, Macmillan, pp.122-123.

6 Fox, J. E. and R. Schirrmacher (2012). Art and Creative Development for Young Children. Belmont, California, Wadsworth Cengage Learning, pp.295-296.

7 Koster, J. B. (2012). Growing Artists: Teaching the Arts to Young Children. New York, Delmar, pp.69, 80.

8 Eisner, E. W. (1972). Educating Artistic Vision. New York, Macmillan, pp.65-67, 71, 86, 95, 208, 212-226, 230-234.

9 Althouse, R., M. H. Johnson, et al. (2003). The Colors of Learning: Integrating the Visual Arts Into the Early Childhood Curriculum. New York & Washington D.C., Teachers College Press and National Association for the Education of Young Children, pp.76-77,126-132.

10 Wright, S. (1994). "Assessment in the arts: is it appropriate in the early childhood years?" Studies in Art Education **36**(1): 28-43.

Some of the key concepts in each area could be ranked in an ascending order in terms of level of difficulty. Therefore, some descriptions may show a higher level of performance in a particular area. For example, the aesthetic area of development consists of:

Elementary

Advanced

- Ability to appreciate various forms of beauty (1)
- Appreciate his own and others' work (1, 2, 10)
- Use artistic art elements to discuss and appreciate nature, environment, own artwork and others' work (6)
- Describe, analyze, communicate, carry out a dialogue (3)
- Recognize the differences between one's own and other's work, and the strengths of others (4,10)
- Judge oneself by one's own standards (6)

According to the following holistic framework and the rating scale of British *Early Years Foundation Stage Profile* (2012), each child's development in and through the visual

arts was introduced (refer to the detailed framework of Figures 2.10 and 2.11 in Chapter 2 if needed); and the details of each case study are presented in part 3 of this chapter.

Figure 4.1 The holistic approach for assessing child development in visual arts

	Characteristics of the child's development (mainly extracted from the detailed summary in Figure 2.9)	Emerging	Some/ average/ expected	Much/ exceeding
Physical (p)	Skills or techniques, use of materials and media			
Cognitive (c)	(Visual and verbal) expression and representation of ideas, concepts and knowledge			
Emotional (e)	Expression of feelings and emotions through artwork; including joy, disgust, interest, surprise, fear, anger, sadness; self-assurance and confidence; enjoyment and pride in work, tolerates frustration, exaggeration of things that are emotionally significant			
Social (s)	Self- and social awareness, self-responsibility, cooperative, self-directed rather than copying others, tolerates other's ideas, completes the activity			
Creative (cr)	Imagination, fantasy, and creativity, mini-c creativity, original interpretation of experience, unique thought, problem solving, creative and divergent thinking, fluency, flexibility, elaboration, use of a variety of media, imaginative in talking about ideas and processes			
Aesthetic (a: al/ap)	Uses art elements, design principles, decorative concepts, appreciates his own and others artwork			
Cultural (cu)	Understands the characteristics of artwork in context or different cultures			
Personal (pe)	Personal preference for certain themes or elements			
Overall	(A written summary)			

4.2 How well do the Hong Kong Performance Indicators (Pre-Primary Institutions) assess children's development in the visual arts?

There are some issues that have to be addressed before examining the validity of the Hong Kong *Performance Indicators (Pre-primary Institutions)* in assessing children's development. First, the Hong Kong performance indicators were issued in 2003,

much earlier than four out of the eight official curricula and assessment documents used for this dissertation's comparisons (Figure 2.5), and even before the revised *Guide to the Pre-primary Curriculum* (CDC 2006). This may explain why the Performance Indicators do not completely correspond with the curriculum guide and why they cover fewer items. Second, pre-primary education and basic education (primary and junior secondary education) in Hong Kong were traditionally under different sectors of the Education Bureau. They had separate systems and no alignment of curriculum. This may explain why the performance indicators do not refer to the more logical and comprehensive *Arts education: Key learning area curriculum guide (Primary 1 – secondary 3)* (CDC 2002b).

Most of the arguments and evidence relating to how well the Hong Kong performance indicators assess children's development in visual arts have been presented in Chapter 2. To a limited extent, the Performance Indicators on children's aesthetic development are a valid reflection of children's development in the visual arts because they partially cover the key elements in the learning of visual arts below -

(1) The Hong Kong performance indicators (PIs) cover a number of key elements in assessing child development in the visual arts that are also found in other official documents. They include: imagination, creativity, appreciation, use of materials and media, expression of ideas and feelings.
(2) However, two important elements, techniques and the use of art elements, are lacking. If we adopt a holistic approach to art assessment, then areas such as social, cultural and personal characteristics should be included (Figure 4.1).
(3) A better location for creativity should be sought. For example, the Hong Kong school curriculum (CDC 2002b, p. 22) regards creativity not just as a specific educational objective in visual arts, but as one of nine generic skills acquired by

children; and the British *Early Years Foundation Stage Profile* (Standards & Testing Agency of Department for Education 2012a, p. 19) recognizes creativity as one of the three characteristics of effective learning that play a central role in a child's learning. Both realize that creativity can be found across all kinds of learning activities. If this structure had been observed earlier in the development of the assessment process, then creativity would not awkwardly appear in the section on aesthetic development in the Hong Kong Performance Indicators (EMB & SWD 2003, p. 8), or repeatedly appear in the cognitive area.

(4) A more accurate title with a wider scope should be used instead of "aesthetic development". Some official curricula and assessment documents use "aesthetics and creative expression", "creative expression and aesthetic development", or "expressive arts and design" to describe child development in related areas (Figure 2.5). In reality, many educators use the term "artistic development" rather than "aesthetic development" to describe children's development in art education (Fox & Schirrmacher 2012, p. 91; Koster 2012, pp. 60-63; Isbell & Raines 2007, p. 109; Kindler 2004b, pp. 227-232; Koster 2001, pp. 347-348; Freedman 1997, p. 95; Kindler & Darras 1997, p. 17; Hurwitz & Day 1995, pp. 56-57; Kindler 1995, p. 10).

(5) There are two parts of the five items that comprise the Hong Kong aesthetic development Performance Indicators relating to attitude. However, attitude is not recommended to be used as a performance indicator. Performance indicators should aim to reflect what a child knows and what he or she can do through comparison with an agreed standard or target (Wikipedia 2013d; Health Service Executive 2012; Standards & Testing Agency of Department for Education 2012a, p. 9; Health Information and Quality Authority 2010, p. 7; Bullen 1991). Three out of four official curricula and the British *Early Years Foundation Stage Profile* include only the knowledge and skills in assessing the arts, although they consider attitude

as one of the three components in their curriculum. Attitudes such as "showing interest" and "willingness" to participate in creative activities (EMB & SWD 2003, p.13) are worth nurturing, but are not a kind of achievement that should be assessed in a mandatory school self-evaluation or through external supervision by EDB officials.

(6) No specific or valid descriptors of creativity and aesthetic development are mentioned in the items of performance and the exemplars of children's development (EMB & SWD 2003, pp.13 & 23). Repeatedly, the descriptors use abstract key terms, such as, the "ability to appreciate various forms of beauty" and "beauty of life", "appreciate his own and others' work", "aesthetic perception through colours and composition", "children are happy in the participation", and "interested in the change of colours". The same vagueness is found with the concept of creativity, where one finds such terms as "unique thought", "use imagination and creativity", "participate in creative activities", "use and try different materials", "for creative expression", and "conduct creative work to express their own ideas".

The absence of specific descriptors or items of performance, especially for the two key words, aesthetics and creativity, is a weakness of the Hong Kong Performance Indicators.

Apart from listing the items of performance in the Performance Indicators, the official document also provides ten examples of children's developmental characteristics to further illustrate the evidence that can be found in each of the four areas. For instance, the fourth example, "children will take the initiative to introduce their work to other people and are willing to display their art and craft work" (EMB & SWD 2003, p. 29), shows the child's attitude, but not his or her

abilities or achievements in aesthetic development. For example, Ting introduced her work, “It’s Singapore… I’ve been there and South Africa….There is smoke above the (red) chimney… a child is bathing inside the (yellow) house.” (Figure 1.6 & A15_M2U14). The girl introducing her work to others is a valid instance of the fourth point in the list of children’s developmental milestones. However, it relates more to her speaking skills and cognitive development, rather than her aesthetic development since she paid no special attention to introduce her intentions in selecting the related art elements, such as colour or shape. Therefore, the dialogue is convincing evidence for cognitive development, but is not sufficient to assess aesthetic development.

So, some Hong Kong Performance Indicators are valid but limited reflections of children’s aesthetic development in the visual arts. Although the PIs partially cover key elements in the learning of visual arts, namely creativity and aesthetic development, they do not include the essence of the two concepts nor do they include valid and practicable descriptors to assess children’s development in related areas. Moreover, the Performance Indicators omit the important elements of technique and the use of art elements in assessing children for aesthetic and creative development. If the visual arts in the Hong Kong early childhood context contributes not just to aesthetic development but also a wider scope of experience, such as on artistic development or even holistic development of art assessment, then we may have another perspective on assessing children’s development in the visual arts.

4.3 How can child development be assessed in and through visual arts activities in the Hong Kong local context?

4.3.1 Ways to assess child development in the visual arts

Ways for assessing children's development in and through the visual arts have been considered in Chapters 2 and 3. Many official documents and literature on the subject recommend that teachers use the children's portfolios to conduct a systematic review of evidence of each child's learning (Singapore's Ministry of Education 2012; Althouse et al. 2003 cited in Fox & Schirrmacher 2012, p. 294; Lubawy 2010 p. 228; McAfee, Leong, & Bodrova 2004 cited in Galper & Seefeldt 2009, p. 341; Gullo 2006, p. 449; CDC 2006, 2003 & 2002b; Althouse et al. 2003, p. 76; Krechevsky 1998).

The study in this dissertation used observation, authentic assessment, and portfolios assessment. The case study and assessment of five children's artistic and aesthetic development was conducted on their weekly visual arts activities and bi-weekly clay activities in real-life and naturalistic context in their school from January 2007 for seven months. Their behaviours, dialogues, interaction with the teacher and classmates in the critical moments were observed and recorded in digital video clips, while their pieces of artwork were recorded in digital photos. All photos and video clips of each activity were coded in order to construct a systematic and retrievable database.

The analysis of children's development in the visual arts was supported by observable evidence extracted from the photos and video clips: (1) visual images of artwork; (2) the visual images captured from video clips; (3) transcription of children's dialogue on their artwork and art-making process; and (4) the researcher's written interpretation of their artwork and their behaviour in the art-making process.

The digital photos were first stored in activity-based folders, and later were copied to build up five personal folders. The researcher's written interpretation of the children's work basically followed in the steps of Feldman's approach to art criticism: description,

formal analysis, interpretation and judgement (Feldman 1992, pp. 487-510). Judgement or summative statements have been kept to a minimum.

In order to present the most significant characteristics of each child's growth in and through the visual arts over the course of the seven months of this study, the discussion below first focuses on a representational work that best demonstrates each child's performance. This method of assessment is supplemented by other artwork or information as needed. For example, Lok's train in Activity A10 was chosen to show his physical, cognitive, emotional, social, creative and aesthetic and personal development. If there was no single representational piece that could show each child's development in many areas, then several pieces were selected.

Video clips can provide the other three types of evidence mentioned above. Before interpreting each child's development in and through the visual arts, a written video analysis (Appendix 3.4) had to be compiled. In viewing video clips, the children's behaviours and dialogues in critical incidents that could show the child's development were described and interpreted in written form as evidence of their various areas of development. Sometimes, the video scenarios were paused and captured as a still screen shot that served as a visual evidence of children's performance in the art-making process. Since all video clips had been transcribed into Chinese text by two student helpers, related Chinese transcriptions of children's dialogue in critical moments were extracted from the master copy of the transcription into the video analysis. Each child was represented with a colour, a name in short form (i.e. Chole) and a letter (C) in the video analysis. Then, the visual image, Chinese and English transcriptions of children's dialogues, and researcher's written description of each child's development were coded and classified in a separate row according to the personal and area codes, such as Chole's aesthetic development (language) and

cognitive development were detected in the video clip S14 of Activity A1, that were coded as (Chole_al, c) in the video analysis (Appendix 3.4). It resulted in a 107-page summary that was based on seventeen visual arts activities and the last three, of seven, clay activities. The first four clay activities were not included since the summary and the record of the teacher's interviews already consisted of sufficient information to show each child's development in various areas of the assessment framework.

The coding enables the quick reference of a child's development in a particular area or activity. The video analysis (Appendix 3.4) can serve as a master copy of all five children's performance, and five individual portfolios can be built by extracting information according to different colours. However, the researcher thought the colour codes in the master copy is sufficient for assessing each child's development in and through the visual arts if it is mainly based on one's most representative artwork or process. Then, there is no need to move the data in the master copy and restructure them into five individual personal folders.

4.3.1.1 A glance on the overall child development of the target group in and through visual arts activities

The performance of production and the final artwork of the five children varied among them. Similar images within the artwork of five children were virtually non-existent, even in the five observational drawings of the guitar recorded in Activity A1. Although the interpretation was based on the same framework, there were variations in selecting and presenting the artwork, as well as the length and focus of the discussions by the five children.

Compared with other areas, there was less evidence on cultural and emotional development. It is because topics related to cultural development were not easily found in visual arts activities of this study. The most effective way to study cultural development is to look for topics that are related to cultural elements, such as a drawing of Nian monster (年獸), a legendary monster associated with the origin of Chinese New Year (A5 & A6).

It was also surprising to discover that there was not enough evidence in the children's visual arts products to assess their emotional development. This may relate to the fact that most products were mainly related to cognitive and visual learning or to narratives of the children's own experiences or imagination. Similarly, in this research, there were no specific visual arts activities (Appendix 3.3) that were aimed at promoting the expression of basic emotions, including joy, interest, surprise, disgust, fear, anger and sadness through facial expression, vocalizations and body movements (Berk 2013, pp. 405-406; Fox & Stifter 2005, p. 234). Furthermore, there was no artwork, even among the drawings where the subject matter was not specified by the teacher, that specifically showed emotional expression.

Children's emotional development might be reflected in their laughter that occurred in the process of art making. For example, Yeung, Ka, and Ting burst into laughter when they were enjoying pressing the clay dough with their own body weight, recorded in clay activity C8 (M2U29_0101). However, most of the time they worked attentively and gave little evidence of their emotional development except through their interest in art-making. This is indirectly shown by their high degree of concentration and their joy in playing with the artwork. For example, Ka was happily playing with his flying train (A10). Most of the emotions shown in the process of making art were related to joy. Few negative feelings were detected in the process of making art, except for

Chole's anxiety over art production and her frustration caused by her failure to make the swan's neck to stand up in the clay activity (C8).

4.3.2 Individual child development in and through visual arts activities

Before presenting individual assessments of each child's development as reflected in and through visual arts activities, a brief sketch of each child is provided, including information about the sex, age and the researcher's first impression of each child.

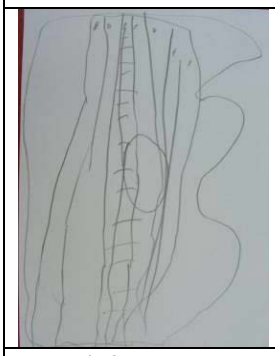
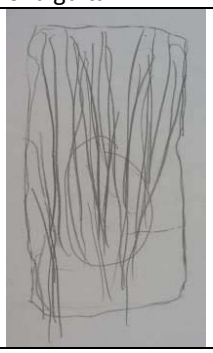
4.3.2.1 Lok

Lok was 4 years and 8 months old when he joined this research project in January 2007. This age was the class average. He was a strongly built boy compared with his other classmates. His drawing was still in the scribbling stage, and he could not draw recognizable figures yet, one of the weakest of the children in drawing. However, I was attracted by his active character because he could talk about his work with others, including a stranger, the researcher. He looked like he was an easy going person who might be willing to express himself verbally about his art for the purposes of the study.

4.3.2.1.1 Lok's physical development

At the beginning of the study in January, Lok could not finish the observational drawing of the guitar by himself. He kept on looking at his classmates' work, and he copied the rectangular part of Ka's guitar in Activity A1 (Figure 4.2).

Figure 4.2 Lok working on his first guitar (A1)

	
A1_S10_0155_Lok (in red circle) looked at his peer's work several times.	A1_S10_0233_Lok looking at his classmate's work on the reverse side of the paper.
	
A1_S10_0620_Lok looking at Ka's finished work while the latter was talking to the teacher.	A2_One week later, Lok still needed to watch a classmate when producing a coloured drawing of a guitar.
	
A1_Ka's first guitar	A1_Lok's guitar

Lok could draw the rectangular part (the neck of a guitar) and the circle (sound hole) but could not manage the strings in Activity A1. His drawing skills were weak. He kept on watching others to find out how to do the first few activities, such as Activities A2 and A4. Even after being in the class for a week, Lok still needed more guidance on the same object. After watching the teacher's demonstration of how to draw a monster in A4, he looked at Ting's work five times in the course of a minute. He also looked at the work of other classmates, such as Ka. After nine minutes, however, he could focus on his own work with only an occasional glance at the work of others.

Figure 4.3 Lok working on his monster (A4)

		
A4_ M2U30 _1056_Lok started to look at Ting's drawing after drawing the two ears of the monster.	A4_Ting's work	A4_Lok's monster had eaten a cake and parts of character in his Chinese name.

After the first activity, Lok watched how others worked, but his work was no longer similar to that of the other children (A1). For example, Lok's monster was different from Ting's even though he had looked at her drawing in A4 (Figure 4.3). He gradually shifted from the scribbling stage to the pre-schematic stage with controlled lines and recognizable figures.

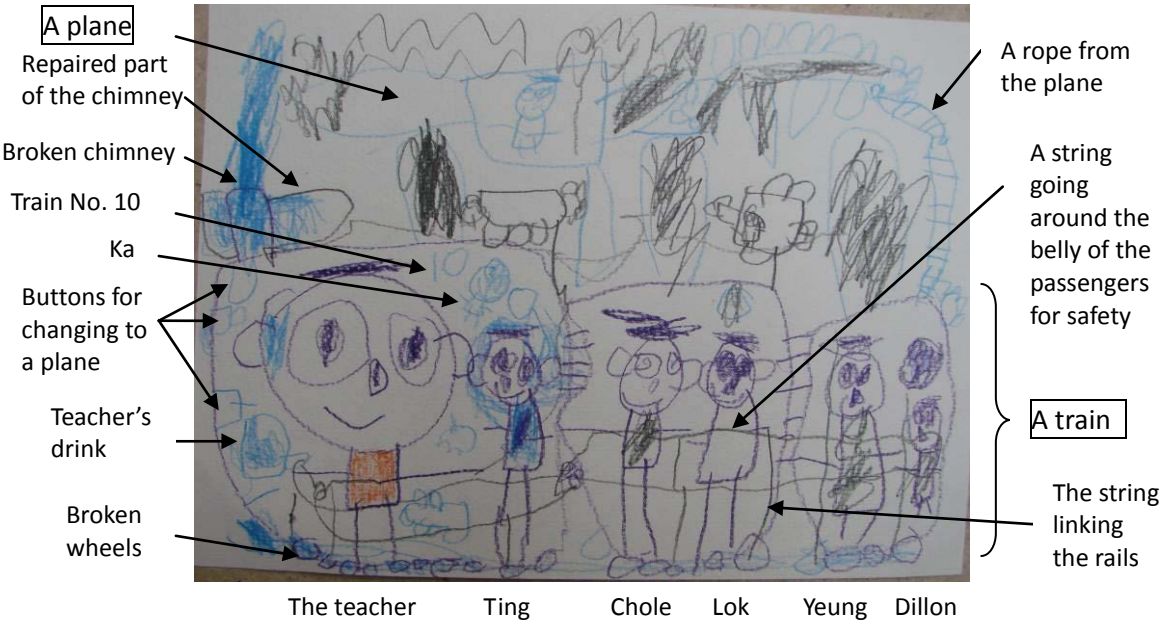
Figure 4.4 Lok' mask (A7) and train (A6)

	
A7_M2U69_Lok's mask	A6_Lok's train

Although his physical skills in drawing were not smooth, he was willing to try. For example, he was happy that he could cut and tear the tape in making the mask in A7_M2U69 (Figure 4.4). Later, he was also happy when he discovered a new way to cover the mask by rubbing the tape into a ball.

By late February, Lok could draw tadpole figures with single-lined limbs and a U-shaped body, as seen in Activity A6. The circular heads of the tadpoles included many details, such as noses, mouths, pairs of eyes, and even ears and hair. In his drawing of a train, the outlines of the train compartment and the rails were supposed to be straight, but appeared wobbly and uneven; however, he noticed the visual impact of his physical performance and transformed his own weakness into a purposeful drawing, claiming that the unsteady lines in A6 were broken and missing rails. It could also be taken as an evidence of aesthetic (noticing the nature of lines) and creative development (perceiving the unsteady lines from a different perspective).

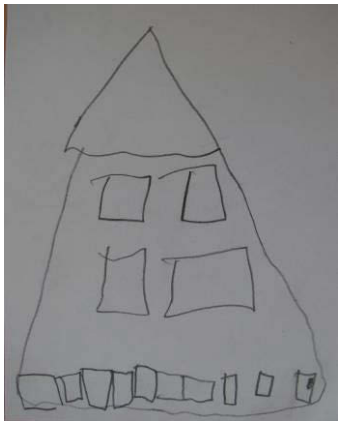
Figure 4.5 Lok's long train (A10)



In the train of A10 in late March, the circles of the figures' heads and straight lines of limbs were more steady than that of A6. Lok could draw people with noses, mouths, eyes and hair, and four out of six figures have a pair of ears, too. He included many details of the people, the train and the plane. There were pupils in the eyes of the first and third persons. Lok showed confidence in expressing his ideas visually

without looking at the work of others. This piece could be taken as Lok's representative work because it demonstrates his development in various assessment areas.

Figure 4.6 Lok's collage of a house (A17) and a train in clay work (C8)

		
A17_A draft of Lok's house	A17_Lok's collage of a house	C8_Lok's electric train

In the artwork of A17 in early June, Lok could draw the basic forms of triangles and rectangles in irregular sizes. His skill in drawing shapes and cutting paper was still at the practising stage, since his physical development was not as advanced as the concepts of uniform geometric design that he had in mind. He drew 10 rectangular doors in his draft of a house for the collage activity (A17), but drew five doors and cut five windows for the final work. In three-dimensional clay work, he could create a simple 3-D electric train (C8) with a post standing up in the air that attached to the power supply. Thus, by this late stage of the research, Lok had developed the physical ability and confidence to express his own ideas in artwork.

4.3.2.1.2 Lok's cognitive development

Figure 4.7 Lok's simple train in A6 and long train in A10

	
A10_Lok's long train	A6_Lok's simple train

When the simple train (A6) produced in late February is compared with the drawing of the long train (A10) made in late March, it can be seen that the drawing of the long train, even though a bit confusing, is more complicated with many objects and incidents embedded in it.

The drawing of the long train shows that he knew the basic features of people, trains and a plane. It shows the different parts of a human's head, bodies and limbs, a drink for the teacher and a toy for Ting, and the train compartments had a chimney, wheels, and rails. He also knew that trains and planes that carried many people on land and in the air. He also knew about emergency measures, such as trying to rescue passengers from a train with broken wheels. Lok drew an aeroplane and a ladder that hung down to the train, as well as a rope to go around the passengers' bellies for safety. He even drew ropes to tighten the rails of the train track. Lok linked what he knew in reality with his imagination.

In A6, Lok drew two figures in a train (A6_M2U058). He (small red figure) and his teacher (large blue figure) were significantly different in proportion. The same kind of

awareness of size was also found in Activity A10. It is probably an awareness of the difference in size and proportion between adults and children.

In Activity A6, he said that he was the driver who decided the train should go to the right if it was not out of order. This indicates a focus upon himself. In A10, his self-centredness became less prominent because he was not the driver any more. The largest figure at the front of the long train was the teacher, behind whom and of only slightly smaller size, was Ting; both of them were the drivers of the train. They were followed by Chole, Lok himself, Yeung and Dillon.

At the beginning of this study, Lok sometimes did not seem to know how to use the appropriate terms to verbally describe an object; however, he was attentive and quick to learn from his teacher and classmates through observation and discussion in the process of art making. For example in A10_MOV61, when Ka asked him whether his train was a train in China, Lok first said that it was a train found "here" (係呢度啲火車). After learning from Ka's use of appropriate terms, Lok explained that it was a train that ran between the stations of Lo Wu and Tsimshatsui East (係羅湖尖東嗰啲) in Hong Kong. When the teacher asked Lok whether the trains he had just mentioned had tires, Ting joined in the conversation and said that trains had no tires. Then, Lok quickly adjusted his description from a train with "a flat tire (爆咗個軑)" to "….the wheels of a train (火車嗰啲轆)".

Lok kept on improving his drawing by learning from the other children's work. For example, when Ting showed him that her train had smoke rising from it, he started drawing smoke in his own style above the chimney of his train.

Lok could identify and name the colours yellow, purple, green, and orange in the mask-making activity in A8_MOV20. However, some of his concepts about colour

mixing were not steady; he thought mixing red and blue would create orange (紅加藍又會變咗橙。A8_MOV20_1050) and “mixing yellow and blue did not make green, although sometimes it might (唔係綠色架！不過都試過綠色。A8_MOV20_0702)”.

Lok showed his awareness of scientific strategies when he questioned the accuracy of Yeung’s idea that black was created by mixing red and blue, asking Yeung whether it was a finding from an experiment (A8_MOV20). Lok had not tried this experiment himself and so was not sure of the outcome.

4.3.2.1.3 Lok’s emotional development

Lok enjoyed the visual arts activities and always worked attentively at them even when he did not know how to do them by himself (A1). He occasionally spoke aloud to himself when he was working. He showed in his artwork his liking for trains, cars, people, such as his teacher and classmates, and objects related to people, like houses. Lok treated the teacher better than himself in two pieces of work, for he drew a strawberry and an orange for the teacher in the simple train in A6 and a drink in A10. Moreover, both drawings of the teacher were bigger and with greater detail than the pictures of himself. He was good to Ting by drawing her colourfully and with a toy in the train produced in Activity A10.

4.3.2.1.4 Lok’s social development

When Lok did not know how to draw a guitar (A1) and the monster (A4), he observed what his classmates did. He was a self-motivated person and was active in solving problems by himself.

When Lok was asked to introduce the passengers in the long train in A10, he identified

them one by one from the left: the teacher, Ting, Chole, himself, Yeung. When Lok's classmates suggested that the last and smallest figure was Dillon, he replied, after a moment of hesitation, that they were correct. It seemed that he had not decided who the person was before he answered; however, he followed his peers' expectations. Ka, the last member at the table, had not been included up to that point. Before anyone realized that Ka was missing from the drawing, Lok started to draw a small, light blue figure above Ting and took the initiative to inform Ka that it was him. In this way, he expressed awareness and concern for others around him, especially his teacher and the classmates working close to him.

Moreover, Lok paid special attention to his teacher and Ting's wishes. For example, the teacher was presented in a bigger size, had more facial details and a drink that was prepared exclusively for her. It was originally coffee when Lok told the teacher, and later, when the teacher said that she liked lemon tea he stated that it was a lemon tea. He also lengthened Ting's hair (the second figure) with light blue when she said that her hair was longer than the figure in the train, and also drew a toy for her. In A10, Lok seemed like a customer-driven designer who wanted to please as many people as he could.

Lok was polite, good tempered and behaved well even when others were not friendly to him. In making a collage in Activity A17 (M2U26), Lok had no glue stick and he asked Chin to lend him one. Chin refused at first, but passed the glue stick to Lok after a moment. However, Yeung took the glue stick and did not pass it to Lok. Lok asked Yeung to lend it to him for a while, but Yeung refused before he finished his artwork. However, Lok was calm, as if nothing had happened, and he was still able to enjoy watching Yeung's collage of dinosaurs and kept on working by sharing another glue stick far away from him. Lok may be regarded as a child with high emotional

intelligence.

4.3.2.1.5 Lok's creative development

Lok was imaginative in terms of ideas expressed. He had the ability to combine unrelated elements to produce surprising new forms (Koster 2012, p.27; Isenberg & Jalongo 2001, p.11). These included the creative ideas embedded in the train-plane of Activity A10. At first, he said that his train could fly and was a train-plane (A10_MOV61_0146), and later he further developed the plane in the air, saying that the train has been transformed into a big plane. Lok also said that it was a cake plane, since all the wheels were broken. He explained that the transformation started when pressing the three buttons at the front of the train (A10_MOV62). When Ka said that his train was Train No. 5, Lok replied that his was Train No. 10 because it was late everyday (he may have thought that ten comes after five).

Lok further stated that the train's chimney had broken when entering a tunnel; therefore, he repaired the chimney visually by adding two covers on both sides to prevent smoke leaking from the holes. He also said that a rope was dropped down from the plane and fastened to the bellies of all the passengers as a safety measure. He told the teacher that another rope from the plane had carried the rails away as well. It was an interesting narrative mixing reality and fantasy, and involved the ability to combine unrelated elements to produce surprising new forms (Koster 2012, p.27; Isenberg & Jalongo 2001, p.11). It could be regarded as a kind of mini-c creativity (Kaufman & Beghetto 2009, p.4) that consists of novel and personally meaningful interpretations of experiences and events (Runco 2006, p.128).

Lok turned some semi-finished wire sculpture into a functional hanger in Activity A20 (Figure 4.8). He showed his problem-solving ability and scientific mind by making

continuous experiments in order to improve the design of the hanger in Activity A21.

