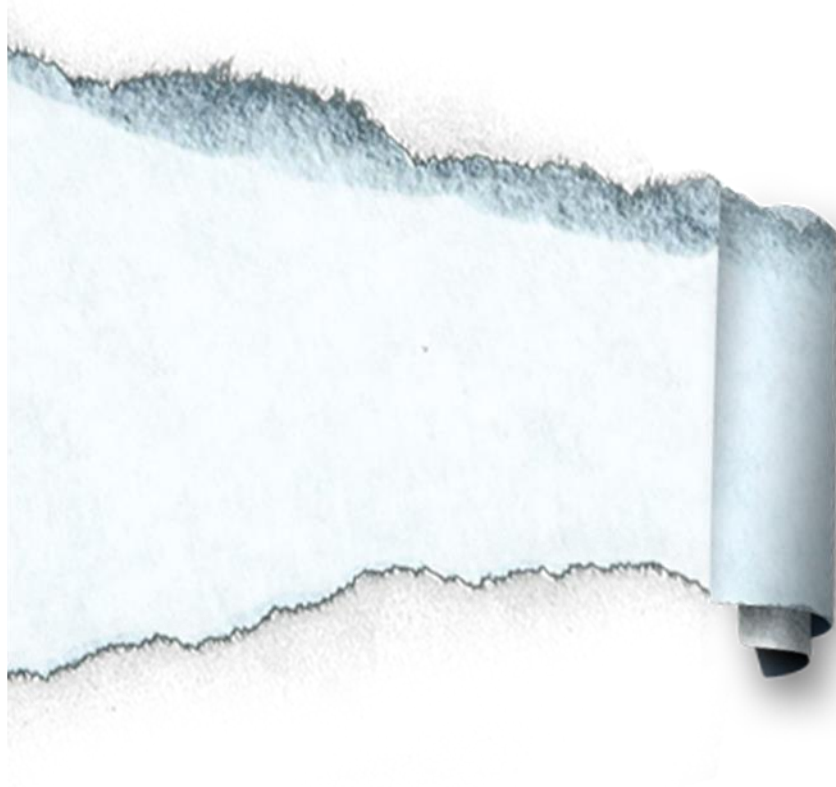**Department of Education**

Macquarie University, Sydney Australia

Out of the shadows:
Fostering creativity in pre-service teachers in creative arts programs

Bronwen Wade-Leeuwen

B.Ed. (ART), MA (Environmental Design)

June 2015

A thesis in fulfilment of the requirements for the degree of Doctor of Philosophy

SYNOPSIS

This is an interdisciplinary research project, drawing on theories in arts-based inquiry, psychology, early childhood and primary education. Significant reforms have occurred with the introduction of the first national Australian Curriculum, particularly in the key learning area of visual and creative arts education. Recent research shows contemporary 21st century pedagogical goals need to focus on developing critical and creative skills in primary school children however; limited research has been conducted in preparing pre-service teachers to foster creative thinking skills in children. Moreover, Australian government schools are limited in the resources they provide to support arts instruction (Barton & Baguley, 2013). However, recent global research shows that Arts education in the 21st century should be focusing on transforming knowledge, skills and building creative capacities for new global intercultural learning communities (Ewing, 2011). This doctoral thesis 'Out of the Shadows' is designed for arts educators to understand the current challenges in teacher education and suggests creative solutions for the future. This research examines pre-service teachers' implicit beliefs and attitudes towards their own creative capabilities and develops new teacher strategies in arts-based inquiry to use in the classroom.

This is a thesis by publication constructed around six different publications and the bridging components are the introduction, literature review, methodology, interpretations and analysis of the findings. This research is the result of a four-year research project that focuses on the different perspectives and artistic experiences of pre-service teachers. This mixed-method study was conducted at a Sydney-based university with 350 third and fourth (final) year pre-service teachers studying in the primary degree program. This arts-based inquiry research expands the imagination and raises important questions about the diverse ways that critical and creative thinking can be defined and experienced in higher education. It investigates a deeper understanding of the inter-relationship between art, culture and creativity. The researcher argues that employing a socio-cultural approach and using a theoretical framework that includes five levels of creativity applied in teacher education will develop dispositions of creativity, such as flexibility, mindfulness, visualisation, avoidance of premature closure in decision-making and a willingness to risk take. Without these attitudes to life creativity is not likely to occur. This doctoral research is a thoughtful and rich investigation that has much to offer tertiary editors, teachers, principals and the wider community.

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Bronwen Wade-Leeuwen
Student No. 41559649
June 2015

STATEMENT OF CANDIDATE

I certify that the work completed in this thesis entitled 'Out of the shadows: Fostering creativity in pre-service teachers in creative arts programs' has been submitted as part of the requirements for a Doctoral Degree at Macquarie University. This thesis satisfies the university's requirements that it is being written by me and is an original piece of research. Any assistance I have received with my research work in its preparation has been appropriately acknowledged. In addition, I certify that all sources of information and literature used are indicated in the thesis. The research presented in this thesis was granted clearance by the Macquarie University Ethics Review Committee in compliance with the National Statement on Ethical Conduct in Human Research (2007). The reference number is 5201100181 granted on 1 May 2011. Approval was also given to conduct this research as a teaching project taking part in curriculum and teaching in the primary education and approval was renewed yearly until completion in March 2015.

Bronwen Wade-Leeuwen
Student No. 41559649
June 2015

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

DVD – OUT OF THE SHADOWS CAN BE FOUND ON THE FRONT COVER

LIST OF TABLES

LIST OF FIGURES

BIOGRAPHY

An experience is a product; one might almost say bi-product, of continuous and cumulative interaction of an organic self with the world. There is no other foundation upon which aesthetic theory and criticism can build. (Dewey, 1980/1934, p. 220)

As the primary researcher, I hold a Bachelor of Education (Arts) from the College of Fine Arts (COFA) of New South Wales University, Sydney. Prior to that, I gained a Diploma of Fine Arts from Nanyang Academy of Fine Arts (NAFA), Singapore. My first international art exhibition group showing was at the Singapore Cultural Centre in 1973 and since that time I have exhibited annually in Australia, Austria, China, Germany, Hawaii, Malaysia, Singapore and Taiwan. Since 17 years of age, my goal was to become an exhibiting artist to develop creativity in my own artworks/artefacts, particularly as I come from a family of artists and architects. My mother was a painter, my maternal grandfather was a sculptor and both great grandfathers were famous Sydney architects. My great-uncle was Gerald Lewers married to Margo Lewers of the Lewers Bequest, Penrith, New South Wales. Therefore, this study is about the relationship of 'creativity' to visual arts education.

My artistic interests always evolved around studying early mark-making, particularly rock art frescoes, commencing with my first study of Chinese brush painting and calligraphic images at Nanyang Academy of Fine Arts in the 1970s. I attended the Academy full-time study for three years and was instructed in non-Western ways of knowing, including Traditional Chinese brush painting and French Beaux-Arts, which included drawing, painting, print-making and sculpture. The pictographs I studied represent the oracle bone strokes and early Chinese calligraphic writings used today. In the 1980s, I studied the ancient skill of Italian fresco-making at Salzburg Summer Academy. Following this, l moved to Honolulu, Hawaii to continue my studies of rock art fresco techniques from the Ambassador for the Hawaiian Islands, Juliette May Fraser. Fraser, assisted by artist, David Asherman, who learnt her techniques from the renowned muralist artists, Jean Charlot, worked and studied in collaboration with Mexican muralist, Diego Rivera (Frida Kahlo's partner). As part of this research into the different dimensional levels of creativity, I travelled to Chios Island, Greece in 2014 to see Fraser's and Asherman's fresco murals. The fresco murals were painted in 1960 in a small chapel. They represented how first-time foreigners decorated an entire orthodox religious edifice in Greece. From 1982-1985, I returned to live in Sydney, Australia after being out of the country for 10 years. During my B. Ed (ART) at COFA, I majored in Opera Theatre Backdrops and Australian Aboriginal Rock Art Petroglyphs. In 1995, I was invited to co-mentor the Aboriginal and Torres Strait Islander Art and Design program at Canberra Institute of Technology (CIT) in conjunction with the Yurauna Centre for Aboriginal Studies.

In 2000, I gained a Master by research degree on 'The Influence of Chinese Calligraphy on Australian Painting' from the University of Canberra and together these continuous and cumulative interactions between myself with the world directed me towards my arrival story. This doctoral thesis research commenced with a research grant to Mainland China and Taiwan in 2009 to conduct fieldwork into early rock art frescoes, particularly the earliest form of writing in the form of Chinese oracle bone strokes and understanding how they contribute toward a deeper understanding of creativity.

My professional development over the past six years (2009-2015) includes serving in the Indigenous Tutorial Assistance Scheme (ITAS) at Warawara Department of Indigenous Studies from 2009-2010. This involved working with Aboriginal and Torres Strait Islander students undertaking the Institute of Early Childhood B.Teach. programs at Macquarie University. During this time, I assisted with undergraduate students in the Disabilities Support Unit, particularly learning difficulties such as dyslexia. Over the past four years (2011-2015), I have tutored undergraduate students in the Educational Psychology (EDU105) Unit, Cultural Perspectives in Education (EDU106) Unit and The Creative Arts Unit on curriculum and teaching strategies for third and fourth (final) year students in the School of Education, Macquarie University. Since 2011, I am also the educational advisor to the Australian Fujian Association and National Institute of Chinese Education, Sydney.

This current dissertation study provides the opportunity to merge two main interest areas: (i) the study of early pictographic images in traditional cultures; and (ii) innovative intercultural teaching strategies to use in art education. My intent was to stimulate dialogue and research by exploring new possibilities for fostering creativity in and through the Arts. I identify with the artist/researcher/teacher (a/r/t) construct born from the methodology A/r/tography as described by Irwin et al. (2006) and perceive my contribution to visual and creative arts education as providing insights and pragmatic knowledge towards understanding how to foster creativity in pre-service teachers. Importantly, as an artist/educator, throughout this dissertation, I use my creative process cycle, a 12-step action plan, when working on artistic design orientated tasks, as follows: (i) apply the conceptual framework; (ii) brainstorm the task; (iii) research the topic; (iv) experiment divergent ideas, risk taking skills; (v) evaluate the process; (vi) select the course of action; (vii) implement it – 'just do it'!; (viii) reflect and re-evaluate collaboratively or individually; (ix) refine the product or artifact; (x) market the final production or artifact through an exhibition or display; (xi) reflect in action; and (xii) redesign the creative process. This creative process allows me to engage with notions of inventing, innovating and providing the necessary space for emergent creativity to occur.

STATEMENT OF CONTRIBUTION

This statement confirms my contribution towards the journal articles prepared for this thesis. I certify that all the data analysis in the following articles have been completed by me. The articles presented in Chapters 1-6 are listed below:

Chapter 1: Publication 1 (P1)

Wade-Leeuwen, B. (2009). Heart print: Chinese rock art fescoes (Xin-yin): Crossing borders. *International Journal of Arts in Society, 4*(4), 179-185.

Chapter 4: Publication 2 (P2)

Wade-Leeuwen, B. (2013). The Bwo-Me (life's breath) creativity workshop: Visual arts and education. *International Journal of Arts Education, 7*(7), 68-79.

Chapter 4: Publication 3 (P3)

Wade-Leeuwen, B. (2011). Fire, ink and play: Developing 'creativity' for lifelong learning. *International Journal of Arts in Society, 5*(5). 203-215.

Chapter 4: Publication 4 (P4)

Wade-Leeuwen, B. (2013). *Boundary breaking: Intercultural 'hands-on' creative arts workshops.* Paper presented at the AARE-APERA Conference 2012, Sydney.

Chapter 5: Publication 5 (P5)

Wade-Leeuwen, B. & Harrison, N. (2014). *Out of the shadows: Interacting and responding to creative expressions in pre-service teacher education.* Paper presented at the AARE-NZARE, Queensland University of Technology, Brisbane.

Chapter 6: Publication 6 (P6)

Wade-Leeuwen, B. (2015). Generating 'creativity' and provocations through visual arts education: A major goal of twenty-first century arts education. *International Journal of Arts Education, 9*(9) (In press).

Although the conceptual framework, data collection and workshop components are all mine, some conceptual linkage were assisted by my supervisors during collaborative group sessions.

ABBREVIATIONS

ACARA   Australian Curriculum, Assessment and Reporting Authority

AITSL   Australian Institute of Teaching and School Leadership

BOS   NSW Board of Studies

BOSTES   Board of Studies, Teaching and Educational Standards

COAG   Council of Australian Governments

CoP   Community of practice

DEEWR   Department of Education, Employment and Workplace Relations

EYLF   Early Years Learning Framework

GEPNSW   Global Education Project

MDEGYA   Melbourne Declaration on Educational Goals for Young Australian

PTC   Professional Teachers Council NSW

KEY TERMS

Term	Definition
ACARA	Australian Curriculum assessment and reporting authority, responsible for national Curriculum K-12, nationalist assessment and national data collection.
Action research	The integration of planned action with research taking place in the workplace; the purpose of improving teacher practice; may be individual or collaborative; also known as teacher research.
Advocate	Promote a view or position, or provide support to others.
AITSL	National Institute for Teaching and School Leadership. Provides national leadership for the Commonwealth, State and Territory Governments and promotes excellence in the profession of teaching and school leadership.
Art education	Art education in Australia can be defined by five artistic modes of expression: dance, drama, media arts, music and visual arts (ACARA, 2015).
Arts in education (AiE)	AiE is an active learning technique that enhances teaching and learning processes by increasing community interactions and building on the learner's self-esteem, creativity, problem-solving skills and ability to work in teams (Gardner, 1983, p. 27).
Arts-based inquiry	Arts-based inquiry research is a process that 'uses the expressive qualities of form to create meaning' (Barone & Eisner, 2012, p. xii).
Assessment – informal (participant observation)	Gathering assessment data by observing students as they learn.
Assessment – summative	Evaluating student achievement of learning goals at a point in time.
Assessment data	Participation gathered through the assessment process for the purpose of making judgments about student learning.
Assessment-formative	Assessing student learning in order to provide feedback to students; devise/change learning and teaching programs.
Atelierista (studio leader)	'Atelierista' is a term used in the Reggio Emilia early childhood philosophy for a specialist artist educator (studio leader) who works with children and young people through scaffold strategies and discovery-based learning projects in specifically designed learning spaces (Fraser, 2000). The studio leader (professional artist) facilitates the workshops in open environmental creative spaces so that these spaces become the 'third teacher' to the learners (Edwards et al., 1998).

Term	Definition
Co-creation in an emergent curriculum	An emergent curriculum means it is not static or prescribed but represents an emergent curriculum where the 'Atelierista' (studio leader) co-designs the curriculum alongside children and young people through a process of scaffold strategies and discovery-based learning (Fraser, 2000).
Collaboration	Working with one or more colleagues to achieve a common goal.
Colleague	Other professional and paraprofessionals (inside and outside the school), including but not limited to teachers, principals, specialist teachers, pre-service teachers, industry partners, education assistants and teacher aides.
Communication	Communication is the ability to predictably relay ideas or notions from one person to another, whether it is through walking, talking, gesturing, the stroke of a pen or a line or a formula (Taylor, 1959, p. 80).
Context	The setting in which the teacher works, including but not limited to primary or secondary, metropolitan/rural/remote, school size, teaching role and responsibility, leadership role.
Creative and artistic experience	In this study, the creative and artistic experiences refer to a holistic notion of creativity consisting of the creative person, process, product and environment, including dispositions of creativity, creative process, creative products and creative space or 'third teacher'.
Creative capacities	Creative capacities is the ability to think creatively, innovate, solve problems and engage with new disciplines (ACARA, 2012, p. 20).
Creative thinking	Creative thinking is how teachers perceive and employ creativity in teaching and learning.
Creativity (global)	Creativity in young children is 'the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (UNESCO, 2013, p. 35), including new ideas, approaches and actions (Sternberg, 1999).
Creativity (working definition)	In this study, creativity is creative thinking and action, and a willingness to engage in new ideas and approaches through the process of becoming sensitive to problems, deficiencies and gaps in research (Sternberg, 1999; Torrance, 1972).
Critical and creative thinking	Referred to the Australian Curriculum general capabilities http://www.australianCurriculum.edu.au/GeneraCapabilites/Pdf/Critical-and-creative-thinking.
Critical friends group	Interactive group work with professional artists and art educators collaborating within this study.
Cultural community-of-practice (CoP) model	The CoP model involves new kinds of organisational designs that require the involvement of informal gatherings of people who are passionate about an issue. Applied to this study, the issues are about the Arts and culture (Lave & Wenger, 1995; Wenger, 2000) and that is why I have defined it as a cultural CoP model.

Term	Definition
Demonstrate	To show or make evident knowledge and/or understanding.
Discipline-Based Arts Education (DBAE)	DBAE is an active learning approach that advocates that art education ought to provide opportunities to experience the process of creating visual images, but also to learn how to see the images they and others have created and the socio-cultural influences on the creative process by the culture by which it was made (Eisner, 1965).
Dispositions	Dispositions are the capacity to think creatively, innovates, solve problems and engage with new disciplines (ACARA, 2012, p. 20). They are primarily learned as a consequence of experiences that are related to the self of the person. For each of the general capabilities, a learning continuum has been developed that describes the knowledge, skills, behaviours and dispositions that students can be expected to have developed at particular stages of schooling (ACARA, 2012, p. 22).
Divergent thinking	Divergent thinking refers to the ability to develop alternative resolutions through idea generation and experimentation (Torrance, 1972).
Effective teaching strategies	Teaching strategies that contribute to successful learning outcomes for students.
Evidence	Participation that is considered reliable and valid which can be used to support a particular decision or conclusion.
Expert knowledge	Conceptual and specialist knowledge of an aspect of learning and teaching.
General capabilities	General capabilities are a set of knowledge skills, behaviours and dispositions. General capabilities include 'planning and organising, the ability to think flexibly, to communicate well and to work in teams, the capacity to think creatively, innovate, solve problems and engage with new disciplines' (ACARA, 2012, p. 20).
Global creativity	Global creativity is the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions (UNESCO, 2013, p. 35).
Group work	Planned and structured collaborative student learning groups that are designed to achieve identified student learning outcomes.
Initiate	A program, policy, event or other professional activity that originated with, or was set in place, by the actions of the candidate.
Innovation	Introduction of something new in the teacher's context. Examples may include differentiated resources, inquiry-based learning opportunities for students, co-creation of resources between teachers and students, development of digital and web-based learning and teaching opportunities, new structures for student learning, teaching and professional learning of leadership.

Term	Definition
Intercultural capability	Intercultural capability includes an understanding of, and respect for, diversity and difference, as well as openness to different perspectives and experiences that, in turn, develop world-mindedness and a sense of global citizenship (ACARA, 2012, p. 9).
Lead	Initiate inspire and guide colleagues to improve educational outcomes for students; articulate and implement a vision of education to their students, peers, the profession and the wider community.
Learning activity	Activities designed by teachers to create conditions for learning.
Learning and teaching program	An organised and sequenced program of teaching activity and teaching strategies, assessment teaching strategies and resources.
Learning goals	Goals set to provide purpose for specific teaching and learning.
Mentor	Dynamic intentional relationship in which one person enables another to grow and learn in the role (Mallinson, 2006).
Mindful creativity	The learner is task oriented and focused more on the creative process rather than the product or outcomes (Langer, 2006).
Mixed-methods	A form of research that uses both quantitative and qualitative methods (Creswell, 2012).
Model	Provides an example for others to follow or imitate.
Narrative	A narrative is a short story of events or experiences (Walter, 2010, p. 487). In this study, a narrative is told as a stimulus for visualisation and imaginative imagery of pictures in the mind.
Non-verbal communication	The use of unspoken cues generated by both the teacher and the environment that has potential message value to students; could include but is not limited to eye contact, body language and visual and other sensory aids.
Participant observations	Gathering assessment data by observing learners as they learn in the studio-based workshops.
Policy/policy document	According to Caldwell and Spinks, a policy or policy document is 'a statement of purpose with one or more guidelines as to how that purpose is to be achieved' (Caldwell, 2005).
Presentation material	Materials, such as digital and/or paper resources designed for use by colleagues during professional development.
Pre-service teachers (generalist)	Students in an initial teacher education programs provided by higher education institutions; these are students in an initial teacher education program learning about primary visual and creative arts education.
Primary generalist teachers	Primary (or elementary) teachers in Australia are generalist teachers who teach children and young people (Foundation to Year 6) across six key learning areas: English, Mathematics, Science, History, HSIE and Creative Arts.

Term	Definition
Professional network	Formal, informal and non-formal groups of educators who interact for the purpose of improving professional practice.
Scaffolding	Scaffolding is a teaching strategy developed by Vygotsky (1978) where the educator supports the learner by using the Zone of Proximal Development (ZPD) theory through a variety of learning processes.
Self-expression	The activity of self-expression cannot be taught. Any application of an external standard, whether of technique or form, immediately induces inhibitions, which frustrate the whole aim. The role of the teacher is that of attendant, guide, inspirer and psychic midwife (Read, 1958, p. 209).
Sensations	The visual arts offer non-discursive modes of representation that express sensations such as the way learners think, act, feel and sense the world around us (Langer, 1957; Eisner, 2012).
Social constructivist learning theory	The social constructivist learning theory (Vygotsky, 1978) applied within a primary educational framework emphasises the role of social interactions during the process of learning.
Spirit of play	Based on the Reggio Emilia early childhood philosophy 'spirit of play', the Reggio educators believe that by exposing young children and young people to playful creative ways of thinking, they can develop a better sense of well-being and self-realisation (Rinaldi, 2006).
Studio leader	The studio leader (professional artist) facilitates studio-based workshops in open environmental creative spaces so that these spaces become the 'third teacher' to the learners (Edwards et al., 1998).
Text	Any form of written communication; or any cultural artefact bearing messages that can be analysed in the same fashion as texts, such as 'steel and moving images, drawings, paintings, printmaking and modelling mediums' (Walter, 2010, p. 498).
Third teacher	As conceived by the educator in Reggio Emilia, the 'third teacher' is an arrangement of creative spaces in the classroom environment where stimulating scaffold strategies and discovery learning experiences provoke the learner into discovering elements of their own creative abilities (Edwards et al., 2012).
Zone of proximal development (ZPD)	Vygotsky's theory of the 'Zone of Proximal Development' (ZPD) is the area between a learner's level of independence performance and the level of guidance performance provided by a more experience adult or peer (Vygotsky, 1978, pp. 84-85).

CHAPTER 1:
INTRODUCTION

Works of art are the most intimate and energetic means of aiding individuals to share in the art of living. (Dewey, 1934, p. 336)

1.1 Introduction

Chapter 1 provides the background to the thesis, aims and purpose of the research. The linked article publication in this chapter positions the researcher's artistic knowledge and experience of Eastern and Western Art. It describes her lifelong interest in intercultural art forms, particularly in the areas of drawing, painting, printing and modelling and fresco rock art. The article also supports the notion of similarities and differences in early art-making practices of the Australian Aboriginal, Chinese and Egyptian artists.

Creativity is complex and hard to define but for the purposes of this study, creativity in young children is 'the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (UNESCO, 2013, p. 35). International perspectives on creativity are driven by governments across the globe, turning their attention to understanding how creativity could become an important part of education for children and youth (Jones & Wyse, 2013). Furthermore, Spendlove and Wyse (2008) point out that creativity is an integral part of children's learning and the teacher as facilitator of their learning needs to be able to provide opportunities for creativity in the classroom. This research connects with the current Australian syllabus through an emphasis on creativity and the role of pre-service teachers in their preparedness to facilitate creativity opportunities in the classrooms. According to research by Kampylis (2010) and Brown (2006), gaps appear in pre-service teachers' implicit beliefs about creativity meaning that their understandings of creativity was intuitive rather than explicit. For example, the current syllabus is not currently working within a community practice with diverse artists and art educators, the benefits of which are explained in Chapter 6. The aims of this study are to draw together the themes of fostering creativity and encouraging learners to value their own artistic cultures (ACARA, 2014; UNESCO, 2013). A critical review of existing pedagogical learning and teaching approaches to foster creativity opportunities in the classroom is presented and discussed in relation to the current debates on art education.

1.2   Purpose and aims

The purpose of this research is to understand the different perspectives of pre-service teachers on the nature of creativity and to find out what teaching strategies would foster creativity in the classroom. Craft (2001) and Spendlove and Wyse (2008) pointed out that creativity is an integral part of children's learning and the teacher, as the facilitator of their learning, is required to provide creativity opportunities in the classroom.

A multiple case study approach (Yin 2009; Stake, 2010) was designed to identify:

1.   Different perspectives of pre-service teachers on their own creativity capacities; and

2.   Pre-service teachers' choices of teaching strategies to foster creativity in and through the visual and creative arts in the classroom.

The underlying purpose of this study is to fully explore the different perspectives and contextual situations through particular multimodal texts through discursive and non-discursive forms. The research examines fundamental questions about how to foster creative and artistic approaches in teacher education programs. A small-scale study of 350 third and fourth (final) year pre-service art teachers was conducted in 24 studio-based workshops at a Sydney university. The aim of the study was to work within a socio-cultural framework that developed approaches to visual and creative arts through 'hands-on' studio-based activities using a variety of strategies. The findings revealed that learning different strategies in studio-based workshops can have a profoundly positive impact on pre-service art teachers as they transition into their early careers as teachers.

The key concern of this research was to explore teachers' perceptions of the nature of creativity, the different perspectives of pre-service teachers on their own creative capacities and the choice of teaching strategies to foster creativity in and through the visual and creative arts in the classroom. The aim of the study is to seek understanding of how pre-service art teachers can foster creativity through a community-of-practice model that develops intercultural relationships with professional artists. It is envisaged that through connecting pre-service art teachers to professional intercultural artist through their artistic practices, the pre-service art teachers will develop their own pedagogies through these new learning experiences. According to ACARA (2014), intercultural understandings in teacher education programs mean that pre-service art teachers learn how to engage with *diverse cultures in ways that recognise commonalities and*

differences, create connections with others and cultivate mutual respect' (p. 15). The present study draws from Aboriginal and Torres Strait Islander histories and cultures, Asia-Pacific regional arts and culture, and themes on sustainability. It explores higher education approaches that incorporate ancient arts practices and new technologies through a collaborative CoP model with diverse artists from Australia, Shanghai, Singapore and Taiwan.

1.3 Research perspectives

This research is interested in the different perspectives of this cohort of primary generalist pre-service teachers (termed 'pre-service teachers') to understand how creativity can be fostered during their teacher education programs. The researcher argues that in many institutions in Australia, there are educators and academics committed to the cause of fostering creativity but these people generally feel unsupported by the education system in universities (Monk & Mackinlay, 2015). The researcher advocates that facilitators of children's and young people's education need an experiential understanding of the multiple dimensions of creativity before they can develop appropriate teaching strategies for an effective visual and creative arts program.

1.4 Statement of the problem

Current research by McMahon, Klopper and Power (2015) indicates that Australian government schools often lack the necessary resources funding, equipment and time for visual and creative arts education and confirm 'that the Arts still play a rather peripheral role in school' (Bamford & Wimmer, 2012, p. 5). The Australian primary teachers are generalists; they are not specialist teachers in the Arts and as such, they are not expected to have any in-depth knowledge, skills or expertise in the visual and creative arts. According to Flood, Heath and Lapp (2015), a particular concern of arts educators is that many pre-service art teachers are not experiencing art processes or the modelling of creativity through effective pedagogical strategies within their tertiary teacher education programs. Furthermore, teacher education programs often lack the appropriate resources, such as artists-in-residence programs or explicit mentoring practices (Hudson, 2013) where pre-service teachers can professionally develop their confidence and competence in arts education (Russell-Bowie, 2012) in a systematically supported manner. This situation creates a tension for pre-service art teachers as they struggle between developing the required critical and creative thinking skills (*Australian Curriculum (2013)*) and acquiring in-depth knowledge, skills and expertise in the learning and teaching of visual and creative arts.

1.5   Research questions

The overarching research question is: How is creativity fostered in pre-service teachers during their teacher education programs? In order to answer this question, four sub-questions have been developed below:

Research Sub-Question 1: *What are the tensions that exist between the diverse perspectives on fostering creativity in art education?*

Research Sub-Question 2: *What approaches to creativity could be incorporated in the creative arts in teacher education?*

Research Sub-Question 3: *What are the pre-service teachers' implicit beliefs about creativity?*

Research Sub-Question 4: *How can creativity be fostered in creative arts programs in teacher education?*

The first research sub-question investigates the tensions that exist between the diverse perspectives on fostering creativity in arts education in the primary context. It begins with a closer look at the new Australian Curriculum requirements such as the critical and creative graduate capabilities and the three cross-curricular priority educational perspectives.

Structure of the Australian Curriculum

3 Cross-curriculum Priorities
- Sustainability
- Asia and Australia's Links with Asia
- Aboriginal and Torres Strait Islander Histories and Cultures

11 Disciplines/Learning areas
- English
- Mathematics
- Science
- History
- Geography
- Economics, Business
- Civics and Citizenship
- The Arts
- Languages
- Health and Physical Education
- Technologies

7 General Capabilities
- Literacy
- Numeracy
- ICT Capability
- Critical and Creative Thinking
- Personal and Social Capability
- Intercultural Understanding
- Ethical Understanding

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Figure 1.1   Structure of the Australian Curriculum

1.6 The Australian context

The importance of 'teaching for creativity' in accordance with the *Australian Curriculum: The Arts* (ACARA, 2014), as suggested by Darling-Hammond (2014), is the need to focus more on modelling approaches that develop 21st century skills like problem-solving and critical and creative thinking skills. The context of the study was a result of the direction of the first national *Australian Curriculum* (ACARA, 2014) underpinned by philosophical decisions made. The *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA, 2008) have set educational priorities for the past 10 years, recognising that Australian education plays an important role in developing 'confidence in creative individuals' and a society that is 'cohesive and culturally diverse, that values Australia's Indigenous cultures' (MCEETYA, 2008, p. 4). The *Australian Curriculum* describes how intercultural understanding can address the task of 'developing students who are active and informed citizens with an appreciation of Australia's social, cultural, linguistic and religious diversity, and the ability to relate to and communicate across cultures at local, regional and global levels' (ACARA, 2012, p. 1). This study is designed to investigate how pre-service teachers relate to and communicate across cultures at local, regional and global levels by working with cross-curricular priority perspectives in the *Australian Curriculum*, as described below.

The *Australian Curriculum* (McGaw, 2013) focuses on general capabilities that connect to 21st century skills as identified in the Melbourne Declaration (MCEETYA, 2008) as needing more attention. These 21st century skills are: Literacy, Numeracy, Information and communication technology capability, Critical and creative thinking, Personal and social capability, Ethical understanding and Intercultural understanding. Relevant to this thesis is the overarching aims of *The Australian Curriculum: The Arts*, (ACARA 2014) which states that students need to develop visual arts knowledge, understanding and critical and creative thinking skills.

The general capabilities assist in the preparation of children and young people to participate effectively as global citizens (Ewing, 2010). Ewing (2013) also points out that the critical and creative thinking skills requires certain kinds of learning opportunities which are increasingly threatened by less time and space offered in the school and university curriculums. Of particular concern in this thesis is how to foster the critical and creative thinking skills in pre-service teachers so that they can more effectively mentor the children in their classrooms.

Cross-curricular priorities

Three cross-curricular priorities traverse all ACARA syllabus documents (ACARA, 2015): (i) *Aboriginal and Torres Strait Islander histories and cultures*; (ii) *Asian and Australia's engagement with Asia*; and (iii) *Sustainability*. Priority one, *Aboriginal Torres Strait Islander histories and cultures,* is to provide opportunities for all learners to gain a deeper understanding and appreciation of Australia's First Nation People. Priority two, *Asia and Australia's engagement with Asia,* aims to enable all learners to develop a better understanding of the different countries and cultures in our Asia-Pacific region, while priority three, *Sustainability,* is designed to develop an appreciation in children for more sustainable patterns of living, thinking and acting in the future. This research aligns with the three cross-cultural priorities because it supports a broader understanding of how creativity learning and teaching in and through the Arts can enhance learners' engagement with these important priorities.

The *Australian Curriculum* states that intercultural capability 'involves students learning about the diversity of languages, institutions and practices, and developing perspectives on complex issues related to global diversity' (ACARA, 2012, p. 22). In other words, teachers are expected to encourage children in primary school to value intercultural relationships during their schooling.

> *Children need to become better equipped to make sense of the world in which they live and make an important contribution to building the social, intellectual and creative capital of our nation.* (ACARA, 2012, p. 15)

The *Australian Curriculum Design Paper* (ACARA, 2012) suggests learning across these three cross-curriculum priority areas will help to develop 21st century global competencies and prepare Australian children for lifelong learning and future work.

1.7   Significance of the study

The significance of this study is its focus on how creativity can be fostered in teacher education, and this will be considered in three important ways. Firstly, the researcher argues that art educators need to be aware of their own creativity before they can facilitate creativity opportunities in the classroom and identify when children are developing their creative capacities. Secondly, more specifically, there is a need to reform tertiary education programs in this Sydney-based university and provide an adequate framework for fostering creativity in our

pre-service teachers. Thirdly, pre-service teachers need to learn how to teach for the levels of creativity in their classrooms.

1.8   Limitations

This study was limited to a creative arts course offered in a teacher education program at Macquarie University in Sydney, Australia. The cohort of 350 pre-service teachers was in either their third or fourth (final) year of study of a Bachelor of Arts degree. The findings of the study are subject to alternative interpretations and are not intended for formal generalisation. Limitations of the study also include the following:

- A mixed-methods approach to research with a qualitative emphasis was limited to case studies of two distinct cultural groups (Aboriginal Elder artists (Case Study 1) and Chinese master artists (Case Studies 2 and 3)).

- The study was narrowed in scope by focusing on pre-service teachers and their collaborative, interactive, group work with professional artists during one component of their teacher education.

- The study specifically focused on the perceptions of pre-service teachers and the teaching strategies used in interactive group work with professional artists in studio-based workshops.

- The researcher's primary language was mediated through visual images, signs and symbols that needed to be translated for readers' comprehension into a more linear written format.

- The author preferred to use the original format of the publications as they represent the artist/researcher/teacher's authentic voice and the publications are supported by a variety of multimodal text including still and moving images to illustrate the narrative of the story. However, some papers contain minor typographical errors.

1.9   Structure of the thesis

This thesis has been completed as a combination of traditional thesis structure with the thesis-by-publication model. According to the Macquarie University thesis-by-publication policy (http://www.mq.edu.au/policy/docs/hdr_thesis/guideline_by_publication.html), a thesis may include relevant articles published, accepted, submitted or prepared for publication during the period of candidature, together with a critical introduction and an integrative discussion and conclusion. The recommendations for thesis-by-publication state that the thesis may contain repetition, such as repeated elements in the articles from the literature review, methodology and

theoretical framework. Candidates must also ensure that any referencing and stylistic inconsistencies between papers are minimised to assist the examiners. For consistency, each article has a preamble that will introduce the main concepts and indicate how the articles interconnect throughout the thesis.

Chapters 1, 2 and 3 set the scene by highlighting the tensions that exist between the diverse perspectives on fostering creativity in schools and in teacher education. This first chapter provides background information, including a rationale for this study, and lists the issues that will be explored relating to challenges in defining creativity. The main research questions are presented with an overview of thesis. Additionally, Chapter 2 provides the literature review, which considers the broader context of creativity in visual and creative arts education and introduces the theoretical framework followed by the methodology used for this thesis.

Chapters 4 and 5 investigate what pre-service teachers believed they learned prior to and during the studio-based workshops. This section illuminates the many voices of pre-service teachers in the workshops and presents a range of different strategies and presentational forms in the case studies. These include verbatim transcriptions of the interviews and storytelling where the researcher blends elements from the interviews with her contributions from the theoretical framework.

Chapters 6 and 7 reflect on the process and presents the findings in the arts-based inquiry. This is where the researcher becomes a composer by reflecting on the different perspectives presented by the pre-service teachers and the interactive group work with professional artists from the wider community. Additionally, reflections on the environment as a space for learning draw on the Reggio Emilia concept of the 'third teacher' and the reader learns about the valuable role of studio-based workshops in the artistic and creative experience. The socio-cultural factors that contribute to the study and teaching strategies that facilitate creative opportunities are acknowledged in this section. Chapter 7 is designed to provoke and engage a variety of audiences in methodological and epistemological issues, raising questions about what it means to foster creativity in pre-service teachers and how they might acquire the necessary attributes of creativity as part of their teacher education.

1.10 Organisation of the thesis

Table 1.1   Outline of chapters and accompanying publications that represent the organisation of the thesis

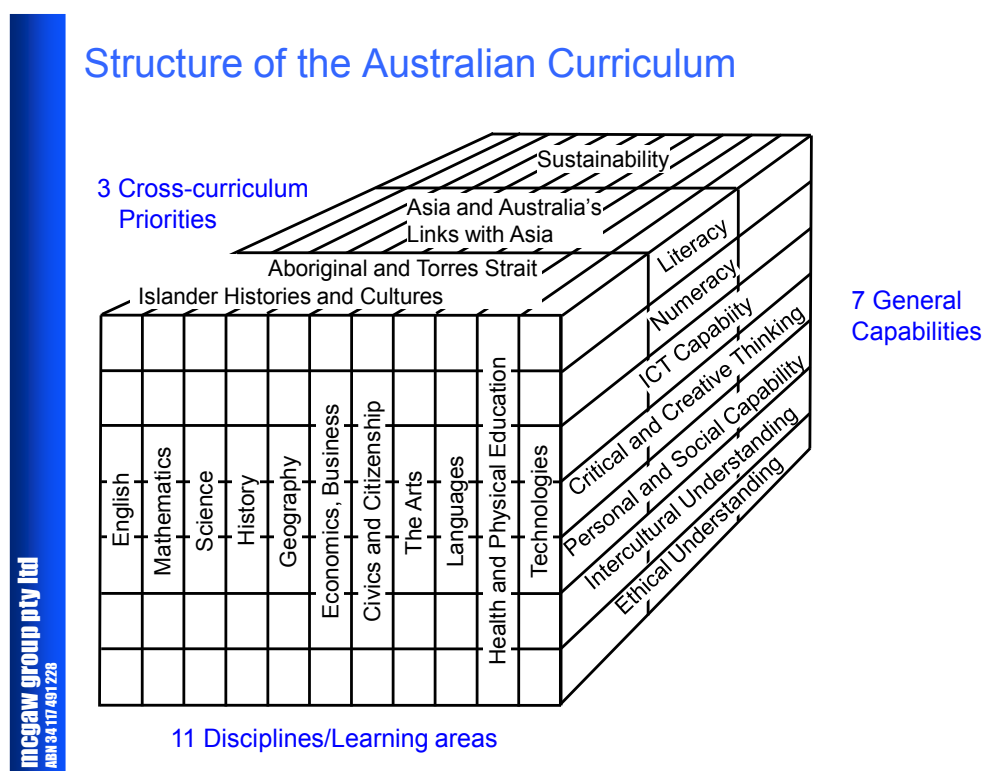| Chapter	Purpose	Related Articles	Synopsis
1	Introduction to the overall study Introduction to early art-making techniques of rock art frescoes	Publication: P1 Wade-Leeuwen, B. (2010). Heart print: Chinese rock art frescoes (Xin-yin): Crossing borders. *International Journal of the Arts in Society*, *4*(4), 179-185	Chapter 1 provides the background of the thesis, aims and purpose of the research, research questions it seeks to address, and components of the research. This chapter describes the researcher's lifelong interest in intercultural art forms, particularly in the areas of drawing, painting, printing and modelling and fresco rock art. The article publication supports the notion of similarities and differences in early art-making practices of Australian Aboriginal, Chinese and Egyptian artists.
2	Literature review		**Research Question 1:** *What are the tensions that exist between the diverse perspectives on fostering creativity in art education?* Chapter 2 represents the literature review and provides justification for the research and answers to Research Question 1. It supports focused reviews of relevant literature within the journal articles that have been published in a variety of educational journals and presented here in their final submitted format. The main focus is to raise important questions about key research specifically focusing on pre-service teachers' preparedness to teach critical and creative thinking in the *Australian Curriculum*. Additionally, research is provided on current issues in pre-service teacher education in the creative arts.

Chapter	Purpose	Related Articles	Synopsis
3	Methodology		Chapter 3 outlines the research paradigms and conceptual frameworks in which the research was conducted and describes the procedures used for the data collection. It begins with a discussion on socio-cultural approach followed by arts-based inquiry approach to learning that allows for different perspectives of the participants to emerge, thereby adding to our understanding of the focus questions and raising important questions about fostering creativity in teacher education.
4	Approaches to creativity Case Study 1 Participant observations	Publication: P2 Wade-Leeuwen, B. (2013). The Bwo-me (life's breath) creativity workshop: Visual art and education. *International Journal of Art Education, 7*(3), 68-79	**Research Question 2:** *What approaches to creativity could be incorporated in the creative arts in teacher education?* Chapter 4 presents three creativity approaches in the form of case studies used during the studio-based workshops where pre-service teachers collaborated with different professional artists in an intercultural CoP model during their teacher education programs. In Case Study 1, the pre-service teachers work with an Aboriginal Elder artist within a cultural CoP during the studio-based workshops. This article discusses how the professional artist inspired the participating third-year pre-service teachers to explore traditional and contemporary printmaking and modelling techniques during the studio-based workshops. The case study also examines responses from the participants during the creative and artistic experience.
4	Case Study 2 Participant observations	Publication: P3 Wade-Leeuwen, B. (2011). Fire, ink and play: Developing 'creativity' for lifelong learning. *International Journal of the Arts in Society, 5*(5), 203-215	In Case Study 2, the pre-service teachers work with a Chinese artist from Shanghai within an intercultural CoP during the studio-based workshops. The article discusses how the professional artist combines elements from old and new technologies, including 2-dimensional and 4-dimensional artefacts to develop his practice to inspire the fourth (final) year participants in the studio-based workshops. The case study also examines responses from the participants during the creative and artistic experience.

Chapter	Purpose	Related Articles	Synopsis
4	Case Study 3 Participant observations	Publication: P4 Wade-Leeuwen, B. (2013). Boundary breaking: Intercultural 'hands-on' creative arts workshops. Paper presented at the AARE-APERA Conference 2012, Sydney.	In Case Study 3, the pre-service teachers work with a Singaporean artist within an intercultural CoP. The article discusses how the professional artist combines elements from old and new technologies, including 2-dimensional, 3-dimensional and 4-dimensional artefacts to develop his practice to inspire the fourth (final) year participants in the studio-based workshops. The case study also examines responses from the participants during the creative and artistic experience.
5	Interpretation of findings Teachers questionnaire and individual semi-structured interviews	Publication: P5 Wade-Leeuwen, B. & Harrison, N. (2014). *Out of the shadows: Interacting and responding to creative expressions in pre-service teacher education.* Paper presented at the AARE-NZARE, Queensland University of Technology, Brisbane, Queensland Australia (in press)	**Research Question 3:** *What are pre-service teachers' implicit beliefs about creativity?* Chapter 5 of the research presents interpretations of the preliminary findings and the semi-structured interview findings and answers. It then moves into an interpretation of seven of 7 out of the 12 individual interviews conducted with fourth (final) year pre-service teachers. It is supported by article publication that provides an innovative approach, using a socio-cultural approach to the conceptual framework for teaching visual and creative arts to pre-service teachers during their teacher education. This is followed by the promotion of a new model approach to teaching creativity in classrooms and links to contemporary research in this field.

Chapter	Purpose	Related Articles	Synopsis
6	Research findings	Publication: P6 Wade-Leeuwen, B. (2015). Generating 'creativity' and provocations in visual arts education: A major goal of twenty-first century arts education. *International Journal of Arts Education, 9*(9) (in press)	**Research Question 4:** *How can creativity be fostered in creative arts programs in arts education?* Chapter 6 discusses the main findings in relation to the study's theoretical framework and Research Question 4. It is organised by arts-based and supplementary outcomes in arts education, as well as provides a critical discussion of the results, reflecting on the importance of teaching for the levels of creativity while highlighting implications for pre-service teachers' professional development. Of importance, the new collaborative learning approach, *KnoBedo*, is discussed. The accompanying publication (P6) addresses how creative thinking provocations can be used in studio workshops to improve teachers' understanding and implicit theories of creativity in art education.
7	Conclusion and recommendations		**Research Question 4:** *How can creativity be fostered in creative arts programs in teacher education?* Chapter 7 considers the main results, limitations of the study, implications for fostering creativity in teacher education and future directions for research in this area. This chapter re-examines the research questions and addresses the issues raised in the research. This chapter points to possible future investigations into teaching strategies to use in the visual and creative arts. This chapter concludes the research by providing recommendations for future visual and creative arts programs in higher education. Additionally, policy recommendations in the area of creativity development are discussed in conjunction with the possibility of developing cultural CoP models for teacher education programs across the curriculum.

This thesis is organised into seven chapters. It presents three case studies as examples of how pre-service teachers can develop their intercultural understandings and capabilities by working within a cultural community of practice (CoP). Different perspectives and strategies that foster creativity in teacher education for pre-service teachers are presented for example: (i) working with an Australian Aboriginal Elder artist; (ii) working with a Chinese master artist from Shanghai; and (iii) working with a Chinese master artist from Singapore. Other case studies were conducted with the same pre-service teachers, however, these were not included in this thesis documentation. The presentation formats included in this thesis were still and moving images on a DVD production, observations made through storytelling and word-for-word transcriptions presented in the Appendix. A list of all references can be found at the end of the study.

1.11 Publication 1 – Heart print: Chinese rock art frescoes (Xin-yin): Crossing borders

Preamble

'Let the brush be relaxed and the Heart be at ease.' Chang Da-qian (1899-1983).

Publication 1 is important because it represents multi-disciplinary research, which explores visual and creative arts across contexts and cultures. This article focuses on the ancient languages of Australian Aboriginal, Chinese and Egyptian rock art frescoes, and discusses some of the obvious compositional changes that occur in fresco painting from one style to the next. A particular interest includes the different types of techniques and symbolic systems used in early image-creations in caves. These pictographic images become the foundations of the ancient first languages of Australian Aboriginal, Chinese and Egyptians artists. The approach used in the article to evidence arts-based inquiry research builds on the author's background experience, having lived for 10 years in the East and studied Chinese calligraphy and brush painting, as well as conducted periodical studies on the rock art frescoes of Australian Aborigines and Egyptian wall murals. The article also complements her Master's degree on 'The Influence of Chinese Painting on Australian Painting' (van Leeuwen, 2000) as it builds on how cross-cultural artists think and create meaning through different symbol systems through their art practice.

The purpose of this article is to explore creative practices across Australian Aboriginal, Chinese and Egyptians cultures by identifying the different painting techniques used. For example, the earliest documented form of writing by the Chinese culture is referred to as the 'oracle bones strokes', which are pictographs used in the pre-Han period. These pictographs have similarities with those of Australian Aboriginal and Egyptian early symbols. Additionally, this creation knowledge later became the foundational material of further study in this thesis through an exploration of the Chinese 5th century Moku (ink-splash) painting technique used with pre-service teachers during intercultural 'hands-on' studio-based workshops.

The article uses a cross-cultural comparative approach to specify the different types of early iconographic symbol systems used by these three ancient cultures. The discussion reveals some obvious compositional similarities and changes that occurred in different cultural rock art frescoes. For example, the article shows how traditional Chinese and Egyptian artists use specific spatial depth cues, such as registers, size consistency, filled versus unfilled spaces and

bright colours compared to the traditional Aboriginal artists who tended to rely on a layering techniques through repeated patterning and overlapping forms using natural rock art ochre colours. In this context, the benefits of developing an understanding of different cross-cultural ancient languages is that it assists art educators, children and young people to gain a broader understanding and appreciation of the evolution of Art history through the lens of Eastern and Western perspectives.

Chinese artists believe that 'art is a metaphor for life' (Kan, 1974) and similarly, some Australian Aboriginal people believe that 'painting is a form of literature' (Harrison, 2011). The benefit of understanding 'art as a metaphor for life' and painting is an ancient language system internally connects the viewer from the past on a continuum towards the future. In this article, the author attempts to assist learners' to access visual and creative arts across contexts and cultures. Insights are developed through an understanding of how diverse cultures use artistic technical cues to create a sense of imaginary space in the frescoes. A significant feature of the article is the relationship between the early fresco techniques and connections to those techniques used by other artists. For example, the Chinese artist, Chang Da-qian (1899-1983) (Sullivan, 2006) spent over two years studying the early Buddhist monk, painting frescoes in the Dun Huang caves and showing a connection between artists from the 5th century to the 20th century. The contemporary relevance of these religious frescoes, that is, scenes of Buddhist mythology, is that the artistic and creative practices come from Italy along the Silk Road, which makes these oil painted frescoes the oldest Italian oil paintings in the world (CNRS, 2014), They illustrate that art can become a metaphor for life, and has the capacity to transform someone's artistic and expressive practice across contexts and cultures. This article relates to research in this thesis because it draws on Zen Buddhist and Chinese painting techniques, such as the six cannons (Sze, 1963; van Leeuwen, 2000) that are further explored in the case studies with Chinese master artists.

(Please refer to the following 8 pages)

Heart Print: Chinese Rock Art Frescoes (Xin-yin): Crossing Boarders

Bronwen Wade Leeuwen, Macquarie University, NSW, Australia

Abstract: In this workshop you will learn about the similarities and differences between the ancient Rock Art Frescoes of Australian Aboriginal, Chinese and Egyptian. You will explore the different specific mental processes used to create spatial depth in a selection of ancient rock art frescoes. Participants will create their own miniature sculptural petroglyph based on the findings and apply engraving and painting techniques to the frescoes. Demonstrations will be given on how to hold the Chinese brush and apply the moku ink-splash method of Chinese painting as well as how to use natural ochres in their works.

Keywords: Petroglyph, Rock Art, Australian Aboriginal, Egyptian, Comparative Study, Cross-Cultural, Moku Ink-Splash Method, Natural Rock Ochres

'Let the brush be relaxed and the Heart be at ease.' Chang Da-qian (1899-1983)

THIS PAPER EXPLORES Chinese rock art frescoes and discusses some of the obvious compositional changes that occur in fresco painting. My interest is in the early pictograph images found in China, these images have been depicted in the surface of the rock. 'Heart Print' is a Chinese term, which refers to the first impression an artist makes onto the ground or surface. This first impression may be half lost or found but usually the image is not as resolved as the artist had intended.

The best way to learn about the art of fresco making is through a familiarisation with the different styles and methods used in rock art frescoes. This study considers three basic areas of concern to the artist:

1. The form
2. Subject matter
3. Compositional techniques and methods.

These three areas combine to create a sense of unity in the rock art practice.

1. Rock art can be basically divided into two different forms; petroglyphs and pictograms. Petroglyphs are engraved images that have been carved, pecked or chipped into the surface. However, pictograms are actually paintings, stencils or drawings made onto the surface of the rock. The outer patina covering the surface of the rock when exposed is usually a lighter colour. Some rocks are better suited to petroglyphs than others. For example, a rock that is very hard or contains a lot of quartz does not work well for petroglyph making (Bednarik, 2002) and pictographs are more fragile and tend to be more affected by the weather conditions than the incised petroglyphs (White, 2002).

COMMON GROUND

Traditionally, there are two different types of rock paintings: The 'Buno' Frescoes, or *wet painting* and 'Stucco' or *dry painting*. Buno fresco, or as it is referred to today, *'Alfresco,'* are paintings done on freshly laid wet plaster with tempera which are water based pigments dissolved in limewater. As both plaster and paint dry, they become completely integrated into the fresco surface. In true fresco painting, the artist must work quickly by applying pigments into the wet *'intonaco' plaster.* If the artist hesitates for too long, the pigments may not be absorbed properly into the wet plaster. When the fresco dries and hardens the pigments fuse as one with the plaster leaving a clear almost transparent chalky layer on the rock surface. Technically speaking, the plaster does not *'dry'* but rather it is subjected to a chemical reaction. When this chemical reaction between carbon dioxide from the air combining with the calcium hydrate in the wet plaster occurs, calcium carbonate is formed. Lime is calcium oxide (CaO) and has been made for thousands of years by burning native calcium carbonate in a wood kiln (Hiler, 1980). Calcium oxide can be found in other surfaces such as limestone, chalk, marble and oyster shells. Artists often add other materials to the wet plaster to create tension or textured surfaces such as sand, ash, cement, old frescoes, or pounded pottery remnants.

Early pictographs usually consist of a mixture of mineral or vegetable substances combined with some sort of binder like fat residue, glue or blood. Pictographs were painted in locations where they would be protected from the elements such as in caves, alcoves, under ledges and overhangs (Hiler, 1980). Challenges occur for the artists when the pigments have not been properly mixed with the binder because the pictograph quickly flakes away and the image is often lost.

2.The subject matter is the literal, visible image, which has been painted or incised into the rock surface. The subject matter generally represents objects, figures or landscapes painted in a specific way or style. The early fresco paintings date back to prehistoric times and the purpose of these early Paleolithic fresco paintings are not often known. Many of them had religious or ceremonial meaning while some seemed to be used as a form of cultural communication.

Scholars generally agreed that Chinese calligraphy started as simple pictographic images (Chen, 2003). Some of the early symbols found on petroglyphs are sun, moon, heaven, earth and water. In the Chinese culture, these early pictographs have been considered as forerunner to an early form of Chinese calligraphic writing, Calligraphy is a unifying element in Chinese culture and there are around 1,000 different kinds of written calligraphy in use today.

The early fresco artists had the responsibility of communicating the conceptual ideas of their community leaders into tangible forms. The concept was usually styled in order to work harmoniously in the fresco and communicate clearly to the audience. The stylized design was sketched out onto the rock through the use of a cartoon drawing. The cartoon drawing is usually made with carbon soot on a thin paper, which is laid over the wet plastered wall then pressure is added to transfer the drawing into the slip, which is a wet clay mixture.

3.Compositional techniques are used to communicate to the audience the intensions of the artist. Spatial depth cues are strong visual aids that have been used in the ancient civilizations of China, Egypt, the Middle East, India and Europe (Wallschelaeger, 1992). 'Trompe l'oeil' is the art of making what is not real seem real and artists use different compositional techniques on two-dimensional (2-D) surfaces to describe three-dimensional scenes. There are various ways artists create the illusion of spatial depth in their frescoes

Rock art frescoes use different compositional techniques, which include an application of different organisational systems. Examples of different organisations used in rock art fresco painting are central, radial, clustered and linear systems. The Chinese frescoes use all four types of organisations in their frescoes. The centralised system is distinguished by the placement of the primary figures or salient image in the middle of the composition. The centralised form is larger than the other objects that surround it and its central placement immediately attracts the viewer's attention. In the surrounding space around this central figure, there are a number of secondary or tertiary forms. An example of centralised organisation can be seen in the Tang frescoes described in an artwork example at the end of this paper.

Another system used by the Chinese is radial organisation, this starts from a central axis, which is generally an important figure, surrounded by other secondary figures associated with it. An example of radial organisation can be seen in the early Chinese star symbol. This Early Chinese pictograph has a circle with radiating strokes and circles coming out from it.

The Han Dynasty (202BCE – 220 CE) began within seven years from the Emperor's death. Han artists tended to use clustered organisation in their rock art frescoes, which was based on grouping related forms together. Cluster organisation is when the relationship of space and the relative placement of forms to each other are grouped together in a yin-yang relationship. This is considered the most flexible grouping system because it does not require a dominant centralised figure.

Chinese artists also use linear organizational through their use of calligraphic lines. The lines are usually skillful and lyrical in their conveying of a feeling or movement. The Chinese artists believe art is a metaphor for life and that there are two ways of drawing objects together. One-way is called 'carrying the old on the back' and the other saying is 'leading the young by the hand' this metaphor demonstrates how the old craggy lines are represented as the old man who has grave dignity and an air of compassion while the light and steady lyrical lines represent the younger man who appears more modest and retiring. The unity created through the established relationship of the old man together with the young man, emphasises what is expected in the fresco painting in a ritualistic way (Sze Mai-mai, 1963).

Artists also use many different spatial depth devices to create the illusion of depth in their frescoes, these can alter depending on the cultural trends at that time. These spatial depth cues can be deconstructed using well-established methods of art appreciation. Some of the main spatial depth cues applied to fresco compositions are:

1. registers
2. Size consistency
3. Filled spaces versus unfilled spaces
4. Transparency and overlapping forms
5. Use of bright colours
6. The concept of constancy
7. Grid organisation

Some of the different compositional methods, have been explored below.

1. One of the spatial depth devices used by Chinese artists is called registers. The register or base lines are placed in the lower half of the picture plane in order to create the illusion of a limited narrative space.

2. Size consistency is a spatial depth cue used to convince the audience of a change in the relationship between the proportions of different forms in the composition. This change in size and proportion gives the illusion of spatial depth.

3. When the same size figure or object is filled with lines, colour or textures, the object will appear closer to the viewer than the unfilled figure or form. Chinese artists are masters of using the depth cue 'filled versus unfilled' spaces. Here the mass or form and the unfilled space represents negative shape and in Chinese painting the negative shape is around fifty percent. The negative space exists to support the positive shape in yin-yang relationship, which the Chinese believes exists in nature and throughout the universe.

Unfilled spaces represent the vastness or distance in a classical Chinese painting. The concept of unfilled spaces links harmoniously into the Zen or Chan philosophy of 'nothing-ness'. The Chinese Chan philosophy originally came from the Indian Mahayana Buddhism. The Chinese Emperor at that time was Wudi. He did not understand the Bodiharha Buddhist teachings by Southern India Master, Kanchi. Therefore, in order to understand these teachings on the concept of "nothingness", he devoted nine years of his life meditating at Shaolin. Subsequently, he became the founder of the first Master of the Zen Buddhist School of Meditation and Practice in China during 7 BCE (Palace Museum, Taipei, 2009). In compar-ison to Zen or Chan Buddhism, Daoism is indigenous to China. It is thought that Lao Tzu conceived Daoism from c. 6 BCE and created on a set of rituals, which encouraged spontaneity and following 'the way'. This practice of 'action through inaction' in painting is demonstrated when space is actively left out in the composition so as to allow for the viewer's imagination to enter and fill in the space. Often in Chinese fresco paintings the compositions have immense amounts of space left open so that the painting can breathe along side the rich deep black ink.

4. The spatial depth cue of transparency is found in Chinese paintings, Egyptian and some Aboriginal Australian paintings. Transparency in a fresco painting is shown through layering one object over another. The Aboriginal Australian artists often-used the concept of trans-parency to show overlapping animals or figures. Transparency gives the illustrated of volu-metric form showing the "behind" areas that would otherwise be hidden from the viewer. Often thinner or lighter lines indicate frontal forms. Examples of the use of transparency can be seen in the Pilbara petroglyphs (Bednarik, 2002).

5. The use of bright colours is another spatial depth cue, which gives the illusion of objects appearing closer to the viewer while pushing back any less important forms through the use of tertiary coloured into the background.

6. Another depth cue that was used by Chinese artists was the concept of constancy this concept relates to the viewer's past experiences and influences what they actually perceive in the artwork. This means that the viewer often tends to see what they expect to see rather than what is actually there in the fresco (Schäfer: 1986).

7. The Grid technique is another way artists create space on the picture plane. Chinese grids are based on a nine *square* grid system where each character has a specific position within this grid. The Egyptian artists also used a form of grid system in their frescoes. In the Old Kingdom, frameworks of lines and dots were used and these were eventually replaced in the Middle Kingdom by squared grids. The grid assists the artist in obtaining correct proportions of the objects they are painting. Professor Kanawati of Macquarie University (2008) says the grid establishes a visual and structural relationship between figures, forms, and spaces. These schematic procedures can be seen in many of the Egyptian frescoes, par-

ticularly in the Late Amarna Period (Schafer, 2002: 323-328). In the Egyptian grid systems, the squares tend to vary in size from 14 to 20 square inches according to the period in which they were created.

The Zen approach to Chinese painting is dynamic as explained by Kou (in Gresham, 1998: p14) says "the attempt to understand and experience the things of the world, inanimate or otherwise, from within; to let oneself be seized and taken by them instead of trying to comprehend them, as we in the west do, from a point of view external to them". The early Taoist artists' aim to achieve perfection in their paintings through using the six cannons (Sze Mai-mai, 1963, Kan, 1974, Wade, 2000):

1. Spiritual quality generating rhythmic vitality.
2. Use of the brush to create structure in the artwork
3. Creating a likeness to the subject so as to establish the form
4. Apply colour in accordance with nature.
5. Plan the design with each element in its proper place.
6. Study by copying the old masters or the elders.

The quintessence of Chinese culture particularly during the High Renaissance of the Tang Dynasty is the calligraphic line. An example of some of the ways Chinese artists used the calligraphic line to created spatial depth in their rock art frescoes can be seen in the Mogoa Grottoes in the Dun Huang Caves. These caves sit on the Northern and Southern routes of the Silk Road in China. In 366 CE a Buddhist monk named Yuezin carved out and decorated much of the 'Thousand Buddha Caves' (Ebery, 1996).

The Chinese artist, Chang Da-qian (1899-1983) spent over two years studying the Dun Huang rock art frescoes. Chang is considered to be one of the most versatile and prolific masters of traditional Chinese painting. He was a colorful figure who resembled an ancient Chinese sage. Chang was trained in painting using the traditional Chinese method of copying the best masterworks of the past particularly painting in the style of Shi Tao. Chang's philosophy was to *'Let the brush be relaxed and the Heart be at ease.'* The Director of Sichuan Provincial Museum, Jiao Yi-chuan (Wei, 2002), said Chang was the most influential ink-painting artist in modern Chinese art who mastered the best techniques of the past 1000 years of Chinese painting. An example of one of his reproductions made at the Dun Huang caves is *"Sakyamuni Buddha Entering the State of Nirvana"*, Tang Dynasty, Silk Scroll, 65.1 x 162.1cm (Wei, 2002, p66-67).

A close up analysis of this rock art fresco painting illustrates some of the depth cues that have been discussed earlier in the paper. It is clear from this example, that Chang copied the style and techniques of the master Tang Dynasty frescoes. In the classical Chinese way, Chang has imitated the masters by applying various different spatial devices including: three-tiered perspective, overlapping forms, central and radial organisation, transparency and the application of bright colours in the foreground.

In the copy of the fresco painting, *"Sakyamuni Buddha Entering the State of Nirvana, "* the Buddah is lying horizontally in the foreground with the other secondary figures surrounding him. The secondary figures are placed around the Buddha using the radial organisation. In this way, the artist draws the viewer's eye immediately to the main subject matter. Chang used the depth cue of bright colours in the foreground. In this example, Chang uses a vivid orange to make these figures stand out and appear foreword. The figures in the midground

appear transparent with only simple lines used to create their form and their colour application is used sparingly.

This paper highlights the different methods and techniques used in fresco making. It investigates some of the ways Chinese artists create space in their rock art through the use of spatial depth cues such as: registers, size consistency, filled versus unfilled spaces, transparency, overlapping forms, the use of bright colours, the concept of constancy and the application of grids. The discussion reveals that there are some obvious compositional changes that occur in the rock art frescoes that can be analysed using well-established methods of visual interpretation.

Image Reference
Title : "Sakyamuni Buddha Entering the State of Nirvana ", Copy of Tang Dynasty, Silk Scroll by Chang da-qian, 1940. 65.1 x 162.1cm (In Wei, 2002, p66-67). Family of the Artist.

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184

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About the Author

Bronwen Wade Leeuwen

Bronwen Wade Leeuwen has recently been teaching and learning in the tertiary, secondary and primary Australian educational systems. Her PhD Research in Indigenous Studies at Macquarie University focuses on cross-cultural understandings of spatial dimensions in Australian Aboriginal, Chinese and Egyptian rock art frescoes. She is Secretary of the

185

Workshop Art Centre, (WAC), and Council Member of Australian College of Educators (ACE) and Foundation Member of the Australian Chinese Painting Association. Born in Sydney, she worked in Singapore & studied at the Nanyang Academy of Fine Arts. Completing a Bachelor of Education, (ART & DESIGN) and Graduate Diploma (Adult Education) in 1990. In 2000, completed a Masters by Research in Environmental Design-her thesis was "The Influence of Chinese Calligraphy on Australian Painting". Awarded Artist-in–Residency in Taiwan by the Australian Chinese Council in 2002-03. In 2004, she was invited by the Taiwan's Public Arts Projects for the Australian Indigenous NADOC week.

CHAPTER 2:
LITERATURE REVIEW

2.1 Background

Chapter 2 represents the literature review and provides justification for the research and answers to Research Question 1: *What are the tensions that exist between the different perspectives on fostering creativity in art education?* This chapter is supported by focused reviews of relevant literature within the journal articles presented that have been published in a variety of educational journals and presented here in their final submitted format.

Chapter 2 also contextualises the research by providing a critical review of the existing research on the relationship between creativity and visual and creative arts education. The research is considered in relation to its implications for teacher education programs offered in higher education and in the *Australian Curriculum*. There are significant links that need to be made between creativity and visual and creative arts education that are essential when designing quality teacher education programs within the primary school framework. In terms of creative learning strategies and approaches, the intrinsic and instrumental benefits for art education are explored. The researcher argues that there are tensions that exist between the diverse perspectives on fostering creativity in arts education in Australia. Highlighting these different perspectives on creative and artistic experience in art education provide a broader understanding of the issues that affect the primary educational framework today.

Firstly, a concise overview of the main alternative approaches to the traditional education system in Australia is presented. Brown (2006) has provided a comprehensive study on the different approaches to art education in Australia as apparent at that time. Brown's (2006) study documents the major changes in approaches to teaching and learning, beginning with Dewey's progressive approach in the 1930s and continuing through to some of the major influences on art education until contemporary times. This segment specifically centres on debates concerning the benefits of quality art educational models that could be applied in the *Australian Curriculum*, such as the 'Arts Model'. Secondly, the chapter investigates pre-service teacher education programs in primary creative arts subjects. This is followed by a presentation of potential approaches to creativity that could be combined into a theoretical framework as a pedagogical advancement in teacher education.

1930s-1940s

The intrinsic values in the Arts can be traced back to the early 20th century through the work of John Dewey (1859-1952), an American philosopher, psychologist and educational reformer, who significantly influenced the direction of education from the 1960s onwards. Dewey's theories were influenced by Plato and the 18th century Romantic philosopher, Jean-Jacques Rousseau (1712-1778). According to (Thomas, 2013), Rousseau promoted the notion that learning ought to 'follow nature'. He argued (similarly to Dewey (1934)) for an art education that waited until children demonstrated an interest in a subject area before commencing to take on instructions. Dewey found in his research that children would never learn unless they really wanted to and therefore teachers needed to engage children's interests in quality arts programs.