Figure 4.8 Lok's hanger, a product of problem-solving (A20 and A21)

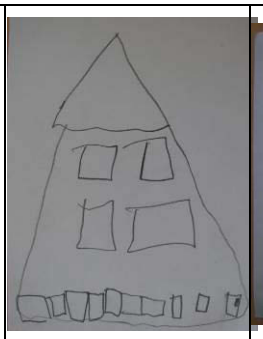
A20	A21
 A20_ M2U38_Lok's artwork at the end of art-making session (11:32am). It looked like a semi-finished product of uncontrollable lines and structure. No verbal interpretation about the work by Lok had been collected.	 A21_M2U42_0425_Lok continued his experiment from the last session and tested the strength of the hanger by hanging a towel onto a door handle.
 A20_M2U38_0148_ Lok hung a pair of scissors onto his hanger and hooked it to the teacher's pocket to demonstrate how to use the hanger. The object looked simple but was highly functional. He kept on exploring for new locations where he could put it.	 A21_M2U42_0109_Lok could identify the difference between the hangers that he made a week later. The newer one had a circle at the top.
 A20_ M2U38_Lok's hanger used in the verbal presentation after 15 minutes (11:48am). The wire was straightened and the hoods at both ends looked smooth.	

Of course, we could say that Lok's observation of others' work and imitation of the rectangular form of Ka's guitar in Activity A1 are examples of weak creativity. However, such behaviours and artwork were not found later. Then, Lok showed individual ideas in his artwork.

Copying and creativity are discussed in greater detail later in this chapter.

4.3.2.1.6 Lok's aesthetic development

Figure 4.9 Lok's aesthetic development reflected in his artwork

		
A10_Lok's long train	A17_ Lok's house_ a draft of a collage	A19_Lok's electric train

The train in A10 was a representational piece of work, showing Lok's aesthetic development (Figure 4.9). His aesthetic awareness was obvious in his shapes and his use of space, as in the linear composition of figures and the rectangular train compartments in A10, 10 rectangular doors in the triangular house in A17 (Figure 4.6), as well as the linear and layering arrangement of various objects in the card for Father's Day of Activity A19.

In the train of A10, he created three compartments that carried six people. All were arranged horizontally in sequence and slightly descending in size from left to right. Lok had paid attention to several layers of space in the whole drawing. The transparent train or "X-ray picture", a typical example of space in the schematic stage (7-9 years old) stated by Lowenfeld (1957, pp. 152-153), was placed at the lower part. Beneath the compartments, there were wheels. Above them, there was a chimney and other equipment attached to the roof of the train. And, there was an aeroplane flying above the train, forming the upper part of the picture. Although the shapes and lines are not perfectly steady and tidy, many people and objects were intentionally drawn in specific locations. This created a rich and busy composition.

Lok was inclined to use purple, blue, green, red and orange in his artwork. He used light blue to colour both the smoke and lengthen Ting's purple hair, and used mainly purple, black and light blue to finish the long train in A10. This indicates that he was not very concerned about the choice of colours or their representational meaning.

4.3.2.1.7 Lok's cultural development

Figure 4.10 Lok's artwork that showing cultural development

	
A4_Lok's monster had eaten a cake and parts of the characters in his Chinese name.	A8_ Lok's mask

Lok's monster in the above drawing had the characteristics of the legendry Chinese monster 年獸. It was fierce and liked to eat a lot, even human beings. However it was afraid of the colour red and loud sounds. He may have known that Chinese like to use the colour red and fire crackers in celebrations. Lok's monster from Activity A4 had many teeth and he said that it had eaten cakes and parts of the characters in his Chinese name. The red mask in Chinese opera represents righteousness of character, and, interestingly, Lok stated that he used red in his mask in Activity A8 because the colour red represents good beings (A8_M2U80). This example reveals that Lok has used some cultural concepts in choosing visual elements in art production.

4.3.2.1.8 Lok's personal development

Lok prefers to use cars, planes and especially trains as a major theme when making art (A6, A10, A19, A23, C8). It is a typical theme for boys of this age. His other work was also related to people (A6, A10) and objects related to human activities, i.e. houses in A16 and A17.

4.3.2.1.9 Lok's overall development

Lok was student in the class who showed the greatest improvement in physical and creative areas. His progress in art production and self-confidence developed from his being unable to draw a guitar by himself and having to follow a classmate's drawing in January to working confidently and independently on a long train in late March. In three months he went from drawing unsteady lines to producing stable lines and forms, and using basic geometric forms and linear compositions to construct his artwork. He always engaged in visual arts activities, and he liked to use trains as the theme of his work. Some of his work was rich in imagination and visual narrative (Matthew in Rodger 1999 cited in Anning & Ring 2004, p. 23). Lok was active in creating and solving problems in his artwork. For example, he drew a train with broken wheels in Activity A10, but also invented a method of rescuing all the passengers, and even the train, by fastening ropes around each person's stomach and the railroad track. The rich narrative and compositional elements in drawing of the train reflects his rich imagination and knowledge and close social relationships with his teacher and classmates.

Lok was a sociable person who developed close interactions with his classmates and his teacher, as well as expressed concern for others in his artwork. He showed his good-tempered nature and patience in persuading a classmate, who unreasonably kept

the glue stick, to lend it to him. He was cooperative and willing to share resources and tidy up the room after activities. On the whole, his social skills and creative development were rated as outstanding.

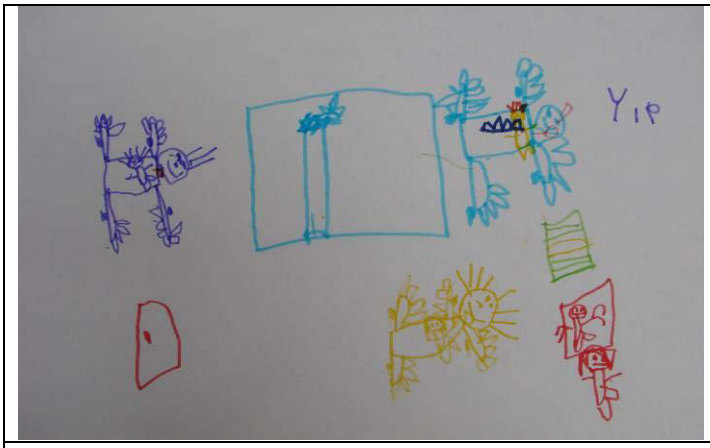
4.3.2.2 YEUNG

Yeung was also 4 years and 8 months old when he joined this research project in January 2007. He was small in size, and worked quietly on his projects. He could draw a comparatively detailed picture with controlled lines and created the most sophisticated drawing among the fifteen children in the class when I first met him. In the interviews, his teacher said that he was introspective and drew objects in small sizes. Later, I also observed these behaviours.

4.3.2.2.1 Yeung's physical development

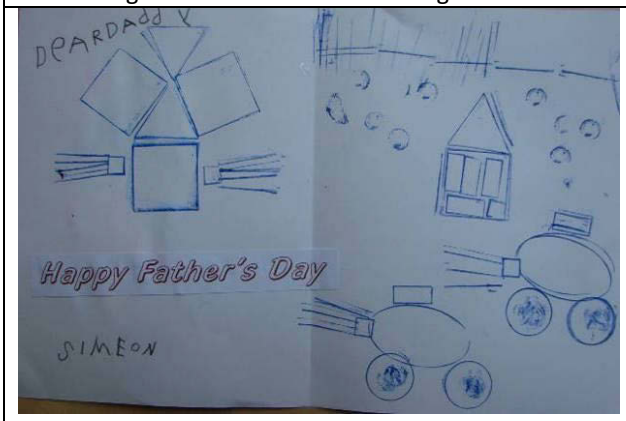
Yeung's most significant physical development can be seen in his drawing skills as shown in Activity A6. He could draw fine details of three kinds of dinosaurs with a high degree of representation in the different structures of the heads, using a variety of lines, shapes, proportions and colours. For example, the purple triceratops (三角龍) had three horns, the yellow styracosaurus (戟龍) had numerous spikes or horns, and the blue proteceratop (原角龍) had a horn on the forehead.

Figure 4.11 Yeung's physical development as demonstrated in his artwork



A6 Yeung's dinosaur cars in the Guangzhou Zoo

A 16 A dinosaur collage



A19 A card for Father's Day

A1 Yeung's guitar

Yeung's drawing ability improved quickly from unsteady lines seen in a pencil drawing of a guitar (A1) in early January, to steady straight lines and circles made with non-erasable felt tip pens(A6) in the detailed drawing of dinosaur cars and passengers in late February. He could draw and cut rectangles, circles, triangles neatly, efficiently controlling the shapes and sizes. He had a good control of small and large rectangles, parallel lines in the green rectangles and the many small fingers of the dinosaurs, which were precisely in position. The three dinosaur cars were similar in size, and the comparatively smaller passengers were sitting in the back of the cars. The human beings were not simple tadpole figures in single lines; the bodies and legs were in blocks, and the heads had hair.

Apart from drawing, he was also skillful in producing stamped artwork (A19), selecting appropriately shaped stamps and stamping precisely in the space to construct a meaningful composition. He also was skillful in cutting and able to cut uniform thin rectangular paper blocks to make a collage of dinosaur from an earlier draft (A16) in mid June.

Figure 4.12 Yeung's physical development shown in clay work

C8_M2U29_0101_Yeung (the centre) used his whole body's weight to flatten the clay dough; other classmates followed his example and burst into laughter.

C8_A dinosaur world

Yeung was also skillful in clay modelling. Besides hammering the clay slab, he explored a new way to flaten the clay dough by using his whole body's weight.

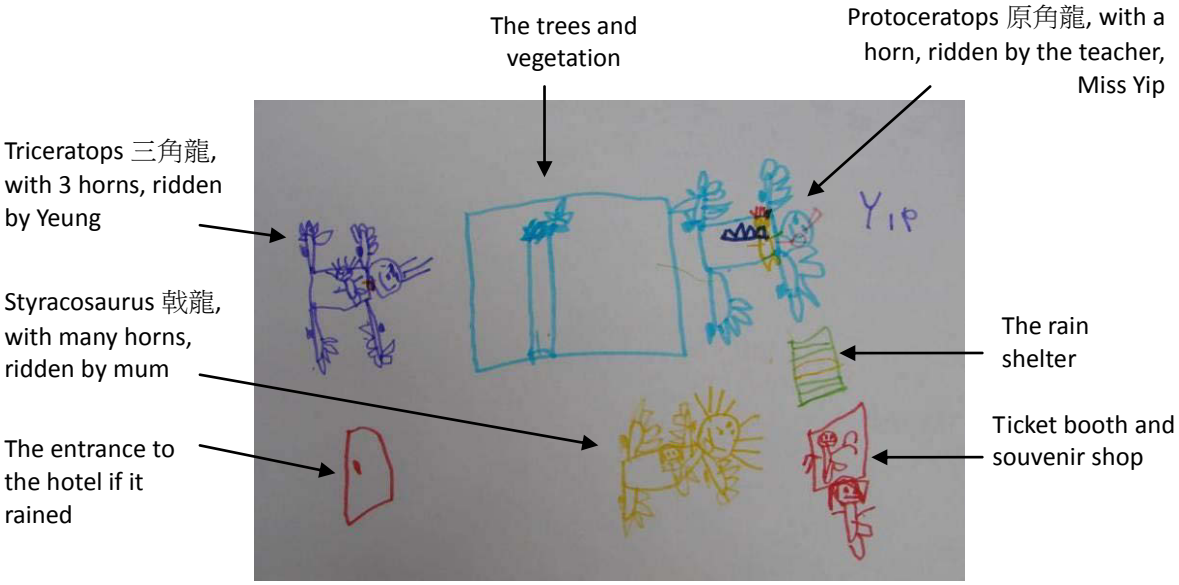
He could create a comprehensive 3-dimensional dinosaur world with two standing dinosaurs in different forms and related objects, such as a volcano and a nest with eggs. Athough the clay was soft, he successfully created a kneeing mother dinosaur by sticking circular clay sticks together to represent the various parts of a slim dinosaur. The dinosaur's head was on the end of a long neck, and the head hovered above the dinosaur's eggs. Controlling the elasticity of the clay so that the dinosaur's head remained upright required knowledge of the nature of the clay and an understanding of modelling techniques. In comparison, in the same activity, Chole tried to make a similarly long neck for her swan, but it did not remain upright.

Yeung was skillful in various art techniques and could be regarded as being in the upper level of the Preschematic stage (4-7 years) suggested by Kellogg, Lowenfeld and Brittain (1987 cited in Fox & Schirrmacher 2012, pp.99-100; Koster 2001, p.63).

4.3.2.2.2 Yeung's cognitive development

Yeung's detailed visual and verbal presentation of his artwork reflected his keen observation and rich knowledge of various kinds of dinosaurs, as exemplified by his dinosaur cars produced in Activity A6 (M2U62-64) and the dinosaur world of Activity C8 (M2U29, 30).

Figure 4.13 Yeung's dinosaur cars in the Guangzhou Zoo (A6)



Yeung drew a detailed illustration integrating his imagination and memories of a trip to the Guangzhou Zoo with his mother and the teacher. In fact, the teacher had not joined the trip. Yeung stated that his teacher, who sat on the light blue protoceratops (原角龍) car with a single horn on its forehead, led the way. This was followed by his mother's yellow styracosaurus (戟龍) car with many horns on its head. Yeung's

purple triceratops (三角龍) with three horns came last. Each dinosaur had a head, body, horns or spikes, and four limbs with toes. The three of them drove around the trees counterclockwise and parked at the starting point. Yeung was aware of the spatial, numerical, and notational relationships of the objects mentioned as important in artistic and cognitive growth by Gardner (1991 cited in Koster 2001, p. 64). Yeung explained that the three of them could shelter from the rain under the shade or buy souvenirs from the shop near the ticket booth. If there was thunder, they would have to go back to the hotel. Yeung's verbal interaction with his teacher in the sharing session revealed that he could remember many details of his trip, including his in-depth knowledge about dinosaurs, the forms of transportation used (train, yellow and brown taxis and dinosaur cars), safety measures taken (returning to the hotel when there was thunder) and procedures for playing the dinosaur car game.

Figure 4.14_A6_M2U 064_0355_Yeung was indicating the four sharp pointed spikes at the end of a stegosaurus by showing 2 fingers from each hand

Yeung could also identify the features and differences of the three types of dinosaurs. He said that styracosauruses (戟龍) would use their horns to attack the legs of tyrannosauruses (暴龍) when the predators wanted to eat them, and that stegosauruses (劍龍) had four sharp spikes at the end of their tails to protect themselves (A6_M2U64).

Yeung displayed a logical arrangement of objects and incidents both spatially and temporally when his teacher asked him guiding questions. His narrative matched the floor plan of the playground shown in Activity A6.

The dinosaur cars in Yeung's drawing from Activity A6 have a uniform appearance, but they also display different colours and different forms of head, which reflects Yeung's sophisticated knowledge of dinosaurs. His verbal and visual presentation reflected his in-depth knowledge of dinosaurs. When most adults can only use the term "dinosaurs" generically or name "tyrannosaurus" because of the movie *Jurassic Park*, Yeung could name protoceratops (原角龍), triceratops (三角龍), styracosaurus (戟龍), stegosaurus (劍龍) and "Kau" dragon (蛟頭龍) in Chinese. In fact, the researcher had to look at several books and websites providing information about these dinosaurs before being able to confirm the exact wordings in Chinese and English (unable to translate the last one). Yeung's knowledge about dinosaurs was beyond that of most adults. And, most of the characteristics of the dinosaurs he described were correct; i.e. triceratops had three horns. When the teacher asked him why the yellow one was called styracosaurus and not protoceratops (A6_M2U64), he explained that styracosaurus had several spikes on its head which could hurt the dinosaurs intending to eat it. He gave one more example, stating that stegosaurus used the four pointed spikes at the end of its tail to hurt other dinosaurs' legs. Similar knowledge of dinosaurs was clearly reflected in the clay dinosaur world that he made in Activity C8 too. The living environment of dinosaur's era was created; i.e. an active volcano, earthquakes (cracks on the ground), a mother dinosaur protecting her eggs in the nest, and nearby a tyrannosaurus which wanted to eat the eggs.

In the mask making of Activity A8 in late March, Yeung showed that he had some basic concepts of colour mixing; some of his colour identifications were correct, but not all. For example, he said that yellow and blue made green, but that red and blue made black, instead of saying purple (A8_MOV20_0910). At the same time, 4-year-old Yeung showed his uncommon knowledge of teeth. When Chole asked why there

were short, long, pointed and blunt teeth in the mask's mouth (A8_M2U80_1103) during the appreciation activity, Yeung could identify and name the proper titles and locations of three kinds of teeth: the canines 犬齒 (sharp ones), four incisors 門牙 in the middle, and the molars 大牙.

Figure 4.15_A8_Yeung's mask with colourful teeth

That Yeung was also aware of spatial relationships and thoughtful composition is demonstrated in the drawing from Activity A6. In this drawing, Yeung placed the large rectangle with a tree near the centre of the paper because the dinosaur cars were going around the vegetation in the park. He had paid attention to the composition and reserved space for the route of the dinosaur cars, as well as the spaces for ticketing, shopping and sheltering from the rain. Although the picture did not completely display the space schema described in Lowenfeld and Brittains' schematic stage (aged 7 to 9 years), Yeung had prepared the space for the route in mind and introduced it verbally.

4.3.2.2.3 Yeung's emotional development

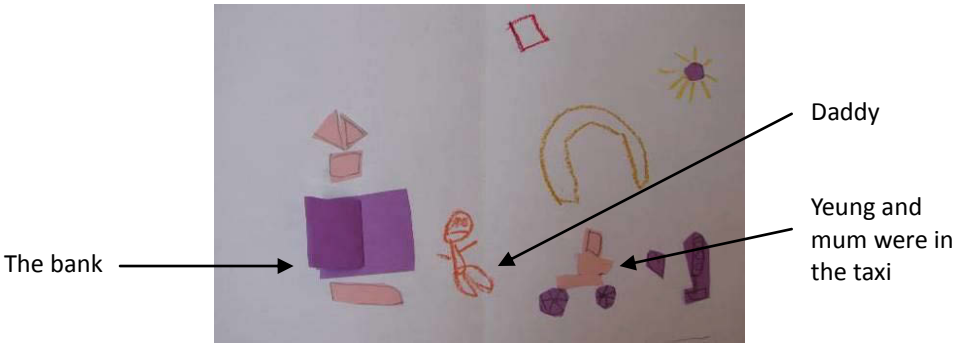
Yeung seldom expressed his emotions in other visual arts activities. He usually worked quietly but willing to speaking a lot in sharing sessions. He occasionally expressed his joy in clay activities and even burst into laughter when hammering and pressing the clay dough. Unlike other classmates who still drew their favourite objects in the card for Mother's day in Activity A13, Yeung showed his love or concern for her mother by making a bank and preparing a taxi to take her there to get money that she liked very much. The case is further discussed in the following section.

4.3.2.2.4 Yeung's social development

Although his teacher had not joined in the trip to Guangzhou, Yeung included his teacher and put down her family name, Yip, in the drawing in Activity A6. It implied that their relationship was good.

Moreover, Yeung chose what his mother liked as the main theme for the Mother's Day card (A13). It was not the self-centred choice, such as the candy that Chole made or the car that Lok made. Yeung said that he wanted to make a bank (the purple form on the left) for his mother because she liked money and would offer it to help someone else. It showed the boy was very attentive to adult life. He could consider how to please his mother from her perspective, not from his own. His father (the figure in the centre) was also in the card, while he and his mother were in the taxi (in front of his father). It seemed that Yeung had a strong concept of family.

Figure 4.16 A13_Yeung said that he wanted to make a bank for his mother who liked money



Yeung was a quiet boy who could work on his own persistently without asking for external assistance. He often worked with full concentration, as in the free drawing that he produced in Activity A10, and could focus on his work for more than 30 minutes, even though the other children at the table were talking and playing around him noisily. (A10_MOV61_3257)

Occasionally, he would take the initiative to interact with others. Once he gave a police badge that was made of wire to Ka in Activity A20. He invited Ka to link two pieces of artwork with wire to make a new train in Activity A21, but his suggestion was turned down by Ka (M2U43).

In general, Yeung was caring and helpful, especially at the beginning of the term. Yeung voluntarily offered help Lok (A7), Ka (A8) (Figure 4.17) and Chole (C8) when Chole asked the teacher to make a swan's neck for her (C8_M2U30_1254-1307).

Figure 4.17 Yeung's social development

	
A8_MOV20_0518_Yeung automatically put his box of oil pastels in the middle of the table to share with Ka without being asked because he knew that Ka did not have any oil pastels.	A7_M2U 069_0222_Yeung took the initiative to offer help to Lok when cutting the tape.

After May, however, Yeung tended to protect his own property, and was unwilling to share with others. The following were examples:

On one occasion, Chole did not have a pencil. She looked around the table and took the one in front of Yeung who was cutting paper. Yeung at once took it back from her hand without saying anything (A13_M2U95_1150).

Similarly, Yeung did not lend a pastel to Ka. When Ka took a pastel from Yeung's box without asking, Yeung took it back from Ka's hand and asked him to get his own (A13_M2U95 _0443). Ka said that he did not have any. Such behaviour was in contrast to that exhibited when he took the initiative to lend a pastel to Ka in Activity

A8 in late March.

When Ka wanted to take Yeung's glue stick, Yeung pushed his hand away and explained that Chole had taken his. Then Yeung took it back from Chole and then gave it to Ka (A13_M2U95_ 2226).

In early June, Yeung took the glue stick that Lok had borrowed from Chin, and refused to give it back or lend it to Lok, although Lok kept on trying to gently persuade him (A17_M2U26).

4.3.2.2.5 Yeung's creative development

Yeung's creative ability was shown in the elaboration of his artwork in A6 & C8, as well as in his imaginary stories and personal interpretations of his experiences in the dinosaur world and dinosaur car drive. Examples include his detailed representation of various kinds of dinosaur cars in Activity A6 (Figure 4.13). The inclusion of imagination, variety and elaboration are characteristics of creativity (Fox & Schirrmacher 2012, p. 8; Koster 2012, p. 26; Kaufman & Beghetto 2009, p. 4; Runco 2006, p. 128; Wright 2003, p. 10; Isenberg & Jalongo 2001, p. 7). Also, Yeung's narratives about his artwork were often based on association and imagination. His artwork and verbal presentations of the dinosaur cars were logical, convincing and elaborative. For example, the dinosaur cars had detailed depictions of the structures of the heads, limbs, toes and spikes in Activity A6; the dinosaur world in Activity C8 was richly composed; and there were the Easter eggs and washing machines behind the thick wall in Activity A15, a project mentioned below in Figure 4.19.

4.3.2.2.6 Yeung's aesthetic development

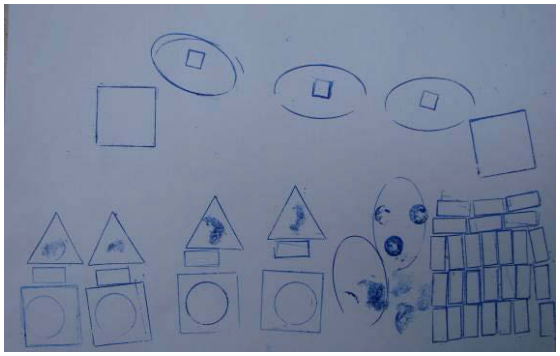
When the materials were available, Yeung's artwork tended to be fine, delicate and colourful. His colour scheme was bright, with high degree of contrast and eye-catching, as in the case of the yellow, purple and light blue dinosaur cars, red shop and hotel in Activity A6 and the mask design in Activity A8 above, as well as the figural design in the card for Father's Day in Activity A19 described below. Yeung was aware of the use of colours and used different colours to identify three types of dinosaurs, other people and facilities.

Yeung had a very strong sense of space and composition in mind before drawing and stamping, and often successfully accomplished highly precise and narrative artwork even if the materials, such as stamping and felt tips, were irreversible. The dinosaur cars in Guangzhou Zoo (A6) and the dinosaur world (C8), analyzed above, are good examples.

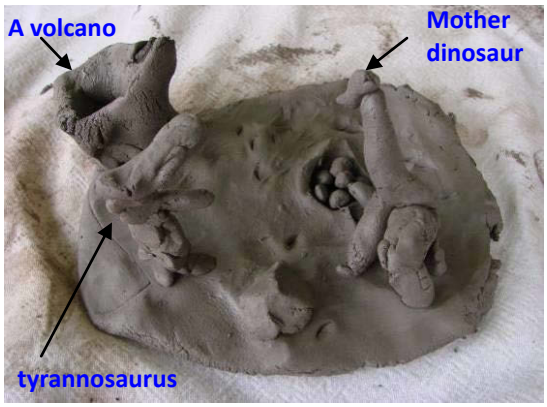
Yeung had a strong sense of using different geometric shapes and principles of design to construct artwork that look neat and organized. For example, Yeung suggested there were five Easter eggs and four washing machines behind the wall, all of which were arranged in a very orderly way along the horizontal baseline of the paper in Activity A15. He had made a very good choice of shapes/ stamps to build up the related objects. At first he used the small rectangular stamps as bricks to construct the thick wall. He was aware of the inclination of the wall on the right side and explained that it would not fall because the bricks would come closer together after drying. Ovals were used to represent the five Easter eggs, and squares and circles were chosen to form the four washing machines. He explained that the triangular box on each machine was holding candy for Easter and would be removed when it was no

longer Easter. He successfully combined geometric shapes in linear patterns and made up a logical but imaginery story with the objects. It was a good example of both his aesthetic and creative development.

Figure 4.18 Yeung's aesthetic development reflected in artwork, Group A



A15_Easter eggs behind the wall



C8_The dinosaur world

C8_The tyrannosaurus

C8_The mother dinosaur with eggs

Yeung paid attention to forms, texture and composition in creating the dramatic sculptures of two constrasting creatures in the dinosaur world in Activity C8. He could present the typical features of a fierce tyrannosaurus with a big mouth and a bulky and rough body made of lumps of clay pressed together. The tyrannosaurus was looking at the caring mother dinosaur who was made of slim cylindrical limbs and neck. Yeung used a flat slab to hold together all the related objects, including the two dinosaurs, the small round eggs and the volcano. The cracks on the ground made by

finger nail marks showed the results of earthquakes. Yeung presented the dinosaur world through thoughtful object forms and a cohesive composition.

Yeung's consistent production of logical and orderly compositions is also seen in the image of a snowy night that he made for his Father's Day card. The pictures on the cover (right, A19) and inside the card (left, A19) were made by stamping.

Figure 4.19 Yeung's aesthetic development reflected in artwork, Group B

A19_A card for Father's Day (inside)

A19_Cover for the Father's Day card

Apart from the clever choice of shapes to build up objects, such as a hut, cars, and fences, Yeung also used design principles such as radiation and symmetry to construct the windmill. He created a uniform night scenario on both sides by turning on the light in the cars, the windmill and the torch in the hand of the colourful figure in the cover. Morevoer, he intentionally used less force in pressing the stamps when making the circular snowflakes and the shades in the wheels in order to create an impression of softness. He used full force when stamping other patterns to create clear lines and shapes. He also had a strong sense on the quality of lines and shapes, and skillfully used the blur and sharpness to construct the cars and wheels in A19.

4.3.2.2.7 Yeung's cultural development

Yeung had a basic concept of the colours commonly used in Chinese culture. For example, he knew that Chinese people use red to frighten monsters away during the

Lunar New Year, and he explained why he used red on both sides of his mask above in Activity A8 (Figure 4.16).

4.3.2.2.8 Yeung's personal development

It seemed that Yeung had a preference for using dinosaurs as the main theme for his designs, and he liked to use many colours when the materials were available. He seemed to prefer using stamps to create designs, even though there was only one colour - blue - available, rather than making a collage by cutting geometric shapes from coloured paper.

4.3.2.2.9 Yeung's overall development

Yeung maintained a high level of performance throughout the whole period. He often had a clear concept of composition at the beginning of his art making, and he displayed a careful use of space, showing his high level of perceptual thinking. His coloured artwork displayed attractive colour schemes, and he was skillful in many techniques and able to present highly recognizable figures or objects with great detail and in thoughtful compositions. His works were often highly narrative and demonstrated his own thoughts and imagination. His creativity was related to the elaboration and organization of visual images, as well as the elaborative narratives of his own artwork. He was a boy who took initiatives to help others at the beginning of the term; however, more attention could be paid to find out the reasons for his change in social development in Activities A13 and A17, became unwilling to share. To conclude, Yeung has shown a high standard of development in physical, cognitive, creative and aesthetic aspects in and through the visual arts.

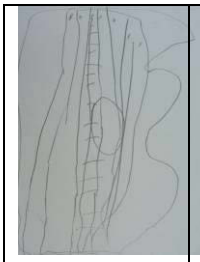
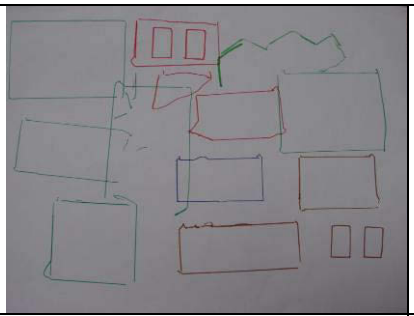
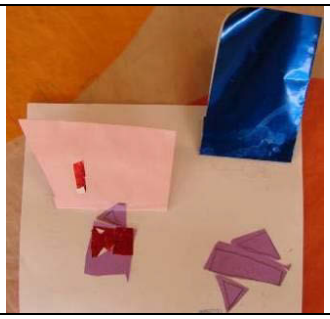
4.3.2.3 Ka

Ka was about 4 years and 2 months old when he joined the research project in January 2007. He was the youngest of the five children included in the project. He looked active and cheerful when I first saw him. Ka's performance in drawing and speaking was average initially, but later, his development was found to be quite sophisticated and was not easy to interpret. There is no a single piece of artwork that shows all aspects of his development. In interviews, his teacher once said that Ka was very talkative, and a line could represent many things in his verbal sharing.