In the 1930s, Dewey's influence extended to Australia by promoting activity-based pedagogies that inspired new learning and teaching methods under the slogan of 'learning by doing' (Blossing, Imsen & Moos, 2014). It is interesting to note that Dewey's progressivism inspired many school reform movements around the world and his teachings are still active today. Learning, according to Dewey, was a fundamental social activity, aimed at connecting learners with their prior experiences and the 'learning by doing' process became a significant ideological foundation for comprehensive school systems around the world (Blossing et al., 2014; Thomas, 2013). Dewey was operating at a time when formal education was not co-educational, and he advanced the notion that education needed more emphasis on child-centred activities (Dixon & Senior, 2009, 2011), calling for activities that boys and girls could engage in, where the approach was based on an understanding of children's learning experiences. In the early 1930s, Dewey wrote the influential book, *Art as Experience* (1934), which was one of the first approaches in education where experience was structured around using learning and assessment-based education; this meant the focus of learning was centred more on the process than the product or outcomes. Dewey believed that by experiencing art, children will have a clear structure and systematic support and guidance in how to structure their own learning (Dixon & Senior, 2009). The relevance to this study is that Dewey offered a relatively contemporary concept on how to teach the Arts, one that has gained greater popularity over the past two decades in Australia.

Building on Dewey's inspiration, from the 1940s onwards, many art educators in the United States, United Kingdom, Scandinavia, Australia and New Zealand supported the concept of a 'progressive' educational model in learning and teaching. These early educationists set the tone for how contemporary education is viewed today, particularly in the way they defined creative

and artistic experiences as a form of self-expression when they promoted art education as an intrinsic benefit for children and the wider society. This shift in perspective provided opportunities for various forms of creative expression to emerge in dance, drama, music and the visual arts. However, it should be noted here that people who were not highly confident with developing creativity often felt threatened by the progressive movement in schools and often treated the progressive approach to teaching and learning as suspicious (Eisner, 1965). Consequently, a split occurred in the 1940s between the progressive schools of creative thinking that supported freedom and self-expression and Smith's vocationally-oriented thoughts (Smith, 2002) on how to develop creative thinking for the future of work.

1950s-1960s

Progressive education in the 1950s continued to be a controversial ideology (Moos, 2013), particularly when compared to other more mainstream pedagogies applied by government institutions in schools. Some of these approaches to learning included subject-centred and whole-class teaching methods (Davies, 2002). Changes in attitudes and opinions in the late 1950s and early 1960s, according to Eisner (2002a), happened when arts theorists and educational psychologists were searching for new pedagogies and ways of assessment that included models of creativity. These theorists laid the foundations for the next 40 to 50 years until today. According to Smith (2008), art education advanced through a progressive approach by educational reformers such as (Barkan, 1966; Broudy, 1972; Eisner, 1967; Smith, 1987). Efland (2002) highlighted the challenges of art education during that particular time, stating: 'Broudy in 1987 recorded how the public at large perceives the Arts not as an academic necessity but as a delightful seasoning of life rather than a certified component of the educated mind' (p. 17). The vision of the Arts as a non-academic subject reflects Eisner's (2006) concerns that art education was often considered by the school community as peripheral to the real 'mission' of education. The importance of this finding to this research is that current literature, according to Kampylis (2010), indicates that many of these public attitudes continue to exist today.

Discipline-Based Art Education (DBAE)

Eisner (1933-2014) is recognised as promoting the value of integrating the Arts into the educational curriculum for over 50 years. His progressive, innovative approach to art education was under the banner of *Discipline-Based Art Education* (DBAE) (Harris, 2003). According to Eisner (1965), the DBAE approach to art education included the role of critical thinking as a way of developing an in-depth understanding of the creative process in art. This meant that the

role of teachers taking the DBAE approach is 'to help children understand the ways in which culture has shaped art and the ways in which art has shaped culture' (Eisner, 1965, p. 424). DBAE activities included critical thinking as a way of developing a more in-depth understanding of the creative process (Eisner, 1965, 2002a, 2002e). The Kettering Project, which commenced in 1967, provided visual art instruction materials for untrained elementary (pre-school) teachers. Eisner continued to advocate for the school curriculum to move beyond the productive domain and enter into the aesthetic, critical and historical domains of art education (Palmer, 2001), stating that elementary school was the pedagogical area that needed the most attention.

During the late 1960s, Howard Gardner developed the Project Zero approach to education (1967). This involved educational research at the Harvard Graduate School of Education (Harvard University, 2014) where arts-related research projects investigated such topics as the nature of intelligence, understanding, thinking, creativity, ethics and other human endeavours (Gardner & Jin, 1993). The impact of the Project Zero approach to art education was not realised in primary education in Australia until the early 1980s.

1970s-1980s

In the 1970s, traditional art educational programs used predominantly quantitative methods with a focus on behavioural objectives (Eisner, 2002a). The Arts as a unique form of expression were considered by Arnheim (1974) as supporting children's literacy and critical thinking skills. Arnheim was influential in this field and advocated for critical and creative skills to be converted into domain-specific areas such as 'visual thinking' and 'visual literacy'. Clark and Zimmerman (1978); Eisner (1972) argued that children should be exposed to artistic activities from an early age so that they could gain lifelong benefits. However, according to Bamford (2005), the Arts in Australian schools were predominantly viewed as supporting forms of self-expression and their purpose typically were for affective and creative endeavours.

1980s-1990s: New pedagogical approaches

The Getty Center for Education in the Arts was founded in 1982 and became one of the dominant art education approaches in America and elsewhere during that time. DBAE was not perceived as a curriculum in its own right but as a philosophical educational reform program constructed to examine the expressive nature of artistic material practices and designed to develop a more holistic approach to the artistic experience. In support of the DBAE approach, Eisner (1990) expressed:

> *The approach advocates that art education ought to provide children and adolescents with opportunities not only to experience the process of creating visual images, but also to learn how to see the images they and others have created. In addition, because art is a cultural production, its form and content are influenced by the culture by which it was made. To understand and respond to art at an optimal level, it is important to help children understand the ways in which culture has shaped art and the ways in which art has shaped culture.*
> (Eisner, 1990, p. 424)

This new progressive approach draws its strength from the progressive movement in the 1950s and 1960s. Children were valued members of society and the new progressives argued that the roles of education and democracy were interconnected in a wider vision for the purpose of schooling and the preparation of children (Eisner, 1967). As mentioned in the Biography, the researcher attended the City Art Institute (CIT) in Sydney (now known as COFA) as an arts education student between 1982 and 1986. CIT was the main institution for specialised art teacher development in Sydney and followed Eisner's new discipline arts-based education models where instruction included subject areas such as art history, critical thinking, social psychology, teacher tactics and studio practice. The significance of this personal experience provided evidence that art educators in NSW were well-trained in the new approaches coming out of America, as formulated by Eisner (1967) and Gardner (1967) more than 30 years ago.

1980s-1990s: AiE approach

Gardner (1983) made significant developmental advances through an approach called 'Arts in Education' (AiE), which is basically an instrumental and intrinsic approach to learning and teaching in the Arts by improving the quality of education through these outcomes:

> *Boosting teacher/student motivations, enhancing the teaching and learning processes, encouraging active learning techniques and increasing community of the dissipation. Building on the learner's self-esteem, creativity, problem-solving skills and ability to work in teams.* (Gardner, 1983, p. 27)

The AiE approach can provide instrumental and intrinsic benefits by being integrated through the primary curriculum, or it can provide intrinsic benefits by developing key dispositions, capabilities and skills. It argues for the Arts to be an essential element in learning-teaching processes. The significance of the AiE approach to this study is that it builds on intrinsic and instrumental values of art education and aims for the Arts to become totally integrated across all forms of formal and informal education. Additionally, it is highly supported in the *Australian Curriculum* where pre-service teachers are expected to know how to enhance teaching and

learning processes and to encourage active learning techniques by building on the learner's self-esteem, creativity, problem-solving skills and ability to work in teams.

1990s – 2000s

The 1990s was a decade of massive change, both in visual arts education and in the Australian culture. The public value of the Arts in education has been a controversial debate, particularly since the 'culture wars' of the early 1990s. Although beyond the scope of this literature review, briefly, the culture wars according to Darts (2008) were the struggle between conflicting cultural values: those considered traditionalist conservative and those considered progressive or liberal. These culture wars influenced debates over public schooling in the United States and Australia in relation to censorship and artistic freedom. In the late 1990s, these innovative 'progressive' educational thinking approaches from Northern America represented some of the educational perspectives that shaped the curriculum and educational policy in Australia. Eisner (1990) claims that progressive thinking resulted in a shift that placed greater emphasis on inquiry-based methodology and pedagogical understanding through the inter-relationship between art, culture and creativity. This is relevant to this study because in order for pre-service teachers to understand, implement and respond to visual and creative arts education at an optimal level, they need to have a clear knowledge of the inter-relationship between arts, culture and creativity.

From a systemic perspective, (Gray, 2012) argues that the progressive approach viewed children as engaging with the school curriculum in qualitatively diverse ways. Some permeating views by art educators during this time included organising the environmental space to motivate young people to discover new skills, knowledge and competencies. In this way, the Arts paved the way for new learning approaches in the classroom, rather than maintaining approaches to art education that were tied to past traditions. In the progressive innovative model, the teacher's role was one of facilitator, actively co-learning alongside school children in a similar way to the Reggio Emilia early childhood philosophy which was inspired by Dewey's theories (Edwards et al., 2012). Additionally, educators were encouraged to research information from around the world that was of particular relevance to learning for children and young people. This section has emphasised how the public value of Arts in education in Australia during the 1990s has been a controversial debate, particularly since the culture wars.

21st century Art approaches

Florida (2002) suggests that the value of the Arts in the 21st century debate has raised many issues over the past decade, with a resurgence of interest in creativity. The contemporary arguments support art education for either its intrinsic or instrumental values. Eisner (2003) distinguishes between intrinsic and instrumental values by suggesting that intrinsic values are 'the [art] symbols that possess in their form the expressive content to which they are related', and instrumental values are 'those [number] symbols which through associative learning we relate to certain ideas' (p. 137). He also points out that the Arts can unify knowledge across all education disciplines.

(Brown, 2001) argues for the intrinsic value of art education, namely that art is 'good in and of itself'. In other words, the Arts are not merely a means for acquiring something else (instrumental value) because they connect to the artist's inner world. Brown's (2001) argument links to the 1960s dispute that promotes 'art for art's sake'. In contrast, theorists who support the instrumental value of the Arts advocate the benefits as providing ways of acquiring value from something else. For example, this could mean that the Arts are used in scientific disciplines and are a vehicle that extends across the curriculum. Eisner (2003) explains the difference between instrumental and intrinsic values by suggesting that scientific activities bring forward truths that can be determined in relation to their instrumental values, which are values that depend on their predictive or explanatory accuracy. On the other hand, from an intrinsic perspective, artistic activities create symbolic forms that are represented as ideas, images or feelings inherent within the symbol rather than outside of its form.

A survey conducted by the RAND Corporation in 2005, according to Bailey and Richardson (2010), pointed out that the Arts can be used as instrumental tools to assist in the development of creativity's growth in society whereas, from a qualitative perspective, the Arts are perceived as having intrinsic benefits for the individual. Brown (2001) highlights:

> *Educating children in the Arts exposes them to subject content, qualities of*
> *experience, conceptual structuring, ways of life, depth of participation, and*
> *forms of subjective reasoning that cannot be gained through other subjects.*
> (Brown, 2001, p. 84)

Theorists such as Brown (2001) acknowledged this is a contested concept, thereby advocating for a more disciplined approach that included art history, art theory and art making, rather than studying 'art for art sake'. However, this is evidence of ongoing debate in the literature.

According to Denzin and Lincoln (2011), art teachers need to become more aware of conversations and issues surrounding best practice in art pedagogies. This notion is supported by a majority of contemporary researchers in this field (Brown, 2001; Eisner, 1990; Kelly, 2012) who claim that an amalgamation of the inherent intrinsic and instrumental values for the Arts is needed to support a quality art educational model. Teacher education programs should teach arts pedagogies with an emphasis on creativity and innovative approaches constructed on the basic principles of progressive ideologies related to the role of the art teacher.

Role of the art teacher

Eisner (2002a) points out that the role of the art teacher and pre-service teacher in the development of children's creativity skills is crucial. Similarly, (Gardner & Jin, 1993) emphasise that teachers are role model when preparing children for their future. Creativity researchers such as Eisner and Day (2004), Kampylis, Berki and Saariluoma (2009b) and Sawyer (2006) reviewed several studies that found creativity as a critical and creative thinking skill, which is not, however, a focus in schools, which could be due to a lack of confidence in teachers' ability to foster creativity in themselves. These scholars argue that if teachers lack the confidence to teach creativity within the primary educational context, then creative and cognitive skills of children are not being developed.

Universal visual language

Most theorists in the field argue for the importance of a universal visual language. For example, the Director-General of UNESCO (1998) called for universal mainstreaming of art education within formal school systems. He advocated for the Arts to become compulsory throughout the school cycle and for the development of a universal visual language. However, McCarthy (2004) says that developing a universal visual language that clearly discusses the intrinsic benefits of an art education can be problematic because art education is broadly defined and can be interpreted in different ways. McCarthy, Ondaatje, Zakaras and Brooks (2004) support the need for quality art educational experiences across the globe focuses on a universal visual language and learning principles. The four underpinning principles from those authors that are relevant to this study are:

1. *To develop a language that discusses intrinsic benefits, that is clear and compelling, that reflects the importance of qualitative as well as quantitative issues.*

2. *To promote early exposure to the Arts through both school and community programs.*

3. To encourage Arts organisations to provide experiences that connect with and renew their audiences.

4. To address the limitations of the research on instrumental benefits and encourage research on the intrinsic benefits of the Arts. (p. 124)

McCarthy's and others' (2004) principles are difficult to achieve because compiling a universal visual language across the globe will be problematic but this research aims to support and develop this notion. Sahasrabudhe (2005) warns the neglect or omission of the Arts in 21st-century education narrows the cognitive potential of tomorrow's adults, which means that teacher education programs need to fit the Arts into curriculum design in order to widen the understanding and capacities of children and young people.

Intercultural ways of knowing often differ from the western art practices. For example, in China, fostering creativity in early childhood has become an educational priority (Vong, 2013). Similarly, in Hong Kong, Singapore and Taiwan, the theme of creativity has been a major driving force of educational reform (Leong, 2010; Tan, 2011; Wu, 2011). In an intercultural study that examined national curricula texts with 27 nations across European Union compared to the United Kingdom, Wyse and Ferrari (2014) found that the national curricula across these countries suggest that policymakers and curriculum developers acknowledge the role of creativity as being fundamentally important in education. Responses from European Union teachers showed that 88% agreed with the statement that everyone can be creative compared to 95% of United Kingdom teachers agreeing or strongly agreeing that everyone can be creative. Connections with creativity were more frequent in the visual arts and music than in languages and literature (p. 37) but there was an unexpected finding that indicated a relatively low occurrence of creativity in primary school curricula settings compared to secondary school settings in England. The analysis showed that the Arts support the highest value of creativity in primary schools compared to other across-curriculum subjects. Wyse and Ferrari (2014) argue the decreased attention to creativity in primary national curricula could represent a decrease in creativity due to a greater emphasis on fundamental basic skills, such as reading and writing, with the researchers calling for greater coherence across age, phases and stages subjects.

The analysis from international studies such as Wyse and Ferrari (2014) and Kampylis (2010) showed that support for creativity in the Arts is of the highest value in primary schools compared to other primary across-curriculum subjects. The decreased attention to creativity in primary national curricula could represent a decrease in creativity due to a greater emphasis on fundamental basic skills such as reading and writing with the researchers calling for greater

coherence across age, phases and stages subjects. These findings are relevant to this study because they raise important questions about the current value of creativity in the primary education across the globe. They are also relevant as there seems to be a shift that has occurred in the United Kingdom and Europe from creativity to functional understandings and skills in primary education where this present study is positioned. In order to examine what are good models of creativity in primary education, the researcher decided to travel to two schools, one in Europe and the other in America.

2009-2015: Fieldwork study

In order to understand holistically about innovative approaches to fostering creativity in visual and creative arts educational programs, the researcher conducted fieldwork research at two primary educational sites: (i) Reggio Emilia early childhood centres' early childhood approach as described by Edwards, Gandini and Forman (1998) used in Italy during 2009; and (ii) Assets School in Hawaii during 2010. These schools were chosen because the literature (Fraser & Gestwicki, 2002; Freeman, 2011; LaFrance, 1997) classified these learning communities as offering best practice philosophies on fostering creativity in primary schools framework.

Reggio Emilia early childhood philosophy

The first fieldwork study observations was an independent study tour to Reggio Emilia early childhood centres in Reggio Emilia, Italy during July 2009. One of the key links between the research and the Reggio Emilia early childhood philosophy is the belief that exposing children and young people to playful creative ways of thinking, they can develop a better sense of well-being and self-realisation. The inspiration for this study came from a didactic project established between Reggio Emilia early childhood children and young people and the famous contemporary Italian painter and sculptor, Alberto Burri, in the form of an exhibition and installation. The exhibition entitled *'The Expressive Languages of Children and Young People: The Artistic Languages of Alberto Burri'*, was held initially at a Reggio Emilia early childhood centre in 2004 (Vecchi, Giudici, Grasselli & Morrow, 2004), and the retrospective show in 2009 showed how the infants-toddler centre, preschool and elementary school children and young people interacted with contemporary artist Alberto Burri who incised into matter rather than directly paint on a surface. This innovative exhibition informed the study by showing how professional artists can work with infant children and young people, and confirmed what the researcher have always thought, that working creatively with young children and young people can open up windows to other imagined worlds.

Observing the way artists work with young children and learning about how the learning environment can further engage children helped the researcher gain a deeper understanding of the Reggio Emilia early childhood philosophies and this raised three important considerations: (i) the value of an emergent curriculum; (ii) the benefits of a fluid and flexible learning environmental creative space called the 'third teacher'(Rinaldi, 2006); and (iii) how interactive group work with professional artists can work with young children and young people within a co-creative learning environment.

Firstly, the term 'emergent curriculum' means the curriculum is not static or prescribed but represents it as co-created between specialist artist educators known as 'Atelierista' with children and young people through scaffold strategies and discovery-based learning projects. According to Fraser and Gestwicki (2002), the Reggio Emilia early childhood philosophy is complex and organic, continually drawing knowledge from a variety of theorists and philosophers such as Dewey, Piaget, Vygotsky and Bruner. Creativity from an early childhood perspective, as described by Edwards, Gandini, and Forman (2011), perceives creativity as having five distinct yet interconnected categories:

1. Creativity is not a separate mental faculty.

2. Creativity emerges from multiple experiences, skills and a sense of freedom to venture beyond the known.

3. Creativity expresses itself through cognitive, affective and imaginative processes.

4. Creativity and Intellectual capacities are complementary.

5. Creativity requires that the school of knowing finds connections with the school of expressing.

The Reggio Emilia early childhood philosophy supports the notion that creativity requires creative spaces. These spaces avoid regimented and regulated environments that have been described by Reggio educators as the 'third teacher' (Edwards et al., 2011).

The second understandings from this fieldwork were gained from Edwards, Gandini and Forman (2011), that the learning environment as the 'third teacher' encourages children, young people and adults to be active citizens who co-creating the curriculum within shared learning spaces. The 'third teacher' is the arrangement of a creative space in the classroom environment where scaffold strategies and discovery learning experiences provoke the learner into discovering elements of their own creativity abilities. In other words, the 'third teacher' or the

creative space encourages learners to be open-minded and respond in a cognitive or emotive way by using representational or symbolic visual and creative arts imagery. In this way, the learner's respond well, in conjunction with the educators in an emergent curriculum learning environment.

An emergent curriculum that uses the 'third teacher' concept has the potential to provide opportunities for in-depth meaning-making experiences to occur during teaching and learning. In this manner, creativity is fostered through the notion of the 'third teacher', an emergent curriculum, enriched quality learning experience that focuses on developing flexibility and fluidity, avoidance of premature closure and risk-taking attitudes. The Reggio Emilia educators view children and young people as being active participants, having agency in their learning and being competent, intelligent and full of ideas (Rinaldi, 2006). Children and young people are perceived with inherent creativity and have the capacity to function as capable researchers and co-constructors of knowledge who actively seek meaning-making in the world.
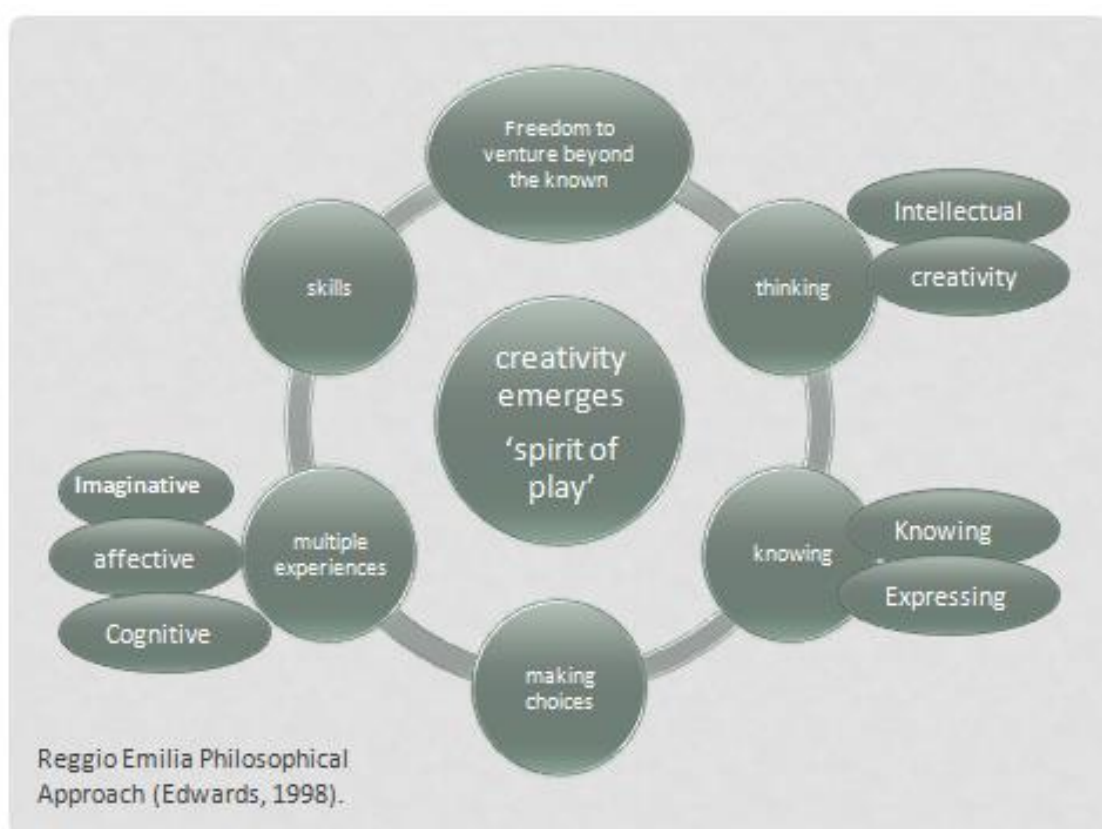
Figure 2.1   A pictorial graph designed by the researcher showing the Reggio Emilia philosophical approach to creativity (Wade-Leeuwen, 2015)

The Reggio Emilia approach (2001) to creativity represents an emergent curriculum and is an important philosophy to this research because it represents an excellent model that could be used in teacher education as well as when children are transitioning from early childhood into primary education. The Reggio Emilia philosophy would benefit primary pre-service teachers in their investigations into how create environmental spaces can be used as 'third teachers' in the classroom.

This model of creativity is broad and deep enough for the study of creativity development, therefore, it became the foundation underpinning the whole research. Fraser and Gestwicki (2002) argue that the Reggio Emilia early childhood philosophy recognises the power of the aesthetics and environment to act as an educative and generative force for culture and community-building in individual and group learning situations. The researcher conducted fieldwork when visiting the Reggio Emilia early childhood centre in Italy and discussed with the educator there at the time first-hand knowledge of the structure and learning approaches used in the centres. She was informed that their methodology is not a model as such due to its eclectic nature and because the philosophies adapt and change depending on the scaffold strategies and discovery learning experiences of the co-creators. At the centre of the Reggio Emilia early childhood philosophy, creativity is seen as an approach that uses a 'spirit of play' in the learning and teaching environment.

Children and young people are encouraged to venture beyond the known to develop their creativity and cognitive skills. Thinking is interpreted as intellectual and creative; knowing covers all forms of knowing (practical, theoretical and productive) and making choices are conducted in a co-operational environment through multiple experiences. Multiple experiences include imaginative, affective and cognitive experiences are some of the contributions from the Reggio Emilia philosophies gained during the field trip. These new understandings included the concept of an emergent curriculum as one that focuses more on developing pedagogies around the student's interest and working more collaboratively in small groups rather than following the traditionally prescriptive curriculum usually used in primary schools settings. An important insight gained from this fieldwork experience was the concept of the environment as the 'third teacher' (Edwards et al., 1998), this connects strongly to arts informed inquiry because the role of the creative learning space is to encourage children to use discover learning experiences during their schooling. The Reggio Emilia early childhood approach draws on philosophies of education and pedagogical theories of learning and development from Dewey, Piaget, Vygotsky, Bruner, Gardner and others (Malaguzzi, 1998) and these foundational principles of learning underpin this research project.

Assets School, Honolulu, Hawaii

The second fieldwork study was at the 'Assets School' in Honolulu, Hawaii in 2010. This commenced with an interview with the school's principal who informed the researcher (lead author) that the aims of the school are:

> *To provide a place for gifted and/or dyslexic children and young people, who provide an individualized, integrated learning environment include small classes, multisensory curriculums and structured behaviour management programs allow students to maximize their potential and find their places as life-long learners in school and society.* (Singer, 2012)

The school consists of elementary classes through to upper high school and carries the motto 'Learning that transforms lives' (Singer, 2012). Teacher education focuses on being perceptive and mindful of the different ways children and young people think creatively and to design an emergent curriculum accordingly. The school builds on constructivist learning theories, such as those from Piaget, Vygotsky, Bruner and Gardner who maintain that children and young people learn best when they actively construct their knowledge. For example, the staff support Gardner's (1983) *Habits of* Mind research that suggests there is not one unified intelligence but multiple intelligences. Applying the theory of multiple intelligence in the primary school classroom context, provides opportunities for the teacher to specifically design learning activities that may be more accommodating to children with dyslexia because it means that they are teaching towards the child's preferred learning styles. There are critics of teaching multiple intelligences in schools because it could narrow a child's scope however at the Assets school, the director informed me that the particular kind of intelligence that supports a child with dyslexia tendencies are the spatial and kinetic intelligences. Children with varying degrees of severity tend to lean more towards the system of graphic communication and they tend to interpret the fundamentals of meaning-making through their artistic practices. At the Assets School, the intercultural pedagogical teaching strategies are child-centred; they have small class sizes and use thematic, multisensory learning approaches based on integrating the visual arts, new technologies and other creative arts. According to Singer (2010), one of the school's measure of achievement is in the continued successful numbers of graduating students transitioning into university.

In the Hawaiian Islands where the majority of these children with dyslexia leave schooling early (LaFrance, 1997; Singer, 2010), the Assets school children are learning how to transition into higher education through these positive embodied school experiences and lifelong lessons. These empowering experiences connects closely with the UNESCO (2006) report on *Arts in*

Education (AiE) designed by Gardner (1983) where multiple intelligences are used as a way of engaging children and young people's interests in learning across the curriculum. The observations from the Assets School showed how the AiE approach was used with children and young people with dyslexia and supported the research goal of this study through its different approaches that could be used to prepare pre-service teachers during their teacher education programs. Related to this study, the Assets School teachers showed how they used the AiE approach by designing their teaching for creativity through different learning approaches that foster creativity in the classroom. Creativity was demonstrated by children and young people communicating their ideas through the different creative arts, such as visual arts, new technologies, music, dance and dramatic play, thereby developing the their confidence, competencies, skills and knowledge.

Both field trips to Reggio Emilia early childhood centres in Italy and Assets School in Hawaii supported a child-centred philosophy which reflected aspects from the vision of UNESCO (2013) towards the development of an imaginary global creativity, as stated in their *Learning Metrics Task Force Report.* The report supports the goal of developing universal learning principles. UNESCO (2013) defines global 'creativity' in young children and young people as 'the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (p. 35). Furthermore, it states that creativity can be demonstrated by how children and young people communicate their ideas, such as through the creative arts (visual arts, new technologies, music, dance and dramatic play). The report identifies how teachers can develop competencies, skills and knowledge by designing for creativity through different learning approaches that foster creativity in the classroom.

2.2 Pre-service teacher education in the creative arts in higher education

Several scholars working in the field of pre-service teacher education in the creative arts, for example, Bartleet, Bennett, Marsh, Power and Sunderland (2014) and Garvis and Pendergast (2011) discuss how they have been inspired by philosophies on critical pedagogies, particularly by Paulo Freire's (1970) who expressed deeply his concerns for education in the following passage:

> *[W]hat I have been proposing from my political convictions, my philosophical convictions, is a profound respect for the cultural identity of students – a cultural identity that implies respect for the language of the other, the colour of the other, the gender of the other, the class of the other, the sexual orientation of*

the other, the intellectual capacity of the other; that implies the ability to stimulate the creativity of the other. But these things take place in a social and historical context and not in pure air. These things take place in history and I, Paulo Freire, am not the owner of history. (Paulo Freire, 1997, pp. 307-308 in McLaren, 1999)

From a critical pedagogical perspective, respect for one's cultural identity is at the very core of educational reform and teacher education. The pre-service teacher's ability to stimulate a child's creativity within the socio-cultural context of the situation is highly desirable. For example, Monk and MacKinlay (2013) are A/R/T/ographers who use the power of singing as a creative and critical pedagogy. They argue that performance praxis or performtivity can be used to prepare future teachers to learn and practice critical pedagogies towards transformative education.

Monk and MacKinlay (2013) explore their experiences as singers in a community choir called *Arrkula* (a Yanyuwa word meaning 'one voice'). It draws on the question posed by Maxine Green's (2005, p. 38): 'If we can link imagination to our sense of possibility and their ability to respond to other human beings, can we link it to the making of community as well?' The Arrkula choir is based in the School of Education at the University of Queensland where they are attempting to forge learning communities that value 'wholeness over division, disassociation and splitting' (p. 175) by advocating pedagogies beyond boundaries in a university context. The liberating creative arts processes gained through singing and other non-discursive relationships assists pre-service teachers with a deeper understanding of their ability to be change-agents in education.

This paper considers what singing for democracy and difference might mean to the individual and collectively in the current climate of higher education. The paper specifically focuses on 'imagination' and 'community' in a tertiary context and reveals the challenges faced when 'singing to share the experience of bringing into daily practice the process of enacting democratising spaces' (Monk & MacKinlay, 2013, p. 167). The authors discuss various performances they conducted in the university context such as visiting teachers and scholars from Papua New Guinea demonstrating how imagination, community and song could potentially support globalisation in learning and teaching contexts at a higher education institution. The work builds on scholars such as Green (1997), Richardson (1997), Richardson and St Pierre (2005), as well as Barone and Eisner (2012) who all gave credibility to the potentialities of arts-based research and creative analytical processes as valid representations that 'invite people in and open spaces for thinking about the social [and artistic] that eludes us

now' (Richardson, in Richardson & St Pierre, 2005, p. 962). The relevance for this study is the important role of Arts educators and scholars in investing collaborative ways of knowing by valuing diversity and creativity. However, the outcomes of this study show the *Arrkula* choir is no longer being supported at this Australian university due to the current neo-liberalism climate of economic rationalism.

Bartleet and others (2014), working collaboratively with Indigenous communities, argue that the Arts foster interpersonal expression and empathy, as well as non- or extra-linguistic intercultural communication in ways that cognitive-based learning cannot in higher educational contexts. Other researchers studying pre-service teachers in teacher education include Barton and Baguley (2014), Barton, Baguley & MacDonald (2013), Bowell (2010, 2011, 2012), Brown (2006), Dixon and Senior (2009, 2011), Garvis and Pendergast (2011), Harris (2014), Hudson and Hudson (2007), Kane (2008), Kampylis (2010), Kampylis, Berki and Saariluoma (2009), and Welsh (1995), of which eight are highlighted in the dissertation journal papers.

Summary: Background of the Arts in schools and higher education

The literature review discusses the importance of the Arts, its long history and some key issues that stress how significant the Arts are in student learning and its importance to society (intrinsic and instrumental values). This chapter discusses some of the major socio-cultural factors that support and value the benefits of the Arts in schools and higher education, including current public debates in the field, extending from major contributions made by Dewey (1930s to present day) towards a progressive art education that highlights some of the key global ideas emerging, as follows:

1. Developmental themes on fostering creativity in primary education.

2. The importance of developing a universal visual language and self-expression in creativity in art education and how this would be beneficial for all learners.

3. Some relevant curriculum perspectives on learning through the Arts-specifically discussing Eisner, UNESCO, the *Australian Curriculum: Arts Syllabuses*, ACARA.

4. Developments in relation to creativity in art education in Asia-Pacific region.

5. National developments in the National Review on Visual Arts Education (2008) and discussions on what the significant findings were from that Report.

6. The research project on Artists-in-Residence (AiR project) across Australia by the Arts Council.

7. The importance of teacher education in preparing pre-service teachers

8.   A discussion on how global creativity learning and artistic expression can be integrated across other key learning areas (KLA), for example, from the United Kingdom.

9.   Explored examples of critical pedagogical research on pre-service teacher education in the creative arts in Section 2.2 and the task of preparing future teachers to learn and practice the pedagogies towards transformative education and liberating processes.

The literature review will now discuss the approaches to creativity that forms the foundation of the theoretical framework in Section 2.3.

2.3   Approaches to creativity

Introduction

Section 2.3 discusses the following: (i) creativity as artistic self-expression; (ii) Torrance creativity tendencies; (iii) Taylor's five levels of creativity; (iv) Eisner's typology of creativity; (v) Vygotsky's socio-cultural approach; (vi) Sternberg's investment theory; and (vii) Langer's mindfulness theory. Finally, key elements from the literature review are drawn together to present the theories used in the theoretical framework (Section 2.3).

Early studies into the concept of 'creativity' in the 1950s according to Chase, Ferguson and Hoey (2014), believed it to be a predisposition of the individual and a quality that belonged only to exceptionally talented and gifted people. Early investigations tended to study the unitary nature of creativity offering diverse perspectives on its origins, whereas today, socio-cultural approaches (e.g. Sawyer (2006a) and Kampylis (2010)) propose more wide-ranging and integrative theories for the study of human creativity. (For a comprehensive understanding of creativity definitions, see Amabile (2012); Kampylis (2010b); Feldman, Csikszentmihalyi, and Gardner (1994); Sawyer (2006a); Sternberg (1988); Sternberg and Lubart (1999)). Alternative approaches have traditionally fallen into four approaches to creativity: (i) creative person; (ii) creative process; (iii) creative product; and (iv) creative environment (space), as described by Mooney (1963). Kampylis (2010); Taylor (1959), however, point out that creativity could consist of several of these factors or a combination of several contradictory terms.

In Chapter 2, it is not practical to cover all theories on creativity. Therefore, for the purpose of this research, only a few have been included because of their relevance to the methodology (Chapter 3). For further readings on creativity from the field of psychology, (Kampylis, 2010; Kaufman & Beghetto, 2009a; Runco, 2014; Sternberg, 1999) and others offer comprehensive analysis of the definition of creativity. A popular view of creativity in the Macquarie Dictionary

(2011) *(Latin: creatus)* defines 'to create' as 'to bring into being', 'to cause to exist', 'produce', 'to evolve from one's own thought or imagination'. Additionally, to create is to be engaged in creating something, such as a work of art. Similarly, the Bible says 'to create' means 'to make' or 'to bring into being'. Definitions of creativity, as suggested by Spiel and von Korff (1998), imply that they share common components but also show substantial differences. Table 2.1 illustrates the seven main theories of creativity used in the theoretical framework of this research. The table also describes some of the benefits of using these theories in a pedagogical inquiry with pre-service teachers.

Table 2.1   Theories of creativity used in the theoretical framework

Creativity theory	Description of the benefits of these theories
Eisner's (1972) typology of creativity: Creativity as artistic self-expression	From a naturalistic inquiry perspective, the creative domains of self-expression, boundary breaking, aesthetic organisations and imagination provide important techniques that can be used as pedagogical teaching strategies in studio-based workshops. This typology offers pre-service teachers the possibilities of exploring an array of personal responses during the creative process.
Torrance's (1974) creativity dispositions	Torrance's (1974) psychological approach to creativity highlights how used four distinct categories (fantasy associations, flexibility, elaborations and fluidity) can be used to analyse the creative tendencies in a person and could assist during the assessment procedures pre-service teachers in studio-based workshops.
Taylor's (1959) five levels of creativity	Taylor's (1959) five levels of creativity use a humanistic perspective that builds on Maslow's (1959) theory of needs and was working in socio-psychology. Torrance's research is a useful addition to this research because it encompasses the multi-dimensional levels of creativity and allow for different interpretations and critical responses that can be applied during the creative process and to the creative productions.
Vygotsky's (2004) socio-cultural perspective	Vygotsky's (2004) socio-cultural approach to creativity perceives there are two distinct archetypal forms of creativity, one that links predominately to the past through repetition and the other that advances more towards the future as unique and original creative and artistic responses. This could assist pre-service teachers with a richer understanding of the child's intentions.
Brooks' (2002) visualisation theory: Socio-cultural perspective	Brooks' (2002) socio-cultural research into the concept of visualisation has been explored in the case studies as a way of analysing the creative solutions in artworks and artefacts produced in studio-based workshops. Visualisation is a good strategy to use in the creative process to achieve imaginative artworks or artifacts.

Creativity theory	Description of the benefits of these theories
Sternberg's (1999) investment theory: Educational physiological perspective	Sternberg's investment theory uses an open-ended definition of creativity that could become a valuable working definition to use in the study. Sternberg's definition of creativity is all encompassing because it is broad and deep enough to encompass the pre-service teacher's implicit beliefs, capabilities, dispositions and understanding of creativity as an attitude to life.
Langer's (2006) Mindful creativity: Educational physiological perspective	Langer's (2006) theory on mindful creativity brings a jewel-like aspect to this study because it encapsulates the different perceptions of creativity from these diverse cultural groups. For instance, the traditional Australian Aboriginal and Chinese masters tend to link creativity to their cultural pasts, whereas a more contemporary definition of creativity links more to something that is novel and valued, relating more towards the future.

Theories of creativity used in the theoretical framework

Dewey's (1934), Langer's (1957) and Read's (1958) creativity as artistic self-expression

There have been shifts in the definition of 'creative self-expression' from developing creativity as self-expression through the assertion of one's personality through expressive behaviour in the visual and creative arts. The concept of creativity as self-expression, according to Dewey's (1934) philosophy, involved a liberal approach to education. In other words, it is said that a real education must be based upon the nature of the child and he/she learns best when doing. Creative self-expression came into vogue during the 1920s, later becoming the dominant mode of art teaching after World War II. Efland (1990) points out that creative self-expression aimed to free the individual from social repression and from the rules and regulations of the academy. When applied in schools, it allowed time for the child's imagination to flow freely, following a philosophy of 'art for art's sake' (Efland, 1990, p. 1). This particular branch of art theory is known as 'expressivism'. Langer (1957) postulated that the aim of art from an expressivism perspective was to express the inner realm of the object. Sir Herbert Read (Phillips et al., 1963) clearly articulated that the Arts emancipated the spirit, providing an outlet for creativity, saying:

> *Generally speaking, the activity of self-expression cannot be taught. Any application of an external standard, whether of technique or form, immediately induces inhibitions, and frustrates the whole aim. The role of the teacher is that of attendant, guide, inspirer, psychic midwife* (p. 65) ... *The maxim which flows from this is not to impose your ways of expression on the child at a time when he is involved in sharing with you and others the emotional tone of an experience with materials or people. Or in the language of Susanne Langer ... 'the Arts*

mould our actual life of feeling'. Art education, she feels is often neglected, left to chance, or … 'regarded as a cultural veneer'. (p. 65)

These sentiments by Read (1958) (are shared by many expressivists because they have been passed down through the centuries and these teachings bind most professional artists across the globe. Related to this study is the understanding of the active relationship that is required for creativity between the art educator and the learner. Read (1958) saw the role of the teacher as facilitator of the learner's creativity and any interference in their creative self-expression would inhibit their creativity. It is important to note here that the role of an art educator is not a passive one but active in the sense that they need to be present to guide, inspire and mentor the learner through the creative process. The notion of art educators as mentors links to self-expression as a foundational principal in child-centred philosophies.

Eisner's (1972) typology of creativity: Creativity as artistic self-expression

A leader in the field of discipline-based art education was Elliot Eisner, an educational psychologist, poet and fine artist. He believed the ultimate goal of an art education was to produce a community with heightened aesthetic sensibility (Eisner, 1991). Eisner (1998b) argued that art education as a discipline had a structure that was based on a set of ideas about how a particular phenomenon within that discipline was related. His theoretical position supported the notion that structure was necessary in order to progress and broaden understanding, as well as provide a framework for teaching expressive arts.

Eisner's (1972) typology of creativity is a form of naturalistic inquiry that focuses on the creative process. He broke the creative process down into four main categories: (i) pushing boundaries; (ii) inventing; (iii) boundary breaking; and (iv) aesthetic organisation. Creativity utilises the learner's imagination in order to achieve aesthetic-expressive art forms (p. 216). Eisner suggested that by nurturing the artist/child's imagination, educators are cultivating the learner's cognition. He pointed out that the cognitive process transforms shared representations into images of the possible, leading to the creation of the new. Eisner also proclaimed that it was through the imagination that our cultures grow (Eisner, 2000).

Eisner's (1972) typology model shows the creative process as actively connected to the cognitive process, as expressed in Figure 2.1, showing how the cognitive process nurtures the learner's imagination and transforms these images into new representations. The notion of pushing boundaries into new spaces, inventing new ideas and methods, breaking boundaries and

44

then aesthetically organising these into new ways complements Taylor's (1959) theory of creativity.

Implementation of the 'hands-on' model

Eisner's 'Typology of Creativity'

'Creative action can be broken into 4 different domains:

1. **Boundary breaking**

2. **Inventing**

3. **Pushing boundaries** *(innovation)*

4. **Aesthetic organisation** *(elaboration)*

Reference: (Eisner, 1972, p.216-219).
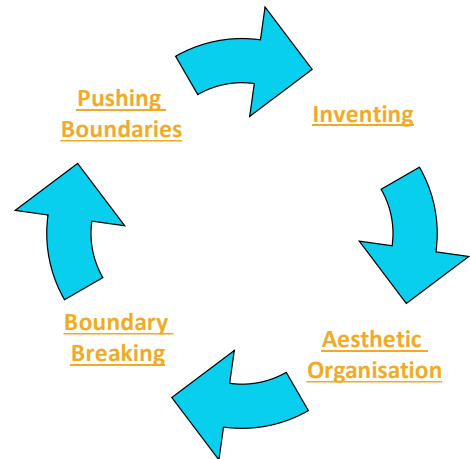
Pushing Boundaries — Inventing — Aesthetic Organisation — Boundary Breaking

Figure 2.2   Implementation of the 'hands-on' model

Eisner (2000) argued that creating and critiquing the Arts foster specific and unique aspects of cognition, and this happens in two ways: '… through the engagement and development of the imagination and through the stimulation of sensory development and that … ideas need to be compressed if they are to be expressed' (p. 99). He believed the artist/child distils these ideas within the constraints of the materials and then converts the materials into a medium that mediates what the individual wishes to say through the technical skills needed to create the effect. The main point of Eisner's theory is that it is not only the technically competent artworks that are produced, but the fact that the artist/child uses his/her imagination to achieve aesthetic-expressive forms (1972, p. 216).

Eisner's typology of creativity model

Pushing boundaries: Refers to the ability to attain the possible by extending the given.

Inventing: This is the process of employing the known to create an essentially new object or class of objects.

Boundary breaking: This is defined as the rejection or reversal of accepted assumptions and the making of the 'given' problematic. It usually reverses the approach taken by others.

Aesthetic organisation: This is characterised by the presence in objects of a high degree of coherence and harmony.

Eisner (1972) suggested that the teacher needs to nurture the artist/child's imagination and when that occurs, the teacher is cultivating cognition. According to Eisner (2000), the cognitive and creative processes transform shared representations into images of the possible, leading to creativity where cultures can grow through the engagement of the imagination.

Barone (1983), on the other hand, takes a pragmatist perspective and expresses the Arts as the 'embodiment of the artist's inward feelings and images into an objective, outward 'expressive form'' (p. 14). Barone clarifies 'a work of art is a transmutation of personal feelings and imagery into a unique sensible form – objectification of the subjective' (p. 14).

From a pragmatist perspective, art education interacts with the socio-cultural environment. For example, the recollection of artworks and artefacts are representative of a publication or a body of work and creativity as self-expression is possibly when teachers are 'more concerned with the needs and development of the individual, as opposed to an exploitation of the needs of the marketplace' (Barone, 1983, p. 14).

From a pragmatist perspective, the Arts interact with the socio-cultural environment and the artwork or artefacts become an expression of that individual's concern for a particular issue(s). In other words, when an artist produces a body of artwork or artefacts in the form of a visual publication, those works represent creativity as self-expression. This is because the focus of the creative process is more on the artist's intrinsic values rather than the instrumental values coming from the outside world. From this perspective, Barone (1983) says the artist is 'more concerned with the needs and development of the individual, as opposed to an exploitation of the needs of the marketplace' (p. 14). This notion is similar to the expressivist who promotes the inner life of a subject and as such, this present study uses emotive language to describe the case study publications, such as 'life's force', 'heart print' and 'life's breath'. The notion that objects have inner and outer realms that connect them to the ascetic practices of Chinese masters and

traditional Aboriginal elders is relevant to this study because the case studies work with professional artists from China and Australia. It is widely agreed in the artistic and aesthetic field (Chase, 2014) that creativity underpins self-expression and is therefore an essential element in this research.

Torrance's (1974) creativity dispositions

In reviewing early psychological research, Sternberg (2003) found that the word 'creativity' did not appear in psychological abstracts prior to 1950. Only 0.2% of published articles referred to it. Guilford was instrumental in drawing people's attention to the importance of understanding the nature of creativity in children and young people's education (Sternberg, 1999; Torrance, 1981; Wu, 2011). During the second half of the 20th century, the fields of psychology used varied and conflicting definitions of creativity, mainly for the purpose of measurement (Chase et al., 2014). It is generally agreed that creativity studies from a psychological perspective began with Guilford (1950) followed by Torrance.

Torrance and Guildford were considered pioneers in behavioural science, in particular, creative thinking tendencies. In 1958, Torrance focused his research on the nature of creativity, problem-solving and creative tests. In 1974, he defined creativity as 'the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements and disharmonies' (pp. 663-4). He also defined creativity as 'divergent' rather than 'convergent' productions of knowledge, focusing more on what is hidden and invisible rather than what is visible. Learning about creativity from this perspective means actively looking for what is missing and thinking of new creative solutions for the future. Torrance conducted his first creative test in 1958 and over the next two decades focused his research on understanding the relationship between giftedness and creativity. For example, his research into multicultural studies of creativity (Torrance, 1970), conducted with fourth-grade children and young people from low socio-economic backgrounds in 10 different countries, found there were cultural differences in the development of children and young people's creative abilities (Torrance, 2003). He said that society should be valuing creative problem-solving because future advancements in technology, globalisation and economic sustainability, combined with social changes, meant that there was a need to find more creative solutions (Torrance, 2003).

A leader in gifted education, Torrance supported the integration of creativity-oriented thinking tests into American elementary schools through longitudinal studies from the 1960s to the 1980s (Grantham, 2013). As a result of his research to nurture and assess creative thinking, Torrance used the Torrance Tests of Creative Thinking (TTCT) from 1962 to 2008. Presently, the TTCT

testing is considered to be the most widely used test of its kind, offering a creativity-oriented alternative to IQ testing by employing psychometric instrumental tools to measure creative thinking tendencies. According to Kim (2011), TTCT results since 1990 have shown a decrease in creativity compared to IQ scores, which have risen. The most significant decrease was evident in kindergarten children through to third grade students. Craft (2001) says that Torrance's psychometric approach has been widely criticised because it is largely considered outmoded, however, his definition of creativity and terminology are still considered to have value. These include concepts such as fluency, flexibility, originality and elaboration, all of which are considered strong indicators of creativity in people (Figure 2.2).

Torrance's (1998) and Torrance and Wu's (1974) four creative tendencies

1.   **Fluency:** Capacity to generate ideas and alternatives effortlessly in creative practice.

2.   **Flexibility:** Ability to shift from old ways to new ways. This includes the capacity to accept new ideas as they are experienced. This is an essential characteristic for collaborative creative practice.

3.   **Originality:** (Uniqueness) is to have a creative response that is novel, unusual or a departure from previous responses in the field or discipline.

4.   **Elaboration:** Capability to add complexity to existing forms.

Fluency	needs to be a relevant response	
Originality	This score is based on the unusualness of the response.	
Elaboration	There are two underlying assumptions: it's a single response; the imagination and exposition of detail is a function of creative ability.	
Abstractness of text	The subject's synthesizing and organizing processes of thinking. Highest level is to capture the essence of the important information so as to picture more deeply and richly.	
Resistance to premature closure	This score is based on a person's ability to keep on and delay closure long enough to make the mental leap to original ideas.	
	Ref: Gilford 1950, Torrance (1965, 1998)	

Figure 2.3   Ways of assessing creativity

Other indicators of creative thinking tendencies, as advocated by Torrance (1977), include 'avoidance of premature closure in decision-making' and 'humour', both of which are considered necessary for the development of creativity. In relation to assessment and creative solutions, Torrance used other terminology, such as 'redefinition', 'convergent thinking' and 'divergent thinking' when discussing creative solutions. 'Redefinition' refers to one's capacity to shift from traditional interpretations to new forms of invention and involves the capacity to work with ambiguity, metaphorical thinking and uncertainty. 'Convergent thinking' refers to the process of narrowing down a list of alternatives to select those with greater potential for problem resolution through comparative analysis. 'Divergent thinking' refers to the ability to develop alternative resolutions through idea generation and experimentation.

TTCT testing uses simple drawing tools that continue to be employed in many schools around the globe today (De Leon, Argus-Calvo & Medina, 2010). For example, Golann (1963) reported one way of measuring the trait of 'originality' was to count the number of responses that had remote associations, and weigh the responses in proportion to their frequency of occurrence in a specific discipline. Building on Torrance's (1974) research, Kelly (2012) found eight basic principles are needed for creative thinking in school.

The importance of Torrance's theory of creativity is by focusing on developing creative thinking tendencies in this way, the learner becomes more creative if he/she follows some of Kelly's (2012) principles. Additionally, creativity tendencies in people can be measured, to some degree, by scientific means (Sternberg, 2006) and this can be enhanced through flexibility, fluidity, originality and elaboration of creative responses in the process. Torrance's theory is aimed to develop dispositions that support people's ability to change, their resistance to premature closure in decision-making, a tolerance of ambiguity and uncertainty, aesthetic sensitivity, aspirations for freedom from functional fixedness and a flow of ideas through independence in thought and practice.

Taylor's (1959) five levels of creativity

Taylor (1959) initially perceived creativity from a humanist perspective and builds on Maslow's theory. to Maslow (1959) self-actualising creativity is seen as a naïve creativeness of unspoiled children, suggesting 'an expressive behaviour does not try to do anything; it is simply a reflection of the personality' (p. 319) and that this behaviour is a potential that is given to all human beings at birth to express themselves. Furthermore, Maslow (1959) suggests that creativity requires dispositions, such as spontaneity and freedom, boldness and courage, and

self-acceptance has the potential to shift learners beyond their normal practices to realise their full potential.

Taylor's research draws on Maslow's theory (1959) of self-actualised creativity, which is 'a potential that is given to all human beings at birth to express themselves' (Taylor, 1959, p. 556). The humanist theorists place more importance on 'openness to experience' rather than premature conceptualisation or relying on immediate responses to ideas. From a humanist perspective, the focus is more on an internal form of evaluation rather than receiving opinions and judgment from others. Additionally, Golann (1963) believes that an important research theme is to study the individual's desire and motivation to fully achieve their potential through their 'interactions' with the environment. In Maslow (1943) theory of intrinsic motivation, Taylor (1959) points out that many western societies tend to value individuality as represented by the ability to make quick decisions about relatively small and insignificant matters. Furthermore, his research (1959) identified that highly creative personality types generally had dispositional characteristics, such as sensitivity, temperament, gullibility, openness, lack of concern with details, involvement in self, and the ability to resist premature decisions (p. 53).

In contrast, Taylor believed that less creative personalities were often afraid to express 'wild imagination' (p. 53), preferring to work within the constraints of an often safe but mediocre response. He also found highly creative people tended to:

> *... allow their mind to wander freely, which in fact exasperates many of his technician colleagues who feel this to be an evasion of the problem. The exasperation is increased when suddenly and unexpectedly the creative person bursts forth with a unique insight into the solution of the problem. Furthermore, he may see through not only one problem but a whole group of related ones; for the creative person is not interested in any single issue but extends his/her interests beyond, or rather below, to a more complex problem underlying a great many other apparently unrelated concrete ones.* (Taylor, 1959, p. 54)

Taylor's (1959) five levels of creativity are designed to foster the development of creative thinking in people. Taylor describes the five interconnecting levels needed for creative thinking as self-expression, technical skills, inventiveness, innovation and emergenative creativity (Figure 2.4).

Taylor's five levels are briefly described, as follows:

1. **Free self-expression:** Spontaneous, free self-expression and a fundamental form of creativity. This level or dimension of creativity focuses on developing self-expression, some basic skills and personal mark-making, but does not focus on the end product. The characteristics developed are 'spirit of play', spontaneity and freedom.

2. **Technical skills:** Acquired when artists proceed from the free-expression level to the technical level of creativity. This is where learning new ideas, approaches and actions are explored to develop during the creative process and in the finished artworks, artefacts or products.

3. **Inventiveness:** Developing new relationships to reach a new level of accomplishment. This is an area where the artwork or artefact may be different from others as the artist is moving from a known to an unknown area. Its characteristics are when new and diverse relationships become evident.

4. **Innovation:** Transformations and flexibility in perceiving new and abstract ways of thinking. The artworks are shifting from a space of unknown to another unknown. Often new insights are experienced through the processes of divergent and convergent thinking. Innovation shows transformations and flexibility in perceiving new and abstract ways of thinking. Often new insights are experienced through the processes of divergent and convergent thinking.

5. **Emergenative creativity:** Fifth level of creativity, emergenative is when entire new principles or assumptions about at the most fundamental and abstract levels. It has the ability to develop new schools, movements and change cultures.

Taylor believed that most researchers instinctively think they are using the fifth level (emergenative creativity). However, this is the rarest manifestation of creativity as most artists remain at the earlier levels of self-expression, technical skills or inventiveness in their creativity (Golann, 1963; Kampylis et al., 2009; Taylor, 1959). Taylor's theory is important to this study because it is broad and deep enough to include a contemporary approach to creativity in arts-based research because it is a framework that allows for diverse intercultural pedagogical approaches to teaching creativity in higher education. This is because a fundamental principle of Taylor's research emphasises the creative process and how the creative process can provide unlimited opportunities to mould one's experiences and then communicate these experiences to diverse audiences through their artwork. Additionally, the notion that creativity has multifaceted

dimensions connects to the researcher's experience of creativity through her position as an artist/researcher/teacher. Other theorists that have built on Taylor's theory of creativity are Kaufman and Beghetto (2009), where their Four C model of creativity has is determined more on weight such as Big-C, Pro-c, mini-c and little-c rather than using levels as in Taylor's (1959) model.
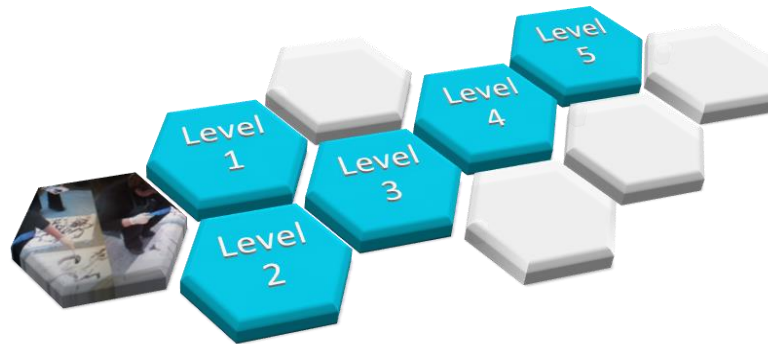
- **1. Improvising play** *(spontaneous freedom)*

- **2. Productive skills** *(techniques, exhibiting)*

- **3. Inventive** *(known into the unknown)*

- **4. Innovative & abstraction**
  (two un-known ideas combined)

- **5. Emergenative**
  (ability to change cultures)

Figure 2.4   Taylor's theoretical model (1959)

Taylor's (1959) levels of creativity have been illustrated above using a metaphoric hop-scotch game. The player can start at either self-expression (spontaneous freedom) or productive skills (technical and exhibiting works) and jump their way through the levels to inventing (shifting from the known to the unknown); innovating (combining two unknown ideas together) and eventually achieving emergenative creativity where they have the ability to change cultures.

It is interesting to note that emergenative creativity can be found in artists such as Jackson Pollack through his invention of *Action Painting* and the development of the *Abstract Expressionist movement.* When applied cross-culturally, emergent creativity could be found in

52

the expressive works of the famous Chinese artist Ch'i Pai-Shih (commonly known as the 'Picasso of the East') (van Leeuwen, 2000).

Vygotsky's (2004) sociocultural perspective

When looking at socio-cultural theory to creativity in Arts education, (Vygotsky, 2004) defined the concept of creativity:

> *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 something mental or emotional construct that lives within the person who created it and is known only to him.* (p. 9)

From a Vygotskian perspective, creativity is an action where all humans have creative ability to some degree that is influenced by the socio-cultural context in which it was created. However, 'the highest expressions of creativity remain accessible only to a select few human geniuses' (2004, p. 11). In this respect, Vygotsky agrees with Taylor's (1959) concept of 'creativity' as the creation of something new with the highest expressions of creative activity remaining assessable to only a few talented people. Vygotsky (2004) supported the notion that there are two distinct archetypal forms of creativity, one that links to the past through repetition and the other that advances towards the future as unique and original.

Vygotsky argues for more importance to be placed on the creative process in schools, suggesting creative imagination is important for the future of humanity and pointing out that the role of the teacher is to guide and develop children's imagination. He explains the nature of creativity and how he believes it is always present. He refers to the importance of collective creativity, likening it to an electrical storm:

> *Just as electricity is equally present in a storm with deafening thunder and blinding lightning and in the operation of a pocket flashlight, in the same way, creativity is present, in actuality, not only when great historical works are born but also whenever a person imagines, combines, alters, and creates something new, no matter how small a drop in the bucket this new thing appears compared to the works of geniuses. When we consider the phenomenon of collective creativity, which combines all these drops of individual creativity that frequently are insignificant in themselves, we readily understand what an enormous percentage of what has been created by humanity is a product of the anonymous collective creative work of unknown inventors.* (2004, pp. 10-11)

Applied to this study, Vygotsky is referring to the different cultures that exist within each school context and how often unrecognised creativity of the individual has the potential to be

more powerful when it unites as collective creativity. In this setting, Vygotsky points out that children's play is not merely a reproduction of what [the child] has experienced, but a creative reworking of the impressions he has acquired (p. 11). It is only through a child's play that the learner can construct a new reality. This notion of constructing a new reality, or as Taylor says, 'inventing' new assumptions can be developed through a sense of play.

Brooks' (2002) visualisation theory: Socio-cultural perspective

Brooks' (2002) research adopted a Vygotskian framework in early childhood education by examining the relationship between thought and drawing and how drawing can function as a powerful tool for learning, which she coined 'visualisation'. Learning and development are perceived as dialectical in nature, operating on three interconnected levels: (i) interactive; (ii) structural; and (iii) socio-cultural (Vygostky, 1978, in Brooks, 2002). Brooks emphasises that the role of the teacher in discovery learning is one of facilitator, 'to provoke occasions of discovery through a kind of alert, inspired facilitation and stimulation of children's dialogue, co-action, and co-construction of knowledge' (Brooks, 2002, p. 326).
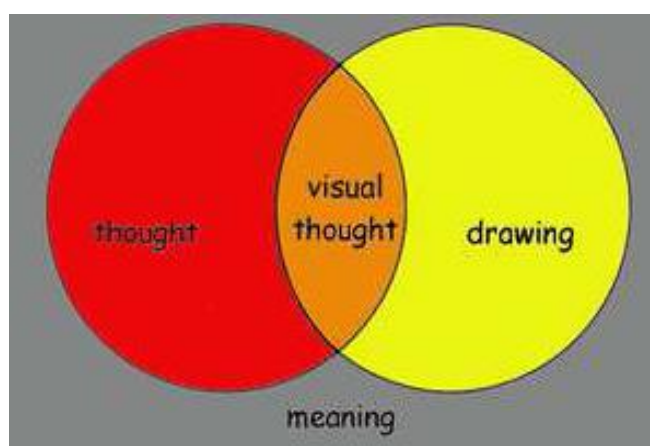
Brooks (2002) adapted a Vygotskian framework to examine the relationship between thought and drawing and how drawing can function as a powerful tool for learning.

Figure 2.5   Brook's theory on visualisation

In her work on visualisation, Brooks (2002) discovered that drawing helped children to recall past experiences. Building on the notion that the act of drawing (either manually or digitally) actually extends children's senses, imagination, emotions and aesthetic capabilities, Wright (2010) highlights how play is an important vehicle for children's explorations through art.

Sternberg's (1999) investment theory: Educational physiological perspective

Sternberg comes from the field of social psychology and his investment theory (2012) suggests there are six resources available to the creative individual: (i) knowledge; (ii) intellectual abilities; (iii) styles of thinking; (iv) motivation; (v) personality; and (vi) environment. Sternberg and Lubart (1995) promote three of these intellectual abilities as being important for creativity development and as an attitude to life. Firstly, the creative person needs to perceive problems in new ways and to escape the bounds of conventional thinking. Secondly, highly creative people have an analytical ability to recognise which ideas are worth pursuing and which are not and, thirdly, to know how to value one's ideas and promote them to others. Sternberg (2012); (Sternberg & Lubart, 1991) believes that creative thinking complements multi-sensory approaches to learning, saying it improves motivation and self-concept and integrates all mind functions.

Sternberg (1999) draws his theories from earlier scholars, particularly building on Taylor and Torrance's work. Sternberg (1999) offers a broad definition of creativity which is useful for the purpose of this study.

> *Creativity is the production of new ideas, approaches or actions* (p. 50).
> *Furthermore, Sternberg perceives creativity as a continuum that links the past to the present in a similar way to Vygotsky's (2004) interpretation of creativity.*

His investment theory contributes to this study in three ways. Firstly, Sternberg's (1999) definition of creativity has been adopted as a working definition for this study because of its ability to capture all aspects of the multi-dimensional facets of creativity in a simple and concise manner. Secondly, teacher education programs in higher degree education ought to support new ways of seeing, thinking and doing that address problem-finding and problem-solving. Thirdly, pre-service teachers are learning how to analyse diverse information and to become aware of ideas worth pursuing to achieve creativity in their own artworks and those of their students. Sternberg's (2006b) insightfully perceived that creativity is as much an attitude toward life as it is a matter of ability. This notion is significant to this project which is situated in an intercultural environment where diverse socio-cultural influences are present and there is limited understanding of how to foster collaborative creativity in pre-service teachers and the primary educational framework.

Master Chen-Cheng Lee, Taiwan artist, 2002.

Figure 2.6   Master Chen-Cheng Lee, Taiwan artist (2002) demonstrating innovative creative (Level 4)

Image: Mu-Lee, the Calligrapher, Taiwan artist. 2002, Linear Motion.

Figure 2.7   Creativity becomes an attitude to life through mindfulness and a 'Spirit of Play' by Taiwan artist and calligrapher, Mu-Lee, 2002

Langer's (2006) mindful creativity: Educational physiological perspective

Langer's (2006) 'mindful creativity' comes from her position as a psychologist and visual artist. 'Mindful creativity' or 'open-mindedness' according to Langer (2006) involves taking the time and space to be task-oriented and to engage in critical reflection. Another disposition required for mindful creativity is the importance of developing a risk-taking attitude. An emphasis placed on open-mindedness means focussing more on reflective qualities emerging from the creative process than focusing on the end product or outcome. Langer's theory connect to Dewey (1938) notion that 'creativity is freedom of intelligence, that is to say, freedom of observation and of judgement exercised in behalf of purposes that are intrinsically worthwhile' (p. 61). Dewey (1938) says there should be brief times of intervals in the classroom structure that allows for quiet reflection from early childhood years. These reflective times should follow more overt action as an approach to organising what has been gained during the activity. The mindful creativity approach to children's education offers an added dimension to this research project because it interconnects activity with reflection on the creative process. This is different to the typical traditional curriculum and classroom management where there are limitations on children's actions by fixed arrangements of the classroom. For example, the traditional classroom has a rows of desks centred around the teacher and the white (electronic) board and children are permitted to move on certain fixed signals. Dewey (1938) argues these restrictions do not allow for internal growth because they 'put a great restriction upon intellectual and moral freedom' (p. 61). For instance, in the progressive classroom, children work in small groups and are encouraged to develop mindful creativity and open-mindedness. Open-mindedness is a growing field of study in universities (e.g. Murdoch University) and Langer encourages educators and policymakers to reflect on, and respond to, the challenges and opportunities presented in the 21st century by developing mindful creativity. The concept of open-mindedness is useful to this research because the primary school system tends to focus more on developing conformity and organisational skills in children and this is seen as a straightjacket that hinders their chances for growth rather than emphasising dispositions of creativity, such as open-mindedness, risk-taking attitudes and avoidance of premature closure during classroom activities; this study aims to foster these dispositions.