4.3.2.3.1 Ka's physical development

Ka's ability to draw or compose representational objects fluctuated from time to time. His artwork can be divided into two groups regardless of the chronological sequence since attractive pieces of artwork could also be found in early stage:

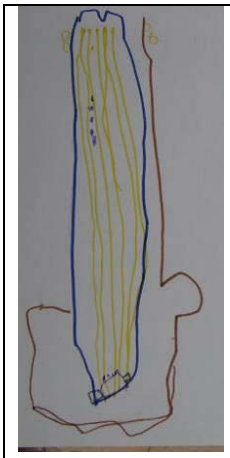
Figure 4.20 Ka's physical development reflected in artwork, Group A

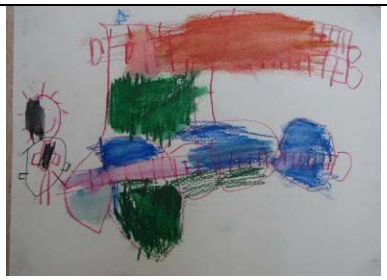
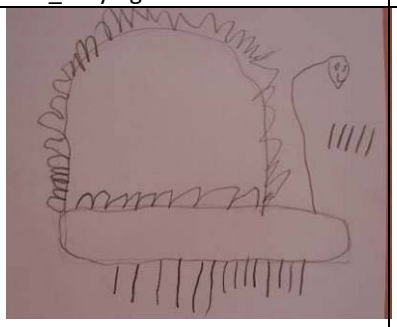
			
A1_Guitar 1	A1_Guitar 2	A11_Composition with geometric shapes	A13_Geometric shapes including a flat and a lift (right)

		
C8_A flying train with a wing	A19_ A colourful wheel in the school. It was snowing in school.	A21_A dinosaur plane

Ka's physical ability and drawing skills in making artwork of Group A might be classified as the stage of named scribbles (3-4.5 years) as stated by Lowenfeld and Brittain (1982). Even in mid-June, Ka's figures look like abstract compositions (A19), although he could verbally introduce the different parts and objects. Ka's visual or spatial perspective in clay work was still two-dimensional in June when he created a flying train by compressing all parts of the body and wings into a flat surface with layers (C8). The themes of his artwork were not easily recognizable. The visual images could not effectively visualize his rich ideas through visual elements, like shapes and compositions, as can be seen in his production of a colourful wheel (A19), a flying train with only one wing visible (C8) and a dinosaur plane (A21).

Figure 4.21 Ka's physical development reflected in artwork, Group B

		
A2_Guitar	A4_Chinese New Year monster	A5_A Chinese lion head

		
A6_A butterfly trampoline	A10_A flying train	A15_Shapes and a collage
		
A8_Mask	A17_A sketch for collage	A17_A collage of a dinosaur

However, if we consider Ka's artwork in Group B, that is, the monster drawn in Activity A4 and the creature produced in Activity A6 in February, it appeared that his development was in the preschematic stage (4-7 years). The random floating spatial arrangement and no clear relationship of isolated shapes in Activities A11 and A19 were typical features of preschematic stage (Fox & Schirrmacher 2012, pp.99-100; Koster 2001, p.63; Lowenfeld & Brittain 1982, pp.205-208; Lowenfeld 1957, pp.108-131).

However, if we abandon the common practice of evaluating children's physical ability by assessing whether they can represent objects in a realistic way that can be easily recognized by adults, as Kindler (2004b, p. 236), Anning and Ring (2004, pp. 18-19) state should be done, then we get a better understanding of Ka's work and growth. To carry out this different type of assessment, Ka's work should be examined in light of Ka's verbal presentation of his works.

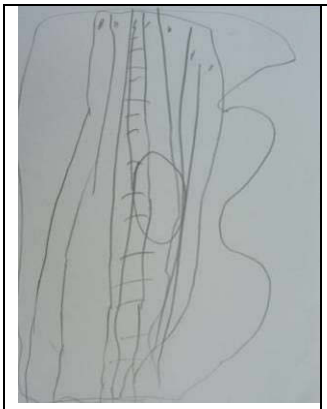
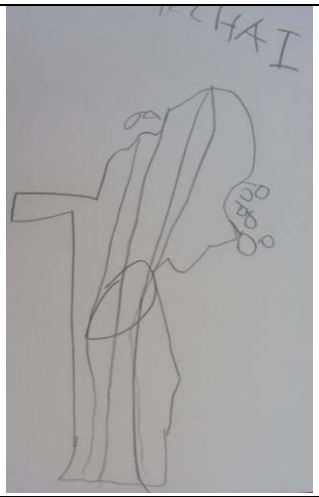
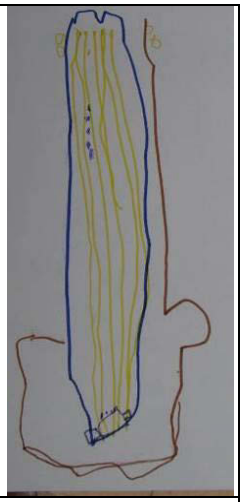
For example, the butterfly trampoline that Ka produced in Activity A6 and the sketch that he made for a collage in Activity A17 show that he had a good control of parallel straight lines (the dinosaur's legs in A17), as well as geometric shapes, such as circles, semi-circles, triangles, ovals, squares and rectangles. He could construct shapes and realistic creatures through drawing and collages where he cut and pasted coloured paper.

Ka worked efficiently on his visual arts activities. For example, he drew two guitars in Activity A1, and played with his flying train for nearly half of the session in Activity A10, even though the others were still working.

4.3.2.3.2 Ka's cognitive development

Ka's cognitive growth cannot be identified without careful observation of his work and his comments about the work.

Figure 4.22 Ka's guitars (A1 & A2)

			
A1_Ka's guitar 1	A1_Ka's guitar 2	A2_Ka's guitar	A1_The guitar used for observation

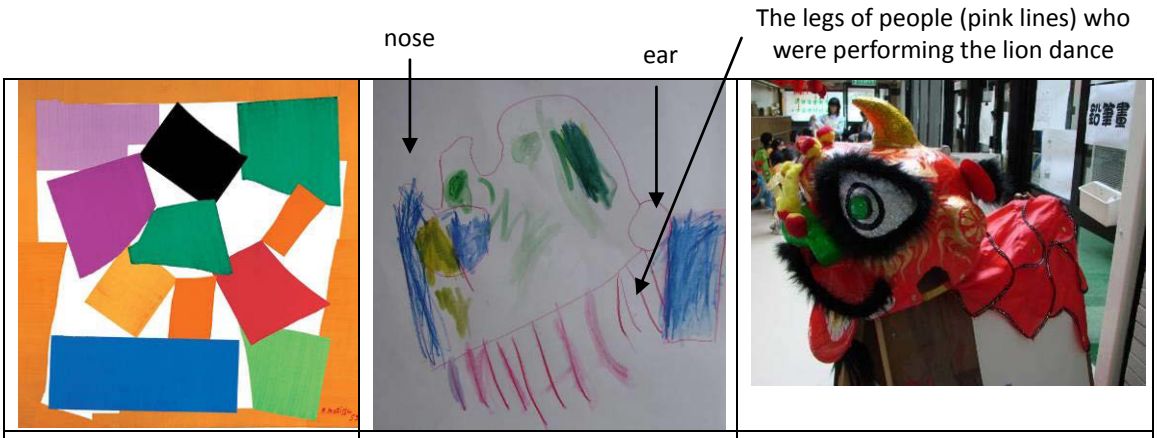
If we compare Ka's three guitars, we can see that he was presenting different perspectives of a guitar. Ka drew two guitars in Activity A1 and the third in A2.

Without an introduction, we would hardly recognize the first guitar. In fact, Ka's focus of presentation in Activity A1 was on the guitar's linear structure - the long neck, horizontal frets, circular sound hole, and the S-shaped outline of the body. In the 2nd guitar produced during Activity A1, his focus was on the head and tuning heads of the guitar apart from the long neck and sound hole. The spatial relationships of the parts were not in proportion, but the features were clearly illustrated. Ka said that the circles (the tuning heads) could adjust the tone and the volume (A1_S15). His classmates commented that the drawing was upside down, but Ka explained that it was not because it followed the direction of his name. However, his classmates thought that the upper part of the object looked like the large body of a guitar with a long neck beneath it.

Ka's guitar from Activity A2 shows a whole, realistic structure of a guitar with a high degree of accuracy. It is an observational drawing with correct proportions. There are six yellow strings and position markers (dots) along the long blue neck, small pins along the bridge at the bottom of the neck, and a big, brown curved body.

The series of drawings reflected Ka's different perspectives of a guitar. Perhaps, adults should not think that 'realism' in art is the only criterion for assessing a child's growth, while ignoring physical, cognitive or aesthetic aspects. In my opinion, Ka's second guitar from A1 looks more interesting and creative since he had extracted some important features of a guitar and incorporated a variety of visual elements in an appealing composition, such as the elaborative details of the tuning head in the upper part extend along the neck with the straight line to the oval in the middle. The essence of a guitar in his personal experiences was embedded in the composition.

Figure 4.23 Ka's Chinese lion head (A5)



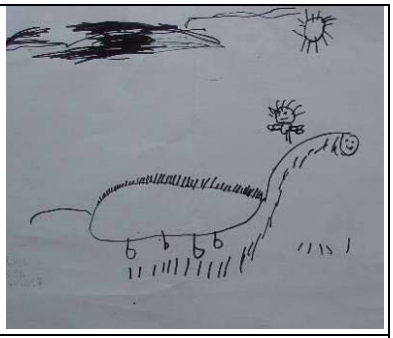
The snail by Matisse 1953	A5_An observational drawing of the side view of a Chinese lion head	A5_A real lion head used as the reference for the monster painting

The art project of Activity A5, related to the Chinese lion head. If Ka had not explained his work to his teacher, adults, including the researcher, all would not have known what he had drawn and performed. As Anning and Ring (2004, pp. 18-19) pointed out that children's drawings were often viewed as "deficient" developmentally, if they had not achieved the goal of visual realism. Therefore, the developmental approach can be taken as one reference, but should not the only one.

Most adults would not complain about Matisse's poor "realistic" representation of a snail. Can adults apply the same attitude in appreciating and evaluating children's work? The failure of adults to understand the artwork of children may not be caused by the poor presentation of artwork by artists or children, but by their insufficient understanding. For example, Ka explained that he drew a side view of the Chinese lion head which was the angle he had seen from his seat. He indicated that the lion's nose was on the left hand side of his painting; the circular part was the ear on the other side of the head; and the horn was on the top. This showed that Ka had been inventive and learnt Chinese symbols, as well as notational relationships commonly found among children aged five to seven (Gardner 1991 cited in Koster 2001, p. 4). In

the painting, the pink lines beneath the head were the legs of the group of people who were performing the lion dance, not the lion's beard as initially thought by the teacher (A5_M2U51). The spatial relationships of the different parts of the lion head and the performers were correct, although not in proportion, and they revealed Ka's understanding of spatial relationships. He made an observational drawing of the side view of the lion head, instead of a stereotypical front view. Ka explained that the upper bodies of the performers were not visible since they were covered by the lion costume, and therefore Ka showed only their legs in his drawing. This is not the way that children aged four usually present. They usually present whole figures. The work showed that Ka knew about the lion head and the lion dance; however, his logical mind was more advanced than his drawing skills or his ability to make graphical representations. His work looked like an abstract painting and its essence, the ideas embedded in it, could easily be overlooked without his interpretation.

Figure 4.24 Ka's dinosaurs (A17)

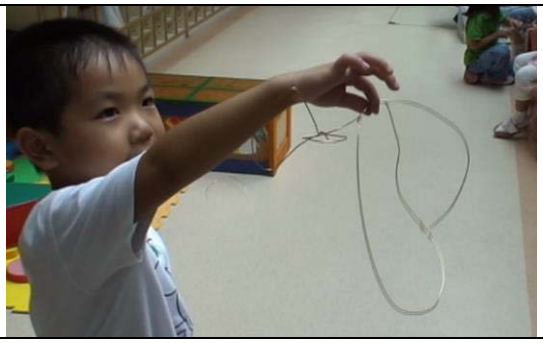
		
A17_A sketch for collage in early June	A17_A collage of dinosaur	A23_A drawing of dinosaur in the portfolio that was collected in July

Ka showed his awareness of numerical concepts by drawing the four legs of the dinosaur in the portfolio from Activity A23. In comparison with the image of the dinosaur in early June (A17), it was more anatomically correct. Although the heads of both dinosaurs drawn in Activities A17 and A23 were placed in front of the body on the

right hand side, the head of the dinosaur in the collage of Activity A17 was stuck in the middle of the body and showed the dinosaur's head turned around and the dinosaur looking behind itself. The spatial arrangement was different and more complicated than the draft.

Ka's awareness of spatial concepts and the functions of an aeroplane were not presented visually by the artwork but revealed in talk with his teacher and classmates (A21_M2U41-44). Although the wire sculpture of the aeroplane produced in Activity A21 was not visually attractive and was even considered messy by a classmate (A21_M2U44), Ka's introduction of the piece revealed that he was very clear of its spatial structure and his artwork was meaningful.

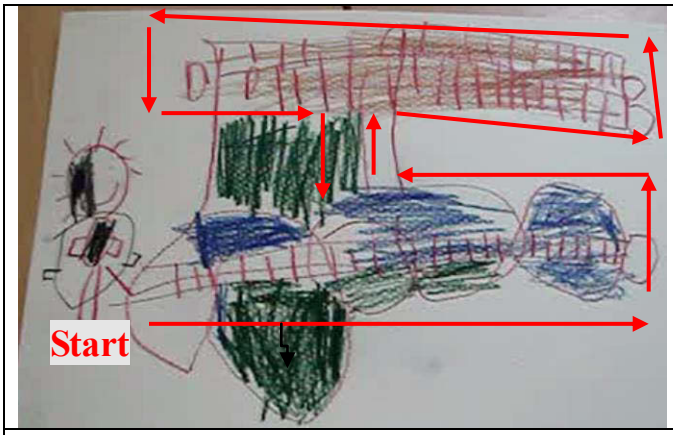
Figure 4.25 Ka's dinosaur aeroplane (A21)

	
A21_Ka's wire sculpture of a dinosaur aeroplane	A21_M2U41_0933_Ka showed the proper position of his dinosaur aeroplane, and indicated the locations for the furniture. The dinosaurs are in the lower part, and the people are in the upper area.
	
A21_M2U42_0502_Ka said that his work could be used as a necklace.	A21_M2U43_0005_ Ka playing on the ground and saying that the sculpture was a single deck aeroplane.

	
A21_M2U43_0502_ Ka flying his aeroplane along the corridor.	A21_M2U44_0305_Ka indicating the wheel (on the right hand side at the bottom) when classmates challenged the aeroplane's structure.

Ka seemed to have a constant concept of the structure and spatial arrangement of the dinosaur aeroplane and confidently presented its structure to his teacher and classmates in the process of the art making and sharing session at the end of the class (A21_M2U41 & M2U44). Ka claimed that the aeroplane was an old model of a single-decker aeroplane which had a wheel at the bottom and two engines that could go at 100 kilometers per hour. It could carry a hundred pieces of luggage (A21_M2U44_0502), and the lower part of the plane was reserved for furniture, while the smaller upper area was for people (A21_M2U41_0933). Ka kept on trying to improve the design, and he creatively used his plane as a necklace (A21_M2U42_0502).

Figure 4.26 Ka's climbing net and flying train (A10)

	
A10_MOV61_0612_The climbing net. Ka finished his line drawing of the climbing net and explained the route of climbing. The lines of the nets were clearly shown initially, but were dissolved into patches of colours in the final version (right) because the lines were later dissolved by water.	A10_Later Ka claimed that it was a flying train.

	
A10_MOV61_1500_Ka was explaining why half of the child's face was black. It was because he was looking through a telescope with one eye.	A10_The person looking through a telescope on the left hand side of the drawing.

At the beginning of Activity A10, Ka said that he had drawn the climbing net at the Tai Po Waterfront Park. He explained that a child was standing at the starting point on the left, and pointed out the climbing route from the lower part of the net to the upper part. This is another example of his development of temporal concepts and spatial relationships. When he brushed water on the drawing, the lines drawn with water-soluble pencils dissolved into coloured patches. He did not know what would happen when he added water because it was only the second time that Ka had used this medium. Then, Ka claimed that the picture was of a flying train. He solved the problem not by redrawing the lines of nets, but by changing the description of the object from a climbing net to a flying train. He started playing with the train above his classmates' heads. Goodenough (1926 cited in Mc Whinnie 1992, p. 271) said, "To little children, drawing is a language, a form of cognitive expression – and its purpose is not primarily aesthetic". This is an appropriate description, as some of Ka's artworks were functional tools, that is, props for play. In fact, he enjoyed playing with his flying train from Activity A10, his dinosaur from Activity A20 and his dinosaur aeroplane from Activity A21.

Ka once expressed his ideas in a visually uncommon way. In his drawing from Activity A10, there is a person with a face that is half white and half black. When the teacher asked him why half of the child's face was black, Ka explained that the boy was looking

through a telescope with one eye (A10 MOV61_1500). He meant that half of the person's vision would not be visible, and he used the black face to show this idea. This picture is an example of "children drawing what they know rather than what they see" (Goodenough 1926 cited in Mc Whinnie 1992, p. 271).

Ka's cognitive and creative development is also reflected in his verbal expression. He enjoyed talking about his train in Activity A10, a feature in the preschematic stage among four to seven year olds (Kellogg 1969, Lowenfeld & Brittain 1987 cited in Fox & Schirrmacher 2012, pp. 99-100 and Koster 2001, p.63). His description of the train revealed the use of his imagination in the process of art production. He said that he had to paint the train as No. 5 because the paint had come off (A10_MOV61). Later he started playing with his train by waving it in the air and producing sounds of old-fashioned trains and platform announcements. He said, "The next station is Shatin; it will land…beware of the platform". He showed the causal relationships between objects (the train) and events (sounds of a train and platform announcements), a kind of cognitive understanding typically found among children aged two (Gardner 1991 cited in Koster 2001, p. 4). It did not imply that his cognitive development was that of a two-year-old, but rather suggested his enjoyment in using the artwork as a tool for play.

Ka's knowledge of trains and stations was further shown in Activity A10. He gave the correct names of train stations, that is, Tai Wai, Shatin, Lo Wu, and Tsimshatsui East in his play and dialogue with Lok (A10_MOV61).

4.3.2.3.3 Ka's emotional development

Ka enjoyed playing with his artwork. For example, he walked along the corridor, playing happily with the flying train from Activity A10 and the aeroplane from Activity

A21. He was confident in his own work and often bravely presented the ideas of his art work to the class.

4.3.2.3.4 Ka's social development

Ka was an independent, confident child who could resist the influence of other children. He insisted on keeping the direction of his guitar in Activity A1, and appreciated the design of his wire sculpture from Activity A21, even though his classmates challenged his decision and artwork in the sharing session.

Ka was so independent that he did not want to seek help from others. He decided to use white as the background colour for his mask in Activity A8 (MOV20_0552), because he had not brought his oil pastels to class and did not want to borrow a classmate's materials. However, he eventually needed to borrow Yeung's pastels for the facial details. He intended to solve the problem by himself first, and did not want to trouble others. He pushed the oil pastels closer back to Yeung after taking a pastel from the box. Both boys behaved very politely. Even though Ka was willing to accept the teacher's offer of help in Activity A16 (M2U21_2830), he deliberately asked his teacher to help him just a little (不過幫少少).

Since Ka often worked independently, his interpersonal interactions were not consistent. Even though Ka and Yeung went to get pencils together in Activity A13 (M2U95), Ka refused Yeung's invitation to combine their wire sculptures and play together during Activity A21. He refused to let Lok to look at his drawing of a guitar during Activity A1. However, he taught Ting how to make tires in Activity A16 (M2U21) when she asked him for help.

Ka helped to clean up at the end of visual arts activities. He took the initiative to

collect rubbish (used cotton sticks) from classmates in the monster painting from Activity A4 (A4_M2U30) and A5 (M2U50). However, Ka was reluctant to share a cleaning cloth with a classmate and asked him to get his own cleaning towel when they were cleaning up after doing the mask painting in Activity A7_M2U70.

4.3.2.3.5 Ka's creative development

Ka's imagination and creative development was reflected in his verbal sharings on the flying train from Activity A10 and on the spatial allocations in the dinosaur aeroplane from Activity A21. His creativity and imagination were not constantly and explicitly visible in his artwork. His creative growth could be identified "through" but not "in" the visual arts.

Figure 4.27 Ka's copying and creativity in the composition of geometric shapes (A11)

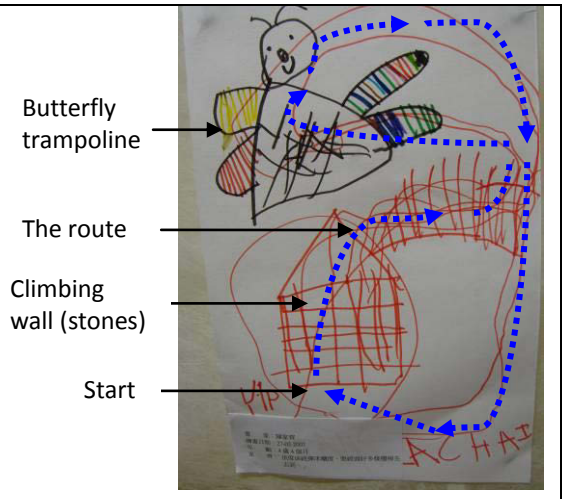
		
A11_M2U90_0457 & 0511 & 0520_Ka watched Yeung from time to time and copied his pattern.	A11_M2U90_0540_ Yeung completed a hexagon.	A11_M2U91_0040_Ka made the same pattern as Yeung did. Here Yeung's work has just been removed.

On one occasion, Ka closely imitated Yeung's composition by constantly observing Yeung constructing geometric shapes in Activity A11 (M2U90_0457, 0511 & 0520). However, Ka's final work was different from Yeung's. Despite looking at the other student's work, Ka still could create his unique piece.

4.3.2.3.6 Ka's aesthetic development

Figure 4.28 Ka's butterfly trampoline (A6)

A6_M2U 057_0403_ Ka explaining the patterns of his butterfly.



A6_A butterfly trampoline

When colours could be used, Ka's artwork was often colourful. The monster from Activity A4, the lion head from Activity A5 and the flying train from Activity A10 showed he liked creating colourful images and had a thoughtful spatial arrangement.

The butterfly trampoline from Activity A6 is the best piece to show his aesthetic development. Ka developed a plan of composition after drawing a butterfly at the top of a piece of paper. His hand moved around the lower part of the paper and explained that there would be something else for playing beneath the butterfly. He took the initiative to explain the special features of his butterfly, which would be colourful and have patterns on the body and wings. He used colourful parallel lines to create the wings, first with a single colour for each wing on the left side, then multi-coloured lines on the right-hand wings. He enriched the colour scheme in the process of producing the artwork. Then he used straight red lines to construct two regular forms, the hut-shaped climbing wall with squares and the horizontal ladder-like staircases. After climbing up the stones of the climbing wall and staircases, children

could play on the butterfly trampoline and come down by a different route. During the verbal explanation, Ka also used several red lines to show the route because the playground was for use by many children. Ka focused on conveying his ideas rather than on the aesthetic composition of the picture. The picture might look more attractive without the several red lines, which could be regarded as overdone or as spoiling the composition in the aesthetic sense. However, the lines were an expression of Ka's thoughts and his imagination. They served as a form of communication, which was related to cognitive or creative rather than aesthetic development.

The artwork from the activities revealed Ka's awareness of the use of space and symmetrical forms (the butterfly and hut-like climbing wall), as well as his sensitivity to colours. At the same time, Ka showed a good command of vocabulary in describing visual elements, using the terms "pattern" (花紋) and "colourful" (七彩繽紛) to describe the colours and composition of his butterfly trampoline, for instance.

4.3.2.3.7 Ka's cultural development

Ka's monster in Activity A4 shared similarities with the legendary Chinese monster, which was greedy and could eat a lot (A4_M2U30) (Figure 4.22). Ka said that his monster could eat all the pigs. In Activity A5 (Figure 2.24), Ka developed his drawing of a Chinese lion's head into an imaginary scene of a lion dance by adding many people's legs beneath the lion head. He showed the activity that he knew was related to the Chinese lion head.

4.3.2.3.8 Ka's personal development

Ka's favourite themes were dinosaurs (A21) and various means of transportation,

including trains (A10), aeroplanes (A21, C8) and cars (A13). He liked to use his artwork for play, as he did with the artwork from Activities A10 and A21.

4.3.2.3.9 Ka's overall development

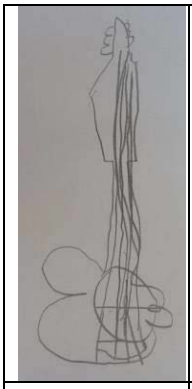
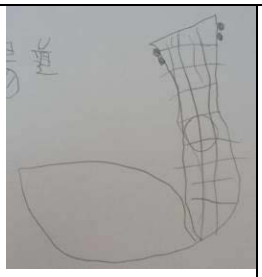
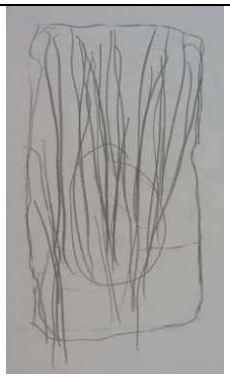
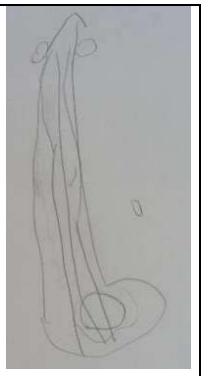
Ka was the youngest child among the five children involved in this project. He looked active and cheerful. Ka was an independent child who had his own ideas and was seldom affected by others. He enjoyed playing with his artwork in class. His artistic performance was quite sophisticated and was not easy to interpret. There is no a single piece of artwork that shows all aspects of his development. His development in physical and aesthetic areas was regarded average in visual arts, but better in cognitive and creative aspects. Some of his work embedded special features and personal perspectives that were difficult to uncover without an explanation. Examples of this include the realistic image of a Chinese lion head drawn from a side view in Activity A5 and the original design of the flying train in Activity A10. He could verbally present his rich ideas on spatial arrangements or the functions of certain forms that visually were hardly recognizable to others even with his explanation, such as the flying train from Activity A10 and the dinosaur plan from Activity A21. His art techniques did not support the expression of his ideas visually, thus some of his work was difficult to understand. Ka's cognitive thinking and language skills were more advanced than his graphic symbolic representation. By the end of the study, Ka's performance in the visual arts was erratic and remained at the lower part of the expected level. Since Ka was still young and there are great variations of child development in this age range, his symbolic representation of ideas may be clearly visualized when his physical development catches up with his cognitive and creative growth.

4.3.2.4 Ting

Ting was five years old when she joined the research project in January 2007. She was the eldest child in the class since she was born in January 2002. She was tall and had long hair, common features of the girls depicted in her artwork. Ting could visualize her objects in a recognizable way, and her performance was average in the class. Ting liked to express her opinions. Her verbal expression was very fluent, and she could clearly express her thoughts and own work. Ting and Chole, the two girls in the class, often worked as a pair, and they talked among themselves constantly.

4.3.2.4.1 Ting's physical development

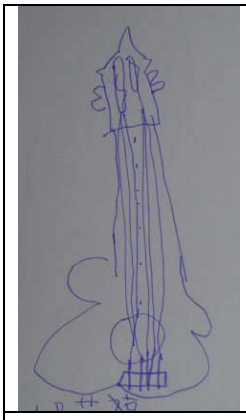
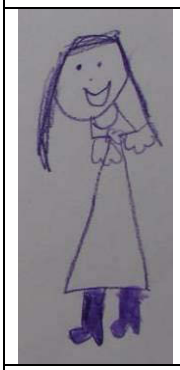
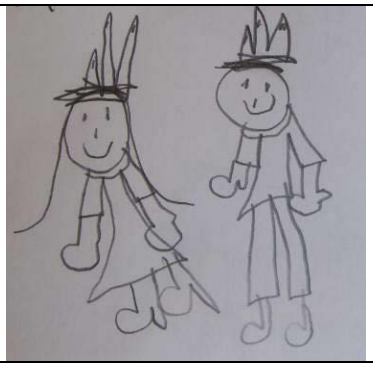
Figure 4.29 Ting's guitar compared with classmates' artwork from Activity A1

				
Ting's guitar	Yeung's guitar	Ka's guitar	Lok's guitar	Chole's guitar

Ting showed the most realistic observational drawing of a guitar from Activity A1 among the five children on the project. She had good control of fine motor skills and the ability to draw straight lines, parallel lines, curved lines, and small and large semi-circles. Ting was able to visually present the proper position and proportions of the various parts of a guitar in greater detail than the other children as shown in Figure 4.29. Apart from the basic structure which included a curved body and a straight neck, Ting presented tuning heads, position markers (dots) on the neck, the circular sound

hole, six strings and the stand or bridge saddle.

Figure 4.30 Ting's physical development through artwork

		
A2_A guitar	A4_ A monster of Chinese New Year	A5_ A monster of Chinese New Year
		
A5_A girl with fingers	A10_A girl	A16_A girl and a boy

When drawing humans, Ting's figures were more complicated than tadpole humans, often appearing as girls in A-shaped dresses, with smiling faces, long hair on both sides, boot-like feet, and arms sometimes even with fingers (A5).

4.3.2.4.2 Ting's cognitive development

Ting's cognitive development could be seen in both her artwork and in-class dialogues. Ting's understanding and knowledge of a guitar's structure were showed by her realistic visual artwork (as described in "physical development" above). Moreover, she said correctly that a guitar had six strings (A1_S14). Ting could analyze the basic structure of a guitar as having three main parts (A3), and she selected three paper

boxes of different sizes to represent them. Ting was also able to visually present numerical concepts, such as the fact that people have two feet in Activities A5, A6, A10 and A19, and that animals and cars have four legs or wheels in Activities A4, A5 and A13.

Ting's language was well developed; she could fluently express her own ideas and smoothly joined in others' conversations. For example, when Lok introduced his artwork to the teacher, Ting joined in the conversation (A10_MOV61):

Lok: Do you know that you're drinking coffee? Ha, Ha…
Teacher: I like lemon tea more.
Lok: It's lemon tea.
Teacher: Now, has it changed into lemon tea?
Ting: Now, it has changed into soft drink.
Teacher: No soft drink because drinking too much may make me fat.
Lok: It's lemon tea.
Ting: Even lemon tea may make us fat.
Teacher: Then, what should I drink?
Ting: Water!
Lok: Water is healthy.
Teacher: Then I'd like to have water.
Ting: How about apple juice?

The dialogue showed Ting knew about the merits and disadvantages of various kinds of beverages. It also revealed her divergent thinking, playful attitude and quick responses in leading the conversation. Ting also knew some particular terms that might not have been familiar to her classmates. She knew Rapunzel (黎寶莎公主 as demonstrated in Activity A15), one of the long-haired Barbie dolls, and yellowfin seabream (黃腳鱲 from Activity A21), a kind of fish. Her well-developed language was also reflected in her story-telling and her appreciation of her own and classmates' artwork (more details are given in the sections on creative and aesthetic development).

Ting was willing to learn and able to adjust her own concepts through dialogues with the teacher and classmates. For instance, she asked Yeung what a cutting scar was (刀

痕即係乜嘢呀？). Although she said that trains had no wheels at first, after her teacher's guidance she said there were many wheels at the bottom (A10_MOV61).

Ting had good basic problem-solving skills and knowledge of the visual arts. For instance, she measured the length of wire for a bracelet by putting the wire around her wrist before cutting (A20_M2U37). She could talk about colours and facial parts, using terms such as red, deep blue, pink lips, orange forehead and rounded eyes (A8_MOV20). She had basic knowledge of how to mix colours. For example, she knew green could be made by mixing yellow and blue (A7_M2U70_1221). She also understood sequences in art production, such as painting boxes before sticking them together. Ting's knowledge about using paint was not well developed in late January when she thought that more wet paint could cover the unwanted patterns on paper boxes (A3_MOV327). It would have been more appropriate to paint two to three layers after drying the first layer.

4.3.2.5.3 Ting's emotional development

Ting was calm and worked attentively, and she enjoyed social interaction with her classmates and teacher.

4.3.2.4.4 Ting's social development

Sometimes, Ting was sociable and easily participated in classmates' play. She offered a positive and lively response when she said, "Very cool!" as three peers were making fun and fanning their paper masks (A8_MOV20). This was a contrast to another classmate who thought that they were fighting and wanted to stop their action, saying, "Stop fighting".

Ting also expressed concern for classmates. She drew two trains since one could not carry all of the children. When Chole asked her to draw a third train, Ting explained that Chole was pictured sitting in the second train with her. She was skillful in comforting her friends and creative in making an excuse not to draw the train (A10_MOV61).

Ting took the initiative to invite others to look at her works. For example, she invited Yeung and Lok to look at her fishing line (A21_M2U41), and asked Chole, "Do you think (my work) pretty?" (A19_M2U32). She could also politely ask for help from others. For example, she asked for a glue stick (A17_M2U26_0455), responded to peers' questions and reminded Ka to say, "Thank you", for a classmate's help (A17_M2U26). She occasionally liked to act as a leader for the group and showed her clever ideas to others. For example, she told Lok that her train had smoke and his did not (A10_MOV61).

Ting helped others and was willing to tidy up. She passed materials to classmates (A4_M2U30) and helped Chole to make a fishing rod, and that allowed her to join the imaginary fishing game (A21_M2U42). However, during a water-colour activity (A7_M2U70), she was unwilling to share her cloth with another classmate for cleaning brushes.

Ting could work independently on her own art (A4_M2U30). She made her own decisions and did not follow a classmate's suggestion that she should finish her painting of a guitar in a hurry (A3_MOV329). She did not follow the teacher's instructions on where to sit at first time (A13_M2U95) or the ways to create a collage of a bird (A16_M2U21_0654). She preferred to draw instead of making collages.

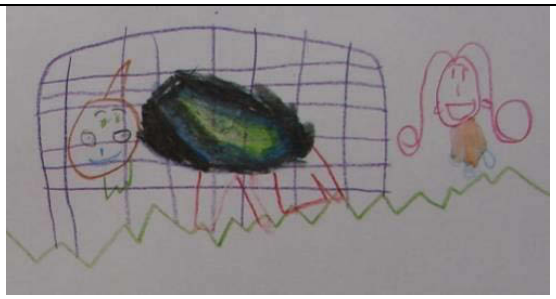
Ting could frankly and clearly express her comments on her own and classmates' work

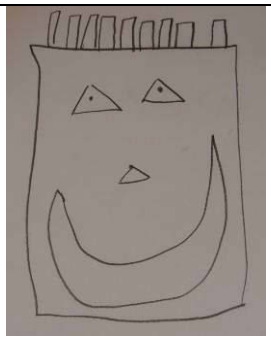
in art criticism sessions.

4.3.2.4.5 Ting's creative development

Most of Ting's artwork demonstrated her own designs. For example, her trains were different from the trains of Lok and Ka who were working on the same theme in Activity A10. However, Ting's creative development could be regarded as average because her ideas were sometimes initiated by others. Nevertheless she used forms that differed from those of the other children, when in Activity A10 she presented the train and aeroplane first created by Lok. Ting's house (the rectangle) was used as the monster in Activity A5, but the image also shared similarities with the cage designed by the classmate who sat next to her. Ting's level of creativity would have been rated higher if her ideas had been her own.

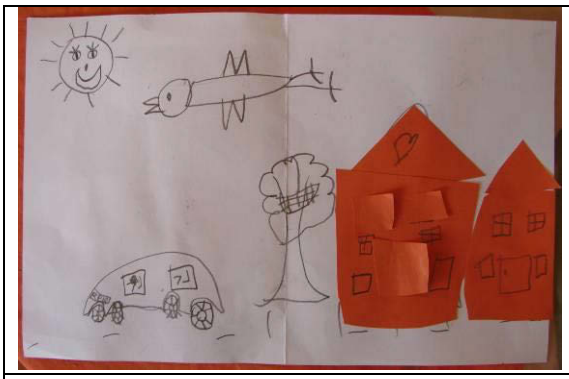
Figure 4.31 Ting's creative development through artwork, part 1

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>A5_M2U 050_2111_ Ting added a frame, which was a house, around the monster (similar to the cage designed by her classmate who sat next to her).</td><td>A5_The artwork of Ting's classmate who sat next to her.</td></tr>
<tr><td>  </td><td>  </td></tr>
</table>

A10_Ting's trains and aeroplane. She first worked on the purple flower, then the trains, the teacher and kids, tunnel and finally the plane.	A10_Ting, Lok and Ka were sitting together, and working on the same theme, trains. Lok was the first one who worked on the train and said that the train-plane could fly. Ting started drawing her trains when Lok had completed his.	
		
A17_M2U25_0633_ The teacher's demonstration of the geometric design and collage of a head.	A17_M2U26_0352_ Ting's design was similar to the teacher's, except for the mouth.	A17_M2U26__ The front view of Ting's artwork: the head was very similar to the teacher's, but Ting's work had a body.

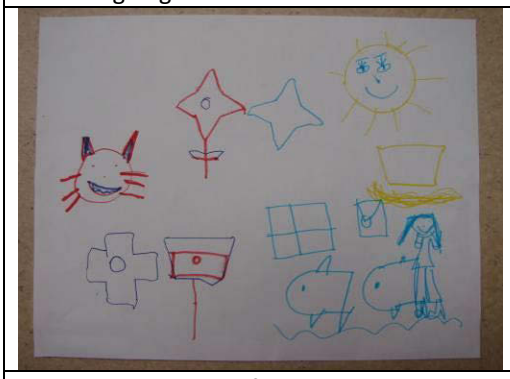
Learning from classmates is a feature of constructivism which can bring positive and negative influences on children's creative development. In most of the cases, Ting showed that she could take elements that she liked from others' artwork to enrich her own. For example, in Activity A10, she chose to represent a small train instead of the large train seen in Lok's work, and in Activity A5 she made the outline of a house for her monster, instead of the cage used by her classmate. Such behaviour can be regarded as transformative learning in mini-c creativity for it involves not just copying, but reorganizing the encountered information to create a novel and personal interpretation of an experience or action (Kaufman & Beghetto 2009, pp. 2-5). An exception is the face collage in Activity A17. Chole discovered the similarity of faces and told the teacher that Ting's design was the same as the teacher's one (A17_M2U26).

Figure 4.32 Ting's creative development through artwork, part 2

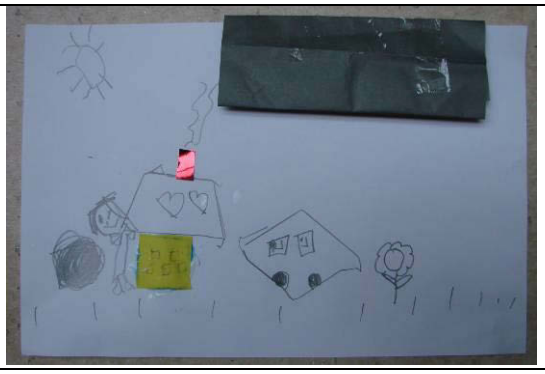


A13_Ting's Card for Mother's Day, a car for mother and two garages for dad and mum inside the card

A13_Ting's card for Mother's Day, a boat and fish on the cover and a heart on the back



A11_A composition of geometric shapes



A15_A collage with the children bathing in the hut after playing football. They were not visible because all windows and door were shut

A16_Ting's card made of a collage of shapes

A16_The heart on the cover of the Mother's Day card

A16_Two humans on the back of the Mother's Day card

Ting repeated her own set of designs and created similar persons and objects over seven months. Examples are the human figures from Activities A5, A10, A11, A15 and A16, the monsters from Activities A4 and A5, the birds from Activities A13 and A16, the flowers from Activities A10, A15 and A16 and the houses, the heart shape and the composition from Activities A13 and A16. It seemed that her development in drawing

had reached a plateau after the refinement of the second guitar from Activity A2. Her creativity was partially confined to the repetition of her own designs and showed no significant changes or improvements over seven months.

Ting's creative development was more obvious in her imaginary play. For example, she said that she caught a fish with her hook and long fishing line in the wire sculpture of Activity A21. She asked Lok to look at her fish (a small loop at the end of a long wire) (A21_M2U42), and pretended to eat the fish caught by Chole (A21_M2U43). Ting said that she was a dinosaur. She came near the researcher and pretended to bite me. Then, she went back to her seat and asked for 15 minutes to finish eating the very delicious yellow-fin sea-bream (黃腳鱲) that she loved most. Her imaginary play could be regarded as a kind of mini-c creativity, because it shows Ting's unique and personally meaningful insights and interpretations as she learned new subject matter (Kaufman & Beghetto 2009, p. 4).

Therefore, her creative development in and through visual arts was regarded average.

4.3.2.4.6 Ting's aesthetic development

Ting's frankness and well-developed language skills enabled her to express her ideas clearly in art criticism sessions. She was critical of her own and others' work. For example,

- When Ting asked Chole whether her collage (A19_M2U32) looked pretty, she did not just accept Chole's comment that it was very beautiful, but reflected on the defect of missing a leg;
- Ting selected Chole's lion dance as the piece that she appreciated most among the works in the class and pointed out the attractive parts - the people and the

beautiful ripples of dresses (A5_M2U51);

- She praised Chole's card for Mother's Day by saying, "quite pretty, very pretty, even prettier than my work (都幾靚，好靚，仲靚過我畫)" (A13_M2U95);
- Even though Ting and Chole were close friends and Chole had said before the show that her (Chole's) performance would be wonderful, Ting commented that she could skip Chole's performance since it was too easy;
- Ting offered negative feedback by swinging her head when a classmate asked whether her work was beautiful (A4_M2U31);
- Ting said that Lok's print was ugly and his father would not like to see it because it looked confusing (A19_M2U33);
- Ting sought perfection. She could not tolerate the fact that the design on the cover of the card for Mother's Day was upside down with reference to the design inside the card. She insisted it should be redone, and started to peel off the orange boat and rub off the sharks. She said that no photos could be taken of the piece until it was corrected (A13_M2U96 & 97).

4.3.2.4.7 Ting's cultural development

Ting presented a Chinese New Year monster that was a greedy eater. Her monster was following a small green lion because it wanted to eat it (A4_M2U32). She knew that the colours white and blue on a Chinese opera mask represented "bad guys" (A8_MOV20).

4.3.2.4.8 Ting's personal development

Ting liked to draw people, flowers, hearts, houses and animals (birds and fish), as well as make wire bracelets or crowns and use colours in artwork. The subjects of her artwork tended to be feminine, and the human beings presented were usually girls

with long hair and dresses.

4.3.2.4.9 Ting's overall development

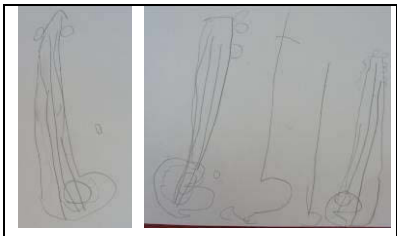
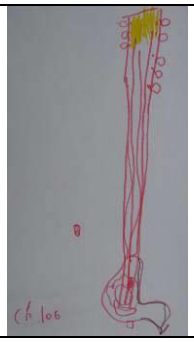
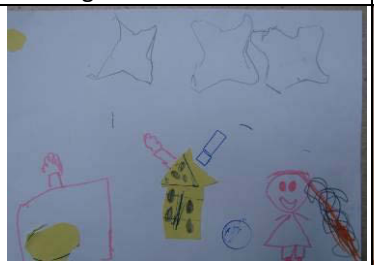
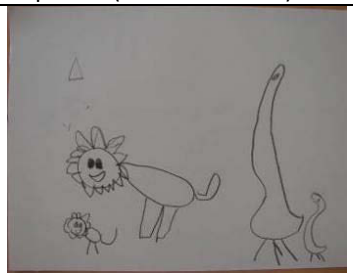
Ting was five years old and the eldest child in the class. She was tall and had long hair which were also common features of the girls in her artwork. Ting's performance in art seemed to have plateaued in its physical, creative and aesthetic aspects because no significant differences or progress were found over the seven months. She had a high level of realistic drawing skill in the beginning; however, the objects presented in her artwork tended to have a constant format or were stereotyped repetitions (Lowenfeld & Brittain 1982, p. 54). Ting had a reasonable level of knowledge of general information and the visual arts. Ting could work independently and in a group. She was sociable, able to listen and responded to others' comments. She articulated her own ideas well in discussions and art criticism sessions. She was helpful and often helped Chole with her artwork.

4.3.2.5 Chole

Chole was 4 years and 8 months old when she joined the research project in January 2007. Her size was average for the class, and she had straight short hair. Her drawing skill was also average for the class. Chole and Ting interacted with each other more than with the boys. Chole spoke so softly that the researcher and classmates sometimes could not clearly hear what she said in sharing sessions, particularly in the discussions of the guitar and the masks (A2 & A8). Sometimes, it implied that she was not confident in presenting her own work.

4.3.2.5.1 Chole's physical development

Figure 4.33 Chole's physical development reflected in artwork

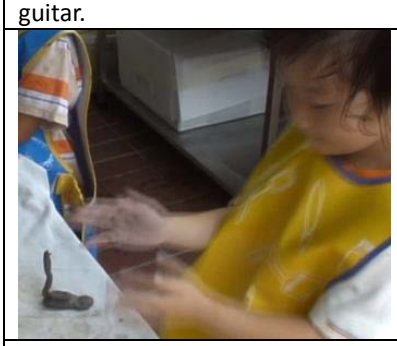
		
A1_The guitars and guitar picks	A2_A guitar with colours	A4_The monster and the princess
		
A6_Chole_A princess walking with a rabbit outside a castle	A8_Masks; the right one was wearing a crown	A10_Chole_A dog
		
A13_ A card for Mother's Day, the mother is holding candy	A15_Geometric shapes and a paper collage, Princess Rapunzel (in Barbie series)	A16_A collage of shapes and a drawing
		
A17_A draft of collage	A17_A draft of collage	A17_An animal, a collage of shapes

		
C6_A rabbit	C6_A cat	C7_A lion

Chole worked efficiently and often produced more than one piece of artwork in an activity. For example, she produced two pictures of four guitars in Activity A1, three pictures in Activity A6 and two masks in Activity A8. She showed she could draw lines, shapes (circles, squares, rectangles and triangles), animals and human beings, especially girls. The human were more complicated than simple tadpole figures, and they usually wore a triangular dress and had long hair hanging on one side. The limbs were at first simply lines, but later developed into thin blocks. Her cutting and colouring skills were at the practising stage and had not yet matured (A13_M2U95). Chole could cut geometric shapes, create reliefs of animals (C6) and make three-dimensional swans with guidance and help (C7 & C8).

Chole could make most of artwork that the class attempted, but she occasionally lost self-confidence in her own physical ability and became more dependent on others to help her finish her work in the latter stage. For example, Chole asked the researcher to teach her how to draw a guitar in Activity A1 at the beginning of the term. When she did not get support from the researcher, Chole looked at her classmate's work (A1_S08), and asked, "Is it like that (係咪咁樣)?" (A1_S09)

Figure 4.34 Chole's dependence on others in art production

<table>
<tr><td>  </td><td colspan="2">  </td></tr>
<tr><td>A1_S08_0027_Chole looking at a classmate's work to learn how to draw a guitar.</td><td colspan="2">A21_M2U42_0210_Ting, who had made a fishing line, was making another one for Chole upon her request.</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>C8_M2U30_0706_Chole clapped her hands happily for a few seconds because she had successfully fixed the swan's neck vertically upward. But it fell off after a minute when she was adding eyes to it. Then she started to seek others' help.</td><td>C8_Chole_A swan was made with help from Yeung for the neck and from the teacher for the eye balls.</td><td>C7_Chole_A swan made solely by herself.</td></tr>
</table>

Chole's techniques improved by the middle of the term, by then, she could work on her own. However, Chole became dependent again at the end of the term. She sought help rather than trying to solve the problem herself. For instance, Chole asked Ting to make a fishing line (A21_M2U42) and a swan's body (C8_M2U30) for her, even though she had experience in making a swan by herself in Activity C7.

Chole's teacher was often ready to offer assistance when she knew Chole was having problems. For example, the teacher showed her how to cut the white rectangle in Activity A13 and the green triangles in Activity A17. After the demonstration, Chole could use the shapes that cut by the teacher. When the first soft, thin neck of the swan fell off, Chole asked the teacher to help her to make another swan's neck

(C8_M2U30). Yeung quickly took the initiative to help her to make the swan's neck after she complained Yeung had hit the table too hard and caused her swan fell apart.

4.3.2.5.2 Chole's cognitive development

Chole showed typical development of the preschematic stage (4-7 years) (Kellogg 1969, Lowenfeld & Brittain 1987 cited in Fox & Schirrmacher 2012, pp. 99-100 and Koster 2001, p. 63) in terms of personal presentation of forms. She had two sets of favourite subjects: animals and human beings, including birds (A6, A10, A16), swans (C7, C8, A17), a dog (A10), cats (C6), a lion (A5, C7, A17), rabbits (A5, A6, C6), dinosaurs (A17), girls/females (A5, A13, A16, A17, A19) and princesses (A4, A6, A15). The humans were mostly female. There were flowers (A4, A5, A6), grass (A4, A6, A13, A16), butterflies (A4, A6) hearts (A6, A13), clouds (A5, A10, A13), the sun (A5, A6, A10, A13, A16), houses (A10, A13, A15, A16, A17, A19) and castles (A6). She could use recognizable geometric shapes and symbols to construct a circular head with two eyes and a curly mouth for both humans and animals, ovals for animals' bodies, triangles for girls bodies and lines or thin blocks as limbs. Her girls had long hair hanging on one or both sides, while animals such as cats and lions had tails. Many objects were isolated personal symbols that might not have any relationship in her artwork; only few involved stories, such as the image from Activity A15, another typical feature in the preschematic stage. Therefore, her cognitive development was only reflected in and through the visual arts to a limited extent.

Chole knew the basic appearance of the animals and people mentioned above. They often appeared on grassland, near houses, or under the sun or moon, as in Activity A15. In Activities A10, A13, A15 and A16, Chole showed that she was aware of the upper and lower spatial relationship that is a common feature of childhood development at

four to five years old (Matthew in Rodger 1999 cited in Anning & Ring 2004, p. 23). At the beginning of the research, Chole was not very aware of numbers. For example, even after looking at a guitar, she could not figure out it had six strings. She counted and drew three strings (A1_S14). Although Chole knew a dog had four legs (A10_MOV61_0146), she eventually created a dog with five legs when seen from the side. She also created a cat (C6), a lion (C7) and other animals (A17) with two legs when seen from the side. She once explained that the cat from Activity C6 did not have just two limbs, but that the limbs had got close together (C6_M2U89). It showed that she understood that animals had four legs, but that only two could be seen when viewed from the side. From this it is evident that she improved in her use of numerical and spatial relationships of objects (Gardner 1991 cited in Koster 2001, p. 64). However, the logical representation might have been be at the cost of her fantasies and creativity, which initially could be seen in her the five-legged, colourful dog from Activity A10.

4.3.2.5.3 Chole's emotional development

Chole seldom showed her emotions or feelings through facial expressions, even when she encountered a setback in her social interactions, such as a classmate's negative feedback on her drawing of a guitar in Activity A1. She only once complained about Yeung hitting the clay dough and the table so hard that the neck of her swan fell off in Activity C8.

4.3.2.5.4 Chole's social development

As discussed above, Chole's social development was closely related to her physical development. She depended on others not just for making art products, but also for help with daily routines, such as using tools and art materials. She helped to tidy up

(A4_M2U30), but sometimes she did not manage her own set of tools well in the process and had disputes with classmates. For example, she asked for the teacher's help in finding a pen's cap (A11_M2U92), struggled for a glue stick with Yeung in a collage activity (A13_M2U95), and needed a friend's assistance in finding tape (A16_M2U20).

Despite her dependence on others, Chole was usually polite and good tempered, even though a few classmates were rude to her or made discouraging comments about her artwork. She was the one of the five children who encountered the most setbacks in inter-personal relationships in the visual arts activities. Examples are:

- When Chole asked her classmate whether her drawing of a guitar was correct at the beginning of the term (A1_S09), her classmate turned her back on Chole after saying, "(It should be) like this (the classmate's own work), don't you know (such a simple thing)(咁樣呀！咁都唔識)?". Chole was quiet and kept on drawing.

Figure 4.35 Chole's social development reflected in the process of making art

	
A1_A classmate turns her back on Chole after answering a question.	C7_M2U17_1010-1031_Chole_A lion. After Chole told her teacher that the sculpture was a lion, Ting said that a lion was not made in that way. Then Chole rolled it into a ball and said "Let me make a swan."

- Chole's guitar from Activity A2 evoked a series of enquiries and challenging comments. Classmates asked why the body was so small, and commented that her guitar looked like a chair, a duck, a kettle, or a dog (A2_MOV13). Nobody

appreciated her work as a guitar.

- Chole planned to sit at the big table, but the other girls they told her loudly that the seat was Dillon's and implied that she could not sit there. The teacher told Chole that she should sit at another table. Chole was silent throughout the exchanges and walked to the indicated table (A13_M2U95).

Ting could be regarded as her closest friend and the person most likely to help Chole apart from the teacher. When Chole did not know where to find tape (A16_M2U20), Ting was the one who provided verbal feedback and companionship to help Chole. Chole successfully sought help from Ting to make the fishing line (A21) and the swan's body (C8_M2U30), though the teacher encouraged Chole to do it herself. However, Ting was not always supportive. Chole got praises from Ting on her painting of the lion dance (A5) and the card for Mother's Day (A13), but negative feedback on her work on the monster (A4_M2U31) and the lion (C7). Over time, Chole's judgement and self-confidence became more dependent on Ting's comments. For example, in early February, Chole was still eager to show her work during the sharing session, even though Ting had commented that the monster was not pretty. However, the situation had deteriorated by late May. When Chole was explaining her clay lion to the teacher in Activity C7 (Figure 4.35), Ting said that it was not the right way to make a lion. Chole quickly rolled the lion into a clay ball and said that she would make a swan. She also received a setback when sharing her mask in Activity A8 (M2U80_1401).

Chole's social development needs further investigation. Chole often spoke softly and could not fluently present her work at the end of the activities. She needed the teacher's guidance during the sharing sessions when children presented their artwork. Sometimes, she did not know how to respond to her teacher's and classmates' questions, comments, requests for her to speak louder and corrections of her spoken

grammar. The teacher often repeated her advice, which sometimes turned into an order. For instance, the teacher often said, “Look at the children (while you speak)!” For example, these corrections, reminders and criticisms from classmates were repeated when Chole presented her collage of Princess Rapunzel (A15_M2U14). Most children at that age would have found it difficult to introduce their work, answer questions, and tell stories simultaneously, especially a child who did not have a thoughtful composition or story to tell. Chole encountered problems in the social interaction with peers.

4.3.2.5.5 Chole’s creative development

From a quick glance at Chole’s artwork shown in Figure 4.34 and the simple statistics recording the repetition of her favourite subjects in her artwork in the above section, it is possible to see that many pieces of Chole’s artwork were created with similar images from her favourite sets but in different compositions. For example, similar girls appeared in the art produced in Activities A5, A13, A16, A17 and A19.

Figure 4.36_A10_Chole’s 5-leg rainbow dog

Chole’s girls and animals showed her personal design style; however, her creative development seemed to remain static. The situation was similar to her close friend, Ting. Her work was confined to the repetition of those designs, and no significant changes were found over the seven months.

Chole's level of creativity may be regarded higher than Ting's, if her creative development is considered in terms of ideas or thoughts, rather than through the characteristics of her visual images. Some of her artwork looked like a fantasy land surrounded by flowers, butterflies and friendly animals. They were the results of her imagination, and included princesses (A4, A15, A6), not ordinary girls of the real world. The best example was the rainbow dog from Activity A10 (MOV61_1340). Chole knew that a dog had four legs, but she explained that the dog had five legs because it had eaten a lot. The dog initially wished to find an angel to help it to be a girl (the dog's thoughts were shown as a flower shape above its head); however, it eventually decided not to change into a human. The visual images and narrative showed her imagination.

Similar imaginative ideas that were not based on her daily life were found in the collages of Activities A15 and A17. After playing football, Princess Repunzel went to bathe in a hot spring (left), then had dinner and went to sleep (the house in the centre) (A15_M2U14). The lion-like creature was not a lion but "Mama Sarah (莎拉媽媽)" with antennae around its head (A17).

Figure 4.37 Chole's creative development reflected in artwork

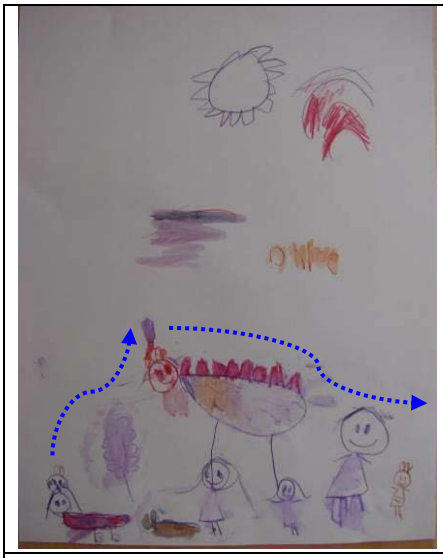
	
A15_A collage_Princess Repunzel was playing football at night. Later she bathed in the hot spring (left) and had dinner in the house (centre).	A17_M2U26_1643_Chole was making a silver collage of "Mama Sarah" according to the draft. She replied that it was not a lion, and the spikes around the head were not hair but antennae. A Sarah baby was next to it.

4.3.2.5.6 Chole's aesthetic development

Chole had her own set of aesthetic ideas. Her favourite subjects in her artwork were girls and small animals that were often related to beauty and loveliness. She liked to use red, pink, and bright colours and had natural environments as the backgrounds in her work. Therefore, her scenes were usually peaceful and delightful.

Chole sometimes developed compositions in two parts (A6, A10, A13, A15, A16). The upper part was for the natural objects of the background, such as the sun, the moon, stars, clouds, birds and butterflies. The lower part was used to present human activities, and the objects were often arranged in horizontally. As Kellogg, Lowenfeld and Brittain described (Fox & Schirrmacher 2012, pp. 99-100 and Koster 2001, p. 63), the objects were drawn according to how the child felt or thought, and this may have led to exaggeration, distortion and the lack of proportion in comparison with real objects. Chole's girls and houses were of similar height, and the girls' hair was exceptionally long. Colours were used randomly and unrealistically.