2.4   Theoretical framework

The aim of Section 2.3 was to investigate the nature of creativity and offer diverse perspectives on its origins and manifestations from notions of self-expression, cognitive psychology and socio-cultural approaches. Hunter, Baker and Nailon (2014) suggest 'without a universally

accepted definition or metric for creativity, discussion of creative learning may seem little more than semantic play at present' (p. 85). However, from a literature review, seven theorists were chosen as suitable to use in this research because of their versatility and interconnectablity. These theorists, Eisner (1974), Taylor (1959), Torrance (1974), Vygotsky (2004), Brooks (2002), Sternberg (1999, 2006) and Langer (2006)) with their theories formed the foundational theoretical framework applied in the following chapters.

Additionally, the researcher decided to use Taylor's (1959) five levels of creativity as the core element in the theoretical framework. The rationale for this decision is to teach the levels with useful lens through which to explore the different expressive art forms produced in this study. Taylor's (1959) five levels of creativity are unique in a tertiary educational setting and seem appropriate for this study.

Interestingly, Taylor was a practicing artist and scientist working in the field of socio-psychology; his theory is interesting to this study because he perceived creativity from a humanist perspective. He saw it as permeating all facets of life from the creative person, creative process, creative product and creative environmental spaces in a similar way to this researcher's perception of creativity. Taylor proposed that multifaceted dimensions of creativity could be analysed as being expressive, technical, inventive, innovative and emergenative creativity (Table. 2.1).

It is acknowledged that different theoretical approaches to creativity could have been used, however, for this research into fostering creativity in pre-service teachers' creative arts programs, Taylor's five levels of creativity offers unique possibilities in education and research as prior to this study, Taylor's five levels had not been applied to an intercultural study within a higher educational context.

Additionally, Taylor's five levels of creativity as the core element in the theoretical framework builds on Vygotsky's (1978) socio-cultural approach to learning by focusing the research on the social interactions of participants collaboratively and individually during the studio-based workshops. It also provides the opportunity to examine how Vygotsky's theory of the zone of proximal development (ZPD) shapes and scaffolds the participant's learning during the study.

Earlier studies into creativity believe it to be an individual predisposition of the individual and a quality that belongs only to exceptionally talented and gifted people (Chase et al., 2014). However, today's concepts of creativity are generally more diverse and complex in nature

(Eisner, 2006) and are generally considered to contain elements of novelty, originality and value. Additionally, creativity can be expressed in different ways by different people with diverse attributes, interests and cultural backgrounds. Creativity is spread within the community and is not necessarily dependent on one's abilities, cultural background or interests, however, it is generally agreed that creativity can be influenced by experiential learning and teaching for creativity.

2.5   Conclusion

The main focus of Chapter 2 is to answer Research Question 1: *What are the tensions that exist between the diverse perspectives on fostering creativity in art education?* This question explores the tensions that exist from diverse perspectives on fostering creativity in art education.

This chapter has presented several different perspectives on fostering creativity in arts education. These perspectives are explored and applied in the remainder of the thesis. This thesis is attempting to raise important questions about key research in art education, specifically the need for educators, academics and policymakers to be responsible for educating the next generation of pre-service teachers in teacher education programs. All six publications in this thesis discuss different aspects of relevant literature as they relate to this research and are included at appropriate places throughout the thesis. Chapter 2 has also discussed the theoretical framework, and is followed by Chapter 3 which presents the methodology used in the study.

CHAPTER 3:
METHODOLOGY

Bronwen Wade-Leeuwen

3.1 Introduction

Chapter 3 outlines the research paradigms and conceptual frameworks for the research and describes the procedures used for the data collection. It begins with a discussion on the theoretical lens and the socio-cultural approach followed by arts-based inquiry approach to learning that allows for different perspectives of the participants so that other questions would emerge. It is envisaged that by applying this broad theoretical approach to the problem will enhance our understandings of how to foster creativity in pre-service teachers while raising important questions about teaching for creativity in teacher education programs. In order for the data to be examined empirically, it combined insights from four different sources, namely the pre-service teacher questionnaire, participant observations, semi-structured interviews and critical friends groups, all of which are described in this chapter. The chapter describes the procedures used for the data analysis, highlights some of the challenges of the research and offers some suggestions to improve the processes used in the context.

The overarching research question for this study is: ***How can creativity be fostered in pre-service teachers in their creative arts programs?***

The key concern of this research was to explore teachers' perceptions of the nature of creativity, the different perspectives of pre-service teachers on their own creative capacities and the choice of teaching strategies to foster creativity in and through the visual and creative arts in the classroom. This study focused specifically on the links between teachers' perceptions of visual arts education, their implicit beliefs and practices regarding creativity theory and their views of the teacher education program at the tertiary institution where the study took place.

The length of the data collection period (2011-2014) allowed participants to reflect on their practices before, during and after participating in a two-hour studio-based workshop. The researcher aimed to understand the different perspectives presented by these pre-service teachers using a mixed-methods study approach. The mixed-method study was conducted with a total of 350 primary pre-service teachers in their third and fourth (final) years of study in the creative arts program at Macquarie University, Sydney, Australia. Access to the participants was through the course convener and a volunteer process within the Creative Arts course. The course itself consists of 24 hours of teacher education in the creative arts program, including dance, drama, media studies, music and visual arts. Eight hours are allocated to visual arts, including two hours of theory and two hours of practice. This course structure remained the same during the data gathering stages but was cut to four hours from 2014 to 2015 with one hour of theory and three hours of practice.

Section 3.2 describes in detail the mixed-methods approach to data collection and analysis. This mixed-method study was structured in four phases, approved by the university's Ethics Committee (Approval No. 52011181D) and complies with the guidelines listed in the university's publication website: www.research.mq.edu.au. The pre-service teachers were generalist student teachers in a primary degree program at this tertiary institution. All participants in the study signed the consent forms, an example of which is given in Appendix 1. Every effort was made to document and acknowledge participants who appeared in the videos during the studio-based workshops and those who were recognisable were required to sign a copyright release form. The same process applied to any photographs or other important work samples collected during the study.

Research paradigms and theoretical frameworks

The theoretical lens that influenced the choice of research methods used in this study connect to Guba & Lincoln's, (1994) notion that researchers tend to select philosophical paradigms according to their own ontological and epistemological predispositions. As an arts researcher, educator and practitioner, it was important for this author to use a socio-cultural approach and employ an arts-based enquiry methodology. The visual and creative arts course chosen is part of the teacher education program offered at the subject tertiary institution. Its Student Guide for New Teachers stipulates:

> *The approach to teaching and learning is grounded in principles of constructivist-based learning … and developing teachers practice through the Professional Experience Program.* (2011, p. 4)

Constructivism focuses on the cognitive and collaborative processes where the participant interacts with the environment and learners are encouraged to be self-reflective. This approach to learning is supported by theorists and philosophers such as Dewey, Piaget and Vygotsky. As this study was situated in the principles of constructivist-based learning, it applied Vygotskyian (1978) social constructivist learning theories within a primary educational framework; this emphasised the role of social interactions during the process of learning. Vygotsky's theory of the 'Zone of Proximal Development' (ZPD) is the area between a learner's level of independent performance and the level of guidance performance provided by a more experience adult or peer (Vygotsky, 1978, pp. 84-85). ZPD was used in the study to help participants learn about the creative process under the guidance of the artist educator/studio leader. A studio leader is defined as a professional artist who facilitates studio-based workshops in open environmental creative spaces so that these spaces become the 'third teacher' to the learners (Edwards et al., 1998). Further information about the ZPD process can be found in publications (P3) 'Fire, ink and play …' and (P 5) 'Out of the shadows …'.

3.2   Socio-cultural approach

Vygotsky's (1986) insightful reflections pointed out that 'the true direction of the development of thinking is not from the individual to the social, but from the social to the individual' (p. 36), emphasising how the social environment can influence all forms of language, including visual language, in the development of thought (Brooks, 2002). Vygotsky's main contribution to arts education is the notion that psychological and cultural tools, such as visual language, drawing, design concepts, signs and symbols, enable mental processes to develop through the process of

internalisation. Internalisation is defined by Duchesne (2013) as 'the transformation of external processes into internal processes that guide actions and thoughts' (p. 83). When applied to this study, it allowed creativity to develop during socio-cultural interactions; the participants' ideas were internalised into new ways of thinking and artistic expression, such as drawing and painting, printmaking and modelling. The rationale for using the socio-cultural approach came from the idea that arts learning and teaching occur through socially-mediated experiences, such as observations, conversations and people's art-making experiences. In other words, by providing pre-service teachers with mediated social experiences during their teacher education programs, they could access their prior knowledge about creativity and construct new understandings and experiences in the arts. Hulsbosch, FitzGerald, Guihot, Randall and Wade-Leeuwen (2008) point out:

> *Developing your knowledge of the visual arts will enhance your understanding*
> *of historical cultures and contemporary art from the perspectives of the artist,*
> *world, audience and artwork.* (p. 1)

The potential benefits of using Vygotsky's (1978) socio-cultural approach in this study were that through the process of *internalisation*, pre-service teachers could experience diverse ways of extending their prior knowledge and experience of the arts, including developing their intercultural capabilities (ACARA, 2012). The notion of developing intercultural understandings and capabilities is discussed more fully in publication, 'Out of the shadows: Interacting and responding to the creative experience in pre-service teacher education'. This study designed CoP model precisely to develop pre-service teachers' intercultural understanding and capabilities during their teacher education programs.

Cultural community-of-practice (CoP) model

The cultural CoP model developed by Lave and Wenger (1995) and Wenger (2000) offers new kinds of organisational design that require the involvement of informal gatherings of artists, educators and academics who are passionate about the arts. In relation to this study, the CoP model was perceived as an ideal instrument to develop pre-service teachers' intercultural understandings and capabilities during their teacher education programs. Working within a CoP environment, professional artists have the capacity to discuss and demonstrate new art-making practices and possibilities with diverse audiences. For this study, the CoP model was adapted and re-named the 'cultural community-of-practice model' or cultural CoP model. It built on the field work conducted by the researcher with the UK TATE Gallery model and the work

developed with Bowell (2010, 2012), as discussed in Chapter 2 and illustrated in publications P2, P3, P4, P5 and P6.

Using a network of professional artists and creative partnerships in a cultural CoP model for teacher education programs means that pre-service teachers can be supported by a group of scholar artists in the field of arts education and can engage with 'diverse cultures in ways that recognise commonalities and differences create connections with others and cultivate mutual respect' (ACARA, 2014, p. 15). In this way, the researcher proposes that the cultural CoP model will create possibilities for Taylor's (1959) innovation and emergenative creativity practices that will connect teacher education and the *Australian Curriculum* to contemporary global trends in arts education.
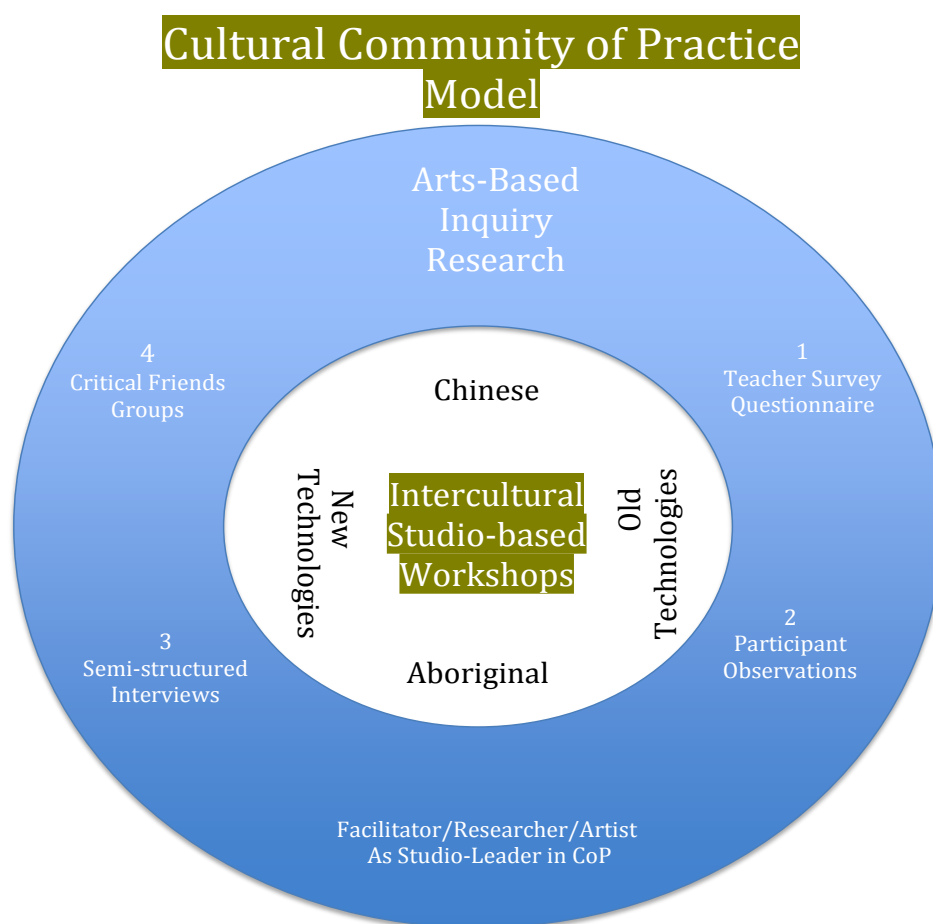
Case study employing a mixed-methods approach to creativity in
Visual & Creative Arts programs

© B. Wade-Leeuwen (2015), School of Education, Macquarie University.

Figure 3.1   Cultural community-of-practice (CoP) model (non-discursive forms found in creative spaces during the studio-based workshops)

Figure 3.1 illustrates how this study used a socio-cultural approach to the conceptual framework by employing a cultural CoP model to source the research data. The CoP approach included such investigation methods as an arts-based inquiry, including non-discursive ways of knowing, a teacher survey questionnaire, participant observations and critical friends groups, as well as multiple case studies for data collection and analysis. Additionally, the multiple case studies focused on intercultural understandings of Aboriginal Australian and Chinese diaspora arts and cultures; this required the use of arts-based inquiry, as discussed in the following section.

3.3 Arts-based inquiry

Arts-based inquiry was chosen as the most suitable approach because it offers a suitable way of studying the non-discursive nature of the arts, but also highlights how the arts impact on pre-service teachers' practice. Barone and Eisner (2012) define arts-based inquiry as a process that 'uses the expressive qualities of form to create meaning' (p. xii), adding to our understanding of the focus questions. Several social researchers use this approach as a practice and a methodology (Barone & Eisner, 2012; Finley, 2005). Arts-based inquiry practices include dance and drama performances, narrative inquiry, performances, including poetry and music, and installations. This arts-based inquiry is mainly concerned with allowing questions to emerge that are rarely uncovered in education through other disciplines one way of doing this is to observe the emotive and aesthetic areas of learning. Arts-based inquiry encourages narratives other than the dominant narrative voiced through the education system which perceives the arts as offering similar things to other discipline areas. Additionally, arts-based inquiry is complimentary to a mixed-method approach in humanities and social sciences because it concerns gaining broader insights and understanding about human lives and their lived situations. According to Eisner (2006), the first arts-based inquiry research institute in the United States commenced in 1993 at Stanford University for members of the American Education Research Association. Eisner (1997, in Finley, 2003) stated:

> *Increasingly, researchers are recognizing that scientific inquiry is a species of research. Research is not merely a species of social science ... Virtually any careful, reflective, systematic study of the non-undertaken to advance human understanding can count as a form of research.* (p. 262)

According to Eisner (1981), arts-based inquiry is qualitatively different from scientific research. Diamond and Mullen (1999) argue that arts-based inquiry differs because as it is 'self-consciously shaped' (p. 84). Similarly, Bochner and Ellis (2003) point out that an arts-based inquiry differs from a scientific inquiry because it examines various things that can be

interpreted in many different ways. Finlay (2003) says an arts-based inquiry cannot be positioned as second rate to science because it does not make a claim to being a science. Finley further states that 'Arts-based inquiry research may simply be one among the many systemic studies of phenomena undertaken to advance human understanding, not exactly arts and certainly not science' (p. 290).

Over the past two decades, arts-based inquiry has expanded (Barone, 2002; Brewington Douglas, 2006; Blumenfeld-Jones, 1995). Barone and Eisner (2012) define arts-based inquiry as:

> *A method designed to enlarge human understanding. Arts-based inquiry research is the utilization of aesthetic judgment and the application of aesthetic criteria making judgments about what the character of the intended outcome is to be. The aim is to create an expressive form that will enable an individual to secure an empathetic participation in the lives of others and in the situations studied.* (Barone & Eisner, 2012, p. 8)

Brewington Douglas (2006) agrees that arts-based approaches allow for different views from scientific approaches; in particular, the empirical approach is different in its methods of inquiry and its writing. She also commented that arts-based inquiry may prove to be beneficial as well as complementary to scientific approaches. Barone & Eisner (2012) define arts-based inquiry as a process that 'uses the expressive qualities of form to create meaning' (p. xii). Additionally, the aim of arts-based inquiry is to offer a broad approach to social inquiry and to:

> *… foster the transformation of worldviews … and it does not move to enhance certainty but instead through the use of expressive design elements, succeeds (in varying measures) in the unearthing of questions that have been buried by the answers, and thereby in remaking the social world.* (Barone & Eisner, 2012, p. 27)

Langer (1957) distinguishes between non-discursive and discursive modes of knowing by pointing out that a person's feelings belong to the affective domain (non-discursive), which differs from the literal (discursive) language. Arts-based inquiry works more with non-discursive (affective) modes of communication, making it possible to know how others feel. For example, during the studio-based intercultural workshops for this dissertation, participants created through imaging and used metaphors to work with fantasy associations to generate meaning. In other words, Barone and Eisner (2012) states that literary scientific research and arts-based inquiry research 'take different forms and inform in different ways about phenomena-that superficially are similar but in reality are quite different' (pp. 9-10).

Arts-based inquiry provides a window into the complex nature of 'creativity', described in this study as creative thinking and activity. According to (Barone & Eisner, 2012; Langer, 1957), the visual arts offer non-discursive modes of representation that express the way learners think, act, feel and sense the world around them. Visual and creative arts have the power to open possibilities to knowing how others feel about some aspect of their life. This is a challenge and opportunity for pre-service teachers to create non-discursive creative arts representative of knowledge in the classroom.

Understanding pre-service teachers' implicit beliefs and how they might think about teaching for creativity in their classrooms was an important goal in this research project. Additionally, Kampylis (2010) and Brown (2006) see the artistic and creativity experience as a way of transforming a learner's way of knowing, being and doing meant that the researcher sort to design a new model based on the five levels of creativity and the different ways of learning visual arts. Visual imagery was used throughout the study to shed light on the current situation in teacher education so the researcher could be viewed from different angles, including text, still images, moving images and other forms of documentation.
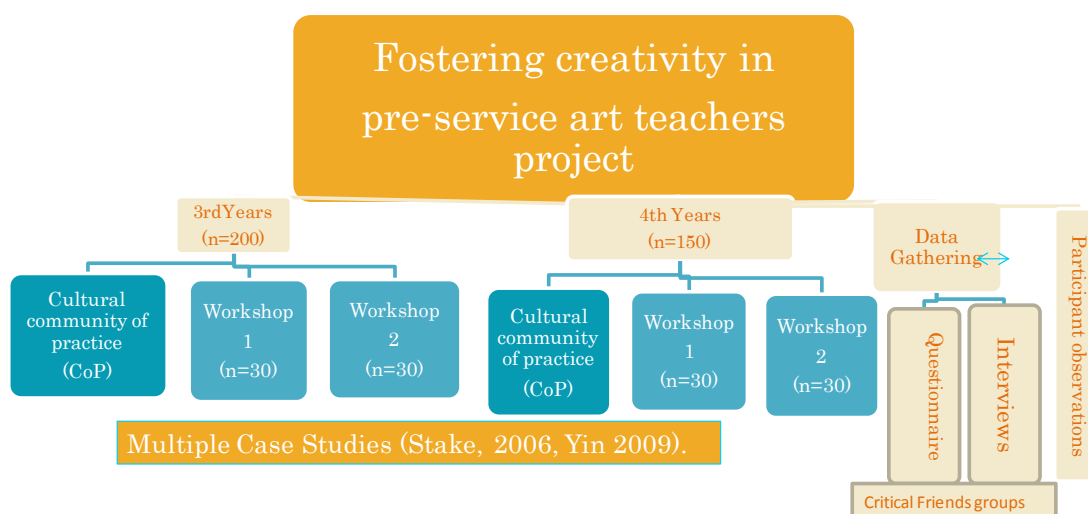
©B. Wade-Leeuwen_ phd research, Macquarie University 2015   (2010-2015)

Figure 3.2   Research approach to studio-based workshops (Wade-Leeuwen, 2015)

Research Design

This research was designed into four distinct phases: (i) teacher survey questionnaire; (ii) participant observations; (iii) semi-structured interviews; and (iv) critical friends groups. The researcher analysed data from 342 responses from the total cohort 350 pre-service teachers. Twenty-four studio-based workshops were conducted over the academic year (2011). Each workshop went for two-hours with approximately 30 participants in each workshop. There were 150 fourth (final) year pre-service teachers and 200 third-year pre-service teachers participating in the study (Appendix 3: Teacher survey questionnaire).

The mixed-methods (Creswell, 2012) used to investigate the data gathered were triangulated. According to Denzin (1970), triangulation involves using more than one method to gather data In this study, data was gathered through a questionnaire, participant observations in the studio-based workshops, semi-structured interviews and critical friends groups. These mixed-methods are discussed below.

3.4   Method of investigation

Phase 1: Teacher survey questionnaire

This initial phase used quantitative investigation to provide a basis for further inquiry. The questionnaire posed 12 questions such as the participants' cultural background, their prior knowledge of visual and creative arts, how they defined creativity, what barriers inhibited their creativity and what strategies or approaches would help them to foster their own creativity during the teacher education program. These initial, quantitative results were entered into a Qualtrics on-line data storage program and later transferred into *Nvivo10 QSR* for further analysis. This method supported the predominantly qualitative approach by providing 'snapshots' of data that could further guide the study. Additionally, it was intended as a needs analysis tool to understand the total cohort of pre-service teachers; thus the researcher could design a new learning and teaching model that would foster creativity in teacher education program.

Phase 2: Participant observations

The second phase, participant observations, was undertaken during the 'hands-on' studio-based workshops. The initial teacher questionnaire revealed that the cohort of pre-service teachers consisted mainly of novice artists who said they needed further instruction in visual and creative arts education. Creswell (2012) says that observations provide the researcher with the

opportunity to collect data during the process, thereby making the information more reliable. The studio-based workshops were designed to last for two hours each. During each workshop, the researcher's observations focused on the social interactions that occurred during collaborative and individual art-making practices. The role of the studio-based workshops was precisely to provide opportunities to explore old and new technologies in art education through intercultural artistic and creative experiences.

The participant observations helped the researcher compare the different perspectives and behaviours during these creative experiences. Throughout each workshop, the researcher recorded field notes, moving and still images and memos as a way of helping her develop key themes and categories. During each observation, she attempted to relate the interactions between the individuals to the visual arts and socio-cultural context. Case studies were developed to help this process. During each case study, the researcher recorded the approaches and teaching strategies that the studio leader used, with a specific focus on how the participants expressed them, the new techniques and skills learnt and any evidence of innovative or emergent creativity. These observations helped the triangulation and were supported by the researcher's recordings. These observations helped initiate discussion during the semi-structured individual interviews that followed.

Phase 3: Semi-structured interviews

Phase 3 of the research, semi-structured interviews, was an important part of the triangulation process. This is because the 12 participants represented nine different cultural groups, including Australian, Bangladeshi, mainland Chinese, Hungarian, Indian, Italian, Korean, Maltase and Sri Lankan. The seven participants chosen represented six of these cultural communities with three novices from Bangladesh, Sri Lanka and Malta who had no background experience in visual arts. The two intermediate participants from India and Korea had continued their visual arts studies up to Year 8 at high school. The two participants from Anglo-Australian background represented more experienced pre-service teachers because they continued with visual arts throughout their high school years and into their lives after school. All participants were given the opportunity to discuss their implicit beliefs and perceptions on the nature of creativity and to voice their opinions as to whether the studio-based workshops made an impact on their own creativity (Appendix 6).

Phase 4: Critical friends groups

The fourth and final phase of the research gathered data from the critical friends groups, which consisted of six professional artists from Australia, Singapore, Shanghai and Taiwan. In this phase, the researcher networked with the professional artists and interviewed three of them, using the semi-structured interview questions asked of the pre-service teachers. These interviews were audio recorded and documented in three multiple case studies (Publications 3, 4 and 5). The case studies represented the sample group and supported the broader inferences in the study. The benefits of using case studies are discussed in the following section.

Multiple case studies

Multiple case studies were chosen as the best method to explore the different visual and creative arts courses in the teacher education program. Case study research has been a feature of educational research for many years. Denzin and Lincoln (2005) and Silverman (2010) generally define a case study in similar terms to Creswell (2012), who describes a case study as 'a variation of ethnography in that the research provides an in-depth exploration of the bounded system (e.g. an activity, an event, a process, or an individual) based on extensive data collection' (p. 617). Stake (1995) says that case studies are valuable in situations where the 'particularity and complexity' of a unique case enables the researcher to better understand it. Yin (2014) defines a case study as having two parts:

> *A case study investigates the contemporary phenomenon (the 'case') in its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident. The second part of the definition points to case study design and data collection features, such as how data triangulation helps to address the distinctive technical condition whereby a case study will have more variables of interest than data points. Among the variations in case studies, the case study can include single or multiple cases, can be limited to quantitative evidence, and can be useful method in doing an evaluation.* (Yin, 2014, p. 2)

Silverman (2010) suggests sampling in a qualitative case study approach has two main functions: (i) to feel confident about the representativeness of your sample group; and (ii) sampling supports notions towards making broader inferences. The function of the first phase is to provide early insight into motivations and situations of the total sample group before any form of intervention is conducted. The second function of the case study approach is to gain broader understandings of the sample group by comparing and contrasting the data collected with other studies that are addressing similar issues. Simons (2014) argues for using case studies in arts-based inquiry research:

> *Using creative and artistic forms in generating interpreting case study data offers a form of evidence that acknowledges experiential understanding and illuminating the uniqueness of the case.* (Simons, 2014, p. 468)

Multiple case studies were used in this research to demonstrate how different forms of validity, such as the triangulation approach, widened the scope of the study to allow for emerging questions to become apparent. There are, of course, limitations to case studies. Yin (2014), Stake (2013) and Creswell (2012) identify two major criticisms of the case study approach: (i) the use of 'thick description'; and (ii) generalisability. In this study, the application of a theoretical framework and the use of 'thick description' were used to minimise any biased interpretations and address any concerns relating to the reliability and validity of inferences collected from the data. Mason (1996) believes that qualitative research should aim to produce explanations that can be generalised in some way. Contrary to this, Silverman (2010) argues that generalisability can present a problem to users of quantitative methods, for instance, 'How do we know how representative case study findings are of all members of the population from which the case was selected?' (p. 139). In relation to this study, there is no intention to construct generalisations from the findings because the aim is to raise important questions that may be useful to other researchers. However, inferences could be extended into other syllabus development processes conducted under similar institutional arrangements both in and beyond Australia.

3.5   Analysing the data

This section describes constructivist grounded theory and the methods of data collection used to analysis the data. Stake (2006) describes analysis as a way of giving meaning to the researcher's first impressions. This process assists with the building of relationships between the triangulation of data and the patterns, consistencies and discrepancies emerging from the data. Creswell (2012) states the key characteristics of grounded theory research include:

> *Using a procedure of simultaneous data collection and analysis … analysing the data for increasing levels of abstraction by using constant comparative procedures and asking questions about their data.* (p. 443)

Constructivist grounded theory

Constructivist grounded theory method (CGTM) (Charmaz, 2006) is a form of qualitative method that has been in operation since the 1990s. CGTM is a contemporary revision of Glaser and Strauss's (1967) and Glaser's (1978) classic grounded theory in that it assumes a relativist

approach based on relationships. The benefit of using CGTM is that it potentially reinterprets the principles of an already existing method or it develops new grounded theories (Charmaz & Bryant, 2011). It was considered the best method for analysing the data for this study because it complements arts-based inquiry research and it analyses the actions and processes that are the purpose of a multiple case study (Stake, 2006; Yin 2009).

Thus, CGTM enabled the researcher to analyse how particular actions contributed to the fundamental processes that occurred during the creative and artistic experiences, either in the workshops or in the participants' lives. In other words, this study investigates the relationships between the socio-cultural experiences of the individual and their cultural artistic positions and how these interconnected ways of knowing can be fostered in pre-service teachers. It acknowledges the multiple standpoints and realities of the grounded theorist and the research participants. Through a comparative analysis, tentative theoretical categories were developed to establish how social conditions in the inquiry influenced the research. The researcher was located within the inquiry to gain a closer view of the different creativity possibilities as they arose. CGTM (Charmaz & Bryant, 2011) allowed the researcher to discern how participants' meanings and actions connected to the larger picture of visual and creative arts in higher degree education and pedagogical discourses.

Constructivist grounded theory, according to Charmaz (2006), is a qualitative approach where the research moves forwards and backwards between competing claims and insights, creating a synergy through the data collected. This process is referred to by Teddlie and Johnson in Tashakkori and Teddlie (2010) as a 'dialectical pragmatism/pluralism approach'. From an ontological pluralism position, according to Tashakkori and Teddlie (2003), knowledge can be viewed individually and be socially constructed, resulting in empirical discoveries. This means that from the perspective of this study, the focus on multiple perspectives and theories about complex phenomena can be claimed as 'true'. Additionally, from an epistemological position, Sullivan (2005) explains there is not a singular truth but multiple ways to knowledge through art. Therefore, different theories about art can be viewed instrumentally and used for predicting, explaining and influencing desired changes, or intrinsically for more personal reasons.

The analytical process of formulating theoretical hypotheses is assisted by recording researcher reflections in the form of 'theoretical memos' (memoing) (Field, 2000). This includes field notes, imagery and diagrams about the research process so that continued reflection and insights are possible. By collecting data through diverse sources, the researcher could analyse the data by assigning codes to sentences and paragraphs. A modified version of Strauss and Corbin's

(1998) systematic procedure was used to analyse the data, as described by Creswell (2012). The three steps in the systematic design process used in grounded theory for analysing data are (i) 'open'; (ii) 'axle'; and (iii) 'selective' coding. This system helped the researcher to develop a logical paradigm and generate a picture describing how the theory was used in this study (Figure 3.3).

The researcher adopted a pragmatic position by finding truth in multiple, often contradictory, perspectives while searching for workable research solutions that allowed multiple perspectives to exist simultaneously. Constructivist grounded theory uses three phases to analyse data: (i) open coding; (ii) axial coding; and (iii) selective coding. How the phases were used in the study is described in detail below and illustrated in Figure 3.3

The first phase, open coding, involved data collection from the teacher questionnaire, participant observations, semi-structured interviews and critical friends' comments, all of which was loaded into the *Nvivo10 QSR* software program. The researcher read through the various documents to gain a first impression of the case study results in terms of fostering creativity in pre-service teachers during their teacher education programs.

The intention of the first phase was to develop the information into 'open coding', where the initial categories and subcategories of information were segmented. From there, properties were developed as subcategories in constructivist grounded theory to provide more details about each category. Creswell (2012) says that each dimensional property is part of the grounded theory process. For example, in this study, examples of different properties were placed along the continuum of understanding creativity, moving from negative to positive through all the nuances in-between.

The second phase, axial coding, required the researcher to select the principal open coding categories and position them central to the process of data analysis. The axial coding process in this study centred on the core phenomenon of 'five levels of creativity' theory; the objective here was to see how these five levels related to the other categories found in the study.