Figure 4.38 Chole's aesthetic development reflected in artwork



A5_The lion dance

A19_A card for Father's Day

Among all her works, the lion dance in A5 was the most outstanding in aesthetic terms. At first glance, the viewer may be attracted by the harmonious pale purple, red and orange colours found in different layers of the composition, creating a light, bright and lively picture. For example, the picture had a purple parade at the bottom, purple clouds and an orange signature in the middle, and a big sun and red curves in the upper part. The parade of the lion along the base of the picture was the main event in the painting. The lion was the most sophisticated form, for it had a small head with big eyes and decorations on top and a large body with a wavy pattern and red spikes on its back. It was led by two animals and a purple flower on the left, followed by two lion dancers, a bigger figure and finally a small rabbit. They were of different sizes but were in an orderly line. If a line was drawn to link their tops from left to right, a rhythmical curve would be formed due to their different heights. It was the varieties of forms and the visual rhythm that made the painting interesting. The painting created a lively parade that seemed to be in motion. The picture had a complete story to accompany it.

Chole's card design from Activity A19 showed two persons in a uniform structure arranged in a tilted composition. The four snowflakes were arranged in a U-shape. The composition was neat and rhythmical.

4.3.2.5.7 Chole's cultural development

In Activity A5, Chole drew a picture of a lion dance, a traditional activity for Chinese New Year. She said that the lion was female. The two dancers and the spectator were also girls, since they were wearing triangular dresses. The painting was not a documentary, but an integration of a cultural event and her imagination since lion dance are traditionally performed by men and all lions are males.

4.3.2.5.8 Chole's personal development

Chole's favourite subjects for representation in her artwork were animals, girls and princesses with long hair and triangular dresses. She liked using pink, purple and red. Most of her artwork was feminine in nature.

4.3.2.5.9 Chole's overall development

Chole was an efficient producer of artwork, and sometimes created up to three pieces in a session. Her development in and through the visual arts was average. Chole could manage basic techniques when drawing her favourite subjects, like animals and people. Much of Chole's artwork, regardless of type, was created by using similar images from her own favourite set of images. It made her artwork look similar and as if it was without significant changes throughout the seven months of the project. At the beginning of the research project, she was not confident in presenting her work and spoke so softly that the researcher and classmates sometimes could not clearly

hear what she said (A2 and A8). Her verbal presentation improved towards the end of the study period. However, she was still lack of self-confidence. She sought others' comments at the beginning of the term, but did not receive much positive support. She could work on her own in the middle of the term. However, later in the term, she was inclined to depend on others again when she encountered difficulties in art production. Her physical and social growth seemed to weaken as she failed to overcome difficulties in making her own artwork and depended on others.

4.3.3 Discussion: Can a rating scale show an individual child's development?

Many parents ask whether their child's development is normal. Perhaps this is why the British national curriculum assessment: 2013 *Early Years Foundation Stage Profile* requires teachers to make a judgement based on three outcome bands that best describes the child's learning (Standards & Testing Agency of Department for Education 2012a, p. 11).

My research compared children's drawing development according to ideas suggested by Kellogg, Lowenfeld and Brittain (cited in Fox & Schirrmacher 2012, p. 99-100; Koster 2001, p. 63), as well as other scholars and local authorities, such as *the Heep Hong Society (2006). My idea was that a rating could offer a quick reference for each individual child's development within a class or the target group in this study. So, the following section presents the five children's performances in and through visual arts activities on a rating scale partially according to a framework for the creative and aesthetic areas required by the Hong Kong performance indicators. The assumption was that parents would know whether their children were mostly at the levels expected for various aspects of their work.

Figure 4.39, the rating of five children in the visual arts assessment framework, shows how each child was rated from several perspectives. The rating of the individual children's development in each area falls in the level expected (the medium box) if the performance is within the normal or average range when assessing children with the standards (Eisner 1972, pp. 208-211) mentioned above. Many areas of development for the children of this study were rated as average or meeting the expected level. For example, Ting's social development was rated as exceeding or beyond the expected level because she was actively able to express her ideas, establish communication channels and develop friendly relationships with others. Chole's social development was rated as being at the emerging level or not yet at the expected level, because she was inclined to depend on others in art making in the latter stage. Lok's social development was rated as exceeding the level expected, because he could constantly maintain positive interactions with classmates and teachers, and demonstrated his interest in people in his artwork. Moreover, his creative development was rated as exceeding the level expected due to his imaginative artwork. Yeung was rated exceeding the level expected in four areas. His dinosaur cars from Activity A6 were a good illustration of his ability in the visual arts, one that had gone beyond the abilities of the rest of the class. His physical, cognitive, creative and aesthetic development was revealed by his attractive and sophisticated images, elaborate compositions and rich and imaginative narratives in his artwork. Ka's creative development was rated exceeding the level expected. Although some of his artwork were impressive, the main reasons were his creative perceptual thinking and rich narratives accompanied with his work.

Figure 4.39 The rating of the five children in the visual arts assessment framework

Areas of development	Lok			Yeung			Ka			Chole			Ting		
	em	exp	exc	em	exp	exc	em	exp	exc	em	exp	exc	em	exp	exc
Physical (p)		✓				✓		✓			✓			✓	
Cognitive (c: cl/ cp)		✓				✓			✓		✓			✓	
Emotional (e)		✓			✓			✓			✓			✓	
Social (s)			✓		✓			✓		✓					✓
Creative (cr)			✓			✓		✓			✓			✓	
Aesthetic (a: al/ ap)		✓				✓		✓			✓			✓	
Cultural (cu)		✓			✓			✓			✓			✓	
Personal (pe)		NA			NA			NA			NA			NA	
OVERALL															

Little/Emerging (em) Some/average/expected (exp) Much/exceeding (exc)

However, the rating is only a rough estimation. Its meaning and function will not be clear if it is used alone. With this type of diagram, parents will not understand why a teacher rates their child at that level. It should be used as a supplementary assessment accompanied by a display of each child's artwork and a written interpretation by teachers.

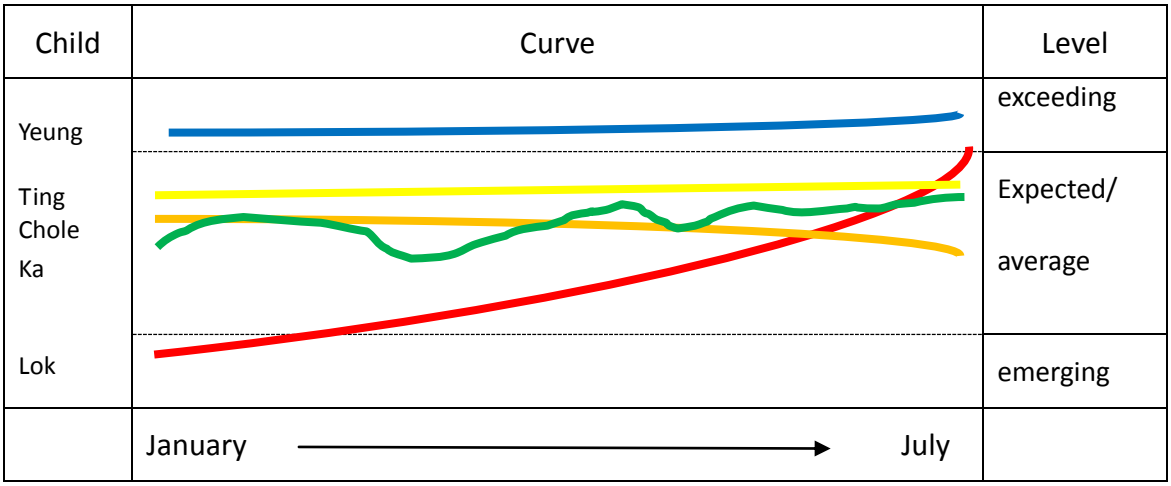
4.3.3.1 The limitations of a rating scale

The rating scale has its limitations. It can only show the outcome at the optimal or final stage of the study, and cannot show the path of growth over the period of examination. For example, Chole's social development was rated as "emerging", but over the course of the study, it actually declined. Moreover, I found it difficult to rate Chole's physical development, as she was capable of making art but inclined to depend on others to do it for her in the latter stage of the project. It would be inappropriate to rate her as "emerging", because she was probably able to make artwork, but instead she shifted the work onto others who were willing to help her, such as Ting, Yeung and

the teacher. The only assessment choice therefore was the level of "expected", but this does not clearly reflect the changes in Chole's physical development. Therefore, the rating scale should be used as a supplementary assessment tool in conjunction with the interpretation written by the teacher and a display of the child's artwork.

By representing each child's overall growth by a curve, their developmental trends are summarized in Figure 4.40.

Figure 4.40 The developmental pattern of children's growth in the visual arts



Chole's development is represented by a slightly declining slope showing her weak interest in art-making and growing dependence on other's help. The development of Ting and Ka can be presented by a steady flat line in the average level, while Yeung's development may be presented by a steady flat line in the exceeding level. Lok was the child who showed the greatest improvement in the target group.

4.4 Summary of the chapter

This research was motivated by the mandatory assessment document, the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain on Children's Development*

(EMB & SWD 2003), which requires ECE teachers to assess children's performance in aesthetic development. Chapter 4 is the responses for the three research questions on what to assess child development in and through visual arts, how well the Performance Indicators assess aesthetic development in visual arts, and what information about five children's development can be found by portfolio assessment.

4.4.1 The implications of scholarly work, other curricula and assessment documents on what to assess child development in and through the visual arts

Other curricula and assessment documents showed that more areas other than aesthetic and creative development can be found in visual arts activities; and suggested observation and portfolios were appropriate assessment modes on young children. The summary of findings are listed below,

4.4.1.1 More areas of child development can be assessed

Curricula and assessment documents found in Hong Kong, Singapore, the USA, including New York City, and the UK contain more elements for visual arts assessment than the Hong Kong Performance Indicators (PIs). Besides creativity and appreciation of art, they also consider skills, use of materials, art elements, expression of ideas and feelings, problem solving, and cultural understanding. These concepts involve physical, aesthetic, cognitive, emotional, creative and cultural development. These documents also aimed to look for observable outcomes, rather than the attitude demonstrated in the Hong Kong Performance Indicators, such as showing interesting,

willingness to participate in creative activities (EMB & SWD 2003, p.13).

4.4.1.2 The limitations of the Hong Kong Performance Indicators

The findings indicated that the Hong Kong Performance Indicators only covered a small portion of overall child development in and through the visual arts, namely the aesthetic and creative areas. Moreover, two out of five items of descriptions are about attitudes which are not valid indicators that reflect an individual's performance. For example, a child who shows interest in various forms of beauty and is willing to participate in creative activities (the 2nd and 5th items of performance in Hong Kong PIs) is not demonstrating what he knows or can do. And, the other descriptors often repeat similar abstract wordings, such as "appreciate various forms of beauty", "use the imagination" and "creativity in art". These are not specific requirements that can guide ECE practitioners to collect relevant evidence since there are no clear definitions on aesthetics and creativity. Therefore, this research attempted to find some practicable definitions on the two key concepts of aesthetics and creativity.

4.4.1.3 Conceptualizing aesthetics and creativity- the two key concepts in children's aesthetic development of the Hong Kong Performance Indicators

In order to clarify what aesthetic development is before collecting relevant evidence of child development, two key concepts - aesthetics and creativity - were defined in conjunction with how to apply them in the early childhood context. This research

adopted a broad definition of aesthetics and collected all evidence of aesthetic development in two areas: (1) the symbolic representation of pleasant or unpleasant feelings or cognitive thinking using art vocabulary, such as colour, line, etc.; and (2) the subjective or objective judgement of what constitutes beautiful, ugly, sublime, enjoyable or admirable natural or man-made objects, in other words, aesthetic appreciation. The judgement of beauty can be universally communicable.

Regarding the definition of creativity, this study included concepts that could be applied to assess children's creative development. The concepts include mini-c creativity of the four C model of creativity, imagination, fantasy, flexibility, elaboration, fluency, and the original interpretation of experience. Originality should be discussed and further elaborated since there are variations in the level of difficulty as defined by different scholars.

4.4.1.4 Ways to assess child development in the visual arts

Some research, curricula and assessment documents recommended observation and portfolios were appropriate means for understanding and evaluating child development in the visual arts. A child's artwork, dialogues and behaviours can be observed and collected in a portfolio that serves as evidence of one's growth.

Moreover, the child performance in the visual arts can be systematic analyzed and presented in various area of development with reference to the holistic approach of art assessment (Fox & Schirrmacher 2012; Lowenfeld 1957). This includes physical, cognitive, emotional, social, creative, aesthetic, cultural, and personal development. Then, the assessment goes beyond the aesthetic and creative areas required by the

Hong Kong Performance Indicators. In order to help ECE teachers to collect the relevant evidence of children's development in the various areas, a rich resource of descriptors for each area (Figure 2.10) were collected from 10 sources, including Hong Kong PIs and curricula, a UK national assessment document, and books related to art assessment.

4.4.2 A complete example to show how to assess and present a child's development through portfolio assessment and the holistic approach in local Hong Kong context

There are few studies on the Hong Kong Performance Indicators. And, there are no examples for Hong Kong ECE practitioners to see how to assess children's aesthetic development. Although some scholars (Fox & Schirrmacher 2012; Lowenfeld 1957) have stated that a holistic approach to child development could be used as a framework or instrument to assess children's artistic development (Fox & Schirrmacher 2012, p. 295), there is not a complete case or example to show how to assess an individual child's development using a holistic approach. Lowenfeld's study on the pre-schematic stage (4-7 years) mainly focused on the drawing of human figures. Moreover, Lowenfeld's examples of children's development were drawn from more than one child and not on a personal basis (1957, pp. 112-116). Therefore, this case study referred to the assessment framework of the holistic approach from Lowenfeld, Fox and Schirrmacher and using portfolios to assess development of five 4-year-old children in and through visual arts activities in Hong Kong, illustrates the possibility of putting theory into practice to conduct an art assessment of young children in a local context.

4.4.3 Individual children's development

The five case studies showed individualized child development across the various areas of development in and through visual arts activities.

4.4.3.1 Yeung

Yeung's development was the most outstanding among the five children revealed in his physical, cognitive, aesthetic and creative development from an early stage. He often quietly and independently worked on his art. Yeung could draw comparatively detailed pictures with controlled lines and created the most sophisticated drawings of the whole class. His coloured artwork displayed attractive colour schemes, and he was skillful in many art techniques. He was able to present highly recognizable figures or objects with great detail and through thoughtful compositions, such as the dinosaur cars in Activity A6. Many pieces of his work were often highly narrative and incorporated his own ideas and imagination. His creativity was related to the elaboration of his images, imaginative narrative of his work and his careful use of space. He maintained a high quality of performance throughout the seven months of this study.

4.4.3.2 Lok

Lok was the child who showed the greatest improvement in physical and creative areas

in the group. Lok's progress in art production and self-confidence developed from his being unable to draw a guitar by himself and having to follow a classmate's drawing in Activity A1 in January 2007 to working confidently and independently on a long train in Activity A10 in late March. In three months he went from drawing unsteady lines to producing stable lines and forms and using basic geometric forms and linear compositions to construct his artwork. He actively engaged in visual arts activities, and he liked to use trains as the theme of his work. Some of his work was richly imaginative and conveyed a visual narrative (Matthew in Rodger 1999 cited in Anning & Ring 2004, p. 23). Lok was active in creating and solving problems in his artwork. For example, he drew a train with broken wheels in Activity A10, but also invented a method of rescuing all the passengers and even the train by fastening ropes dangling from an aeroplane around each person's belly and the rail track. The rich narrative and compositional elements in this drawing of the train reflected his rich imagination and knowledge of rescue procedures, as well as his close social relationship with his teacher and classmates. Lok showed his good-temper and patience in persuading a classmate, who unreasonably kept the glue stick when Chin passed it to Lok, to lend it to him. He was cooperative and willing to share resources and tidy up the room after activities. On the whole, his social and creative developments were rated as outstanding.

4.4.3.3 Ka

Ka was the youngest child among the five children. He looked active and cheerful. Ka was an independent child who had his own ideas and was seldom affected by others. He enjoyed playing with his artwork in class. His artwork was quite sophisticated and

was not easy to interpret. There is no a single piece of artwork that shows all aspects of his development. Some of his work embedded special features and personal perspectives that were difficult to understand without an explanation. Examples include the realistic drawing of a Chinese lion head from a side view from Activity A5 and the original design of the flying train from Activity A10. He could verbally present his rich and imaginative ideas on spatial arrangements or the functions of certain forms that were hardly recognized by others even with his explanation. Examples of these include the drawing of the flying train from Activity A10 and the dinosaur aeroplane from Activity A21. His techniques did not support the expression of his ideas visually, and thus some of his work was difficult to understand. His development in physical and aesthetic areas was regarded as average in the visual arts, but his cognitive thinking and imaginative verbal expression were more advanced than his graphic symbolic representation. Ka's overall performance in visual arts was erratic and rated average or at the expected level in general. His symbolic representation of ideas may be more clearly visualized when his physical development catches up with his cognitive and creative growth.

4.4.3.4 Ting

Ting was five years old, and the eldest child in the class, at the start of this study. She was the tallest in her class and had long hair, a common feature of the girls depicted in her artwork. Ting's performance plateaued in her physical, creative and aesthetic development because no significant differences or progress occurred over the seven months of this project. She was skillful at realistic drawing at the beginning of the study; however, the objects presented in her artwork tended to have a consistent

format or were stereotyped repetitions (Lowenfeld & Brittain 1982, p. 54) of her own work. Ting had a reasonable level of knowledge of general materials and the visual arts. Ting could work independently and in a group. She was sociable, able to listen and respond to what others were saying, articulated of her own ideas well in general discussion and during the art criticism sessions. She was helpful and often assisted Chole to make her artwork.

4.4.3.5 Chole

Chole's development in and through the visual arts was average. Chole could manage to execute basic techniques in drawing her favourite subjects, like animals and people. Much of Chole's artwork was created by using similar images, such as girls and animals, from her own favourite set of motifs in different compositions. It made her artwork look similar, as if it was without significant change over the course of observation. At an early stage of the study, she was not confident in presenting her work and spoke so softly that the researcher and classmates sometimes could not clearly hear what she said (A2 and A8). Her verbal presentation improved towards the end of the study period. However, she was still not confident in art-making and expressing her ideas in front of the class. She could work on her own in the middle of the term, but she was inclined to depend on others when she encountered difficulties in making art later in the term. Her physical and social growth seemed to weaken as she failed to overcome difficulties in making her own artwork and depended on others for assistance.

To conclude, Chapter 4 has answered the three research questions to a large extent. Through the literature review on scholarly work, official curricula and assessment documents of various countries, the possible answers for the first question on what should be assessed in and through early childhood visual arts activities are imagination, creativity, problem solving, techniques, art appreciation, cultural understanding, expression of ideas and feelings, use of materials, media, and art elements. The summary is far more beyond the request on aesthetics and creativity of Hong Kong Performance Indicators. And, the review on aesthetics shows that it is regarded as art appreciation in art education; and teachers should assess artistic rather than aesthetic development. And, creative development can be illustrated through imagination, problem solving, flexibility, elaboration, originality, mini-c creativity and original interpretation of experience. Moreover, the review showed that portfolios and observation are appropriate means of assessment to collect observable evidence to show what children know and can do; and children's development in and through the visual arts can be interpreted through the holistic approach of art assessment. The above findings reveal the weaknesses the validity and clarity of the Hong Kong Performance Indicators that is the reply for research question two.

With reference to the holistic assessment framework, this study successfully presented the five children's development with observable evidence in physical, cognitive, social and cultural areas including aesthetic and creative areas requested by the Performance Indicators.

Chapter 5 continues the analysis of the data in Chapter 4, and offers further findings in conclusions, implications, as well as limitations.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

5.1 Introduction

This research titled, "Assessing development in and through visual arts: case studies of five Hong Kong preschoolers" was motivated by the mandatory assessment document, the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain of children's development* (EMB & SWD 2003) that required ECE teachers to assess four main areas of children's development including aesthetic development. The Performance Indicators require teachers to assess young children's "creativity" and "ability to appreciate various forms of beauty" in the aesthetic development (EMB & SWD 2003, p.13).

My experience in working with the Performance Indicators led me to doubt the coverage and validity of the performance descriptors. Child development in visual arts activities is not limited to creative and aesthetic development. Some performance indicators do not seem valid descriptors of aesthetic development, such as a child "show(s) interest in various forms of beauty" and "willing to participate in creative activities" (EMB & SWD 2003, p.13). A performance indicator is defined as a criterion, or quantitative or qualitative measurement by which the performance, efficiency, achievement of a person or organization can be assessed, often by comparison with an agreed standard, objective or target in order to promote accountability and quality (Dictionary 2013; Health Service Executive 2012; Health Information and Quality Authority 2010, p.7; Bullen 1991). Therefore, this research

aimed to find out,

(1) What should be assessed in and through early childhood visual arts activities?

(2) How well do the Hong Kong *Performance Indicators (Pre-primary Institutions)* assessed children's aesthetic development in the visual arts?

(3) What information about five children's development in and through visual arts activities could be found in the Hong Kong local context?

Chapter 5 starts with a revision of the findings reported in Chapter 4. That is followed by the conclusions and implications classified in three aspects: education policy, educational practice, and research that may need to be conducted. The limitations and further recommendations are also discussed.

5.2 Summary of findings

The summary of finding consists of two parts: the findings from the literature review and case studies on five preschoolers.

5.2.1 Summary of findings from the review of literature

Chapter 4 has answered the three research questions to a large extent. Through the literature review on scholarly work, official curricula and assessment documents of various countries, the possible answers for the first question on what should be assessed in and through early childhood visual arts activities are: imagination, creativity, problem solving, techniques, art appreciation, cultural understanding, expression of

ideas and feelings, use of materials, media, and art elements. This summary covers far more than the items on aesthetics and creativity in the Hong Kong Performance Indicators.

The review on aesthetics and aesthetic development also shows that these terms are often replaced by art appreciation in art education; and the main trend of research is to assess students' artistic rather than aesthetic development.

Creative development can be illustrated through children's imagination, problem solving, flexibility, elaboration, originality, mini-c creativity (Kaufman & Beghetto 2009) and original interpretation of experience. Moreover, the review shows that portfolios and observation are an appropriate means to collect observable evidence to show what children know and can do.

Children's development in and through the visual arts can be interpreted through the holistic approach of art assessment that includes physical, cognitive, emotional, social, creative, aesthetic, cultural and personal growth. The findings above reveal the weaknesses of the Hong Kong Performance Indicators. They have problems in scope and validity, which is the reply to research question two.

With reference to the holistic assessment framework, this study successfully answered research question three by presenting the five children's development with observable evidence of development in physical, cognitive, social and cultural areas as well as in the aesthetic and creative areas required by the Performance Indicators.

5.2.2 Summary of findings from the five case studies - Individual children's development

Yeung

Yeung's performance was the most outstanding among the five children revealed in his physical, cognitive, aesthetic and creative development from an early stage. He often quietly and independently worked on his art. Yeung could draw comparatively detailed pictures with controlled lines and created the most sophisticated drawings of the whole class. His coloured artwork displayed attractive colour schemes, and he was skilful in many art techniques. He was able to present highly recognizable figures or objects with great detail and through thoughtful compositions, such as the dinosaur cars in Activity A6. His work was often highly narrative and incorporated his own ideas and imagination. His creativity was related to the elaboration of his images, imaginative narratives and his careful use of space. He maintained a high quality of performance in different media throughout the seven months of this study.

Lok

Lok was the child who showed the greatest improvement in physical and creative areas in the group. Lok's progress in art production and his self-confidence developed from his being unable to draw a guitar by himself and having to follow a classmate's drawing in Activity A1 in January 2007 to working confidently and independently on a long train in Activity A10 in late March. In three months he went from drawing unsteady lines to producing stable lines and forms and using basic geometric forms and linear compositions to construct his artwork. He actively engaged in visual arts activities,

and he liked to use trains as the theme of his work. Some of his work was richly imaginative and conveyed a visual narrative. Lok was active in creating and solving problems in his artwork. For example, he drew a train with broken wheels and invented a method of rescuing all the passengers in Activity A10. The rich narrative and compositional elements in this drawing of the train reflect his rich imagination and knowledge of rescue procedures, as well as his close social relationship with his teacher and classmates. Lok showed his good-temper and patience in the inter-personal relationship in the process of art-making; and was cooperative and willing to share resources and tidy up the room after activities. On the whole, his social and creative development was rated as outstanding.

Ka

Ka was the youngest child among the five children. He looked active and cheerful. Ka was an independent child who had his own ideas and was seldom affected by others. He enjoyed playing with his artwork in class. His artwork was quite sophisticated and was not easy to interpret. There was no a single piece of artwork that showed all aspects of his development. Some of his work embedded special features and personal perspectives that were difficult to understand without his explanation. Examples include the realistic drawing of a Chinese lion head from a side view from Activity A5 and the original design of the flying train from Activity A10. He could verbally present his rich ideas on spatial arrangements or the functions of certain forms that were hardly recognized by others even with his explanation, such as the dinosaur aeroplane from Activity A21. His techniques did not support the expression of his ideas visually, and thus some of his work was difficult to understand. Ka's

development in physical and aesthetic areas was regarded as average in the visual arts, but his cognitive thinking and creative verbal expression were more advanced than his graphic symbolic representation. Ka's overall performance in visual arts was erratic and rated average or at the expected level in general. His symbolic representation of ideas may be more clearly visualized when his physical development catches up with his cognitive and creative growth.

Ting

Ting was five years old, and the eldest child in the class, at the start of this study. She was the tallest in her class and had long hair, a common feature of the girls depicted in her artwork. Ting's performance plateaued in her physical, creative and aesthetic development because no significant differences or progress occurred over the seven months of this project. She was skilful at realistic drawing at the beginning of the study; however, the objects presented in her artwork tended to have a consistent format or were stereotyped repetitions (Lowenfeld & Brittain 1982, p. 54) of her own work. Ting had a reasonable level of knowledge of general materials and the visual arts. Ting could work independently and in a group. She was sociable, able to listen and respond to what others were saying, articulated of her own ideas well in general discussion and during the art criticism sessions. She was helpful and often assisted Chole to make her artwork.

Chole

Chole's development in and through the visual arts was average. Chole could manage to execute basic techniques in drawing her favourite subjects, animals and people. Much of Chole's artwork was created by using similar images, such as girls and animals, from her own favourite set of motifs in different compositions. It made her artwork look similar, as if it was without significant change over the course of the observation. At an early stage of the study, she was not confident in presenting her work and spoke so softly that the researcher and classmates sometimes could not clearly hear what she said (A2 and A8). Her verbal presentation improved towards the end of the study period. However, she was still not confident in art-making and expressing her ideas in front of the class. She could work on her own in the middle of the term. Later in the term, she was inclined to depend on others when she encountered difficulties in making art. Her physical and social growth seemed to weaken as she failed to overcome difficulties in making her own artwork and depended on others for assistance.

5.3 Conclusions

The conclusions can be classified in three aspects: education policy, educational practice and research.

5.3.1 Conclusions relating to education policy

The review of scholarly work, official curricula and assessment documents showed that

the key elements in visual arts assessment are imagination, creativity, problem solving, use of media and art elements, expression and sharing of ideas and feelings, art appreciation, and cultural understanding. They are related the physical, cognitive, emotional, social, aesthetic, creative, cultural areas so that child development in visual arts can be systematically categorized and presented according to the holistic approach of art assessment suggested by Lowenfeld (1957), Fox and Schirrmacher (2012). The findings above revealed that the Hong Kong Performance Indicators of children's aesthetic development have covered only a small portion of overall child development that can be found in and through the visual arts, namely the aesthetic and creative areas.

Moreover, the descriptors of aesthetic and creative development in the performance indicators are not specific enough to enable ECE practitioners to understand and implement the assessment criteria. Performance indicators are normally related to outcomes or evidence to show what the target group knows or can do. However, two of the five items in the aesthetic development of the Hong Kong performance indicators (EMB & SWD 2003, p.13) are not related to children's achievement but to their attitudes. There are also questions about the validity of the assessment items. For example, a child's aesthetic ability is not revealed by the fact that he is "willing to participate in creative activities" or shows "interest in various forms of beauty" (the second and fifth items in the performance indicators of aesthetic development). A child who enjoys working on visual arts activities and shows interest in beautiful things does not always make or appreciate interesting or visually aesthetic things.

Furthermore, some abstract terms in the description of performance indicators do not offer clear guidelines for teachers to assess children's performance and collect relevant evidence. For example, the fifth item of performance (EMB & SWD 2003, P.13)

indicates that children's aesthetic development can be seen when they "show interest in various forms of beauty and appreciate the beauty of life". However, it is not clear how ECE teachers can assess children's aesthetic development if there are no clear definitions of beauty.

5.3.2 Conclusions relating to education practice

The literature review and case studies on the five children draw the following conclusions:

5.3.2.1 Portfolio assessment and observation as appropriate means of art assessment

Research, official curricula and assessment documents recommend that portfolios and observation are appropriate means to understand and assess child development in the visual arts. For example, the Hong Kong and Singapore curricula and Project Spectrum recommended the use of portfolios to assess children's development. Most official documents suggested using observation; and some emphasized observation of both the process and outcome/artwork (Standards & Testing Agency of Department for Education 2012; New York City Department of Education 2003; CDC 2002b; Krechevsky 1998). Several systems requested observable evidence (Department of Education, Employment and Workplace Relations 2009, pp.5, 7), such as photos and videos (Standards & Testing Agency of Department for Education 2012).