**Open Coding
Categories**

**Axial Coding
Paradigm**

Cortex	

Consequences

Strategies

Core Category
or
Phenomenon

Causal
Conditions

Intervening
Conditions

Category

Category

Category
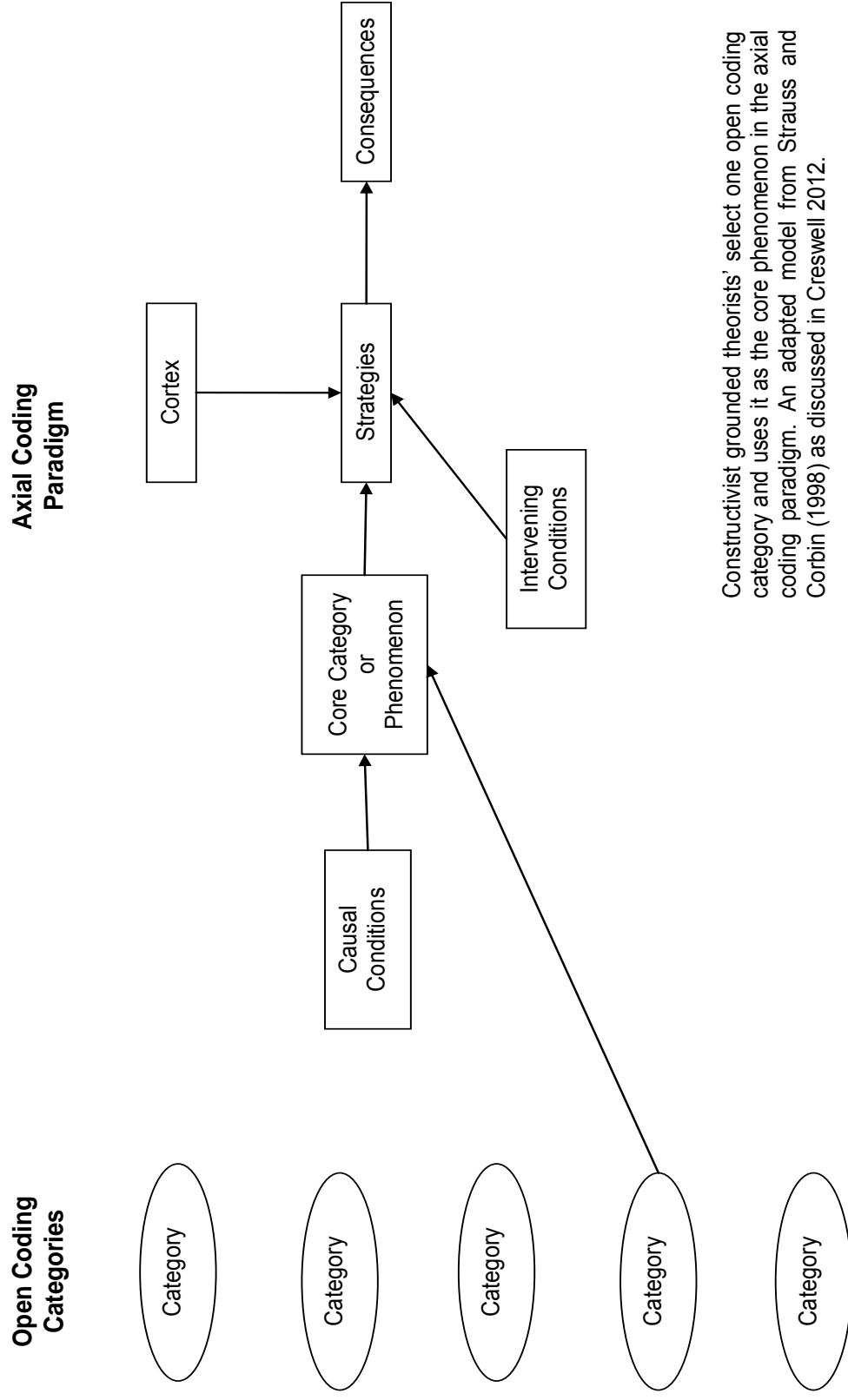
Category

Category

Constructivist grounded theorists' select one open coding category and uses it as the core phenomenon in the axial coding paradigm. An adapted model from Strauss and Corbin (1998) as discussed in Creswell 2012.

Figure 3.3   Constructivist grounded theory approach used to analyse the data

Categories of information derived in the second phase were:

1.   Casual conditions – categories of conditions that influence the core categories.

2.   Context – specific conditions that influence the teaching strategies.

3.   Core categories – the idea of an anonymous category that is central to the process.

4.   Inventing conditions – general contextual conditions that influence teaching strategies.

5.   Teaching strategies – specific actions or interactions that result from the phenomenon.

6.   Consequences – outcomes of employing the teaching strategies.

The main aim of the axial coding was to determine how these six categories in the coding paradigm influenced each other. The third and final phase, 'selective coding', is where the grounded theorist writes a theory or generates relevant questions based on the interrelationship of the categories in the axial coding model. This phase emphasises integrating and refining the theory into an adapted or new theoretical framework, which encapsulates the *KnoBedo* collaborative learning approach, as further discussed in Chapters 6 and 7). Strauss and Corbin (1998) suggest using the technique of narrative to highlight how certain factors in the study influence the core phenomenon, in this case, creativity. This led the researcher to specify the specific teaching strategies needed, in this case in teacher education programs, and make explicit the kinds of relationships required to achieve the desired outcomes.

Some of the challenges encountered with this research design included the complexity of the nature of creativity as an area of enquiry; this made the research difficult to elicit and map logically. Additionally, pre-service teachers presented diverse implicit beliefs and theories on the nature of creativity; 50% had never experienced visual arts prior to their teacher education program in Australia. This meant that the relationship between the participant's implicit beliefs and their knowledge and experience of the visual and creative arts required the researcher to design a program that consisted of an eclectic mix of theories and processes in order to encapsulate an effective arts education course that could capture the richness and depth required in teacher education (Appendices 4, 5 and 6).

The benefit of using a studio-based workshop with pre-service teachers is that it allowed the collaborative experiences of discovery and meaning-making to emerge during the creative process and in the student-made artefacts. The studio-based workshop approaches and accompanying teaching strategies were designed to help primary pre-service teachers,

particularly those who felt limited in their knowledge of visual and creative arts education to use a theoretical framework that would foster their creativity.

3.6 Summary

Chapter 3 provides an overview of the methodology, research design and the mixed-methods used in the study; it is supported by publication P5 'Out of the shadows: Interacting and responding to creative expressions in pre-service teacher education' in Section 5.9. The following Chapter 4 investigates some of the innovative approaches used in the case studies and provides some responses to the research Question 2: *What approaches to creativity could be incorporated in the creative arts in teacher education?*

CHAPTER 4:
CREATIVITY APPROACHES

Working within a community of practice (Wenger, 2000)

4.1   Introduction

Chapter 5 presents three creativity approaches in the form of case studies used during the studio-based workshops where pre-service teachers collaborated with different professional artists in cultural CoP during their teacher education programs. This chapter answers Research Question 2: *What approaches to creativity could be incorporated in the creative arts in teacher education?*

A brief description of the three case studies reveals that there are two distinct sample groups representing 350 pre-service teachers on the visual and creative arts program in the teacher education program from 2010 to 2014. The reason these two cultural community groups were

chosen is because they connect to the researcher's experience as a researcher, artist and teacher, as well as to the wider population in Australia from Asian Pacific regional areas.

In Case Study 1, pre-service teachers work with one of six Aboriginal Elder artists from our first nation people within a cultural CoP during the studio-based workshops. The sample group consists of 200 third-year pre-service teachers working with six Australian Aboriginal artists from the Sydney region. The article discusses how the professional Aboriginal artist inspired the participating third-year pre-service teachers to explore traditional and contemporary printmaking and modelling techniques during the studio-based workshops. The case study also examines responses from the participants during their creative and artistic experience.

In Case Study 2, pre-service teachers work with one of six Chinese artists from Shanghai within a CoP during the workshops. The second case study sample group consisted of 150 fourth (final) year students working with six master artists from the Chinese Diaspora. The article discusses how the professional Chinese artist combines elements from old and new technologies, including 2-dimensional and 4-dimensional artefacts to develop his practice to inspire the fourth (final) year participants in the studio-based workshops. The case study also examines responses from the participants during their creative and artistic experience.

In Case Study 3, pre-service teachers work with a Singaporean Artist within a CoP and fourth (final) year students. The article discusses how the professional artist from Singapore combines elements from old and new technologies, including 2-dimensional, 3-dimensional and 4-dimensional artefacts to develop his practice to inspire the fourth (final) year participants in the studio-based workshops. The case study also examines some responses from the participants during the creative and artistic experience.

4.2 Publication 2 (Case Study 1: Working with Australian Aboriginal Artists) – The Bwo-me (life's breath) creativity workshop: Visual arts and education

International Journal of Arts Education (7)3, 2014, 67-79

Fostering inclusivity and diversity in a classroom can be effectively incorporated in the classroom by educators when they receive the opportunity to experience and understand arts-based practices that exist in varied cultures. To explore the changes that occurred during the

workshops, this article investigates how pre-service teachers collaborate with an Aboriginal Elder artist within a CoP.

The research was conducted by incorporating explanatory sequential mixed-methods design. Publication 3 predominantly discusses how an Aboriginal Elder artist inspired the participating third-year pre-service teachers in studio-based workshops. The scenario also examines responses from participants during their creative and artistic experiences through a variety of drawing, moulding with clay work and printmaking. The outcome of the experiential workshop assisted teachers to be engaged in imagination by heightening their sensory awareness. The participants reported that the experience helped them to be mindful about creativity and shifted their situational thinking about creativity.

The findings indicated that necessary dispositions are needed to foster creativity in visual arts education, and without these dispositions, creativity is unlikely to occur. These are major implications for the improvement of teacher education programs.

The Bwo-me (Life's Breath) Creativity Workshop: Visual Arts and Education

Bronwen Wade Leeuwen, Macquarie University & Workshop Art Centre, Australia

Abstract: The 'Bwo-Me' (Life's Breath) intercultural 'hands-on' workshops are particularly concerned with issues of inclusivity and teaching for diversity and provide the opportunity to experience and understand arts-based practices that are culturally derived. The studio-based workshops aim to foster 'creativity' potentialities in pre-service teachers so as to increase their capacity to mentor children with significant learning disabilities, such as gifted dyslexics. This visual art-based intercultural 'hands-on' workshop provides space for teachers-in-training to become positive cultural agents for change (Saltmash 2006). The research methodology applies theories from hermeneutics and post-structuralism to emphasize issues of representation, repetition, signification, spatial awareness, meaning, identity and difference. This socio-cultural dimension to learning in the Arts highlights the inter-relation between the individual, visual arts education and the socio-cultural context (Atkinson 2002; Eisner 1972). This 'Bwo-Me' (Life's Breath) case study explores the works of contemporary Aboriginal artists from the Boomalli Aboriginal Co-operative Ltd. in Sydney (Bancroft 2011). The research builds on reconciliation themes recently developed by the author/artist/curator during studio-based research with pre-service primary art teachers at a tertiary institute. A variety of drawing, clay work and printmaking practices were explored on different surfaces as a way of engaging participants' imaginations and heightening their sensory awareness. 'Mindful Creativity' tendencies (Dunoon 2002; Dunoon and Langer 2011) and dispositions were noticed during the workshops while artefacts were measured using elements from Torrance (1974) creative thinking by noticing concepts such as fluency, flexibility, originality, and elaboration.

Keywords: Aboriginal Artists, Arts-based Practice, Pre-service Teachers, Identity and Difference, Mindful 'Creativity'

> If human activity were limited to reproduction of the old, then the human being would be a creature oriented only to the past and would only be able to adapt to the future to the extent that it reproduced the past. It is precisely human creative activity that makes the human being a creature oriented toward the future, creating the future and thus altering his own present. Vygotsky (1928/2004)

Introduction

Fostering 'creativity' in teachers' and children's visual arts education is important and should be highly valued (Eisner 2006; Robinson 2006, 2010; Wright 2010; Gibson and Ewing 2011; Charadia 2003). It is essential pre-service teachers know how to identify 'creativity' by firstly recognising it within themselves and then having the capacity to teach children. Mindfulness in 'creativity' exists on the assumption that uncertainty gives us the freedom to discover new meanings in life (Langer 2006). This research is concerned with the two ways Vygotsky (2004) suggests 'creativity' changes and creates meaning in our lives. For instance, one form of 'creativity' can be represented as repetition experiences that reproduce the past while the other form of 'creativity' is oriented towards the future. According to (Dunoon and Langer 2011) mindful 'creativity' has dynamic qualities with the power to explore uncertainties that can reveal multiple perspectives during an activity. One of the main challenges of this research was how to foster 'creativity' mindfully in pre-service primary teachers so they can identify and experience 'creativity' during visual arts practice and then apply these new understandings in the classroom. The paper is divided into three sections:

1. The first section discusses the literature review, theoretical framework and investigates some learning approaches that incorporate a community of practice

COMMON GROUND

80

model and a conceptual framework designed to support teachers' self-confidence in visual arts education.

2. The second section introduces the arts-based research inquiry methodology, using a multiple case study method based on first nation Aboriginal arts and culture.

3. Finally, the paper explores a new approach to pre-service primary teacher-training education using a community of practice model through intercultural artist-led 'hands-on' workshops. Some preliminary findings from the mixed-methods approach are discussed. These findings revealed some of the necessary capabilities required to foster 'creativity' in pre-service primary teachers.

Literature Review

This research project builds on the International Council of Museums: Cultural diversity charter (ICOM 2010), which aims "to foster creativity by finding challenging approaches to stimulate inclusive heritage consciousness in culturally and linguistically diverse museums contexts" (1). The International Council of Museums: Cultural diversity charter (ICOM 2010) was developed from the guiding principles and recommendations made during the establishment of the Cultural Diversity Policy Framework (ICOM 1998). The framework addresses:

> a wide cross cultural dimensions through intercultural and intergenerational dialogue, and in developing inclusive approaches and guidelines as to how museums [and art galleries] should endeavour to deal with cultural diversity and bio diversity (ibid).

The relevance for this study is that museums and art galleries are optimal places for building creative partnerships and can offer professional expertise and practical support to pre-service teachers during their university training in the Arts. Quality training of pre-service teachers in the Arts has continued to challenge both the university and school sectors. In Australia, the national teacher-training education organisation, the Australian Curriculum Assessment and Reporting Association: *The Shape of the Australian Curriculum* (ACARA 2011) points out their concerns that "the important role of teachers in the delivery of Arts education is underrepresented and the definition of aesthetic knowledge needs to be strengthened to include areas such as personal, social, historical and cultural analysis of each art form" (4). This means further support is needed for pre-service teachers, delivery of Arts education both during their university teacher-training and practicum experiences in schools. According to ACARA (2011) teacher education programs also need to operate cross culturally to,

> …ensure that Graduate Teachers have knowledge in applying culturally inclusive practices in relation to curriculum, classroom teaching and assessment and develop strategies for the establishment of partnerships with Aboriginal parents and communities for the education of Aboriginal students (NSWIT 2008).

The National Aboriginal and Torres Strait Islander Education Policy 'Closing the Gap' program (ACARA 2009) works towards developing educational outcomes between Indigenous and non-Indigenous Australians through Reconciliation programs. One way this is implemented is by bringing Indigenous education into schools and by focusing on developing safe and effective creative and collaborative learning environments (Irwin 2012). In this paper, this concept has been explored through a community of practice model (Lave and Wenger 1991; Wenger 2000). The community of practice model links cultural connections through the visual arts and brings people together from across the globe. Australia belongs to the Asian-Pacific Region and a national objective of the Australia government as expressed in the Asian Century White Paper (Australian Government 2012) is to build stronger cultural connections by developing deeper understandings and cross cultural appreciation. Working on the premise that

through people-to-people contacts links are forged through arts and culture and these dynamic links expand in educational training, economic and market opportunities. The National Cultural Policy: *Creative Australia (Australian Government 2013)* affirms the centrality of the arts to our national identity as well as to the social cohesion and economic success of the nation. This new policy centers on building capacities through cross cultural inclusive practices through the Arts. One important development highlighted in the policy centers around Indigenous art and culture:

> …the fundamental place that Indigenous culture holds in the Australian story and the deep responsibility that bears upon our nation to nurture and promote Aboriginal and Torres Strait Islander people's cultural expression. (Australian Government 2013, 2)

In order to develop cross cultural inclusive practices in this research, a case study approach (Yin 2009; Stake 2010) was adopted using intercultural artist-led 'hands-on' workshops as creative spaces where pre-service teachers could express their 'creativity' through various visual arts forms. Creative partnerships were established between pre-service teachers, creative arts educators, academics and local urban Australian Aboriginal community-based artists. Harrison's (2011) research found many teachers were not familiar with the different forms of Aboriginal arts and culture. This is a significant finding as Aboriginal people often regard paintings as the literature of the Aboriginal people. Making content relevant, purposeful and connected to the lives of Aboriginal [and non-Aboriginal] children should be an important outcome in teacher-training education (Harrison, 2011). One of the creative partners, Australian Aboriginal elder-artist, Jeffrey Samuels, a foundation member of the Boomalli Aboriginal Artists Co-operative in Sydney, agrees with Harrison's findings(Samuels 2011). He adds that many non-Aboriginal people do not seem to be aware of the diversity and innovation of Aboriginal cultural art forms. . This sentiment was further echoed by the master educator on this research project who found, during her five years of university teacher-training experience, that 90% of pre-service primary generalist teachers were under the impression that Aboriginal 'dot' painting was the only form of Aboriginal art (McLauclan 2011). During the pre-service teachers praxis sessions at local primary schools, she observed the teaching of Aboriginal arts and culture was usually conducted on class worksheets and without consultation with local Aboriginal artists. This means that many children think Aboriginal art is 'dot' painting and they have not been given the opportunity to experience the richness of this form of creative expression from the traditional owners.

Theoretical Framework

In an attempt to 'close the gap', a case study was developed to investigate pre-service primary teachers, limited understanding of Aboriginal arts and culture. This was carried out by making connections between the socio-cultural settings visual arts and the individual. For instance, a supportive community of practice was established and intercultural artist-led 'hands-on' workshops were designed to open up creative possibilities and deepen understanding of the diversity of Aboriginal arts and culture. This type of intercultural approach develops our critical awareness of the culture embedded in language, arts and culture, which operates within, and shapes communication (Moloney 2010).

The community of practice model (Wenger 2000; Lave and Wenger 1991) explores how visual arts practice responds and interacts with 'creativity' in new and diverse ways. Wenger argues for a new kind of organizational design, one that involves informal gatherings of people who are passionate about an issue such as the visual arts. Smith (2009), describes how a community of practice could look:

> Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour: a tribe learning to survive, a band of artists seeking new forms of expression…In a nutshell: Communities of practice are

groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.

The idea of establishing a community of practice model with cultural centres and creative partners such as artists, pre-service primary teachers, universities and the school community seems uncommon in Australia. However, there are a growing number of researchers who perceive creative partners and cultural centres as critical in enhancing visual arts teachers expertise. For example, Price (2010) highlights the challenges experienced by pre-service teachers in their search for suitable visual arts support both in and outside schooling. Another piece of relevant research was by the New Zealander, Bowell (2010). Bowell developed a model of community of practice for pre-service teachers to work collaboratively with experienced artists in non-school settings such as cultural centres (Bowell 2010, 2012). These cultural centres became the ideal places to support primary school teachers' confidence in a range of integrated curriculum pedagogies. The preliminary results from these studies found that early career primary visual arts teachers gained higher levels of confidence in teaching after being systematically supported over a two-year period of time. Bowell (2012).

Another approach to using the community of practice model in teaching and learning about visual arts education outside schooling is that of the TATE Modern Gallery in London. The TATE Modern has been working with established cultural communities of practice through artist-led workshops for the past few years. The aim of the workshops is "to explore possibilities for teaching and learning through the creative arts such as action, film, installation, participation, speech-based events and performance" (TATE Britain 2012; TATE Modern 2012, 2). The role of the workshop is to enable teachers to build their confidence in visual arts education while working in collaboration with diverse cultural communities. This community of practice model operates under the guidance of educational and curatorial staff in the internationally renowned TATE Modern, TATE Britain and TATE Liverpool galleries (TATE Modern 2012). They collectively found in their research that, when they placed the artists central to learning, the children and adults tended to foster their imagination and 'creativity' in culturally safe and aesthetic learning environments. The strength of these arts-based programs is they bring teachers together from across the globe to participate in free culturally-inspired creative spaces. These informal creative spaces are not subject to the pressure of testing regimes and the demand for quick results such as those of the various school-based national testing regimes currently sweeping the Western dominated world (TATE Modern 2012). These arts-based programs are universally designed for all audiences including teachers with children who require additional support needs within the primary, secondary and tertiary learner environments. The main aim of these workshops is to support the teachers' confidence in planning their own school activities. Innovative approaches to learning are explored and practical ways to support teachers' own 'creativity' are encouraged. The senior curator at the TATE Modern gallery said the benefit for teachers working collaboratively with creative partners in communities of practice is that novice teachers can comfortably work alongside established artists, educators, curators and resource experts (Wade-Leeuwen 2012). These professionals value the learning experience and generously give their time and professionalism to support both pre-service and in-service teachers and "spend time together in a creative cultural space, within a framework that suits their needs"(TATE Britain 2012; TATE Modern 2012, 1).

The TATE Modern Gallery artist-led workshops use arts-based practical sessions that operate both within and outside the teachers' country of origin. The workshops are accompanied by specially designed creative and visual arts packages for teachers to use in class lessons. Each participating school in these programs collects a resource package consisting of aesthetic and found objects and an instructional booklet. This resource has been universally designed by artists to fit into an A5 size package so that it is easily reproduced and manageable in informal scenarios. The costing is generally covered by the creative partners within a community of

practice or by associated local industries. The creative industries may consist of members from the local hospital, insurance company or banking industry. The TATE Modern Gallery's community of practice relies on new media technologies to disseminate knowledge via its virtual online presence. New career pre-service teachers are encouraged to tap into the vibrant online community and synergize with the vast array of international educational experts involved in the creative process.

The previous section of the paper explores how different communities of practice models are being used in visual arts education in both New Zealand and the United Kingdom. However, the model does not seem to be systematically applied in Australia. One reason for this could be that Australia has traditionally been separated into state and territory based curriculums without a united approach to the Arts. Currently in New South Wales (NSW), the pre-service primary generalist teachers deliver the Creative Arts curriculum through the domains of Dance, Drama, Media Arts, Music and Visual Arts. These strands of the Creative Arts program span kindergarten to grade six (Board of Studies 2000). The teaching of Aboriginal cultural dance, drama or other performative and visual arts are strongly encouraged and the classroom teachers are expected to collaborate with elders from local Aboriginal communities (Charadia 2003). The visual arts syllabus involves the making of and appreciation of art through visual art forms such as drawing, painting, sculpture, printmaking and new media technologies. The role of the teacher is to encourage children to develop competencies in learning new understandings, skills and knowledge in the making and appreciating of the arts including working closely with Australian Aboriginal cultural communities (BOS 2000, 11). However, the literature reveals that this is not always possible (Davis 2008) probably due to socio-cultural restrictions. For instance, teachers are already working within an overloaded school curriculum and trying to make connections with local Indigenous artists in the community is often too demanding in terms of time, effort and communication skills.

The NSW visual arts curriculum for kindergarten to secondary schooling (Board of Studies 2003) seeks to enhance children's understanding of historical cultures and contemporary art from the perspectives of the artist, world, audience and artwork. This conceptual framework is applied as a visual tool to help children understand the scope and depth of the Arts. It is designed to frame aesthetic and emotive knowledge from the past through the ages to contemporary times (Hulsbosch, FitzGerald, Guihot, Randall and Wade-Leeuwen, 2008These four agencies establish the boundaries of the art world so children can develop their knowledge, understandings, skills, values and attitudes in making and responding to the Arts (BOS 2000, 10; Hulsbosch 2008).
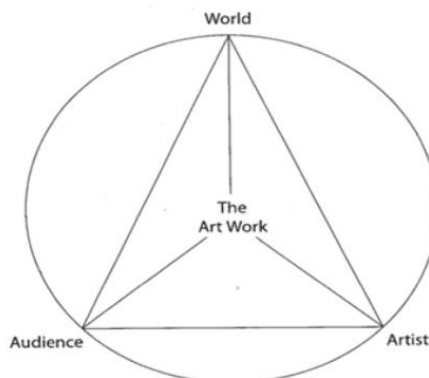
Figure 1: The Conceptual Framework in the Visual Arts Years 7–10 Syllabus (BOS 2003, 22).

The new Australian curriculum: *The Arts Foundation to Year 10* (ACARA, 2013) "aims to develop children's: creativity, imagination, aesthetic understanding and critical thinking and arts practices with increasing self-confidence through engagement in making and responding to artworks" (1). There are two main components: making and responding to the Arts. The making

component is seen as a creative activity where children use innovative arts practices and emerging technologies to express their ideas and develop empathy with multiple viewpoints. The responding to art component occurs when children develop their communication skills and knowledge through the "valuing and sharing of experiences, representing, expressing and communicating ideas about their individual and collective worlds to others in meaningful ways" (ACARA, 2013, 1).

Methodology

The methodology use in the study was arts-based research inquiry (Barone and Eisner 2012) and data was gathered using a mixed methods approach. The methods used were questionnaires, participatory observations, critical friends groups and semi-structured interviews. The semi-structured interviews were analysed using Adaptive theory (Layder 1998) building on elements from constructivist grounded theory (Bryant and Charmaz 2007). These methods were chosen because they do not distinguish between different ways of knowing. Thus the theory and practice and the non-discursive material could be analysed in a flexible yet systematic manner. The underlying assumption is that, by using both quantitative and qualitative methods, the research will gain a deeper understanding of the research problem which focuses on how to foster mindful 'creativity' in visual arts practice. This study incorporates multiple case study techniques to document and explore 'creativity' changes then adapts these new knowledge perspectives to generate future educational practices (Freebody 2003, 85).

The project emerged out of Eisner (2006) argument for the case that research is a creative activity that takes place in the arts and not just in the sciences. A multiple case study approach (Stake 2006, 2010; Yin 2009) was used consisting of two case studies. Case study one, 'Linear Motion', was an investigation of Chinese language, art and culture. Case study two, 'Bwo-me' meaning (Life's Breath) in Aboriginal Dharug dialect (Foley, 2010), explores 'creativity' through an investigation of traditional rock art and contemporary Aboriginal art and culture. The 'Bwo-me' case study consisted of two hundred pre-service teachers in their third-year of study in the Creative Arts teacher-training education program held at a Sydney-based university during 2011–2013. The research setting consisted of twelve intercultural artist-led 'hands-on' workshops under the direction of the studio leader (author-artist-researcher). The 'Bwo-me' case study strongly aligns with the principles taken from the International Council of Museums (ICOM, 2010) in that it encourages learning about diverse global art and uses intercultural practices to achieve these outcomes. For example, the main purpose of the workshops was to explore 'creativity' through a variety of visual arts forms inspired by Aboriginal arts and culture. The pre-service teachers were encouraged to develop multiple perspectives on 'creativity' by working with reproductions of the past and creating new imaginary responses for the future.

The research involved intercultural artist-led 'hands-on' workshops that were conducted at the university studio space and also off-site at a local Arts Centre. The off-site workshops were supported by a grant gained from the local council. The grant was specifically designated for creative partners who facilitated the passing on of traditional knowledge to a variety of audiences. The creative partners came from three local arts centres two were Indigenous and one non-Indigenous. This segment of the research will be discussed in another paper.

The Creative Process

The pre-service primary teachers were able to unpack meaningful elements from a variety of Aboriginal arts and culture. The study draws on the UNESCO four pillars of learning principles (Delors Report, 1998). Thus the creative process consisted of four ways of learning. The first phase involved 'learning to know' through art appreciation. The second phase was 'learning by doing' through 'hands-on' workshops. The third phase was 'learning to work together' by

evaluating the artworks from the workshops and the fourth phase was 'learning to be' which became evident from the post-workshop interviews.

Art Appreciation: Learning to Know

Firstly, 'learning to know'. This is where the pre-service teachers were introduced to the founding members of the Sydney Boomalli Aboriginal Artists Co-operative (Boomalli) by viewing the video on the 'Boomalli Five Koori Artists'. Secondly, they visited an exhibition of Indigenous artists held at the Boomalli Co-operative with local elder-artist, Jeffrey Samuels. During this unique and engaging encounter, Samuels expressed his feelings about Reconciliation and the importance of the arts to society (Samuels 2011). He explained about the difference between contemporary and traditional Aboriginal approaches to arts practice and briefly talked about the various techniques and processes being used in his work and by other artists in the exhibition. The pre-service teachers gained insights into the multiple perspectives and expressions that can be present in visual arts practice.

Figure 2: The Bwo-me (Life's Breath) Case Study 2011–2012

Figure 3: Artwork: "The Dancer," 2011 by Jeffrey Samuels

Intercultural Artist-led 'Hands-on' Workshops: Learning to Do

The second phase, 'learning to do', took place through the intercultural artist-led 'hands-on' workshops held at the university studio space. The creative process was divided into two types of creative action. The first type which Vygotsky (2004) referred to as reproductive or mimetic activity repeats previously mastered patterns in the artworks. This is when our actions do not necessarily create anything new, but rather we take part in a form of repetition of something that already exists such as a technique or method. The second type of 'creativity' combines two or more fantasy forms. It occurs when our imagination draws out our own ideas from within. Thus these artworks are not based purely on reproductions of the past. This research draws on both types of 'creativity' to stimulate the pre-service teachers' artistic expression. This was done by allowing opportunities for reproductions of past experiences stimulated by aesthetic elements from Aboriginal arts and culture and the second type of 'creativity' was a more personal response to the aesthetic stimulation. Central to this research was the concept of strengthening the pre-service teacher's belief in his or her own capacity to access 'creativity' and imagination. This was initially planned by using universal design principles that were mindful of ergonomic, accessibility and inclusivity considerations (Piscitelli and Weier 2002). The pre-planning of the workshops environmental space requires experience, reflexivity, and visualization (Wade-Leeuwen 2010a; Wade-Leeuwen 2010b; Wade-Leeuwen 2011).

In the Bwo-me case study, the participants were exposed to a variety of aesthetic materials and processes such as drawing with charcoal and slate, learning skills such as different ways of print making: mono prints, silkscreen and experimental printing. The participants also learnt how to draw out their imagination through the use of cultural narratives.

Figure 4: Participants Drawing from Imagination and Memory in 'Bwo-me' Workshops

The Travel of the Bogong Moth

The narrative about the travel of the Bogong moth was based on a true story that has been told by artists in the Canberra regional area. Elements of the story are described below.

The Travel of the Bogong Moth

The narrative about the Australian 'Bogong Moth' traces the travels of the Bogong moth from far north Queensland during migration in the late summer to the Canberra area. They fly in large hordes through our nation's capital and each year gets stuck in the air-conditioning units in new Parliament House because it was built on the Bogong moth's travel path. Those that free themselves continue their migration path up into tight crevices in the Snowy Mountains area. It has been reported in the early documents of Aboriginal history that Bateman's Bay Aboriginals were reported leaving the Snowy Mountains with shiny skins and well fed bellies due to the protein from the roasted Bogong moths.

After the participants listened to the Bogong moth narrative they were given drawing, printing and sculptural materials and expressed their impressions while listening to Aboriginal music as they worked. Minimal instruction was given during the art making sessions to allow a creative space in the environment for participants to connect. It is interesting to note that the spatial relationship between different symbolic marks in each artwork were different for each participant showing how their individual responses reacted to the aesthetic materials which in turn, allowed their inner artist-self to surface.

Figure 5: Pre-service Teachers Inventing Creative Responses in the Workshops

Figure 6: Learning New Printmaking Skills with Local Aboriginal Elder Artists

The image above was a demonstration work for the workshop participants based on the rhythm of an Aboriginal dancer.

Student-made Artworks: Learning to Work Together

The third phase 'learning to work together' occurs when the pre-service teachers use the conceptual framework and the four agencies of world, artist, audience and artwork. This is a

process of learning to work together by thinking of themselves as artists and considering the artist's relationship to the audience, world and artworks. This concept of learning to work together became clearer when evaluating the artworks produced in the workshops. The assessment of the artworks was done through a collaborative process of audiences choice (Wade-Leeuwen 2011). The artworks and portfolios were displayed around the studio space and, operating as audience, the pre-service teachers moved around the room choosing artworks that emphasised certain aspects of 'creativity' such as uniqueness, fluidity, flexibility, elaboration, humour or avoidance of premature closure (Torrance 1974).

An example of this evaluation process was when the studio-leader asked participants to respond to artworks that demonstrated mindful creative play and free expression. The participants were encouraged to gravitate towards those works, which had best achieved that criterion. This was followed by an engaging open discussion reflecting on the similarities and differences of opinions on the artworks. Placing the artists central to learning tended to fostered their imagination and 'creativity' in this culturally safe and aesthetic learning environment. The four pillars of learning, learning to know, learning to do, learning to work together and learning to be (UNESCO, 1998) became an integral part of the achievement standards for the arts and an instrumental measurement tool for this project. Another way of achieving standards in the arts is through a portfolio of artefacts and artworks. The portfolio builds on the four learning principles by gathering textual documentation that reflects how these annotated artworks were produced during the creative process revealing the aesthetic, emotive and cognitive thought patterns present during the making of their artworks.

Findings: Learning to Be

The fourth principle is 'learning to be'. This is where the pre-service teachers express their attitudes and beliefs about what they have learnt during the intercultural artist-led 'hands-on' workshops. The preliminary quantitative results come from two hundred and thirty-six pre-service primary teachers' responses from both the third-year and fourth-year students. The results showed 80% perceive their prior knowledge of visual arts practice was limited before university instruction. The data analysis also showed 50% of the pre-service teachers felt competent in using visual arts practice and half of the cohort believed 'creativity' could be taught.

The preliminary qualitative results revealed pre-service teachers found the workshops to be valuable in the development of their own learning and self-confidence. Of particular importance was the notion of striving towards developing multidimensional perspectives on 'creativity' capacities by working with creative partners within a supportive community of practice. The other factor that impressed them was the cultural narratives told during the workshops which seemed to offer new ways of unlocking their 'creativity' and imagination. One teacher's response during the interview was:

> Since the workshop I feel a lot more confident. I feel I gained lots of confidence and it's encouraged me even to think, go further, beyond, to do more research. And hopefully I'll be able to adopt them in the classroom. (Participant interview 2011–2012, NM 21.10.11).

The research found an increase in pre-service teachers' confidence in teaching visual arts education. Another teacher voiced her opinions about teaching 'creativity' to children in the following statement:

> As a teacher …I would inspire children to be flexible, choosing the way they want to go, but focus on the theme, on the topic, or whatever we want them to express. Teaching children about different forms of art using different media, methods or processes. But

being flexible and giving choice to the children. Use 'creativity' and creative thinking and recreating something. (Participant interview 2011-2012, BK 11.11.11)

The workshops assisted in developing their understandings about what fostered and what inhibited 'creativity' in schooling. A typical response was:

It's just-too many rules, too many boundaries. There's a lot of emphasis on technique and skills and I think that's important. I think that should not be the main objective, whereas I think that can hinder the way a person expresses himself or herself because they're too conscious of the restrictions. …There's just not a lot of importance placed on Art or the Creative Arts. A good example of this is the NAPLAN-standardized testing. (Participant interview 2011-2012, JK 25.10.11)

These findings point out the perceived restrictions pre-service primary art teachers are finding when learning about different visual art forms and how to teach them to primary children within the schooling system. There appears to be a correlation between what the pre-service teachers are expressing through their attitudes and opinions about their need for support in visual arts education and what the Australian government perceives as the role of teachers in the arts (ACARA 2011). However, the preliminary findings supports the literature review which indicates the pre-service teachers generally lack the self-confidence to express themselves creatively and this is an issue that needs further investigation.

The fundamental premise of the intercultural 'hands-on' workshops is that 'creativity' is a decision that anyone can make. Sternberg (2006) believes few people actually do make the decision to be creative because they find the costs to be too high. In other words, educators, academics, parents, children and the broader community need to invest time and effort into the creative process if they are to achieve any depth of understanding in The Arts.

Conclusion

As highlighted in the literature review, researchers, artists and educators have found the arts provide rich opportunities to extend our senses, imagination, emotions and aesthetic capabilities. This paper highlights the inter-relationship between the individual, visual arts and the socio-cultural context of this study by establishing arts and cultural communities of practice. The 'Bwo-me' (Life's Breath) Aboriginal art and culture case study used intercultural 'hands-on' workshops as the ideal space to support pre-service primary teachers' confidence in a range of integrated visual arts curriculum pedagogies. The preliminary findings showed when pre-service primary teachers are mindful about making connections with other cultural experiences, they develop common understandings of how multiple perspectives on 'creativity' in visual arts might be interpreted both collaboratively and individually. Finally, the findings indicated there are necessary dispositions needed to foster 'creativity' in visual arts education and without these dispositions evident, 'creativity' is unlikely to occur.

Acknowledgements

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ABOUT THE AUTHOR

Bronwen Wade Leeuwen: Bronwen Wade Leeuwen was born in Sydney. She has a Diploma from Nanyang Academy of Fine Arts, Singapore. Wade-Leeuwen (Lewis, van Leeuwen, Wen-chen) was a student of Chinese Painting at Nanyang Academy of Fine Arts (1972–75). Wen-chen was invited to Taiwan as Artist-in-Residence in 2003 and 2005 where she studied Chang Da-qians works and the works of other Tang dynasty masters at the Taiwan Palace Museum in 2005. (Wen-chen's original painted scrolls can be viewed from the artist on request). She has extensive international experience in the study and creation of art works and the teaching of art.

4.3   Publication 3 (Case Study 2: Working with Chinese Shanghai artists) – Fire, ink and play: Developing 'creativity' for lifelong learning

Creativity is important in education and is best nurtured by the educators, but to nurture that ability the educators need to understand their own creativity. They have to be willing and able to experiment with a 'spirit of play', using new methods of creative expression and to explore ways to bring inner abstract concepts out and make imagination alive. But how will we know what changes have occurred during workshops? And what are some individual differences experienced with material exploration during the workshops? Publication 4 attempted to answer this by focusing on three sequential chapters. The first chapter dealt with the theoretical background of creativity and its relationship to the mind of the individual. Theoretical point of views of Sternberg (1999), Eisner (1972), Brook (2002) and others on creativity and how an individual exhibits or portrays their creative spirit on canvas/media are discussed here.

In the second chapter, the article explains about the experiment of using a cross-cultural arts-based method as a meaning-making and communication tool. Pre-service teachers took part in the experiential research on understating creativity and enabling themselves to allow their creative spirits to release through participatory and reflexive arts pedagogies. They were encouraged to observe how this performance was done using a pre-recording of how the third-dimensional artwork 'Gushan' 孤山 was created, first through calligraphy in books, which were then set on fire and then re-created out of ash. Following this, the artists explored the medium, and then they discussed, critiqued and reflected on these creative and artistic experiences. This art appreciation process through reflective practice was done before and after the practical sessions. In the final chapter, the article depicts Wang Tiande giving an in-depth interview with the researcher on the above-mentioned aspects of creative expression, along with his personal experience on being creative. Overall, the article indicates the possibilities of encouraging learners to be creative in an academic atmosphere created by the educators.

(Please refer to the following 13 pages)

Fire, Ink and Play: Developing 'Creativity' for Lifelong Learning

Bronwen Wade Leeuwen, Macquarie University, NSW, Australia

Abstract: The 'Fire, Ink & Play' Workshop provided an opportunity for preservice teachers to participate in a cross-cultural arts-based program. It also provided the preservice teachers with a safe environment where teachers could open spaces for 'creativity' to exist and be encouraged in a 'spirit of creative play'. This approach to 'creativity' requires an open and risk-taking attitude but it has the potential to develop personal characteristics such as flexibility, fluidity, elaboration and originality (Torrance, 1974).

Keywords: Creativity and Play, National Professional Standards, Critical and Creative Thinking, Local and Global Perspectives, Innovative Art-making Practice, Contemporary Chinese Ink Painting

T**HE AUSTRALIAN NATIONAL** Framework for Professional Standards for Teaching, (2010) states that graduates are required to develop:

> …critical and creative thinking and resources to engage students and draw on local, national and global content through virtual and/or real environments for their programs (2010, Item 3.4, p14).

Preservice teachers in the early childhood art education settings are expected to foster 'creativity' in the children they teach but for that to happen it is important they develop their own 'creativity'. During my experience of teaching on art-based programs in two different cultural settings, I came to see that the big question was how can 'creativity' be fostered in preservice teachers so that they can more effectively mentor 'creativity' in the children they teach.

Fielding (2006, p.28) aptly summarises the current level of professional development in preservice teachers art education by saying: "There is overwhelming evidence now, both theoretical and empirical, that mentor, tutor and other social factors have a profound influence on the level of creativity activity that is attained in the life of each individual." I argue that by nurturing a 'spirit of creative play' preservice teachers can open spaces for their own 'creativity' to exist. This will influence not only their own attitudes but in their role as teachers, stimulate children's artistic thoughts, imagination and actions (Prentice, 2000, p.145).

This paper addresses three issues. Firstly, it looks at the notion of 'creativity' and its relationship to a 'spirit of creative play' as viewed from different theoretical perspectives. Secondly, the paper explores how early childhood preservice teachers experienced a cross-cultural arts-based practice using Contemporary interpretations of Moku ink-splash methods as a meaning making and communication tool. The paper finally explores the artistic practice of Chinese Contemporary artist, Wang Tiande as a case study by investigating how he creates

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his artworks and perceives his own 'creativity flow' and this section of the paper is supported by an in-depth interview with the artist.

Notion of 'Creativity' & 'the Sprit of Creative Play'

In this context, the working definition of 'creativity' is adopted from Sternberg's *(1999)* definition:

> "The production of new ideas, approaches or actions" and furthermore, "creative individuals typically master a practice or tradition before they transform it."

What has emerged from the literature is that not enough emphasis has been placed on developing our imagination and understanding 'creativity' as a way of being, or existing (Eisner, 1972, Brooks, 2002, Wright, 2010). This paper attempts to explore ways of fostering 'creativity' in preservice teachers through cross-cultural arts-based programs that challenges preservice teacher's capacity to work with diversity. The conceptual framework draws from the philosophies and theories of educators at Reggio Emilia (Edwards et. al. 1998); Eisner's 'Typology of Creativity' (1972); Vygotsky (1978) scaffolding strategies; Brooks (2002) 'Drawing to Learn' research and Wright's (2010) 'Drawing and Meaning Making' research. This qualitative study uses action research methods and data collection was done through DVD footage taken during the project time, still photographs, observations, artists and teacher's conversations as well as reflective journals and portfolios of artworks.

The educators from Reggio Emilia see creativity not as a separate mental faculty but rather tending to emerge from multiple experiences, skills and a sense of freedom to venture beyond the known. They believe creativity expresses itself through cognitive, affective and imaginative processes which are complementary to ones intellectual capacities. In the Reggio philosophy, creativity requires connection between the school of knowing and the school of expressing thereby opening the doors to the hundred languages of children (Edwards, 1998, p.71). In this 'Fire, Ink & Play Workshop', teachers were invited to venture beyond their known realm into an imaginative cross-cultural space where they could express themselves.

In an effort to identify the ways creativity could be visualised in this Workshop, I adapted elements of Eisner's 'Typology of Creativity' (1972, p.216-219). The creative process was broken into 4 different domains. These 4 domains are: pushing boundaries, inventing, boundary breaking and aesthetic organisation. The typology is illustrated below in Figure 1.
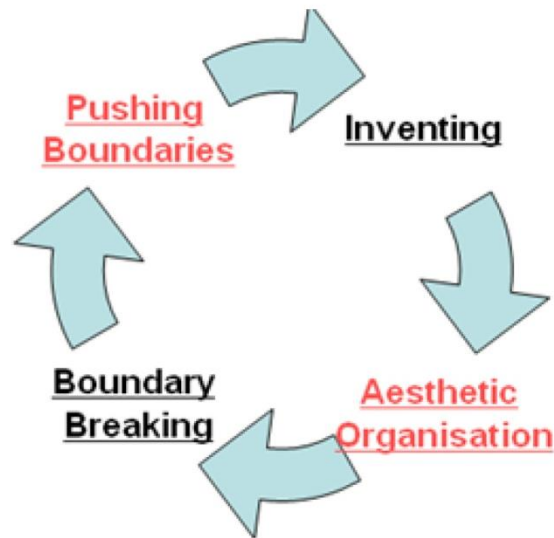
Figure 1: Elliot Eisner's 'Typology of Creativity' (1972, p.216-219)

Another theorist that has influenced the planning of the Workshops was Les Vygotsky. He argued that successful learning occurred when children were mentored by an adult towards learning things that they could not attempt without the assistance of an adult. He developed strategies such as scaffolding and coined this process the 'Zone of Proximal Development' (ZPD) which refers to the zone were teachers and children move past their present level of development towards new areas of knowledge. Vygotsky viewed learning and development as dialectical in nature on three interconnected levels. The first level is interactive, second level is structural and the third level is a socio-cultural level (Vygotsky, 1978, in Brooks, 2002). Brook's (2002) adapts a Vygotskian framework in her research by examining the relationship between thought & drawing and how drawing can function as a powerful tool for learning as illustrated in Figure 2.

•Theory: 3 interconnected levels:

1st level- interactive,

2nd level -structural

3rd level - socio-cultural

(Vygotsky, 1978, in Brooks, 2002).
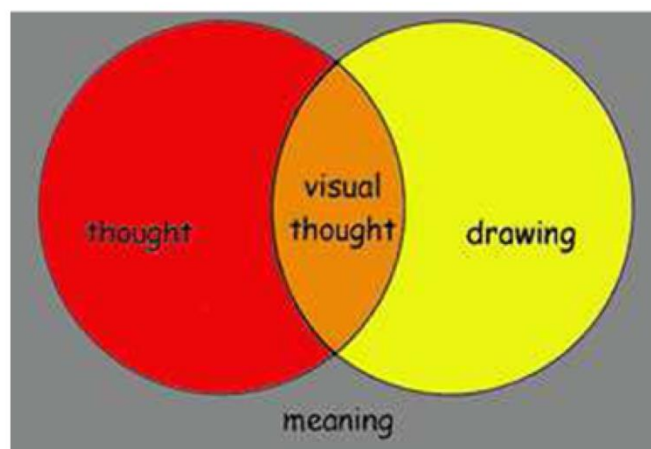
Figure 2: Brooks (2002 'Drawing to Learn' Unpublished PhD Thesis

Brooks (2002) says that her role as facilitator is "to provoke occasions of discovery through a kind of alert, inspired facilitation and stimulation of children's dialogue, co-action, and co-construction of knowledge." In a similar way, my role as facilitator of this Workshop was to show how calligraphic drawing can be used as a meaning making and communication tool to engage the senses and enhance one's imagination. This was done by exposing preservice teachers to of the ancient Chinese 4 Treasures of water, ink, stone and paper as a way of engaging them through these cultural materials. There were also small sensations of taste, smell, touch, auditory and visual senses. For example, the teachers were treated to the smells of sweat peach oils, Chinese pan flute music, tea to taste and Wang Tiande's artwork "Gushan" 孤山 to view before they commenced their own drawings.

The Reggio Emilia concept of "the spirit of play" is supported and valued in the 2009 Australian Government's Belonging, Being & Becoming, Early Years Learning Framework as a context for children's learning stating that play "Allows for the expression of personality and uniqueness and enhances dispositions such as curiosity and creativity" (p.9).

Wright (2010) agrees that the act of drawing (either manually or digitally), actually extends children's senses, imagination, emotions and aesthetic capabilities. She says that "Using play as the vehicle for their explorations, children selectively and frequently move from one mode to another to represent and re-present what they know most effectively" (Wright. 2010).

206

The Chinese Contemporary Artist, Wang Tiande

In the light of these influencing theoretical positions on this research, the second aim of this paper explores how drawing can be used through a 'spirit of play' as a meaning-making and communication tool. The model for this comes from a case study of a Contemporary Chinese artist, Wang Tiande. Wang is a Professor at Fudan University in Shanghai and combines a 'spirit of creative play' with elements of traditional Chinese calligraphy in order to create new and innovative approaches in his artwork. Wang Tiande has spent many years mastering the practice of traditional Chinese calligraphic drawing before transforming it into a new contemporary art practice. His idea of 'creativity' in this Exhibition was called "Gushan"孤山. "Gushan" 孤山 is a mystical mountain in the West Lakes District (西湖) of Hángzhōu 杭州. Wang first exhibited "Gushan" 孤山in both two dimensional (2-D) and four dimensional (4-D) formats along with other related works at the Sydney College of Fine Arts (SCA) during the 5th Arts and Society Conference in Sydney, 2010 and the Exhibition was jointly by sponsored by SCA and Contrast Gallery in Shanghai.

The first stage of the Fire, Ink & Play Workshop was to conduct an art appreciation session as an introduction to Wang Tiande's art practice. Teachers in the Workshop were shown how to interpret Wang's works. Of particular interest was "Gushan"孤山or mystical (lonely) mountain which is the home of the Xiling Society of Seal Arts (西泠印社). This direct access to the Exhibition gave the preservice teachers the opportunity to see how Wang developed these new and innovative approaches to the traditional practice of Chinese ink painting. Some new elements he included were digital mark-making on rice paper in his 2-D works and the use of fire and ash in his 4-D constructions of "Gushan"孤山 to create as Wang suggests "an impression of objects interacting"(Wang, 2010). In the interview at the end of this paper, Wang talks about how he strives to incorporate a contemporary element of play in his works. For example, he positions his work within the traditional 4 Treasures of Chinese Ink painting and calligraphy. However; rather than being restricted by this framework it challenges him to breaking boundaries and he continually invents new synergies. Like many contemporary Chinese painters and calligraphers today, Wang Tiande respects his traditional elders and the teachings of Confucianism and the classics. I was fortunate to visit Wang's recent exhibition in the "Open Flexibility: Innovative Contemporary Ink Art Exhibition" held at the Taipei Fine Arts Museum in October, 2009. The curator, Liu Yung-Jen, expressed:

> Artists use ink to express their thoughts and perceptions of actual experiences in their individual lives, and in the process of creating, face rigorous challenges. Foremost among these challenges is how to transcend the limitations of a traditional medium and use a single material in a dynamic way to create limitless variations (Liu, Yuan-Jen, Exhibition Catalogue, 2009-2010).

207

98

Figure 3 & 4: Preservice Teachers Exploring the Moku Method Using Traditional Chinese Materials as a Way of Unlocking Their Own 'Creativity'
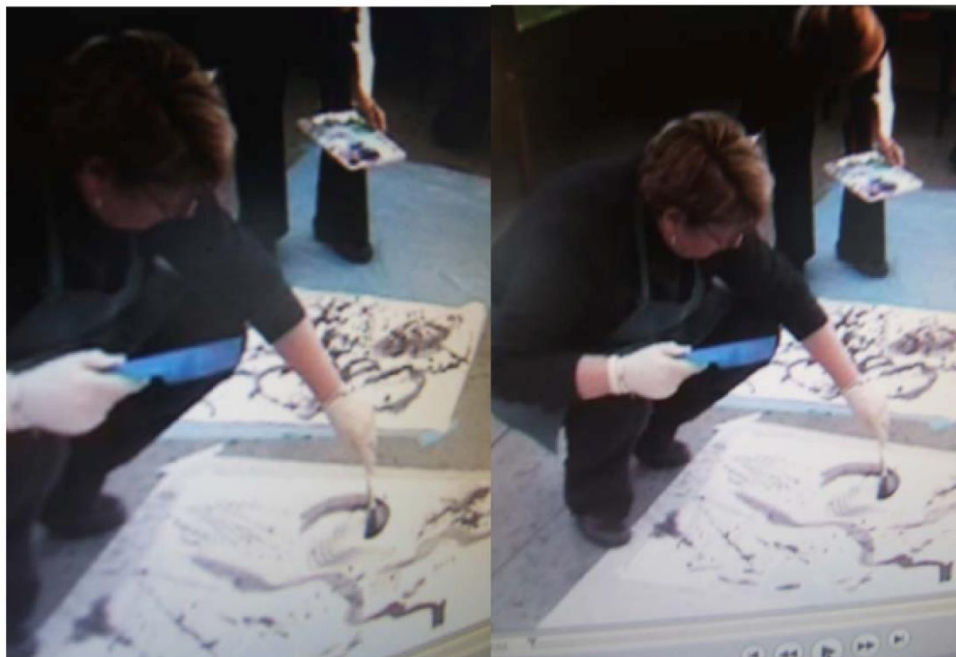
Figure 5 & 6: Preservice Teachers Inventing New Ways of Mark-making Using the Traditional Chinese Materials and Other Found Objects

'Creativity' and its Relationships to Reflexive Arts Pedagogies

The 'Fire, Ink & Play Workshop' was enhanced through participatory and reflexive arts pedagogies. The Workshop was especially designed to stimulate the ways preservice teachers developed their own 'creativity' in relation to thinking, practising and reflecting on their processes. They were encouraged to observe how others including artists and peers explored media, then discuss, critique and reflect on these experiences. Preservice teachers watch a pre-recording of how the third-dimensional artwork "Gushan" 孤山 was created first through calligraphy in books, which were set on fire and then re-created out of ash. The DVD showed Wang and his students burning the ancient calligraphy text books from the Xiling Society of Seal Arts (西泠印社) and then watched Wang reconstruct the ancient mountain by sculpturing the ashes into mountain shapes. After watching the DVD, preservice teachers were encouraged to reflect on their own thoughts and personal feelings about Wang Tiande's "Gushan" 孤山 installation. This art appreciation process through reflexive practice was done before and after the practical sessions.

The Moku Ink-Splash Method of Calligraphic Drawing

The practice session were designed to give the preservice teachers an opportunity to experience a studio environment under the direction of 'Atelieristi' (Edwards, 1993) or studio teacher. The main focus of this stage in the creativity process was to apply Eisner's principles of 'breaking boundaries' as a way of freeing up the preservice teacher's inhibitions and fears. The Moku method of ink-splash drawing (van Leeuwen, 2000) was first started in the fifth century in China and has emerged globally throughout the contemporary art world along with other new approaches to material art practice. In this Workshop, the Moku method consisted of the classical Chinese 4 Treasures (ink, stone, paper and brush) combined with a variety of found objects including sticks, bamboo whips and other mark-making tools. The Chinese brushes were tied to long bamboo sticks so that the teachers could draw from a standing position. Found materials such as twigs for scratching, sponges for stamping and sharp tools such as pointed sticks for incising marks were used on the Xuan paper. These play objects were deliberately introduced in a 'spirit of creative play' (Johnson, 2005, pp. 32-54) also because they were novel and 'out of context'. It is well documented (Eisner, 1972, Brooks, 2002, Wright, 2010) that children are already considered creative and when they are allowed to engage in mark-making processes, they often find they are inventing "a highly effective graphic language for exploring and thinking about their world" (Kolbe, 2005. p.13). In the same way, if teachers were encouraged to develop their own 'creativity' they also might develop their own personal graphic language as a way of exploring and thinking about their world.

During the preliminary part of the Workshop, the preservice teachers were encouraged to reflect and visualise an imaginary moment when they walked on the Chinese "Gushan" 孤山 mountain observing the smells and sensory stimulus surrounding them. They recalled these memories of present and past experiences, both real and virtual, in modern and traditional times, as ways of stimulating the conditions of the optimal 'creativity flow' experience (Csikszentmihalyi, 1990. p.6). While teachers were being encouraged to access their creative 'flow' they could hear sounds of crackling fire from the burning books in the background and classical Chinese pan flute music playing in the 'Atelier' (Edwards, 1993) studio space.

209

100

The next stage was to discuss the importance of the Chinese Three Perfections: 'calligraphy, painting and poetry', explaining that the calligraphic line was the most esteemed art form (van Leeuwen, 2000). Discussions continued on the traditional use of the 4 Chinese Treasures and how these traditional artefacts could be adapted into a contemporary practice using new and innovative methods of mark-making which has the potential to develop 'an effective [personal] graphic language' (Kolbe, 2005. p.13).

The final stage of this paper applies Eisner's concept of 'connoisseurship of art appreciation' (1998.p.63). It investigates how Eisner's theory on creating and critiquing art can be used to foster specific and unique aspects of cognition (Harris, 2003, p.1). Eisner points out that the extent to which the artist's creative imagination has been used in an individual's artwork can be highlighted through specific questions. These specific questions were asked of the preservice teachers in a collective group gathering after the arts-based Workshop and also during an interview held at a different time with the artist, Wang Tiande.

Some of the naturally occurring data came from the preservice teacher's experiential practice in the Fire, Ink & Play Workshop which was captured by video recording. However, other data was gathered immediately after the Workshop when the preservice teachers gathered together to discuss and reflect on their individual experiences and perception of 'creativity'. These thoughts have been documented below:

> "Feeling a little nervous, confident of creativity not confident of finished work but my love of drawing and more practice should carry me through!"

"Pensive-uncertain- getting excited & working fast- it's starting to flow, I feel wonderful and go again, I don't want to stop." Another student wrote:

> "Pushing Boundaries- Loosen up and relax, let the ink flow, think light and dark, go for unusual tools and experiment- exhausted!" She continues on to say: "These sessions are liberating my paintbrush and creative brain. A very enjoyable process!" "Thinking of environment and using my own fantasy as what it would feel like was the base of my drawing. The important thing was just to "let go" and use the ink and brush as expression".

Another teacher reflected on the process saying:

> "Yes, I need to be more creative in my drawing especially compositions. It may be a hurdle to let go of old methods but this is not difficult to contemplate. I am open to change in a number of directions and have the ability to attain the possible by extending the given. Moku is about going further…I found this exercise difficult as the ink process was too wet. NOT HAPPY—Lack of control and method. She goes on to say: "Feeling a bit freer. Found it difficult to "restructure the known"— I think this is the point that I would like to work from—the insight into the know—CHANGE."
>
> "Didn't like what I did today. I didn't (or couldn't) visualise what I wanted to put down on paper. Very tired today, my son was lost at sea for 2 days fishing with 3 other men. Engine failed and radio. I enjoyed the session but feel the painting reflects my mood."

Some of the preservice teacher's comments are described below:

These reflections by the preservice teachers on their actions showed that most of them opened up a space for 'creativity' and they had nearly all experienced a feeling of being 'in the flow' (Csikszentmihalyi, 1990). They seemed to cover a wide spectrum of emotions from a lack of confidence to ones of joy and a desire to embrace the changes that were naturally occurring. It would be fair to summarise that each preservice teacher felt their 'creativity' had been enhanced through a 'spirit of creative play' and free expression.

The interview discussed below with Professor Wang Tiande as part of a Case Study, was equally enlightening, especially when he intimately discusses how he accesses his own 'creativity flow'. Describing how he typically masters the tradition 4 Treasures before transforming it into a new 'creative' practice. Please note that this translation from Chinese to English focuses mainly on the essence of what the artist intended to say and is not a direct translation of his text. The Chinese characters have been included to allow for individual interpretations.

Figure 5: 'Gushan 2.' Artist: Wang Tiande, 2010. Illustrating the 4-D Qualities in These Innovative Ash re-Construction Sculptural Works

1）What are the ways in which creativity is displayed in Gushan?
《孤山》是通过哪几种方法去表现创造性的？
首先，《孤山》作为一种艺术采用了以数码照片集成的表现手段；第二，《孤山》以视频dvd的记录了对传统经典书法字体的焚烧过程，通过焚烧所产生的灰烬以及焚烧过程中留存的残片堆积成孤山的模拟的山的形态，再经过拍摄与后期的处理形成了一个新的现代书法的语境。

"Firstly, Gushan is created by establishing techniques such as photo manipulation and a collection of digital photos. Secondly, the DVD filming records the process of burning the traditional calligraphy writing (of Chinese characters) in order to produce the ash/fragments to replicate the shape of the mountain Gushan and lastly, by acquiring DVD shooting techniques and manipulation processes a new style of modern calligraphy is formed".

Figure 4: 'Gushan 3a.' Artist: Wang Tiande, 2010

2) To what extent does the work display inventiveness or novelty?
这个作品在多大程度上展现了独创力？

211

首先，这件作品改变了中国传统书法是以文字形式进入平面与立体的书法空间，它是以照片集成的模式对传统书法的经典技术与表现形态切入到新媒体的表现思维，通过这种思维很大程度上改变了单一的书法审美经验，与此同时，又体现了书法与网络社会所形成的互动的当代表现语言。

"Firstly, this artwork challenges the traditional calligraphy style by creating an illusion of the modern script transforming it from a 2-dimensional surface (2-D) to a three dimensional object (4-D). The uniqueness of this artwork expresses a new way of thinking through the idea of assimilating the traditional calligraphy technique into a modern technology medium. This artwork confronts our conventional way of evaluating the beauty of traditional calligraphy and at the same time, gradually affects its interaction with society".

Figure 5: 'Gushan 3b' Artist: Wang Tiande, 2010

3) How have you used materials in a fresh way?
你如何用新颖的方法应用了材料？

材料的选择是艺术家对观念语言的一种判断，选择以数字集成的照片形式本身在观念上让习惯于中国书法材料的表现视觉语言形成一种对抗，因而尽管视频dvd与照片这两种材料都不是新的、是当代艺术中广泛使用的材质，《孤山》选择了这两种材料是因为它选择了书法这种具有传统背景下的新的表现语言。不同的纸质以及视频空间，通过这种空间转换形成一种追忆中国传统书法的新的精神。

"The selection of art materials represents the artist's concept by applying digital technology to create a new form of presentation that contrasts with the traditional way of presenting Chinese calligraphy. DVD and digital photos are widely used for contemporary art; despite the fact that they are not recent (new) art materials. The reason for choosing these 2 types of art materials for Gushan is because they have the ability to express the background of the [Chinese] tradition as well as the spirit/characteristics of the Traditional Chinese calligraphy through the use of different paper types and DVD disk space (digital processes)".

Figure 6: 'Gushan 4' Artist: Wang Tiande, 2010

4）Do the works provide a sense of insight?
这个作品是否表达了一种深刻的见解？

《孤山》是中国进入21世纪以来对中国书法深度的思考，背景在于中国当代艺术在80年代中期以后一直形成主流文化并直接产生对中国社会现象的批判与介入，相对

212

而言，中国的书法艺术是由于其深厚的历史底蕴和民众的接受广泛性所形成的一种审美经验，然而这种经验在很大程度上束缚了书法的发展空间；同时，书法艺术对线条的高度要求以及传统经典的书法不可超越的文化与语言在很大程度上造成了人们对书法艺术再度产生新的历史高度的怀疑；再者，书法艺术本身注重汉字的结构与形式语言，这在一定程度上限制了其直接介入当下中国社会的表达方式。进入21世纪，新媒体技术的不断更新在很大程度上改变了人们书写的习惯，网络社会的虚拟状态也影响了人们对书写经验的反思，通过虚拟的书法形态表现对人们在新的书写方式以及信息接受的互动中产生了更具广泛的表现语境。

"Gushan has extended our thoughts about Chinese calligraphy in the 21st century. It provokes our way of judging the aesthetic beauty of the traditional Chinese print. In the mid-80s, the formation of the mainstream [Chinese] culture and the profound historical heritage have shaped our acceptance of this aesthetic experience. However, the expectation of the calligraphic line depictions is highly explicit which limits the potential of expanding the creativity of calligraphy. Additionally, calligraphy concerns not only the shape of the word character but also the style of language and this, at a certain level, influences the way it communicates to contemporary Chinese society. After stepping into the 21st century, the advancements in technological mediums have significantly impacted on people's calligraphy practice. Particularly with the use of simulating (or virtual) calligraphy people have been stimulated to accept of new [art representations] and how that reflects on their modern way of writing calligraphy".

5) Does it illuminate some aspects of the world or yourself that was previously obscured? 这个作品是否揭示了世界或者你自身的某些方面，而在此以前，这些方面是不被人们所察觉的？

《孤山》诠释了传统与当代的艺术问题，尤其是在中国高速发展的经济背景下存在的社会文化的价值观思考，在这样的时代背景下，中国传统的书画艺术面临着新的科技的所带来的一次转变思维的一种可能性。《孤山》以新的材质、新的表现手段以及通过这些手段所形成的观念语言揭示了中国传统艺术在当下新媒体网络时代形成的一种互动的表现手段，这种手段在一定程度上又会对一个决决大国的文化在经济发展过程中形成一种新的文化艺术样式，就我个人而言，《孤山》的产生是我自1996年《水墨菜单》后经过十年的创作努力对中国当代水墨的一种新的认识。

"Gushan enlightens some aspects of both contemporary and traditional arts. The rapid growth of the Chinese economy and the improvement in media technology has gradually revolutionised traditional Chinese art. Gushan incorporates software technology into traditional art practice to create an impression of object interacting. These techniques have initiated a new artistic culture. Since 1996, creating of my other artwork named "Shuimo Chaidan" – (The Ink Menu) which was 10 years of creative efforts - in my opinion, the making of Gushan allowed me to gain more understanding about the contemporary art of Chinese ink [painting]".

6）How have you produced a highly imaginative works that are technically competent? 你如何创作了具有高度想像力的作品，而同时这个作品在工艺技巧上也相当 湛？

第一，在个人的艺术背景下及长期的创作中不断寻求新的表现方式与观念语言；第二，关注新媒体技术与中国传统艺术中存在的可变的视觉形式语言，第三，对于中国书法线条的理解不仅仅限于书写性的表现手段，中国的书法线条的存在对于当下的艺术是一种全球的公共资源，在技术上充分利用数字新媒体技术的处理手段来不断转换视觉所产生的细微的接受能力。

213

"Firstly, it is important to discover your own personal artistic creativity and constantly seek various kinds of ways to present your concepts. Secondly, by focusing on the most updated media and traditional Chinese arts to identify any possibilities of modifying the presentation of the art work. Thirdly, Chinese calligraphy does not only focus on the depiction of lines, fully utilizing the digital technology for art manipulation which helps increase the audience acceptance of your artwork".

The 'Fire, Ink & Play' Workshop was an innovative way of using naturally occurring data to highlight how 'creativity' can 'flow'. The cross-cultural arts-based program was scaffolded in a way that optimised the teacher's own 'creativity' through exposure to new ideas, approaches and actions (Sternberg. 1999). This was done through an introduction to the classical Chinese 4 Treasures, Moku ink-splash methods of calligraphic drawing and exposure to Contemporary Chinese artist, Wang Tiande's 2-D and 4-D artworks. In conclusion, the paper demonstrates how early childhood teachers can open spaces for 'creativity' to exist through a 'spirit of creative play' and as a way of developing effective mentoring practices in their role as mentors of young children.

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About the Author

Bronwen Wade Leeuwen

Bronwen Wade-Leeuwen is a PhD student in Education at Macquarie University. She is particularly interested in how teachers apply 'Creativity with Play' in Art Education and how to engage student in diverse learning environments. Bronwen has been researching the concept of 'Creativity' in relationship to the early mark-makings found in the rock art of Indigenous peoples such as the Aboriginal Australians, Chinese and Hawaiians. Education: MA in Environmental Design, Grad. Dip., Adult Education (ART), B. Ed. Art Education, Diploma in Fine Arts, Nanyang Academy, Singapore. Professional Teaching Experience: High School, Primary and Early Childhood teaching, ITAS Tutor in Aboriginal Education, Aboriginal Art & Design, University Lecturer and TAFE teacher, Learning Research Assistant- Macquarie University, OTEN, Correspondence School.

4.4 Publication 4 (Case Study 3: Working with Singaporean artists) – Boundary breaking: Intercultural 'hands-on' creative arts workshops

Paper presented at the *Joint AARE APERA Conference*, Sydney, 2012

The contemporary Western education system relies more on objective measurements of students' abilities, aptitudes and other aspects than from a crucial one, such as creativity ability (Torrance, 1974). An innate drive can motivate an individual to be an inventor who is much needed for the society and development of sustainability. Educators can learn to imagine and generate creative solutions for young learners by thinking differently and breaking boundaries beyond their normal practice. Interestingly, in some Eastern countries, a growing importance is being placed on incorporating learning about creativity within school systems. It is assumed that prior to incorporating a new notion in the educational system, the effectiveness is needed to be tested, and it is simultaneously important to develop an educator's understanding and level of creativity, as well as who will actually be delivering the concepts in real-world settings.