There are multiple sources and ways of evidences to show a child's development in and

through visual arts.

An art portfolio is usually constructed in a qualitative format. Its multiple sources of evidence include photos, written descriptions of children's artwork and behaviour as well as transcriptions of children's talk. Therefore, a systematic portfolio with rich evidence categorized in a retrievable database is important for a valid and reliable qualitative case study and a portfolio assessment.

Besides the qualitative format, the standardized or quantitative assessment could be used as a quick reference to indicate levels of achievement or whether the child was in the normal rate of child development at a particular age, such as the rating scales (Standards & Testing Agency of Department for Education 2012a; *Wong et al. 黃艾珍 2007a; Althouse et al. 2003, p.127; Krechevsky 1998, p.157). A rating scale or curve lines is supplementary information showing whether the standard of the work meets expectations by comparing it with the norm of child development or other classmates. The artwork, written interpretation, rating scale and curve lines contribute to a comprehensive report on a child's growth.

Depending on the resources and requirements of different stakeholders, ECE teachers would not be expected to produce reports of the same depth as this research.

5.3.2.2 More areas of child development in and through visual arts other than aesthetic and creative development

A number of visual arts or early childhood education curricula and assessment documents in Hong Kong, Australia, Singapore, New York City and United Kingdom

suggested that the key elements for art assessment were imagination, creating (creativity), techniques, and the use of materials/media, art knowledge and elements. They also suggested that children should be observed to see the extent to which they could represent/express, appreciate and share ideas and feelings (CDC 2002b & 2006; Department of Education, Employment and Workplace Relations 2009, pp.5, 7; Ministry of Education 2012, pp.68-71; New York City Department of Education 2003; Standards & Testing Agency of Department for Education 2012; Krechevsky 1998). The two Hong Kong curricula mentioned 'culture' (CDC 2002b & 2006), while the British national curriculum assessment, *Early Years Foundation Stage Profile*, included 'problem-solving' (Standards & Testing Agency of Department for Education 2012). These key concepts of art assessment cover the following areas of child development:

- creative (imagination, creativity, problem-solving)
- physical (techniques, use of materials)
- aesthetic (art elements, appreciation)
- cognitive (to represent/express ideas)
- emotional (express feelings)
- cultural

5.3.2.3 Using the holistic approach of art assessment to present various areas of child development

Some scholars (Fox & Schirrmacher 2012; Lowenfeld 1957) suggested a holistic approach of art assessment to interpret the overall child development in visual arts that covered social and personal development in addition to the physical, cognitive, aesthetic, creative, emotional and cultural growth mentioned in the documents above.

Therefore, it is appropriate to use the holistic approach to present children's various areas of development in and through the visual arts in a systematic way.

However, not much evidence of children's emotional development that is cherished in Western culture could be found in the case studies of five Hong Kong preschoolers. This lack of evidence might have been caused by the activity design that was mainly teacher-initiated and objective-oriented. Children have more chances to express ideas and thinking rather than emotion and feelings, even in their free creation when they were not bound by any requirement of themes or experiment on materials.

5.3.2.4 Different patterns of development among the five children

This case study of five children showed that each child has his or her individualized developmental pattern in the visual arts (refer to details in Section 4.3.2, 4.4.3 and 5.2.2). Even when they engaged in the same activity and their performance was interpreted according to the same assessment framework, their art products and behaviour in the process were different and could not assessed against a standard answer, as might be done in assessing language or mathematics.

For example, Yeung kept a high level of performance in physical, cognitive, aesthetic and creative development over the seven months of the study, and his performance in visual arts was the most outstanding in the target group as well as the whole class. His coloured artwork displayed an attractive colour scheme, and he was skilful in many techniques and able to present highly recognizable figures or objects with great details and thoughtful composition such as the dinosaur cars in A6. Lok showed the greatest improvement in physical and creative areas among the five children. Among the five

children, Ting and Chole shared some similarities in physical and cognitive development, as was shown in their frequent presentation of human beings and natural objects. Ting's performance was plateaued in physical, creative and aesthetic aspects in the period of study. Ka's performance was fluctuated but creative in conceptual thinking and imaginative narratives of the artwork.

Therefore, the content and length of the teacher's written interpretation of their development were also varied. For example, there were more discussions of Lok's physical, social and creative development, and Yeung's cognitive, aesthetic and creative growth. The interpretation of Chole's development covered 11 pages, while Ka's extended for 15 pages. ECE teachers do not need to meet a standard format or length in their assessments, as long as they provide sufficient evidence of each child's development.

And, child development is not necessarily progressive. Adults often expect positive growth from children over a period of time. For example, there was a significant growth in Lok's physical and creative development. However, this is not always the case. For example, Ting and Yeung maintained a similar level of performance over the seven months, while Ka's physical and aesthetic development in visual arts fluctuated and Chole's and Yeung's social development regressed. Chole became more dependent on others and Yeung became less helpful.

5.3.2.5 Free creation as the most resourceful evidence of child development

This study found that the most representative work and useful information about the children's development in and through the visual arts was their free creation and free

drawings. Yeung's dinosaur cars, Ka's butterfly trampoline, Lok's long train and Ting's train and plane are impressive pieces of artwork that can be regarded as their representative pieces. The free drawings showed their optimal performance in aesthetic development during the time period of the study.

However, we should not overlook the importance of objective-oriented activities that enhanced children's mastery of techniques in using tools and media, understanding of art knowledge such as art elements. Those activities nurture children's ability in using visual language to express their ideas and imagination in creative and aesthetic ways.

5.3.2.6 A gender difference between boys' and girls' choices of subject

Although gender differences in children's development were not the focus of this study, there was a clear difference in the choice of subjects between the boys and the girls. The two girls liked to draw female figures (A5, A10, A11, A15, A16), flowers (A10, A15, A16), birds (A13, A16), animals (A4, A5) and houses (A13, A16), as well as make bracelets or crowns. They often used bright and warm colours like pink and red. The choice of topics and use of colours were feminine. The boys' favourite subjects were trains, cars, planes and dinosaurs, which are typical themes among boys. The focus on colour was variable. Lok and Ka did not show much attention on the choice of colours, unlike Yeung, who did. It seems that a gender difference in the choice of subjects and topics still exists.

5.3.2.7 Physical development as a pre-requisite for visualizing aesthetic and creative development in the visual arts?

The case study of Ka revealed that physical development seems to be a pre-requisite for visualizing aesthetic and creative development in the visual arts. In other words, the aesthetic and creative development in the visual arts, the arts that are visible, unlike cognitive or perceptual learning that may be invisible, is highly dependent on physical development. For example, Ka had a lot of ideas in his mind that enabled him to verbally present the contents and spatial arrangement of the Chinese lion head (A5), the butterfly trampoline (A6), and the flying train (A10) to others. However, his immature skills in drawing and painting with water-soluble pencils did not allow him to visualize his rich cognitive and creative ideas, fluently expressed in verbal form, clearly on paper. It explained why his class teacher commented that his works were abstract, unclear and not realistic in the second and third interviews. His teacher and classmates sometimes did not understand what he had done, although he had rich contents and was very clear of what he was doing.

5.3.2.8 Variations in children's creativity between disciplines

A child, such as Ka, may be creative in cognitive development but not in aesthetic development. His artwork did not have sufficient visual elements to portray his ideas so that they could be understood by others. The teacher commented that when Ka drew a line, he said that it represented many things. It implied that Ka was weak in art skills, but strong in verbal expression. He was physically weak in expressing his ideas in a recognizable visual form, but he presented advanced logical and creative thinking in his discussion of artwork and in the spatial concepts of the work.

5.3.3 Conclusions relating to research

Three conclusions related to research are drawn from the findings:

5.3.3.1 Insufficient research on art assessment and the Hong Kong Performance Indicators

The literature review shows that there are a few research studies on the implementation of the Hong Kong Performance Indicators but none on the validity of the measuring tools suggested by Chan and Chan (2003, p12) or the implementation of Performance Indicators in the area of children's aesthetic development. Difficulties on the implementation were revealed the need for professional development to help teachers understand what they can do to understand and assess children's development in and through visual arts.

5.3.3.2 The importance of a resourceful and retrievable database for a valid qualitative case study

Case study research is often criticized in three ways: there are difficulties in generalization (Cohen et al.2004; Hamel, Dufour & Fortin 1993; Stake 1995; Stake 2005; Yin 2003), a lack of rigor in case study research (Hamel, Dufour & Fortin 1993; Yin 2003), and problems in cross-checking and observer bias (Cohen et al. 2004; Hamel, Dufour & Fortin 1993).

This research overcame these difficulties in several ways. First, the case studies were based on the five children's development reflected in visual arts activities on a weekly basis for seven months. There was a clear protocol to collect and document the data. The rich database was first recorded in activity-based, and later was further interpreted and categorized on person- and area-based. The interpretation of the five children's development was based on a retrievable database with clear codes.

The 107-page video analysis partially solved the third problem because it consisted of transcription of children's dialogues and photos of their behaviours that allowed readers to cross-check the interpretation with the data. Further enquiries on children's performance could even be traced back to the video clips of art activities if necessary. The holistic approach of art assessment provided a uniform framework for interpreting the five children's development and resulted in facilitating the "petite generalization" (Stake 1995) of child development found in visual arts portfolios. It partially reduced the difficulties in generalization and loss of rigor.

However, it was not easy to keep a balance between having a rich pool of evidence for selection and having too much data. For example, a variety of data were collected in the case study. The photos or artwork and video clips that recorded the five children's behaviours and dialogues were excellent for studying what and how children learnt and developed in the process.

However, the collection of children's daily journals and reading reports that recorded in digital photos were not used much in this study since the video clips and artwork provided rich and even overwhelming evidence for interpreting child development. Because the interpretation of child development was evidence-based and researcher's bias was limited, the interviews of the class teacher also became dispensable. Its

function as investigator triangulation became insignificant.

This issue of managing complex data sources raises the issue of possible ways that researchers can avoid wasting time by designing better research methodology.

5.3.3.3 No single or simple way is found to guide teachers how to assess child development in and through visual arts

In the beginning of this research, I thought that the majority of Hong Kong ECE practitioners could learn how to assess child development in visual arts if a simple assessment method and complete examples were clearly introduced. I thought the assessment could be based on analyzing a child's representational or the most impressive artwork selected from the portfolio with reference to Feldman's critical approach of art criticism which was also regarded as a useful starting point for critique and assessment applied by teachers (Wright 2003, p.179).

Later, I discovered this oversimplified the problem and process. Even the teachers knew basic knowledge on assessment methods and procedures, including how to collect and document artwork and critical incidents in a portfolio and categorize child development in different areas, there was no simple or single way to interpret the children's artwork. This method could be effectively implemented on the case study of Lok and Yeung; however, it was not as effective in other cases as there were no distinctive representational artwork that could clearly represent the child's development.

A number of ways were applied to interpret the children's development in various

aspects. It might be a comparison of two sets of Ka's artwork, or showing the similarities and repetition instead of the distinctive features in Ting's and Chole's artwork. Sometimes, it was difficult to categorize and interpret the children's performance. For example, Lok watched and copied Ka's guitar in A1. Should I rate him at a low level of achievement in creative area, or at a reasonable performance in cognitive development? The interpretation of Ka's development was the most difficult task for the researcher.

Probably there would be different perspectives and variation in interpretation of the five children's development by different teachers; even if interpretation was based on the same sets of information.

Such concerns highlight the need for children to be assessed by a variety of means and perhaps a variety of assessors. Most importantly they highlight the need for teacher's professional development.

5.4 Implications

The implications of the study can be examined in three aspects: education policy, educational practice, and educational research.

5.4.1 Implications relating to education policy

It may be the right time to review the Hong Kong performance indicators, especially in the children's aesthetic development. The *Performance Indicators (Pre-primary*

Institutions): Domain on Children's Development was written in 2003. It may be the time to think about reviewing the document since statutory curricula in Hong Kong were normally revised within ten years. For example, the Hong Kong *Guide to the Pre-primary Curriculum* 2006 was revised from the old one published in 1996 (CDC 1996, 2006); and the *Visual Arts Curriculum Guide for Primary 1 to Secondary 3* (CDC 2003) replaced the *Syllabus for Art and Craft for Primary 1 to 6* (CDC 1995).

Moreover, there has been no review exercise of the quality assurance system like the one conducted on *Early Year Foundation Stage (EYFS) 2008* by the British Department for Education in 2011. A large scale review collected over 3,300 responses on the 2008 statutory framework before the issue of a revised statutory EYFS framework in September 2012.

Therefore, the Hong Kong government may need to consider a revision of the performance indicators. Since the aesthetic area within the four areas of child development is the weakest part, a thorough review of the items in the performance indicators by a team of members with expertise in arts education in early childhood education is highly recommended.

5.4.2 Implications relating to educational practice

The implications relating to educational practice can be discussed in three aspects, including different ways in responding to the requirement of Performance Indicators, interaction with children, and teachers' professional development.

5.4.2.1 Two ways to respond to the requirement of the Hong Kong Performance Indicators

There are two ways to respond to the requirements of the Hong Kong Performance Indicators: a direct but superficial way and a specific but complicated way.

The first way to respond to the Performance Indicators is a direct, easy but superficial way that is to respond to the five items of performance in the aesthetic development of the performance indicators. An example in chapter 1 (Figure 1.6) illustrates an easy and direct way to respond to the requirement of the performance indicators in children's aesthetic development. The evidence in the right column of Figure 5.1 below consists of the direct replies for the five items of performance required and a photo of the child's artwork.

Figure 5.1 The possible responses to the Performance Indicators (aesthetic development)

Items of Performance (EMB & SWD 2003, p.13)	**Evidences**
• able to use and try different materials and ways to express personal experiences and feelings	Yes, Ting was able to use pencil and coloured paper to express her experience in Singapore.  A15_M2U14_Ting_It's Singapore… I've been there, and South Africa….
• willing to participate in creative activities	Yes, she was.
• Appreciate his/her own work and others' work	Yes, Ting took the initiative to introduce her artwork to the researcher.
• able to use imagination and creativity in art and design….	Yes, Ting was able to use imagination. She said there was a child bathing inside the yellow house.
• show interest in various form of beauty, and appreciate the beauty of life	Yes, Ting used pencil and coloured paper to make an artwork, and took the initiative to introduce her artwork to others.

This example shows that it is not difficult to fulfil the requirements of the five items in the Performance Indicators. However, the responses and descriptions do not seem valid evidence of a child's aesthetic and creative development; nor are they able to show "creativity and ability to appreciate various forms of beauty" (EMB & SWD 2003, p.13). If the Hong Kong government officials and ECE practitioners were satisfied with such replies, then it would seem inappropriate to assess children's aesthetic and creative development in the following complicated way.

The second way to respond to the Performance Indicators is a specific, comprehensive but more difficult way that involves the use of an evidence-based portfolio assessment and a holistic approach.

A portfolio can document a child's dialogues and performance in the process, and artwork collected over a period of time. An evidence-based portfolio assessment can

provide rich evidence of children's development that is not limited to "aesthetic and creative" required by the Performance Indicators, but also physical, cognitive, emotional, social, cultural and personal development. It leads to a broader and deeper understanding of the child's various aspects of development in and through visual arts.

5.4.2.2 Encouraging children to talk on their own artwork and observing their behaviours in the process

Apart from collecting artwork and interpreting their achievement and growth reflected in a piece of work, teachers should provide more opportunities for children to talk on their own work. It was the valid interpretation and valuable evidence in a portfolio assessment, such as Lok's concerns for others by including all classmates of the same table in the drawing and detailed explanation of the train in Activity A10 that showed his social, physical and creative development. Together with the observation of children's behaviours in the process, teachers could offer more precise and comprehensive interpretations of the children's artwork and the development.

5.4.2.3 Further professional development for teachers in art criticism and assessment

The findings return to a common conclusion of many research studies: the importance of professional development (Wong & Li 2010, p.225; Fullan 2006 cited in Chan & Wong 2010, p.250; Wagner 2006 cited in Chan et al.2009, p.82; Poon 2008, p.25;

National Association for the Education of Young Children 2003, p.17). Teachers' professional ability, skills and knowledge (Mindes et al. 1996, p.68) in observation and analyzing children's artwork are still the crucial factors for the effective implementation of portfolio assessment.

However, not many ECE teachers in Hong Kong have professional development in art criticism and assessment. They are not familiar with the task of how to perceive, describe, analyze, interpret and judge children's art, in the manner of Feldman's critical approach to art criticism (1992, pp.487-510). Even if teachers have learnt the basic concepts, they may not be able to master observational methods and have confidence in their art criticism immediately.

Mindes et al. (1996, pp.68-69) mentioned some observer traps including over-interpretation of behaviour, observer's bias, wrong focus, and inaccurate recordings. Through continuous practice in art criticism and assessment, ECE teachers may become more observant and skillful in presenting the key points of children's artwork and their development in the assessment reports. Therefore, further professional development in art criticism and assessment seems essential.

5.4.3 Implications relating to educational research

There are few studies on the Hong Kong Performance Indicators, especially on the validity of descriptors and the implementation of the Performance Indicators on children's aesthetic development. This study revealed difficulties in implementation of sound assessment practices and so suggests the need for professional development in assessment for ECE teachers in Hong Kong.

There is also a need for further research in the validity and implementation of the Performance Indicators. Since there are no study has been conducted on assessing young children' artistic or aesthetic growth, especially with reference to the Performance Indicators, further research in other contexts is highly recommended.

5.5 Contributions of this research

This case study offered a complete example using portfolio assessment to show child development in and through visual arts in Hong Kong.

There has been no research on showing how to find out children's development in and through visual arts activities in Hong Kong, although some curricula (Ministry of Education Singapore 2012; CDC 2006, 2002b), assessment documents (Department for Education 2012; New York City Department of Education 2003; Krechevsky 1998), and scholarly work (Fox & Schirrmacher 2012; Lowenfeld 1957) have recommended assessment principles, framework, and methods to assess young children's development.

The case study on five 4-year-old children in a local early childhood setting in Hong Kong provided empirical information on what and how to find out the child development in and through visual arts activities. The findings of the research may contribute to fill the gap between theory and practice. The study illustrated how to assess and present five children's holistic development in various aspects in and through visual arts, and the limitations of an evidence-based portfolio assessment.

5.6 Limitations of this research

This research has some limitations that are commonly found in case study, such as small sample size and labour intensive process in data interpretation. And, the assessment methods and concepts of creativity and aesthetics adopted in this doctoral study may not be generally applicable in early childhood classroom practice.

5.6.1 Difficulty in drawing grand generalizations from a small sample size

This case study covered only five children and the sample size is too small to draw any generalization from the findings.

However, the two important essences of case study, the particularization and petite generalization (Stake 1995, pp.7-8), are the individual differences and similarities from an overview of a number of subjects. Stake (1995, p.7) stated that some "petite generalizations" based on a case or a few cases might be created since even a unique example in an intrinsic case study could be seen as a small step toward grand generalization (Stake 1995, p.7; Campbell, Flyvbjerg & Vaughan cited in Stake, 2005, p.448). If we follow this conception, this research has achieved some petite generalizations as follows:

(1) The children's development is not only limited to aesthetic and creative areas as stated in the Hong Kong Performance Indicators, but also holistically includes physical, cognitive, emotional, social, cultural and personal development;
(2) More evidence of development was found in physical, cognitive, social, aesthetic and creative areas; however, less emotional, cultural and personal growth in the

Hong Kong context;

(3) The children's patterns of growth were diverse;

(4) The children's development was not limited to progression, but also involved maintaining the status quo or regressing;

(5) The creations from free activities were the most useful evidence of children's development in Hong Kong context.

If art assessment is based mainly on children's artwork and other performance shown through behaviours and dialogues and their features are personalized and individualized, it is difficult to quantify and generalize in large-scale research without clear objectives and criteria. An exceptional case was conducted by Kellogg (1969 cited in Fox & Schirrmacher 2012, p.94) collected data from more than a million children over three decades and generalized stages of general development of child art, such as twenty basic scribble patterns in the first stage. Generalization is often a limitation of research in visual arts, but it is not the most crucial element in arts education research.

5.6.2 Uncertainty on the acceptance of the assessment methods and concepts on aesthetics and creativity used in this research

There are many different approaches to aesthetics, creativity, and assessing young children's performance and development in visual arts. This research focused on choosing the practical definitions that Hong Kong ECE teachers might be able to use in assessing children's development in and through visual arts. However, the concepts of aesthetics and creativity, and holistic approach of arts assessment suggested in this research may not be generally accepted by some scholars and ECE teachers in and

outside Hong Kong.

However, the most important objective of this research was to help the local ECE teachers understand and fulfill the statutory requirement to assess children's aesthetic development. Therefore, the practical and easily understood concepts of art assessment are applied in this study, rather than trying to find universally accepted ones which probably do not exist.

5.6.3 A discrepancy between assessing child development in a doctoral study and in classroom practice

Are portfolio assessment and the holistic approach still appropriate in classroom practice?

There is clearly a discrepancy between doctoral research and classroom practice in terms of the coverage, depth, and precision in interpreting the data collected in digital video clips. Such discrepancy raises the issue of whether portfolio assessment and the holistic approach are still appropriate for classroom practice.

It may be unrealistic to ask ECE teachers to follow the same protocol and go through the same procedure of data collection and analysis, involving transcription of video clips and the written summary of the critical incidents found in the videos. On the other hand, teachers do not observe and prepare portfolios for only five children or for only visual arts activities. They are concerned with all areas of learning of all the children in their class.

However, some fundamental concepts about art assessment can still be shared. Here

include: portfolio assessment, digital database, a holistic approach in reporting children's development that is based on the evidence of their artwork, and dialogues or behaviours in the process. Therefore, a simplified format of portfolio can be applied in classroom practice. More concrete examples are suggested in the last section of this chapter, the recommendations.

The interpretations between the ECE practitioners and the researcher are different

We can perceive phenomena from different perspectives. The researcher's interpretation served as an example on how to interpret and assess children's artwork and development based on Feldman's four stages of art criticism and categorized into a holistic approach. However, we cannot expect all ECE teachers have learnt related theories of art criticism and apply them to provide evidence of children development through describing and interpreting children's artwork and performance before providing a judgement.

Moreover, there is no right or wrong answer in art (Lowenfeld & Brittain 1982, p.11). The focus and interpretation of children's development may be different even if the researcher, teachers and others review the same video clips. For example, the choice of the most impressive artwork and critical incidents might be different. Pluralism can be applied to explain the coexistence of multiple styles in which no single approach commands the lion's share of support or attention (Atkins 1990, p.126). Instead, understanding of and communication with different viewpoints are crucial (Eck 2006), including the viewpoints of children, teachers and researchers. Therefore, different interpretations and choices of the most impressive piece of artwork may be found among perceivers and can be accepted as long as they are based on evidence.

5.6.4 Video recording in qualitative case study: A labour intensive research approach

This qualitative case study was labour intensive because it involved 31 school visits, video recording on 24 activities, photo-taking of artwork, journal and reading reports, transcription of three interviews and all video clips, review and making anecdotal summary of all video clips.

There are limitations in using video in data collection. When I used a video recorder to record children's visual arts activities, the scope of vision was narrowed down to one to three children since the visual image and audio effect would deteriorate if the shooting covered three or more children. Then, I did not see what other children were doing outside the view finder. Even when I heard some interesting conversation nearby, I could not quickly shift the view to the source because the video would be dazzling and I would sacrifice the development of the present shot. Moreover, the review involved a huge amount of time and workload, but allowed unlimited review and in-depth analysis and resulted in a useful summary and analysis of video clips.

Video taking may be an appropriate research method but is not recommended to be used in daily practice in classroom. The main ideas of the research methods are still applicable with adjustment. For example, anecdotal note-taking of critical incidents in or immediately after the session are recommended for daily practice in classroom.

5.7 Further recommendations

At the final stage of the study, a few recommendations are suggested for consideration, such as encouraging more research on how to assess children's development especially in artistic and aesthetic area, as well as the validity of the Hong Kong Performance Indicators.

5.7.1 More research on the validity of the Performance Indicators and assessment of young children artistic and aesthetic development

The first implication relating to education policy (session 5.4.1) was repeated here as an emphasis for further action.

5.7.2 Recommendations for ECE practitioners on how to assess child development in and through visual arts

The research was based on a systematic protocol and had built up a rich retrievable database (digital photos of artwork, video clips and transcriptions of videos and an interview) that contributed to a valid and reliable case study on young children's growth in visual arts activities. However, ECE practitioners are not expected to collect children's artwork and record the performance in such extensive scale. Teachers can collect fewer pieces of artwork and jot down the critical incidents or dialogues in written form in or quickly after the session when the memory is still fresh.

A class teacher can try to conduct a simplified portfolio assessment of child

development in and through visual arts by following these steps:

(1) Collect three or more children's artwork from three periods: at the beginning, in the middle and at the end of the term. Store them in a folder or digital format. (video recording was not recommended as the main source of data because it was time-consuming in reviewing the video for analysis);

(2) Select the most representational piece of work if any. A teacher may first choose free artwork as they are usually the most resourceful evidences of a child development;

(3) Write down the key points of children's dialogues about the work and critical incidents on the back of their artwork that help to reflect their development if any;

(4) Interpret and write a brief account of the child's development in various aspects especially in aesthetic and creative areas that were required by schools and the Hong Kong performance indicators in aesthetic development. A teacher might try to complete a flexible holistic assessment including cognitive, emotional, social, and cultural development;

(5) If no representative piece is found, then a child's development in various areas can be represented by different pieces of artwork or behaviours selected;

(6) A teacher can evaluate an artwork through description, analysis, interpretation and judgement with reference to Feldman's theory. The statements will be evidence of a child's physical, aesthetic, creative and cultural growth. Together with the children's dialogues and behaviour in the process, the cognitive, emotional, social development may be shown as well;

(7) Present a child's growth in various aspects by comparing artwork and behaviours with significant contrast in different periods (assess a child's growth with self)(Fox

& Schirrmacher 2012, p.296; CDC 2006, P.64; Althouse et al. 2003, p.76; Eisner 1972, pp.212-230);

(8) Use a rating scale for preliminary check up with the norm suggested in the developmental and cognitive approaches (Fox & Schirrmacher 2012, pp.99-100; Standards & Testing Agency of Department for Education 2012a & b; Koster 2001, pp.63-64), or development assessment charts (*Wong et al. 黃艾珍 2007a; *Heep Hong Society 2006) (assess one's growth with the norm/ standard);

(9) Summarize one's uniqueness or special features in child development in and through visual arts (assess one's growth with others / in a group).

5.7.3 Considering to include children, parents and other professionals in the assessment

A number of scholarly work confirm children's involvement in the assessment process. Self-assessment is a key feature of the performance assessment movement, and a skill that traditionally all educators try to teach their students (Beattie 1997, p.72). Children are seen as expert informers and practitioners of their choices and perspectives (Wood 2010, p.209); and may be asked to assess their own learning (Galper & Seefeldt 2009, p.342) by selecting their own items of work as subjects of conversation with teachers to express their own views (CDC 2006, p.64). Some teachers have expressed concern about the amount of time such a practice may take, but in term of teaching, the benefits to the children are enormous and it needs to be seen a core part of teaching (Hutchin 2003, p.70). Moreover, it gives some important insights into the children's own thinking. For example, Ting showed that young children could be critical on her own and others' artwork through praise or negative

comments in this research. Therefore, the self assessment can be regarded as authentic measures of a valid assessment (Galper & Seefeldt 2009, p.342).

5.7.4 Sharing the research findings

This case study was an authentic example of portfolio assessment to find out children's development in and through visual arts activities. The findings can be applied as one of the references in the teacher education courses, such as a course on "Art Appreciation and Evaluation".

Moreover, the findings of this research can be further discussed and shared through conference presentations and journal articles. For example, a paper titled, "A Study of the Hong Kong Performance Indicators (Pre-primary Institutions): The validity of the domain on children's aesthetic development" was accepted to be presented in the second International Symposium on Education, Psychology, Society and Tourism in Tokyo during 28 to 30 March, 2014.

5.8 Overall conclusion

The research was triggered by the Hong Kong Performance Indicators, and it aimed at finding out what and how to assess child development in and through visual arts. The case studies show that we can use portfolios, a wider range of elements and areas of child development to achieve a broader and deeper understanding of child development in and through visual arts. Hopefully, the findings and implications above can facilitate valid assessment in early childhood visual arts that can also

respond to the statutory requirement of Hong Kong Performance Indicators.

Appendix 1.1

Children's developmental milestones in the Hong Kong *Performance Indicators (Pre-primary Institutions): Domain on children's development*

XI. Children's Developmental Milestones

(Recommended Version)

Characteristics of Development

10 Express creativity and imagination through art works, music, role-plays and imaginative plays

- Children can use various materials for creative expression and show aesthetic perception through colours and composition.
- In the activities, children conduct creative work to express their own ideas by composing songs, improvising the accompaniment and participating in imaginative play. For example, they make the sounds of rain and thunderstorm with musical instruments, express the postures of different animals through various movements, play the characters in the stories, and provide background music for the stories.

9 Willing to appreciate art works, music, dances and various forms of beauty, and to show the sensibility, imagination and the ability to express in various forms of beauty

- Children can appreciate various art works, music, songs and dances. They understand the key content and mood of the works.
- Children appreciate the surroundings, the beauty of nature and various forms of beauty. They can express the aesthetic sensibility and appreciative ability in various forms of beauty.

8 Express their ideas and thoughts through art and craft works

- Children will introduce to others the contents of their work during the art and craft activities.
- Children can reveal their unique thought in their work and express plots and contents of their work through contrast of colours, various sizes and different locations.

7 Use different methods for the creation of music and express their feelings through music

- Children can use different materials, such as paper and wood to make sounds. They can also make musical instruments on their own.
- Children know how to play the instruments for the creation of music, such as using different percussion instruments to represent different characters.
- Children are able to write lyrics for the songs.
- Children express their ideas and feelings through role-play.

6 Love the creation of art and craft work, music and dance performance, story-telling and role-playing

- Children are happy in the participation of activities on musical performance, dances and role-playing. They will initiate suggestions to teachers on selecting the songs and dances performed.
- Children can express their mild, lively and happy moods through singing songs and performing movements.
- During the painting and the art and craft activities, children are interested in the change of colours, texture and shapes. They have pleasant experience in the activities.

5 Express the elements of music, such as the dynamics, speed and pitch through singing songs and performing movements

- Under the guidance of teachers, children can perform rhythmic movement to go with the fast and slow, light and heavy rhythm. They will use suitable movements, such as jumping to go with the lively and joyous music.

4 Appreciate their own work and enjoy musical activities, love singing songs and listening to music

- Children will take the initiative to introduce their work to other people and are willing to display their art and craft work in the activity room.
- Children are pleased to participate in various musical activities, such as singing, rhythmic movement and music appreciation.

3 Try to use different materials in painting or the creation of art and craft work

- Children will use different materials, such as wax crayons, watercolour, pith and crepe paper in painting and the creation of art and craft work.
- Children are able to use different materials, such as paper and boxes to construct 3D art and craft models.

2 Try to use different ways to express their sensory experiences

- When participating in play and activities, children can imitate teachers to perform some movements, such as clapping, stepping, imitating the sounds of small animals and the natural environment.
- Children take part in imaginative play in daily activities, such as playing as a dog, a mother or a little driver.
- Children participate in role-playing in the Home Corner and Role-play Corner.

1 Sing simple songs and try to participate in various art and craft activities

- Children can sing simple songs.
- Children try to participate in art and craft activities, such as scribbling, finger-painting and pasting.

Appendix 2.1

Ways of seeing visual arts leading to various approaches of artistic development and assessment (mainly adopted from McArdle 2003, pp.155-156; McWhinnie 1992, pp.270-273)

If art is considered as:	Approaches of artistic development	Art teaching / learning	Focus of assessment possibly could be:
A fundamental biological need		A need to define human's existence (Dissanayake 1992); encourage children to appreciate beauty and aesthetics within their surroundings	Aesthetic sensitivity and ability in appreciate beauty
	Physical explanation	Children's art is indicative of their limited physical development which affect artistic expression	physical
An emotional mode	Emotional explanation	Their art may signify their love, respect, admiration, and identification rather than distortion due to limited physical development; communicate unconscious things otherwise unsayable (Feldman 1996); enhance healthy personalities	Expression of feelings and emotions
	Psychoanaly tic theory (Freud; Murphy; Read)	Children do not draw what they know, they draw what they feel. Use materials that allow children to release inner feelings and emotions.	Expression of inner feelings and emotions
spiritual awareness		Reveal itself through the heart and intuition (Barthes 1972)	Spiritual awareness, or not assess
A means for self-expression/ free expression	Developmenta l theory/ maturationist approach/ productive approach (Lowenfeld; Kellogg; Bruner)	For art's sake; spontaneity, play, imagination, experimentation, lack of inhibition, freedom of expression. Non-interventionist approach. Widely accepted by ECE educators; children's artistry is expected to unfold naturally and creative self-expression and creativity will flourish if the right environment (i.e. space, time, and materials) and experiences are given, but not external instruction. It provides a general developmental explanation that incorporates social, cultural, personality, environmental factors and elements of other theories.	Observation in the natural surroundings. Avoid entering private domain; make comments that focus on pleasing the child, or give only a quick, positive, evaluative remarks if have to. Various aspects of a whole person development. Free expression of personal ideas.
	contextualist justification	the instrumental consequences of art; i.e. Lowenfeld who thought the meaning of art for education was education in all its mental, emotional, and spiritual implications which were largely responsible for attitudes, actions, scientific achievements, and ability to get along in this world.	insight into the child's total growth in various areas, and is not only limited to aesthetic growth.
	essentialist justification	the kinds of contributions to human experience and understanding that only art can provide; and emphasizes what is indigenous and unique to art. Any art activities using art as an instrument to achieve other ends is diluting the art experience, or robbing the child of what art has to offer.	areas that are highly related to visual arts, such as creative, technical, and aesthetic- expressive aspects
(A distinct discipline)		A distinct body of knowledge that must be taught and mastered; i.e. to teach skills and techniques, appreciation and art history; art is not offered only to the talented but universal	skills, understanding of knowledge, ability to make, communicate and appreciate

	The reproductive approach	Teacher-directed, step-by-step instructions, direct imitation, no significance for personal communication, analytical thinking, or aesthetic decision making	emphasize on acquisition of skills and behaviours, desired outcome
	The guided learning approach	Teachers and parents must act as resources to help children ask good questions and discover the answer, observe and scaffold children' learning	Child-centred learning in various aspects, initiative, thinking ability, communication ability
*One of non-verbal languages	Cognitive theory (Goodenough; Coles; Gardner, Wolf)	Incorporate many words, feelings and thoughts, many desires for knowing, communicating, and expressing themselves, and many means of doing so.	*assessment should capture all the 'languages' of expression and learning displayed; i.e. in play, language, arts
		Children drew what they knew rather than what they saw. Drawing is a language or child's thinking, a form of cognitive expression; and does not primarily aim at aesthetic goals.	
cognitive processes		Involve children in problem solving, thinking, and using symbol systems to record thoughts, ideas and feelings.	Cognitive thinking skills, use of symbols to express
a distinct form of knowledge		Require sustained and demanding work and yielding kinds of empathy, understanding, and skill both equal to and distinctive form those available in chemistry, civics, or shop. The work in the arts has been shown to demand higher-order thinking: analysis, inference, problem finding, and problem solving.	Cognitive - communicative language. Understanding, higher-order thinking
	Perceptual-spatial theory (McFee; Efland; Mc Whinnie)	Perceptual learning is possible for young children. A child draws what he perceives rather than what he sees. Perception is not synonymous with vision which is the mechanistic recording of reality, while perception is influenced by the neurophysiological structure, personality, and prior learning. It is about the influence of visual images and symbol systems in the visual universe.	Cognitive - perceptual learning
An expression of culture		A means of communicating about and between cultures, through links with the community; appreciate others' lives through art.	Ability to understand and appreciate the cultural lives through art
A conduit for understanding self in relation to others		A means for recognizing our interdependence as people; a way for global unity and understanding (Eckersley 1992)	Understanding of the interrelationship between self and others

Appendix 2.2

Hong Kong evaluation chart for child development (aesthetic)

Extracted and translated from *Wong 黃艾珍, et al. (2007a), pp.35-36.

Aspect	Items of performance	Level of performance			remarks
		Level 1	Level 2	Level 3	
Creativity and ability to appreciate various forms of beauty	1 willing to participate in creative activities	Weak response	Try to participate	active	
	2 able to try and use different materials and way	monotonous	Has tried some ways	Explored materials in quantity/depth	
	3 ability of expression (experiences, ideas and feeling; concern for outside world)	weak	some	Rich /frequent	
	4 use of art knowledge (elements; i.e. line, shape, form, colour, texture, composition)	seldom use art knowledge	sometimes use a few art knowledge	Often use many forms of art knowledge	
	5 Techniques (skill in drawing, painting, cutting, modeling, use of tools)	exploring	practising	skillful	
	6 Creativity	Weak, few personal ideas	Average, some ideas	Strong, many personal ideas	
		(awareness, fluency, originality, elaboration, problem solving skills, divergent thinking)			
	7 Appreciate his/her own work	Weak in expressing comments, describe and interpret the qualities	Able to express some comments, describe and interpret the qualities	Attentive; clearly express comments, describe and interpret the qualities in details	
	8 Appreciate others' work and beauty in life	Weak in expressing comments, describe and interpret the qualities	Able to express some comments, describe and interpret the qualities	Attentive; clearly express comments, describe and interpret the qualities in details	

Appendix 2.3

Lowenfeld's evaluation chart (Pre-schematic stage) (1957, pp.122-123)

Intellectual Growth	Mental age	Children's performance		No	Yes
	4 - 5½	Does the child's representation of a "man" show more than head and feet?			
	5½ - 7	Does the child draw more than head, body, arms, legs, features? Are eyes, nose, mouth indicated? Are the features represented with different representative symbols?			
	As compared with previous drawings in there an increase of details? (Active knowledge) Is the child's drawing representational? Does the drawing show details?		None	Some	Much
Emotional Growth	Does the child frequently change his concepts for "man" , "tree", or details like "eye", "nose", etc? Is the child free from stereotyped repetitions? Are parts which are important to the child somewhat exaggerated? Is there a lack of continued and too much exaggeration? Is the drawing definite in lines and color, showing the child's confidence in his work? Does the child relate things which are important to him?				
Social Growth	Is the child's work related to a definite experience? Is there any order determined by emotional relationships? Does the child show spatial correlations: sky above, ground below? Does the child show awareness of a particular environment (home, school, etc.)?				
Perceptual Growth	Does the child use lines other than geometric? (Lines when separated from the whole do not lose meaning.) Does the child indicate movements or sounds? Does the child relate color to objects? Does the child start in his modeling form the whole lump of clay?				
Physical Growth	Is there a lack of continuous omission of the same body part? Is there a lack of continuous exaggeration of the same body part? Are the child's lines determined and vigorous? Does the child include body actions?				
Aesthetic Growth	Is the meaningful space well distributed against the meaningless space? Does the organization of the subject matter seem equally important to its content? Do colors appear to be distributed decoratively? Does the child show a desire for decoration?				
Creative growth	Does the child use his independent concepts? If the child works in a group, does he remain uninfluenced? When the child is alone does he spontaneously create in any medium? When the child is alone does he refrain from imitating for imitation's sake?				

Appendix 2.4

Art portfolio assessment scale (Althouse et al. 2003, p.126)

Qualities exhibited in child's artwork	**RATING SCALE**					
	(low)				(high)	
Repleteness (details)	1	2	3	4	5	N/A
Elaboration (details)	1	2	3	4	5	N/A
Originality	1	2	3	4	5	N/A
Composition	1	2	3	4	5	N/A
Expression	1	2	3	4	5	N/A
Fluency	1	2	3	4	5	N/A
Characteristics of child observed	1	2	3	4	5	N/A
Flexibility	1	2	3	4	5	N/A
Problem solving	1	2	3	4	5	N/A
Transfer of artistic knowledge and skills	1	2	3	4	5	N/A
Use of art language to discuss work	1	2	3	4	5	N/A

Appendix 3.1

Interview questions for the class teacher

1st Interview with the Class teacher

17 January 2007 4:45pm in ECLC

In the beginning

1. What do you think about each child's interest and performance in visual arts activities?
2. What are their characteristics?
3. What can we find in a child's visual arts portfolio?
4. To what extent can a visual arts portfolio reflect their performance?

Feedback

1 & 2. Visual Arts: Performance, characteristics, interest:

Ting
Chole
Ka
Yeung
Lok

3. Contents of a visual arts Portfolio:

5. The extent a visual arts portfolio can reflect their performance:

THE SCHEDULE OF VISITS ON MISS YIP'S K2_AM CLASS

2007 JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17 三十
18 二	19 二	20 三	21	22	23	24
25	26	27	28			

MARCH

S	M	T	W	T	F	S
				1	2	3
4 元宵	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5 清明	6 受難	7
8	9Easter	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

2007 MAY

S	M	T	W	T	F	S
		1 勞動	2	3	4	5
6	7	8	9	10	11	12
13 母親	14	15 ?	16	17	18	19
20	21	22 ?	23	24 佛誕	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19 端午	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30 重陽					

visit with video-recording

(the max. no. of visits; subject to change with discussion with the class teacher)

Tuesday – 10:45 to 11:25am (weekly)
- Creativity Corridor

Monday – 11:15 to 11: 45am (bi-weekly)
- clay activities

drafted on12 Jan 2007

The record of activities and children's attendance record

Proposed activity	A-code	C-code	P-code	DATE	DAY	Lok	Ka	Yeung	Chole	Ting	Remarks
1	A1			9-1-07	M	✓	✓	✓	✓	✓	Draw a guitar; pencil drawing
2		C1		15-1-07	M	✓	✓	Abs	✓	✓	Free; mainly pizza and cakes
3	A2			16-1-07	T	✓	✓	✓	✓	✓	Draw a guitar; coloured felt pens
4	A3			29-1-07	M	Abs	Abs	Abs	✓	✓	3-D guitar; paper boxes; purple
5	-			30-1-07	T	-	-	-	-	-	Cancelled due to safety talk for children
6	A4			6-2-07	T	✓	✓	Abs	✓	✓	Draw the monster of Chinese New Year 年獸; introduced water soluble pencils
7			C2-p	12-2-07	M	✓	✓	-	✓	✓	No clay activity; portfolio talk-selection of artwork; free play; no photos but video
8	A5			13-2-07	T	✓	✓	Abs	✓	✓	Draw something about the lion head and Chinese New year; water soluble pencils
9		C3		26-2-07	M	✓	✓	✓	✓	Abs	Do something related to Chinese New Year
10	A6			27-2-07	T	✓	✓	✓	✓	Abs	Free drawing (assessment); felt tips
11	-			6-3-07	T	-	-	-	-	-	Cancelled due to a workshop for

											children
12		C4		12-3-07	M	✓	✓	✓	✓	✓	Clay- Chinese mask
13	A7			14-3-07	W	✓	✓	✓	Abs	✓	13-3-07 was too busy and the activity was re-arranged to 14-3-07; mask painting with masking tapes
14	A8			20-3-07	T	✓	✓	✓	✓	✓	Draw mask with markers and oil pastels
15		C5		26-3-07	M	✓	✓	✓	✓	✓	Clay mask with a face-shaped paper back
			A9-p	26-3-07	M	✓	✓	✓	✓	✓	A record of the mask collection
16	A10			27-3-07	T	✓	✓	✓	✓	✓	Free painting; water soluble pencils on water colour paper (think and rough)
17		C6		16-4-07	M	✓	✓	✓	✓	✓	Clay, first time to add water
18	A11			17-4-07	T	✓	✓	✓	✓	✓	Ms Yip was sick; Ms Mau followed her plan-first assemble geometrical shapes, then draw.
19			A12-p	24-4-07	T	✓	✓	✓	✓	✓	No activities due to the change of programme (drama and video taking). The record is the photos of portfolio
20	-			30-4-07	M	-	-	-	-	-	Cancelled due to 2nd supervision

Appendix 3.3iii

												of Yr 2- Mok
21	A13 A13a			8-5-07 9-5-07	T W	✓	✓	✓	✓	✓	✓	Collage of a card with geometric shapes for Mother's Day, continued on 9-5-07. (A13a 9-5-07_record of shadow play performance) *record (H:–DVD)– wrongly marked as A13_9+10-5-07
22	-		A14-p	14-5-07	M	-	-	-	-	-	-	Cancelled due to supervision of Yr 1 A14p - portfolio/record of April+May
23	-			15-5-07	T	-	-	-	-	-	-	Cancelled due to supervision of Yr 1
24	A15			22-5-07	T	✓	✓	✓	✓	✓	✓	Paper collage – outline and cut out the shapes, then make a collage
25		C7		28-5-07	M	✓	Abs	✓	✓	✓	✓	Clay- free design
26	A16			29-5-07	T	✓	✓	✓	✓	✓	✓	collage – shape – coloured paper
27	A17			5-6-07	T	✓	✓	✓	✓	✓	✓	collage – shape – coloured paper; design the draft first, then cut, no drawing.
28		C8		11-6-07	M	✓	✓	✓	✓	✓	✓	

			A18-p	11-6-07	M	✓	✓	✓	✓	✓	Portfolios - journal
29	A19			12-6-07	T	✓	✓	✓	✓	✓	Cards for Father's Day, collage made by stamps, foam shapes and wooden plates
30	-	-	-	25-6-07	M	-	-	-	-	-	Clay activity was cancelled – too hot outdoor
31	A20			27-6-07	W	✓	✓	✓	✓	✓	Originally 26-6-07; but changed to 27-6-08. Wire – cutting wire with scissors; tapes
32	A21			3-7-07	T	✓	✓	✓	✓	✓	Wire – without cutting or tapes
			A22-p	13-7-07	F	✓	✓	✓	✓	✓	
			A23-p	18-7-07	W	✓	✓	✓	✓	✓	

Proposed activity for research : Maximum 32 activities
A-code: Code for visual arts activities (17 activities)
C-code: Code for clay activity (7 activities)
P-code: Code for portfolios (7 portfolios)

Appendix 3.4

The video analysis (excerpt)

A1		Useful data	Description/ interpretation (All were present)	Evidences
A1_S03		X	Teaching, short	K - Ka C - Chole L - Lok Y - Yeung F - Ting (Tiffany) T-Teacher R - Researcher O - others
A1_S04		X	Introducing the book, guitar	
A1_S05		X	Introducing the real object & activity briefing: observational drawings (like looking at photos). 2 guitars, the structure of the guitar-curve outline on both sides, the straight lines on the stem.	
A1_S06		Chole	Chole was preparing, observing	
A1_S07		X	Short; trivial	
A1_S08		Chole_s	Chole asked observer to teach her how to draw a guitar. The observer said that she did not know how to draw (nothing on her paper), while the rest have drawn the outline of the guitar. I replied that I didn't know how to draw and encouraged her to ask Ms Yip. She shook her head, and a moment later she tried to draw. Chole looked for help from the girl on her right, (she looked and drew for about 3 times)	 A1_S08_0027_Chole was looking at peer's work to learn how to draw the guitar.
A1_S09		Chole_s	Chole asked her classmate, "Is it like this?" Her classmate replied, "(It should be) like this, don't you know (that simple thing)?" Then, she turned her back on Chole who then continued her work. Chole drew several guitars.	 A1_SANY0 09_0009_Chole asked her peer, "Is it like that?" The classmate replied,

				"(It should be) like this, don't you know (that simple thing)?" Then, she turned her back on Chole who continued her work. C 係咪咁樣？ O 咁樣呀！咁都唔識！
A1_S10		Lok_p,c; Ka_s,	Lok was watching Ka's work. Ka pressed down his own work, was unwilling to let Lok see it. Lok persisted in spying on Ka's work.	 A1_SANYO010_0155_Lok peeped at peer's work several times.  A1_SANYO010_0233_Lok was trying to watch peer's work on the other side of the paper.  A1_SANYO010_0238_Ka discovered Lok watching his work. He pressed the paper down and said, "press

				it.” The observer was not sure whether he did not want Lok to pull his paper or copy his work.  A1_SANYO010_0620_Lok was peeping at Ka’s finished work while Ka was talking to his teacher.
A1_S11		X_ Lok_p,c	(G) Lok was writing his name.	
A1_S12		X_ Lok_c, Yeung	(G) Lok_straight lines, 6 lines, louder. Chole (too loud, people can’t sleep) L: play when there is sun. Yeung: sound comes out of the holes, can play here (guitar)	
A1_S13		Y_Yeung	Yeung introduced his work, (spoke softly, I couldn’t hear well. He had his own idea of how a guitar worked.)	
A1_S14		Chole_al , c	Chole introduced her work: Her guitar could make louder and softer sound. Someone asked about the circular part next to the guitar. She explained it was ‘magnet’ (guitar picks) which could scratch across the strings. Chole answered peer’s and the teacher’s questions that there were three strings, and the small parts at the upper end could adjust the tune	 A1_SANYO 14_0203_Chole presenting her work in front of the class. C 可以較大聲 D，細聲 D 都得嫁！ O 但係點解..阿嗰個結他隔離有個...好 D 咁多嘅圓(姑)(碌)！ O 係(礙)嚟做嗲野嫁，嗰個圓(姑)(碌)！

BIBLIOGRAPHY

Ahn, J. (2006). Learning through representation : young children' meaning-making via narratives. Curriculum Studies. Vancouver, University of British Columbia. **Doctor of Philosophy - PhD**.

Ahola, D. and A. Kovacik (2007). Observing and understanding child development: a child study manual. Belmont, Delmar Cengage Learning.

Althouse, R., M. H. Johnson, et al. (2003). The colors of learning: integrating the visual arts into the early childhood curriculum. New York & Washington D.C., Teacheres College Press and National Association for the Education of Young Children.

Anning, A. and K. Ring (2004). Making sense of children's drawings. Maidenhead, England, Open University Press.

Atkins, R. (1990). Art Speak. New York, Abbeville Press.

Audit Commission (2013). Pre-primary education voucher scheme. Audit Commission. Hong Kong, Audit Commission.

Australian Government Department of Education Employment and Workplace Relations. (2009, August 2012). "Belonging, being & becoming: Early years learning framework for Australia " Retrieved 23 February, 2013, from http://deewr.gov.au/early-years-learning-framework.

Australian Government Department of Health and Ageing. (2003, 2003). "Performance indicators and benchmarking - definition of terms." Retrieved 12 April, 2013, from http://www.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-t-bench-toc~mental-pubs-t-bench-1~mental-pubs-t-bench-1-1.

Baron, M. A. (1995). Authentic assessment : the key to unlocking student success. Lancaster, Pa. :, Technomic Pub.

Beattie, D. K. (1997). Assessment in art education. Worcester, Davis Publications.

Beattie, D. K. (2011). "Assessment in the visual arts." Retrieved 25/3/2011, 2011, from http://home.oise.utoronto.ca/~hinwood/art_assessment.htm.

Beckett, C. (1991). Promoting aesthetic appreciation in young children. The arts in early childhood. S. Wright. Frenches Forest, NSW, Pearson Education Australia Pty Ltd.

Bennett, J. (2008, October 2008). "Benchmarks for early childhood services in OECD

countries: Innocenti working paper 2008-02." Retrieved 12 April, 2013, from http://www.unicef-irc.org/publications/pdf/iwp_2008_02_final.pdf.

Berk, L. E. (1991). Child development. Boston, Allyn and Bacon.

Berk, L. E. (2008). Infants, children, and adolescents. Boston, Allyn and Bacon.

Berk, L. E. (2009). Child development. Boston & New York, Pearson Education, Inc.

Berk, L. E. (2013). Child development. Boston & New York, Pearson Education, Inc.

Bohm-Duchen, M. and J. Cook (1991). Understanding Modern Art. London, Usborne Publishing Ltd.

Brown, E. D., B. Benedett, et al. (2010). "Arts enrichment and school readiness for children at risk " Early Childhood Research Quarterly **25**(1): 112-124.

Bukatko, D. and M. W. Daehler (2012). Child development: a thematic approach. Belmont, California, Wadsworth Cengage Learning.

Bullen, P. (1991). "Performance Indicators." Retrieved 12 April, 2013, from http://www.mapl.com.au/A1A.htm.

Casper, V. and R. Theilheimer (2010). Early childhood education: learning together. New York, McGraw Hill.

Castiglione, L. V. (1996). "Portfolio assessment in art and education." Arts Education Policy Review **97**(4): 2.

Census and Statistics Department (2012). The characteristics of women and men, 2011. Hong Kong, Census and Statistics Department.

Chan, B., M. Lee, et al. (2009). "Competing forces: government policy, teacher education, and school administration in Hong Kong early childhood education." International Journal of Child Care and Education Policy **3**(1): 75-86.

Chan, L. K. S. and L. Chan (2003). "Early childhood education in Hong Kong and its challenges." Early Child Development And Care **173**(1): 7-17.

Chan, S. P. and S. M. Wong (2010). "Exploring assessment and accountability for children's learning: A case study of a Hong Kong Preschool." Early Education and Development **2**(2): 234-262.

Chapman, L. H. (1994). A world of images. Worcester, Massachusetts, Davis Publications, Inc.

Chen, J.Q. and G. D. McNamee (2007). Bridging: assessment for teaching and learning in early childhood classroom, PreK-3. Thousand Oaks, California, Corwin Press.

Clarke, R. J. (2005, 9 September 2012). "Research models and methodologies." from www.uow.edu.au/content/groups/public/@web/.../uow012042.pdf.

Clarke, S. (2001). Unlocking Formative Assessment. London, Hodder Murray.

Cohen, L., L. Manion, et al. (2004). Research methods in education. London and New York, RoutledgeFalmer.

Colbert, C. and M. Taunton (1990). Discover art kindergarten. Worcester, Massachusetts, Davis Publications, Inc. .

Collins Cobuild (1995). performance. Collins Cobuild essential English dictionary. J. Sinclair, P. Hanks and G. Fox. Beijing, Collins Publishers, 中國對外翻譯出版公司: 581.

Cook, G. and J. L. Cook (2010). The world of children. Boston, London, Sydney, Allyn & Bacon.

Corrie, L. and QEF project team (2000). A self-assessment and self-improvement model for quality teaching in preschools. Hong Kong, Quality Education Fund.

Corrie, L. and QEF project team (2003). Guide to using the pre-primary performance indicators in learning and teaching. Hong Kong, Hong Kong Institute of Education.

Creswell, J. W. (1998). Qualitative Inquiry and Research Design: Choosing Among Five Traditions. Thousand Oaks & London, Sage Publication, Inc.

Creswell, J.W. 2009, *Research design: qualitative, quantitative, and mixed methods approaches*, 3 edn, SAGE Publications, Inc., London.

Cromer, J. (1990). History, Theory, and Practice of Art Criticism in Art Education. Reston, Virginia, National Art Education Association.

Curriculum Development Council (2003). Arts education key learning area. Visual arts curriculum guide (primary 1 - secondary 3). Curriculum Development Council. Hong Kong, Curriculum Development Council.

Curriculum Development Council (2006). Guide to the pre-primary curriculum. Curriculum Development Council. Hong Kong, Education and Manpower Bureau HKSAR.

Curriculum Development Council. (2002a). "Overview of the curriculum reform -

reflecting on strengths and getting ready for action." Basic education curriculum guide: Building on strengths (Primary 1 - Secondary 3) Retrieved 12 October, 2011, from http://cd1.edb.hkedcity.net/cd/EN/Content_2909/html/index.html.

Curriculum Development Council. (2002b). "Arts education: Key learning area curriculum guide (Primary 1- secondary 3)." Retrieved 22 February, 2013, from http://www.edb.gov.hk/attachment/en/curriculum-development/kla/arts-edu/references/con_eng.pdf.

Curriculum Development Institute (1996). Guide to the Pre-primary Curriculum. Hong Kong, Curriculum Development Institute & Education Department.

Czarniawska, B. (2005). Narratives in social science research London, SAGE Publications Ltd.

Davies, S. (2012). The artful species. Oxford, Oxford University Press.

Davis, J. (1997). The "U" and the wheel of "C": Development and devaluation of graphic symbolization and the cognitive approach at Harvard Project Zero. Child development in art. A. M. Kindler. Reston, Virginia, National Art Education Association: 264-285.

Davis, J. and H. Gardner (1993). The arts and early childhood education: a cognitive developmental portrait of the young child as artist. Handbook of research on the education of young children. B. Spodek. New York, Macmillan: 191-206.

Denzin, N. K. and Y. Lincoln, Eds. (2008). Collecting and interpreting qualitative materials. L.A., Sage Publications.

Department for Education. (2011). "The Early Years Foundation Stage (EYFS): Review report on the evidence." Retrieved 30 April 2013, from http://webarchive.nationalarchives.gov.uk/20130401151715/https://www.education.gov.uk/publications/eOrderingDownload/DFE-00178-2011.pdf.

Dictionary. (2013, 2009). "Define Performance indicator at Dictionary.com." Retrieved 3 April 2013, 2013, from http://dictionary.reference.com/browse/performance+indicator.

Eck, D. L. (2006). "What is pluralism?" from http://pluralism.org/pages/pluralism/what_is_pluralism.

ECLC - Hong Kong Institute of Education HSBC Early Childhood Learning Centre. (2006). "ECLC - HSBC Early Childhood Learning Centre", from http://www.ied.edu.hk/sece/eclc/e/eindex.htm.

Education and Manpower Bureau & Social Welfare Department (2003). Performance Indicators (Pre-primary Institutions): Domain on children's development. Hong Kong, Education and Manpower Bureau & Social Welfare Department.

Education Bureau 2013e, *Curriculum development*, Education Bureau, Hong Kong, <http://www.edb.gov.hk/en/curriculum-development/list-page.html>.

Education Bureau. (2007, 16 August 2012). "Performance Indicators (Pre-primary Institutions)." Retrieved 23 January, 2013, from http://www.edb.gov.hk/index.aspx?nodeID=2292&langno=1.

Education Bureau. (2008, 9 September 2011). "Performance Indicators for Hong Kong Schools 2008." from http://www.edb.gov.hk/FileManager/EN/Content_6456/pi2008%20eng%205_5.pdf.

Education Bureau. (2012b, August 2012). "Handbook on quality review for pre-primary institutions." from http://www.edb.gov.hk/FileManager/EN/Content_5926/handbook_on_qr_eng.pdf.

Education Bureau. (2013a, 03 January 2013). "Overview-kindergarten, primary and secondary education." Retrieved 22 February, 2013, from http://www.edb.gov.hk/index.aspx?nodeID=916&langno=1.

Education Bureau. (2013b). "Quality Education Fund." from http://qef.org.hk/big5/index.htm.

Education Department & Social Welfare Department (2001). Performance Indicators (Pre-primary Institutions): Domain on learning and teaching. Hong Kong, Printing Department.

Eglinton, K. A. (2003). Art in the early years. London, RoutledgeFalmer.

Eisner, E. W. (1972). Educating Artistic Vision. New York, Macmillan.

Epstein, A., L. Schweinhart, et al. (2004). Assessing children's development: strategies that complement testing. Spotlight on young children and assessment. D. Koralek. Washington, D.C. :, National Association for the Education of Young Children: 45-53.

Feeney, S., A. Galper, et al., Eds. (2009). Continuing issues in early childhood education. Upper Saddle River, New Jersey, Pearson.

Feldman, E. B. (1992). Varieties of visual experience. New York, Harry N. Abrams, Inc., Publishers.

Feldman, R. S. (2010). Child development. London, Toronto, Sydney, Prentice Hall.

Filippini, T. and V. Vecchi, Eds. (2000). The Hundred Languages of Children. Reggio Emilia, Reggio Children s.r.l.

Fox, J. E. and R. Schirrmacher (2012). Art and creative development for young children. Belmont, California, Wadsworth Cengage Learning.

Fox, N. A. and C. A. Stifter (2005). Emotional development. The Cambridge encyclopedia of child development. B. Hopkins and R. G. Barr. New York, Cambridge University Press.

Free Dictionary. (2009). "Aesthetics." Retrieved 26 January, 2014, from http://www.thefreedictionary.com/aesthetics.

Freedman, K. (1997). Artistic development and curriculum: Sociocultural learning considerations. Child development in art. A. M. Kindler. Reston, Virginia, National Art Education Association**:** 264-285.

Fung, C. K. H. and J. C. K. Lee (2008). "A critical review of the early childhood education (ECE) curriculum documents in Hong Kong." Journal of Basic Education **17**(1): 33-57.

Galper, A. R. and C. Seefeldt (2009). Assessing young children. Continuing issues in early childhood education. S. Feeney, A. Galper and C. Seefeldt. Upper Saddle River, New Jersey, Pearson**:** 329-345.

Gardner, H. (2003). Art education and human development. L.A., Getty Centre.

Gee, K. (2000). Visual arts as a way of knowing. York & LA, Stenhouse Publishers and the Galef Institute.

Gibbs, G. R. (2007). Analyzing Qualitative Data. The SAGE Qualitative Research Kit. London, Sage Publications.

Gillham, B. (2000). Case study research methods. London & New York, Continuum.

Ginsborg, H. (2005, 3 February 2013). "Kant's Aesthetics and Teleology." The Stanford Encyclopedia of Philosophy (Winter 2012 Edition), from http://plato.stanford.edu/archives/win2012/entries/kant-aesthetics/.

Galper, A. R. and C. Seefeldt (2009). Assessing young children. Continuing issues in

early childhood education. S. Feeney, A. Galper and C. Seefeldt. Upper Saddle River, New Jersey, Pearson Education, Inc.

Glazzard, J. and J. Percival (2010). Assessment for learning: theoretical perspectives and leading pedagogy. Assessment for learning in the early years foundation stage. J. Glazzard, D. Chadwich, A. Webster and J. Percival. London & Thousand Oaks, SAGE Publications.

Gober, S. Y. (2002). Six simple ways to assess young children. Albany, NY, Delmar, Thomson Learning.

Greer, W. D. (1993). "Developments in Discipline-Based Art Education (DBAE): From art education toward arts education." Studies in art education **34**(2): 91-101.

Grisham-Brown, J., R. Hallam, et al. (2006). "Using authentic assessment to evidence children's progress toward early learning standards." Early Childhood Education Journal **34**(1): 45-51.

Gullo, D. F. (2006). Alternative means of assessing children's learning in early childhood classrooms. Handbook of research on the education of young children. B. Spodek and O. N. Saracho. Mahwah, New Jersey, Lawrence Erlbaum Associates, Inc., Publishers.

Hamel, J., Dufour, S. & Fortin, D. 1993, *Case study methods* Sage Publications, Newbury Park, Calif. .

Hancock, D. R. (2006). Doing case study research: a practical guide for beginning researchers. New York, Teachers College Press.

Health Information and Quality Authority. (2010). "Guidelines on developing of Key Performance Indicators and Minimum Data Sets to monitor healthcare quality." September 2010. Retrieved 12 April, 2013, from www.hiqa.ie/system/files/HI_KPI_Guidelines.pdf.

Health Service Executive. (2012, 3 December 2012). "Key performance indicator guidelines 2012: based on National Service Plan 2012." 3 December 2012. Retrieved 12 April, 2013, from http://www.hse.ie/eng/services/Publications/corporate/performancereports/kpiguidelines2012.pdf.

Ho, C. W. D. (2007). "Policy of quality assurance in Hong Kong preschools." Early child development and care **117**(5): 493-505.

Ho, C. W. D., V. Campbell-Barr, et al. (2010). "Quality improvement in early years

settings in Hong Kong and England." International Journal of Early Years Education **18**(3): 243-258.

Hobart, C. and J. Frankel (2004). A practical guide to child observation and assessment. Cheltenham, UK, Nelson Thornes Ltd.

Hobbs, J. and R. Salome (1995). The visual experience: teacher's edition. Worcester, Davis.

Hong Kong Institute of Education 2010, *Introduction of Department of Early Childhood Education*, Hong Kong Institute of Education, Hong Kong, viewed 22 February 2013, <http://www2.ied.edu.hk/ece/en/about.asp>.

Hong Kong Institute of Education 2015, *Department of Early Childhood Education,* Hong Kong Institute of Education, Hong Kong, viewed 29 January 2015, <http://www.ied.edu.hk/ece_/>.

Hurwitz, A. and M. Day (1995). Children and their art: methods for the elementary school. New York, Toronto, Harcourt Brace College Publishers.

Hutchin, V. (2003). Observing and Assessing for the Foundation Stage Profile. London, Hodder & Stoughton Educational.

Information Services Department (2008). Hong Kong Year Book 2008. I. S. Department. Hong Kong, Information Services Department. **2013**.

Information Services Department (2011). Hong Kong Year Book 2011. I. S. Department. Hong Kong, Information Services Department.

Isbell, R. T. and S. C. Raines (2007). Creativity and the Arts with Young Children. New York, Thomson Delmar Learning.

Isenberg, J. P. and M. R. Jalongo (2001). Creative expression and play in early childhood. New Jersey, Merrill Prentice Hall.

Johnston, R.R. 2011, 'Literature', in G. Winch & et al. (eds), *Literacy: reading, writing and children's literature*, Oxford University Press, South Melbourne, Victoria.

Jordan, B. (2002). Co-construction in communities: empowering children and teachers. Crèche and Kindergarten International Early Childhood Conference. Beyond what's best for children: creating our community of practice. Gold Coast, Australia.

Kaufman, J. C. and R. A. Beghetto (2009). "Beyond Big and Little: The four C Model of Creativity." Review of General Psychology **13**(1): 1-12.

Kindler, A. M. (1995). Significance of adult input in early childhood artistic development. The visual arts and early childhood learning. C. M. Thompson. Reston, Virginia, National Art Education Association: 10-14.

Kindler, A. M. (2004a). Introduction: development and learning in art. Handbook of research and policy in art education. E. W. Eisner and M. D. Day. Mahwah, New Jersey, Lawrence Erlbaum Associates, Inc., Publishers: 227-232.

Kindler, A. M. (2004b). Researching impossible? Models of artistic development reconsidered. Handbook of research and policy in art education. E. W. Eisner and M. D. Day. Mahwah, New Jersey, Lawrence Erlbaum Associates, Inc., Publishers: 233-252.

Kindler, A. M. and B. Darras (1997). Map of artistic development. Child development in art. A. M. Kindler. Reston, Virginia, National Art Education Association: 264-285.

Kohler, L. and M. Rigby (2003). "Indicators of children's development: considerations when constructing a set of national child health indicators for the European Union." Child: Care, Health & Development **29**(6): 551-558.

Kostelnik, M. J., A. K. Soderman, et al. (1993). Developmentally appropriated programs in early childhood education. New York, Macmillan Publishing Company.

Koster, J. B. (2001). Growing artists: teaching the arts to young children. New York, Delmar.

Koster, J. B. (2012). Growing artists: teaching the arts to young children. Belmont, California, Wadsworth Cengage Learning.

Krechevsky, M. (1998). Project Spectrum: Preschool assessment handbook. New York, Teachers College Press.

Lankford, E. L. (1992). Aesthetics: Issues and Inquiry. Reston, Virginia, National Art Education Association.

Li, H. and N. C. M. Wong (2008). "Implementing performance indicators of early learning and teaching: a Chinese study." International Journal of Early Years Education **16**(2): 115-131.

Lin, H. F. and H. C. Sung (2012). "A comparative study on the kindergarten evaluation system between Taiwan and Hong Kong." International Journal of Research Studies in Education **1**(2): 23-30.

Lowenfeld, V. (1957). Creative and mental growth. New York, Macmillan.

Lowenfeld, V. and L. Brittain (1982). Creative and mental growth. New York, Macmillan Publishing Co.

Lubawy, J. (2010). Visions of creativity in early childhood: connecting theory, practice and reflection. St. Paul, MN, Australia, Redleaf Press.

Mac Naughton, G., S. Rolfe, et al., Eds. (2001). Doing early childhood research. Buckingham, Open University Press.

MacIntyre, C. (2007). Understanding children's development in early years: questions practitioners frequently ask. London, Routledge.

Madeja, S. S., M. C. Dorn, et al. (2004). "Alternative Assessment Strategies for Schools." Arts Education Policy Review **105**(5): 3.

Matthews, J. (2004). The art of infancy. Handbook of research and policy in art education. E. W. Eisner and M. D. Day. Mahwah, New Jersey, Lawrence Erlbaum Associates, Inc., Publishers**:** 253-298.

Maxwell, K. and R. Clifford (2004). School Readiness Assessment. Spotlight on young children and assessment. D. Koralek. Washington, D.C., National Association for the Education of Young Children**:** 29-37.

Mc Whinnie, H. J. (1992). Art in early childhood education. The early childhood curriculum: a review of current research. C. Seefeldt. New York, Teachers College Press**:** 264-285.

McAfee, O. and D. Leong (2007). Assessing and guiding young children's development and learning. Boston & London, Allyn and Bacon.

McDevitt, T. M. and J. E. Ormrod (2010). Child development and education. Upper Saddle River, New Jersey, Merrill.

Merriam-Webster. (2013). "original: Merriam-Webster." Retrieved 7 April 2013, 2013, from http://www.merriam-webster.com/dictionary/original & http://www.merriam-webster.com/dictionary/originality.

Merriam-Webster. (2013). "spontaneity: Merriam-Webster." Retrieved 6 April 2013, 2013, from http://www.merriam-webster.com/dictionary/spontaneity & http://www.merriam-webster.com/dictionary/spontaneous.

Mindes, G. (2007). Assessing young children. Upper Saddle River, New Jersey, Pearson Education, Inc.

Mindes, G., H. Ireton, et al. (1996). Assessing young children. New York, Delmar

Publishers.

Ministry of Education. (2012). "Nurturing early learners: a curriculum framework for kindergartens in Singapore." Retrieved 5 July 2013, from http://www.moe.gov.sg/education/preschool/files/kindergarten-curriculum-framework.pdf.

Morgan, M. (ed.) (1991). Art 4-11: art in the early years of schooling. Hemel Hempstead, England, Simon & Schuster Education.

Morrison, G. S. (2004). Early childhood education today. Upper Saddle River, N.J. , Merrill/Prentice Hall.

National Association for the Education of Young Children. (2003). "Early childhood curriculum, assessment, and program evaluation: building an effective, accountable system in programs for children birth through age 8." Retrieved 14 December, 2012, from www.naeyc.org/files/naeyc/file/positions/CAPEexpand.pdf.

National Health and Medical Research Council (Australian Government). (2013, December 2013). "National Statement on Ethical Conduct in Human Research 2007." Retrieved 19 February, 2014, from http://www.nhmrc.gov.au/guidelines/publications/e72.

New World Encyclopedia 2013, *Aesthetics - New World Encyclopedia*, Wikipedia, viewed 12 May 2013, <http://www.newworldencyclopedia.org/entry/Aesthetics>.

New York City Department of Education (2003). Prekindergarten Performance Standards. New York City Department of Education. New York, New York City Department of Education.

Nutbrown, C. (2010). Watching and listening. Working with children in the early years. C. Cable, L. Miller and G. Goodliff. New York, Routledge.

Pan, Y.J., Liu, Y. & Lau, E.Y.H. 2010, 'Evaluation of the kindergarten quality rating system in Beijing', *Early Education and Development*, vol. 21, no. 2, pp. 186-204.

Pang, C. Y., Ed. (2002). Child development guide. Hong Kong, Heep Hong Society.

Parsons, M. J. (1994). How we understand art: a cognitive developmental account of aesthetic experience. Cambridge, Cambridge University Press.

Pearson, E. and N. Rao (2006). "Early childhood education policy reform in Hong Kong:

challenges in effecting change in practices " Childhood Education **82**(6): 363-368.

Poon, A. C. S. (2008). "The development of pre-primary services in Hong Kong: quality review as a lever of continuous school improvement." International Journal of child Care and Education Policy **2**(1): 15-26.

Preschools and Infant-toddler Centers (2008). Children, art, artists: the expressive language of children, the artistic language of Alberto Burri. Reggio Emilia, Italy, REGGIO CHILDREN srl.

Puckett, M. (2000). Authentic assessment of the young child: celebrating development and learning. Upper Saddle River, N.J., Merrill.

Rao, N. and H. Li (2009). "Quality matters: early childhood education policy in Hong Kong." Early Child Development and Care **179**(3): 233-245.

Rao, N. and M. Koong (2000). "Enhancing preschool education in Hong Kong." International Journal of Early Childhood **32**(2): 1-11.

Rao, N., J. Sun, et al. (2012). "The Hong Kong early child development scale: a validation study." Child Indicators Research, the official Journal of the International Society for Child Indicators **6**(1): 115-135.

Reggio Children 2000, *The Hundred Languages of Children*, Reggio Children s.r.l., Reggio Emilia.

Reid, L. A. (1986). Ways of understanding and education. London, Heinemann Educational Books Ltd.

Roberts-Holmes, G. (2005). Doing your early years research project: a step-by -step guide. London, Paul Chapman Publishing.

Runco, M. A. (2006). The development of children's creativity. Handbook of research on the education of young children. B. Spodek and O. N. Saracho. Mahwah, New Jersey and London, Lawrence Erlbaum Associates, Publishers**:** 121-131.

Schirrmacher, R. (1998). Art and creative development for young children. Albany, N.Y., Delmar Publishers.

Seefeldt, C. (1999). Art for young children. The early childhood curriculum: current findings in theory and practice. C. Seefeldt. New York, Teachers College Press**:** 201-217.

Seefeldt, C. and B. A. Wasik (2006). Early education: three-, four-, and five-year-olds go to school. Upper Saddle River, N.J., Pearson/Merrill/Prentice Hall.

Shrimali, S. S. (2008). Child development. Jaipur and New Delhi, Rewat Publications.

Skull, J. (1988). Key terms in art, craft and design. Brighton, Elbrook Press.

Smidt, S. (2005). Observing, assessing and planning for children in the early years Abingdon, Routledge.

Snow, C. E., S. B. Van Hemel, et al., Eds. (2008). Early childhood assessment : why, what, and how Washington, D.C., National Research Council of the National Academies Press.

Social Welfare Department. (2013, 22 February 2013). "Child care service." Retrieved 22 February 2013, from http://www.swd.gov.hk/en/index/site_pubsvc/page_family/sub_listofserv/id_childcares/.

Spodek, B. and O. Saracho (1994). Right from the start: teaching children ages three to eight. Boston, London, Sydney, Toronto, Allyn and Bacon.

Stake, R. E. (1995). The art of case study research. Thousand Oaks & London, Sage Publications, Inc.

Stake, R. E. (2005). Qualitative case studies. The SAGE handbook of qualitative research. N. K. Denzin and Y. S. Lincoln. Thousand Oaks & London, Sage Publications, Inc.

Standards & Testing Agency of Department for Education. (2012a, November 2012). "2013 Early Years Foundation Stage Profile Handbook." National curriculum assessments Retrieved 30 April 2013, from http://webarchive.nationalarchives.gov.uk/20130401151715/https://www.education.gov.uk/publications/eOrderingDownload/Early%20Years%20Foundation%20Stage%20Profile%20Handbook.pdf.

Standards & Testing Agency of Department for Education. (2012b). "Statutory framework for the early years foundation stage (EYFS) 2012: exemplification materials (part 4 of 4)." Retrieved 22 June, 2013, from http://www.foundationyears.org.uk/early-years-foundation-stage-2012/.

Stevenson, C. and M. Watt (2005). Journeys with young children in visual arts and drama. Child development and teaching young children. A. Talay-Ongan and E. A. Ap. Southbank, Victoria, Thomson Social Science Press**:** 149-167.

Sturman, A. (1997). Case study methods. Educational research, methodology and measurement: an international handbook J. P. Keeves. Oxford, London and Tokyo, Elsevier Science Ltd.

Talay-Ongan, A. (2005). Child development and education of young children. Child development and teaching young children. A. Talay-Ongan and E. A. Ap. Southbank, Victoria, Thomson Social Science Press: 1-16.

Tashakkori, A. and C. Teddlie (1998). Mixed Methodology: combining qualitative and quantitative approaches. Thousand Oaks, Sage.

Thompson, C. M. (1995). The Visual Arts and Early Childhood Learning: Changing Contexts and Concepts. The Visual Arts and Early Childhood Learning. C. M. Thompson. Reston, Virginia, The National Art Education Association: 1-5.

Vecchi, V. (1998). The role of the atelierista: an interview with Lella Gandini. The hundred languages of children: the Reggio Emilia approach - advanced reflections. C. Edwards, L. Gandini and G. Forman. London, Ablex Publishing Corporation.

Wachowiak, F. (1985). Emphasis art. New York, Harper & Row Publishers, Inc.

Warner, L. and J. Sower (2005). Educating young children from preschool through primary grades. Boston , New York, Pearson.

White, M. H. (2005). Creativity: a cyclical ecology in childhood and beyond. Child development and teaching young children. A. Talay-Ongan and E. A. Ap. Southbank, Victoria, Thomson Social Science Press: 99-114.

Wiersma, W. (1995). Research methods in education: an introduction. Boston, London, Allyn and Bacon.

Wikipedia. (2013a, 1 April 2013). "Immanuel Kant - Wikipedia, the free encyclopedia." Retrieved 1 April 2013, 2013, from http://en.wikipedia.org/wiki/Immanuel_Kant#Aesthetic_philosophy.

Wikipedia. (2013b, 28 February 2013). "Arts- Wikipedia, the free encyclopedia." Wikipedia Retrieved 3 March, 2013, from http://en.wikipedia.org/wiki/The_arts.

Wikipedia. (2013c, 1 April 2013). "Creativity - Wikipedia, the free encyclopedia." Retrieved 1 April 2013, 2013, from http://en.wikipedia.org/wiki/Creativity.

Wikipedia. (2013d, 23 March 2013). "Performance indicator - Wikipedia, the free encyclopedia." Retrieved 3 April 2013, 2013, from http://en.wikipedia.org/wiki/Performance_indicator.

Wikipedia. (2013e, 11 May 2013). "Aesthetics - Wikipedia, the free encyclopedia." Retrieved 12 May 2013, from http://en.wikipedia.org/wiki/Aesthetics.

Wikipedia. (2014, 21 January 2014). "Sublime (philosophy) - Wikipedia, the free encyclopedia." Retrieved 26 January 2014, from http://en.wikipedia.org/wiki/Sublime_(philosophy).

Wolf, D. P. (1992). Becoming Knowledge: The Evolution of Art Education Curriculum. Handbook of Research on Curriculum P. W. Jackson. New York, Macmillan**:** 945-961.

Wong, N. C. M. and H. Li (2010). "From external inspection to self-evaluation: A study of quality assurance in Hong Kong Kindergartens." Early Education and development **2**(2): 205-233.

Wong, N. C. M., C. Y. M. Esther, et al. (2004). A Curriculum-based Child- Assessment Model for a Quality Early Childhood Programme. Hong Kong, Quality Education Fund.

Wong, N. C. M., H. P. R. Cheung, et al. (2002). Assessing and Improving Learning and Teaching with the Early Childhood Performance Indicators Package. Hong Kong, Quality Education Fund.

Wong, N. C. M., Y. M. A. Yung, et al. (2008). "Empowering preschools in using performance indicators to assess children's learning and development." Journal of Basic Education **17**(1): 159-186.

Wong, N.C.M. & Li, H. 2010, 'From external inspection to self-evaluation: A study of quality assurance in Hong Kong Kindergartens', *Early Education and development*, vol. 2, no. 2, pp. 205-33.

Wong, N.C.M., Yung, Y.M.A. & Cheung, H.P.R. 2008, 'Empowering preschools in using performance indicators to assess children's learning and development', *Journal of Basic Education*, vol. 17, no. 1, pp. 159-86.

Wong, N.C.M., Yung, Y.M.A., Cheung, H.P.R., To-Chan, S.P.T. & Wong, W.Y.V. 2006, 'A curriculum-based child assessment model for quality early childhood programme', *Hong Kong Journal of Early Childhood*, vol. 5, no. 2, pp. 67-70.

Wood, E. (2010). Listening to young children: multiple voices, meanings and understandings. Working with children in the early years. C. Cable, L. Miller and G. Goodliff. New York, Routledge.

Wortham, S. C., A. Barbour, et al. (1998). Portfolio Assessment : a Handbook for Preschool and Elementary Educators. Olney, MD, Association for Childhood Education International.

Wright, S. (1994). "Assessment in the arts: is it appropriate in the early childhood years?" Studies in Art Education **36**(1): 28-43.

Wright, S. (2003). The arts, Young Children, and Learning. Boston, Allyn and Bacon.

Wright, S. (2010). Understanding creativity in early childhood. LA, London, New Delhi, Singapore, Washington D.C., SAGE Publications Ltd.

Yin, R. K. (2003). Case study research: design and methods. Thousand Oaks and London, Sage Publications, Inc.

Zimmerman, E. (2010). "Creativity and art education: A personal journey in four acts." Art Education **63**(5): 84-93.

*CHINESE PUBLICATIONS

*Chang 蔣勳, F. (1996). The introduction to arts 藝術概論. Taipei 台北, Taiwan Tung Wah 臺灣東華.

*Chen 陳龍安, L. O., Ed. (1995). Inspiring children's creativity 啟發孩子的創造力 Creative family education series 創意家族教育叢書. Hong Kong 香港, Greenfield Enterprise Ltd. 青田教育中心.

*Cheung 張麗霞, L. H. (2011). "How to appreciate young children's visual artwork? 如何欣賞幼兒的視覺藝術作品?" Hong Kong Journal of Early Childhood 香港幼兒學報 **10**(2): 21-26.

*Cheung 張麗霞, L. H. and S. K. Ma 馬秀琼 (2006). Creative young children: Sky and earth 幼兒創意之天與地. Hong Kong 香港, The Hong Kong Institute of Education HSBC Early Childhood Learning Centre 香港教育學院匯豐幼兒發展中心.

*Cheung 張麗霞, L. H. and K. M. Wong 黃潔薇 (2012). Assessment on aesthetic development 幼兒美感發展的評估. A curriculum-based model of child assessment: theory and practice 課程本位的幼兒發展評估模式：理論與實踐. N. C. M. Wong黃艾珍 and Y. M. A. Yung 容燕文. Beijing, Educational Science Publishing House.

*Chien 簡楚瑛, C. Y. (1994). Project approach 方案課程之理論與實務：兼談義大利瑞吉歐學前教育系統. Taipei 臺北, Man King Publisher 文景出版社.

*Chiu 趙惠玲, W. L. (1997). Art appreciation 美術鑑賞. Taipei 台北, San Min Book Shop 三民書局.

*Corrie, L. (2003). The guide to using the pre-primary performance indicators in learning and teaching 學前教育機構表現指標：學與教範疇應用指引. Hong Kong Hong Kong Institute of Education.

*ECLC Hong Kong Institute of Education HSBC Early Childhood Learning Centre 香港教育學院匯豐幼兒發展中心 (2011). Rainbow bridge 彩虹橋. Rainbow bridge Hong Kong, The HKIEd HSBC Early Childhood Learning Centre 香港教育學院匯豐幼兒發展中心.

*Heep Hong Society 協康會 (ed.) 2002, *Child development guide 兒童發展手冊*, 6th edn, Heep Hong Society 協康會, Hong Kong 香港.

*Heep Hong Society 協康會, Ed. (2006). Development assessment chart (revised) 兒童發展評估表（修訂版）. Hong Kong 香港, Heep Hong Society 協康會.

*Hong Kong Christian Service 香港基督教服務處 (2002). A survey on the expectation of Hong Kong young children's qualities 香港幼兒教育質素意見調查. Hong Kong 香港, Hong Kong Christian Service 香港基督教服務處.

*Lai 黎明海, M. H. V., C. O. T. Tam 譚祥安, et al. (2001). Art appreciation, criticism and education 藝術欣賞，批評與教育. Hong Kong 香港, Academic Publication Committee of the Hong Kong Institute of Education 香港教育學院學術出版部.

*Lam 藍美容, M. Y., L. H. Cheung 張麗霞, et al. (2002). children's art 幼兒美術. Hong Kong 香港, The Hong Kong Institute of Education HSBC Early Childhood Learning Centre 香港教育學院匯豐幼兒發展中心.

*Lee 李美蓉, M. Y. (2003). The introduction in visual arts 視覺藝術概論. Taipei 台北, Lion Art Publisher 雄獅圖書.

*Luk 陸雅青, Y. C. (1999). Art therapy- the interpretation of paintings: 藝術治療-繪畫詮釋：從美術進入孩子的美術世界. Taipei 台北, Psychological Publishing Co., Ltd. 心理出版社.

*Malaguzzi 張軍紅等譯, L. (1998). Hundred languages of children : narrative of the possible : projects by children of the Municipal Infant-toddler Centers and Preschools of Reggio Emilia 孩子的一百種語言：義大利瑞吉歐方案教學報告書. Taipei 臺北, Kuangyu Publishers 光佑文化事業股份有限公司.

*Malchiodi, C.A. 2004, *Understanding children's drawings 兒童繪畫治療--繪畫：兒童的心靈之窗*, Wu Nan Books Inc. 五南圖書, Taipei 台北.

*Mc Whinnie 麥克惠尼, H.J. 1999, 'Art in early childhood education幼兒的藝術教育', in C. Seefeldt 西斐德 (ed.), *The early chilhood curriculum: a review of current research 幼教課程當代研究的回顧*, Laureate Book Ltd. 桂冠編譯室, Taipei 台北, pp. 264-85.

*Ng 伍振鷟, C. C., F. K. Lam 林逢祺, et al. (2000). The philosophy of education 教育哲學. Taipei 臺北, Wu Nan 五南.

*Poon 潘元石, Y. S. (2000). The art of teaching in children's drawing 幼兒畫教學藝術 Taipei 台北, Hsin-Yi Foundation Publisher 信誼基金出版社. p.20-28 (adopted Lowenfeld's stages of development in drawing)

*So 蘇振明, C. M., P. M. 鄒. Chow, et al. (2000). Teachers' Handbook of Art Education-Fine Art for Young Children 藝術教育教師手冊-幼兒美術篇 台北, National Taiwan Arts Education Institute 國立臺灣藝術教育館 p.28-32 (adopted Lowenfeld's stages of development in drawing)

*Tam 譚祥安, C. O. (2001). Art appreciation and school art curriculum 美術欣賞與學校的美術課程. Art appreciation, criticism and education 藝術欣賞·批評與教育. M. H. V. Lai 黎明海, C. O. T. Tam譚祥安 and C. T. Liew劉欽棟. Hong Kong 香港, Academic Publication Committee, the Hong Kong Institute of Education 香港教育學院學術出版部**:** 213-214.

*Wang 黃壬來, Y. L. (1998). Visual arts education of young children - the application of integrated theory 幼兒造形藝術教學—統合理論之應用. Taipei 台北, Wu Nam Publisher 五南圖書出版公司.

*Wong 黃艾珍, N. C. M., Y. M. E. Chan, et al. (2007b). Guide to the Curriculum–based Child Assessment Model for Early Childhood Programme 幼教課程本位的兒童評估模式–應用指引. N. C. M. *Wong, Y. M. A. Yung and S. P. T. To-Chan. Hong Kong, Hong Kong Institute of Education.

*Wong 黃艾珍, N. C. M., Z. Cheng 成子娟, et al. (2007a). Evaluation charts for child development 兒童發展評量表. Hong Kong, Hong Kong Institute of Education.

*Wong 黃艾珍, N. C. M., H. Li, et al., Eds. (2004). Examples of early childhood institutions using the 'Guide to using the pre-primary performance indicators' for self-evaluation and improvement 幼教機構運用「表現指標」應用指引進行自我評估及完善範例. Hong Kong, Quality Education Fund.

*Wong 黃艾珍, N. C. M. and Y. M. A. Yung 容燕文, Eds. (2012). A curriculum-based model of child assessment: theory and practice 課程本位的幼兒發展評估模式：理論與實踐. Beijing, Educational Science Publishing House

*Wong 黃艾珍, N. C. M., Y. M. A. Yung 容燕文, et al., Eds. (2011). The Implementation of school–based curriculum in early childhood 幼教校本課程發展的實踐. Hong Kong, The Centre for Childhood Research and Innovation, Hong Kong Institute of Education.

*Wong 黃蕙吟, W. Y. V., H. P. R. Cheung 張杏冰, et al. (2003). Exploration on art, music and movement activities for young children's Integrated Learning 兒童音、體、美綜合活動的探索. Hong Kong 香港, Hong Kong Institute of Education 香港教育學院.

*Yip 葉學志, H. C., Ed. (1998). the introduction of education 教育概論. Taipei 臺北, Ching Chung Publisher 正中書局.