In the process of understanding, to determine what changes occurred and the individual differences experienced with material exploration during the workshops, the following arts-based research inquiry was undertaken. The inquiry was to examine how an innovative approach to learning fosters creativity in educators and to identify pre-service teachers in their tertiary training. In Publication 5, a deeper discussion on the literature on creativity and prospective methods depicting the inner thoughts has been described based on the experiences of pre-service educators received in a 'hands-on' visual arts workshop guided through an innovative model. The 'Moku-chi' model progressed in five-phases: (i) Learning to know: Visualisation and imagination; (ii) Learning to do through material exploration; (iii) Learning to work together: Zone of Proximal Development; (iv) Learning to be: Provocateur; and (v)Art appreciation: Display and discuss the creative outcomes. The article presents intercultural art experience as a case study to demonstrate how the five-phase model can be applied to real-world projects within a CoP. This case study included a Singaporean professional artist who used old and new technologies to develop his art practice and inspire fourth (final) year pre-service teachers in their art practice during the studio-based workshops. The case study also examines responses from the participants during their creative and artistic experience.

(Please refer to the following 11 pages)

Paper Presented at the Joint AARE/
APERA Conference, Sydney, 2012
Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                 Contact Email: Bronwen.wadeleeuwen@mq.edu.au

BOUNDARY BREAKING: INTERCULTURAL 'HANDS-ON' CREATIVE ARTS WORKSHOPS

Bronwen Wade-Leeuwen
Macquarie University, Sydney

Abstract

This arts-based research inquiry applies innovative approaches to fostering 'creativity' in pre-service primary art teachers during their tertiary training. The main research question investigates how to foster 'creativity' in pre-service primary art teachers so they can better mentor the children they teach. I argue that pre-service primary art teachers can learn to imagine and generate creative solutions by thinking 'outside the box' and by breaking boundaries beyond their normal practice.

This paper is presented in the current Australian reductionist context where educational policy is centered on measuring student learning and neglects issues of context and social outcomes (Lingard, 2001; 2012). In contrast to this reductionist attitude, this research investigates how pre-service teacher's attitudes in the visual arts change as they are influenced by diversity in studio-practical intercultural 'hands-on' workshops.

The study is divided into three sections:

- The first section discusses the literature review and overviews of the research approach used in this study.

- The second section investigates the theoretical framework and introduces the studio-practice approach used in the study.

- Finally, the paper presents the Chinese art and cultural case study demonstrating how the new 'Mo-ku-chi' (*ink-splash and energy*) model consisting of four practical phases can be applied in the project.

Literature review

Cultivating 'creativity' and imagination in pre-service teachers seems to have been largely ignored in most of the Western world (Robinson, 2006; Sullivan, 2004; Wu, 2011). According to Sternberg and Lubart (1999) even the word 'creativity' was not included in the index of the *Psychological Abstracts* prior to 1950 and only 0.2% of published articles referred to it. It was not until J.P. Guilford drew people's attention to 'creativity' that it surfaced as an area of importance (Sternberg & Lubart, 1999; Torrance, 1981; Wu, 2011). Sternberg believes that 'creativity' is as much about a decision about life as ability and this study strives to unpack some of these issues relating to 'creativity' in visual arts education. However, surprisingly, in many of the Eastern countries there are growing importance being placed on bringing 'creativity' and imagination into people's lives. Contemporary Chinese artists are embracing new and old technologies (Wang, 2008; Wang, 2010) and learning about 'creativity' is becoming systemic in the school systems of Taiwan (Wu, 2011), Singapore, Hong Kong and Mainland China (Kam, 2009; Wade-Leeuwen, 2012). The main reason for this is the impact of new technologies "new technology creates many new industries, which require creativity to navigate" (Wu, 2011) and there has been a shift in the importance of creative economy, cultural and creative industries as a response to the global crisis. This is significant as sixty percent of jobs in the future have not even been created yet (Collard, 2011).

The other area of interest addressed in this paper is the impact of educational research on pre-service primary education. Lingard (2001) perceives pre-service teacher education as a complex, multifaceted, multidirectional phenomenon and, in visual arts education, factors such as pre-service teachers' prior knowledge, confidence to learn and teach in visual arts education and the balance

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Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                Contact Email: Bronwen.wadeleeuwen@mq.edu.au

between theory and practice within the tertiary and schools systems are all significant areas to be explored. Addressing some of these areas was a study conducted by (Hudson & Hudson, 2007) who examined Australian final-fourth year pre-service teachers in an Australian regional university and found that many of the pre-service teachers did not feel confident about teaching the primary visual arts syllabus and indicated difficulty meeting the often unrealistic expectations of the visual arts curriculum. Hudson and Hudson (2007) found that "Many believed they were less well prepared to discuss artists and their works" (p. 1). Their study found that many of the pre-service primary art teachers felt inhibited in inviting artists into the classroom and suggested that this area of inquiry needs further research.

Overview of research approach

This arts-based research inquiry builds on the works of prominent researchers Elliot W. Eisner, Manuel Barkan, Ralph Smith and Harry Broudy who promoted the values of 'hands-on' art education in the 1960s (Eisner, 1990). Eisner in 1962 looked at creativity as a form of enquiry and focused on the inter-relationship between the individual, the visual arts and the socio-cultural context. The arts aim at different outcomes compared to the social sciences, for instance, they are less concerned with critique or policy and more concerned with generating deeper understandings and making meaning from lived experiences (Cole & Knowles, 2001; Wedekind, 2004). Empirical and interpretative methodologies were used to gain insights into the experiential nature of this inquiry. This Arts-Based Research inquiry (Eisner, 2006) applies a mixed method approach to collecting data through a questionnaire, participant observations, semi-structured interviews and critical friends groups. The preliminary results from the initial quantitative questionnaire indicated these pre-service primary art teachers in third and fourth year generally do not feel competent to teach visual arts. Eighty percent of the two hundred and thirty-three participants' responses to the questionnaire indicated they had limited background knowledge and experience in visual arts. Another finding from the qualitative semi-structured interviews suggests that by applying strategies from the Reggio Emilia philosophy during the workshops, participants discovered visual arts could be both meaningful and valuable as both collaborative and individual processes (Edwards, Gandini, & Forman, 1998). These findings contribute significantly towards better understanding of a range of diverse and alternative learning and teaching practices that could be applied in a variety of settings.

Theoretical framework

Multiple case studies (Stake, 2006; 2010; Yin, 2009) were used including case study one: 'Linear Motion', an investigation of Chinese art and culture with final-fourth year pre-service teachers, and case study two: 'Bwo-me' (Life's Breath) (Wade-Leeuwen, 2013) which is an investigation of Aboriginal art and culture with third year pre-service teachers. The research question is how to foster 'creativity' in pre-service primary art teachers. The study takes place within the settings of practical studio-based workshops designed using a new 'Mo-ku-chi' model of 'creativity' (Wade-Leeuwen, 2010) that optimised environmental settings by working with artists in a cultural community of practice. Drawing on (Wenger, 1998; 2000) cultural community of practice model the project explores how 'creativity' can intersect between pre-service-teacher training, visual arts and the socio-cultural context. Wenger argues for a new kind of organizational design, one that involves informal gatherings of people who are passionate about an issue. The model of cultural communities of practice (Wenger, 1998; 2000) was seen as an ideal instrumental way of supporting pre-service visual arts teachers through the examples of diverse practicing artists who could discuss and demonstrate artworks from their own practice. Applying a cultural community of practice framework to the Linear Motion case study assisted teachers' achievements with meeting the Creative Arts and Visual Arts (Board of Studies, 2000; 2003) curriculums. As found in the research of Hudson and Hudson, (2007) pre-service teachers need to be exposed to artists discussing their works so that they

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Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                  Contact Email: Bronwen.wadeleeuwen@mq.edu.au

can gain more confidence in dialoguing with artists and inviting them into the learning and teaching environment. Working with artists also offered the pre-service primary art teachers the opportunity to unpack meaningful cultural elements that they can then apply to their own learning and teaching.

The studio-practice

Elliott Eisner (1972) said 'some say, "Creativity cannot be defined". The difficulty seems to come from the elasticity of this abstract noun and its multiple definitions. Therefore, this study adopts a working definition from (Sternberg, 1999) that 'creativity' is the production of new ideas, approaches and actions. This case study is based on Chinese art and culture and uses the 'Mo-ku-chi' model (2010) designed to elicit different levels of 'creativity' (Taylor, 1959) in intercultural 'hands-on' workshops. This research paper builds on earlier work conducted within this Doctorial study (Wade-Leeuwen, 2010; 2011; 2012; 2013). This paper will now discuss the new four phases model and provide some examples of how the model can be applied.

The first phase in the 'Mo-ku-chi' model of 'creativity' was about exposing pre-service teachers to the works of different artists from the critical friends group within an established cultural community of practice. Before taking part in practice in the intercultural 'hands-on' workshops, pre-service teachers were exposed to several different contemporary Chinese artists from Australia (Lo, 2010), Mainland China (Wang, 2010), Taiwan (Liu, 2009) and Singapore (Tan, 2011) who made up the critical friends group in this cultural community of practice. This paper will examine one of the artist's comments from the critical friends group. Assistive technology was used to virtually display the artist and his works during the workshops in an effort to connect the pre-service teachers to the broader artists world within a community of practice. During an interview conducted in 2011 with the contemporary Singapore researcher-artist, Tan Kian Por, he reflects on how he would use 'creativity' in relation to his own learning and teaching of visual arts.

Tan Kian Por was one of the artists that inspired the intercultural 'hands-on' workshops in this research. Tan Kian Por was born in 1949 in Chaozhou, China, and moved to Singapore in 1962. Tan along with his wife, Poh Bee Chu, and the author are all graduates of Nanyang Academy of Fine Arts, and are foundation members of the Siaw Tao Seal-Carving, Calligraphy and Painting Society formed in the 1970s. Tan has been a practicing artist for over four decades and works in Chinese calligraphy, poetry, painting and digital media as well as runs his own gallery and lectures at the Nanyang Academy of Fine Arts. He creatively blends traditional and contemporary elements, enjoying the innovative and interactive nature of new technologies. In 2001, Tan received the Cultural Medallion and Artist Award (2001-2010) for visual arts and his works are represented throughout the Asian-Pacific region. During 2011, the author conducted the following interview with Tan Kian Por in Singapore as part of her critical friends fieldwork research (Tan, 2011).

Paper Presented at the Joint AARE/
APERA Conference, Sydney, 2012
Breaking boundaries: Intercultural 'hands-on' workshops

Author Name: Bronwen Wade-Leeuwen
Contact Email: Bronwen.wadeleeuwen@mq.edu.au

鲁智深醉山门
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醉山门 伯平陈建欣
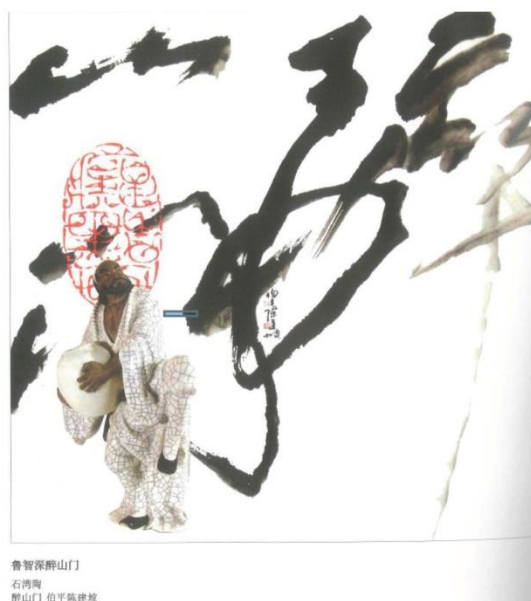
Figure. 1. Chinese calligraphy, artefact and seal carving by Tan Kian Por.

Workshop phase one: Interactions with artists

Below are five questions taken from the interview conducted between the researcher-artist and Tan Kian Por in Singapore (2011). The conversation was conducted in Putonghua (*Pǔtōnghuà or Mandarin Chinese*) with translations made into English by his wife, Po Bee Chu.

Question 1. Researcher: Do you think that creativity can be taught?

认为创作的能力能被教出来吗？

Tan (Translation):

> *Creativity is hard to be taught because creativity is your thought. We only can inspire because everyone's thinking is different. We can give the student some suggestion when they are doing the painting according to our experience to inspire their creativity.*

其实创作是很难教的，创作是你的想法。只能说是去启发他，因为每个人的想法都不一样。所以说以我们的经验来讲，当他作出一点东西的时候，我们可以告诉他你可以从哪个方面来进行。

Question 2. Researcher: What kinds of skills do you need to be good at visual art?

请问绘画这门艺术对于你来说，是需要何种训练，知识和技术才能画好？

Tan (Translation):

> *I think the tradition training is important. However, I also encourage the students to bring new ideas. Nowadays, people always emphasize creating new things, highlighting individuality. I think that students should have a good base of tradition painting skill and then add some new value to their works. But how do we find this new value? The answer is the artist need to be rich in history, feeling*

111

and individuality.

我很重视传统。可是我会要求学生有创新。现在的人动不动就要讲创新，动不动就要把自己个性的东西拿出了。我的想法是在传统的基础上有基础，然后又要有新颖。那么怎么创新呢？这需要画家富有有时代感和个性。

Question 3. Researcher: What knowledge or training is needed? 知识和技术才能画好？

Tan (Translation):

> *The academy should help the student to open their minds when training in the basic skill. For example, previously, people always said not to go and be creative when your basic skills are not good enough. Actually it should be like this, when they are doing the training they will consider the creating. So it is best to encourage them to open their mind of imagination.*

就是在训练他的基础上，又时常去帮助他打开想象的空间。比如，以前常常讲你的基础还没好，你不要创作。其实不是这样，其实在打基础的时候也会想到创作的问题，所以鼓励他们打开想象的空间。

Question 4. Researcher: What are some new ways to inspire creativity in yourself or in other people?

有什么新的方式去启发小孩子或者自己去创作？

Tan (Translation):

> *The way is actually a process of growing. Many things are like a process from complication to simplification. At the beginning, we would like to paint realistically, but when we experience more and getting old, you will know what you need to abandon and what you should treasure. I think that my way will become more and more simple in the future. My mind will just follow my heart.*

其实新的路是一个过程。很多东西都是从繁到简，开始的时候画的很真实，但当有了这个过程之后，你才懂得弃掉什么东西，保存什么东西。以前强调完美真实，随着时间多了，你的人生经验多了之后，你懂得放掉什么东西，保留什么东西。我想以后的路越来越简单。自己的想法成了主要的了，不会被其他东西牵着走。

Question 5. Researcher: What are three elements that surprise you when you are creating artworks?

在创作的时候，您对哪3样元素感到惊讶呢？

Tan (Translation):

> *In fact the artwork needs incentive. It needs some incentive to make you excited and encourage you to do it. I am a kind of person that always lives with passion. When I do the painting or the photoshop, there are a variety of different unknown things that give me incentive, make me feel excited. Those things help me to create the artwork.*

作画艺术，其实需要激情的，它需要有些东西让你兴奋，鼓动你去做。我这个人一路都生活在激情里面，我作这个创作也好，做这个电脑也好，因为有很多不同的，我不知道的，所以常常带给我激情，让我很兴奋，所以我的作品就这样创出来。

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APERA Conference, Sydney, 2012
Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                 Contact Email: Bronwen.wadeleeuwen@mq.edu.au

Workshop phase two: Visual thought and meaning-making

Engaging in discussion with the artist was a valuable way of starting the intercultural workshops in this case study. The case study then moves into its second phase in the 'Mo-ku-chi' model of 'creativity' where the participants are exposed to an imaginary narrative. The purpose of this narrative is to stimulate participants' imagination. This research segment is influenced by the Vygotskian framework and the works of Brooks (2002). Vygotsky (1962) proposed that it is in "word meaning" (p.5) that thought and speech join together to become verbal thought. It is through the practice of imagining and drawing that we can learn to understand children's thinking processes (Brooks, 2002; Narey, 2009). Vygotsky saw that there were two forms of meaning, 'meaning as abstractions' and 'meaning as personal contextualized sense' (Wertsch, 2000) and if teachers understood the difference between these two ways of thinking then they would be able to encourage children in their 'creativity'. Based on Brook's theory (Brooks, 2002; 2003) that drawing assists the movement from invisible to visible thought became the basis of phase two.

Figure 2. Title: 'Lonely Tune' artwork by the researcher-artist

This is a stimulus picture of a Chinese landscape where participants listen to music and wander through the mountains using their imagination. The teacher adds a few words to the picture, saying that in the landscape they can hear faint wind and running water.

In the second phases of the 'Mo-ku-chi' intercultural 'hands-on' workshop the participants focus on drawing out their own ideas and imaginings. An example of one of the participants' comments was:

> *One thing I've been doing so far is trying not to rely on my logic brain too much. Also painting and calligraphy are things that are all helping me to use my other physical senses, energy sense and spiritual sense. I had no clue where to start when I was first asked by you to do some spontaneous, some imagery paintings but then at the end of the session, I can see I have a passion to express my feelings, my inspirations at that time (NV4).*

Another participant commented on the value of interacting and reacting to other students' works:

> *I also think the opportunity to not just listen but to interact and react with the other students during a creative process and hear their ideas and things they have brought to that particular moment is quite*

valuable to one's teaching practice (NV5).

Workshop phase three: Let the materials lead you…

In phase three of the 'Mo-ku-chi' model the pre-service teachers are introduced to the Classical four treasures of Chinese painting including learning new skills such as how to hold the brush, breath while making strokes and how to mix Chinese ink in the traditional way with water, ink stick and stone (Jiang, 2001; Van Leeuwen, 2000). In this phase the participants focus on the power of drawing and mark-making as a vehicle for transforming thoughts into greater mental abilities, the joining of thought, language and drawing to make meaning (Brooks, 2002; 2003; Narey, 2009; Wink & Putney, 2002). Chinese ink washes on rice or mulberry paper and long sheets of drawing paper were the main medium used. The only instruction given at this phase was how to develop the skill of holding the Chinese brush. This phase started with the narrative told by the studio-leader and then the participants interpreted their own thoughts into visible images. Several works were created and then there was time allocated to discuss and compare the outcomes of their artworks with others. These interactions with others within a cultural community of practice provided a safe place for exchange of ideas and valuing others works.

One of the participants who had limited experience in visual arts commented:

> *I can say from my experience being a Sri Lankan person, you're taught that art is not important. And it's just an eye-opener like people need to be aware that art is just not drawing. It means so many different things, and how it can be integrated. It's so important you have to think about your different learners if you're a teacher, engaging your children with different abilities and, how you can use so many different forms, it's not just the four strands of creative arts that help the kids with everyday life (NV10).*

Figure. 3. Mo-ku ink-splash method allows the materials to lead you…
Pre-service students in the intercultural workshop using Chinese black ink, Chinese brushes on long bamboo sticks.

This third phase demonstrated how skills, imagination, aesthetic and emotive responses can be

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APERA Conference, Sydney, 2012
Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                 Contact Email: Bronwen.wadeleeuwen@mq.edu.au

valued and supported within a visual arts environment. The power of Mo-ku drawing and ink-splash painting for pre-service teachers and the children they teach is that it represents their thought processes in a schematic way and allows for these previously hidden images to become the centre for dialogue. Pre-service teachers shared the different interpretations and responses they saw during the workshops.

This third phase relates to the NSW Board of Studies (2000) Creative Arts (*Kindergarten to grade six*) syllabus which encourages teachers to model 'creativity' to the children they teach and integrate it into their teaching,

> By modelling creativity and using as many opportunities to show and display visual arts and relating it to other subjects, so integrating it into all kinds of teaching experiences (Board of Studies, 2000, p. 9).

One participant said in one of the semi-structured interviews after the workshop:

> At first I thought how is everyone going to go round and doing the same things because it's all going to be like a black dotted line or whatever but at the end I realised two groups had totally different artwork and you can get a lot out of it and also extend that work. Because at first I thought everyone's using black so how is it going to be different, it's just probably going around black lines, but yeah, I was amazed at that. And the using of the brush, like holding of the brush. I wasn't aware of that. Oh, with the energy 'chi', definitely. Like I didn't think about it, like with the energy. I didn't think the more energy you have, the darker the line would go. I though you just drew a line sort of thing (NV11).

Workshop phase four: art appreciation of the student –made artefacts

Torrance and Wu (1962) conducted research into the measurement instruments used to measure intelligence. They found that 70% of the most gifted children have been overlooked using standard IQ intelligence test scores as the sole criterion of selection ((Torrance, 1981) (Torrance and Wu, 1962, p.1). In order to develop a way of evaluating artworks in workshops, Torrance (1974) suggested that we should evaluate them in terms of the definition of the phenomena, in this case 'creativity', and that a tool should be designed in terms of this definition to assess the results:

> Creativity is the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies (1974, p.8).

In this fourth phase of the intercultural 'hands-on' workshops, the pre-service teachers displayed all the works that they had produced. (Board of Studies, 1997). This is in keeping with the Creative Arts curriculum where children are expected to discuss and display their artworks for art appreciation sessions (Board of Studies, 2000). The participants set up their 2-D & 3-D art works for peer viewing and we adapted elements from Torrance (1974) theory of identifying creative tendencies. The tendencies the participants were asked to identify in the student-made artefacts were fluency, originality, elaboration, flexibility, and works that showed humour or avoidance of premature closure. These, according to Torrance (1974), are the different 'creativity' capabilities. Once we are aware of them then we know what to look for in our own works or others in order to create something new. In the following paragraph, some interviewees discuss elements that surprised them during the intercultural 'hands-on' workshops. For example, one of the participants commented on the meaning she had gained from attending the workshops:

> I would like to say that I enjoyed the workshop today and the two hours were quite precious to me and I think it would be a really wonderful opportunity if the pre-service teachers that are practicing the creative arts in the schools are able to have more of those sorts of 'hands-on' sessions to align and connect strategies and other content that we have to pursue.

Another participant reflected on the purpose and meaning of the workshops:

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APERA Conference, Sydney, 2012

Breaking boundaries: Intercultural 'hands-on' workshops   Author Name: Bronwen Wade-Leeuwen
                                                                 Contact Email: Bronwen.wadeleeuwen@mq.edu.au

I learnt how teachers in particular need to engage their students and by engaging their students they need to be energetic in themselves with the subjects that they're teaching. They need to carry out that information in a very enthusiastic way, therefore they are 'performing'. The workshop really made me think about how I could make engaging lessons and I'm sad that I did this lesson towards the end of my prac because had I done it earlier I probably would have used a few more of that type of methodology.

These examples of comments from pre-service teachers that participated in the study demonstrate that the intercultural workshops were of value to most teachers. It also links into what (Wright, 2010) says that it is the actual act of drawing (either manually or digitally) that can extend children's (or adults) senses, imagination, emotions and aesthetic capabilities. The 'Mo-ku-chi' model of 'creativity' used visual thought, drawing and ink-splash painting as a way of illustrating how "creativity requires that the school of knowing finds connections with the school of expressing, opening the doors to the hundred languages of children" (Edwards et al., 1998, p. 71).

Conclusion

In the context of a rapidly changing world under consistent global pressures to be critical and creative, I have argued that pre-service primary art teachers can learn to imagine and generate creative solutions by thinking 'outside the box' and by breaking boundaries beyond their normal practice. One way of achieving this is by working with diverse visual artists and by using old and new technologies within intercultural 'hands-on' creative arts workshops. This paper demonstrates how pre-service teachers can mindfully develop their own confidence and creative capacities through a 'spirit of play' and a risk-taking attitude towards studio-practice. These findings may contribute significantly towards a better understanding of a range of alternative teaching practices that could be applied to traditional classrooms or museums and art galleries.

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117

Paper Presented at the Joint AARE/
APERA Conference, Sydney, 2012
Breaking boundaries: Intercultural 'hands-on' workshops

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Contact Email: Bronwen.wadeleeuwen@mq.edu.au

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118

CHAPTER 5:
INTERPRETATIONS

5.1 Overview

Chapter 5 of the research presents interpretations of the semi-structured interview findings and answers Research Question 3: *What are pre-service teachers' implicit beliefs on creativity?* The findings from the interview data in the research are presented together with a related article, 'Out of the Shadows: Interacting and responding to the creative experience in pre-service teacher education'. In an arts-based inquiry (Barone, 2014), the researcher takes on the position as composer and reflects on the different perspectives presented by the pre-service teachers communicated during the semi-structured interviews and participant observations made during the studio-based workshops. Results from the data surveys informed the interview questions and the data analysis illuminated the inter-relationship between the individual, visual and creative arts and the socio-cultural context.

The main aim of the semi-structured interviews was to investigate the findings from the quantitative teacher survey questionnaire data in order to understand and clarify the emergent themes from this study. The emerging themes came from the participant's perception of what influences impacted on their background experiences of visual and creative arts and their implicit beliefs about the nature of creativity. Within each theme, there was generally a consistency of meaning even though some participants expressed the words slightly differently.

Semi-structured interviews were used to analyse the data using Taylor's (1959) five levels of creativity. Taylor's Level 1, 'self-expressive', included three novice participants operating mainly at this level (Susie, Sharon and Nikki). Taylor's Level 2, 'technical/production skills', was completed by two participants (Amber and Mark) who had some intermediate experience of the visual and creative arts through their primary school education. Taylor's Level 3 'inventiveness', included two participants (Luke and Mackie) who were experienced in different expressive forms and could visualise how art could be a metaphor for life. For example, they both used visual and creative arts in their private lives with Luke practising drawing from a young age and eventually learning new technological drawing tools, such as CAD drawing for designers. Whereas, Mackie was a mature aged student and through her desire to lead an arts-based life with her children, she showed them different artistic techniques to do at home and she spent weekends visiting art galleries and the theatre. Linking to the video images, it is

interesting to note, in inventive creativity, the main motivation for participants was to use a 'spirit of play' through sensory engagement with the material exploration. This attitude to life helped shift them beyond their normal practices from a position of known risk-taking behaviours that reached unknown spaces. Inventive creativity in visual and creative arts usually develops over time and with diverse artistic and creative experiences. To be in Taylor's inventing level means the person has explored the medium (Taylor's Level 1) and has some sense of mastery over the 'technical/productive skills' (Taylor's Level 2). In Taylor's level of 'inventing', a cognitive shift occurs where the person's thinking shifts from what is 'known' to 'unknown' ways of thinking. In this study, there was not the time or resources to investigate Taylor's Levels 4 and 5, therefore, it is an area for further research.

Two contrasting analytical lenses are used (Barone (2001): (i) looking at how socio-cultural forces can influence educational processes; and (ii) what program organisers can learn from the diverse perspectives of pre-service teachers. The three main issues addressed in this proportion of the research project are: (i) personal intrinsic approaches; (ii) instrumental approaches through studio-based workshops; and (iii) future suggestions.
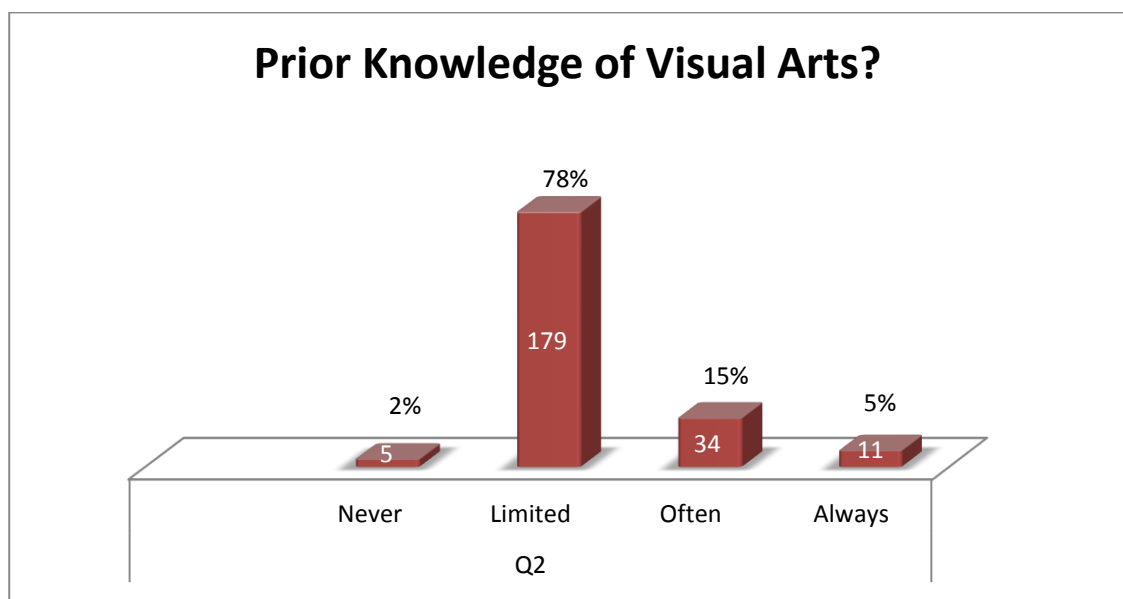
Figure 5.1   Graph showing pre-service teachers' prior knowledge of visual and creative arts education before commencing Arts instruction during their teacher education program

The question put forward to pre-service teachers about their prior knowledge in visual and creative arts produced a variety of responses because their prior knowledge background

experiences in this area were diverse. The findings from 232 participants (total cohort 350) showed many pre-service teachers came from a variety of cultural backgrounds and diverse abilities. The pre-workshop teachers' questionnaire indicated that 80% of participants had limited prior knowledge of visual and creative arts practice. This is consistent with earlier discussions in the literature review.

Another question asked was about pre-service teachers' competency to use visual arts. It showed that from 232 participants, 47% reported they felt limited and 53% felt competent to teach visual arts. These results are interesting given that 80% felt limited in their knowledge of visual and creative arts. These preliminary results indicate around half of third and fourth (final) year pre-service teachers who responded to the teacher questionnaire felt competent in using visual and creative arts practices. It was not possible, from the teacher questionnaire, to investigate whether those participants who had already mastered some form of visual and creative arts practice before their teacher education had increased levels of competence. However, this was expanded on in the semi-structured interviews and gave incentive for further investigation.
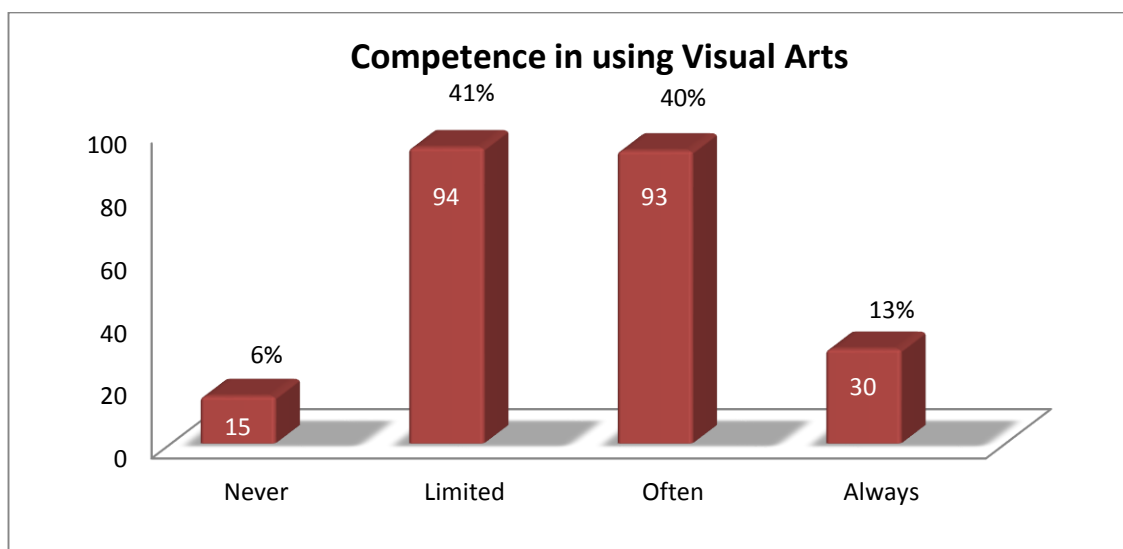
Figure 5.2   Graph showing pre-service teachers' own personal perception of their competency in visual and creative arts education

Responses to the study indicated that participants struggled with defining creativity. Sixty percent of participants to the questionnaire thought that creativity related to some form of self-expression. Others thought that creativity related to divergent thinking, uniqueness, imagination, inventing and meaning-making with unusual associations. This result highlights studies in the

literature by Kampylis, Berki and Saariluoma (2009a) who found that teachers were often influenced by misconceptions and inconsistent implicit theories of creativity, possibly because teachers were not explicitly trained in how to teach for creativity.

The preliminary findings reveal that the absence of explicit well-defined approaches to fostering creativity in pre-service teachers has created challenges in teacher education programs at university and while on practicum in schools. Some of the main themes emerging from the data analysed in the semi-structured interviews indicated a need for a more supportive teacher educational environment where pre-service teachers are encouraged to develop their confidence and understanding of the different dimensions of creativity. Another emerging finding was that pre-service teachers could explicitly learn how to develop their own creative tendencies and tendencies in others. Some of the responses made by the participants in the semi-structured interviews are presented below.

Semi-structured interviews

A vast amount of data was generated from the semi-structured interviews with the participants and recorded using the *Nvivio 10 QSR* software program. Initially, the audio recordings with the participants were formally transcribed and broad themes were developed to encompass the diverse perspectives of the service art teachers. Careful analysis allowed the researcher to highlight the problematic areas in the visual and creative arts course in the teacher education programs. These were then coded into basic themes such as novice, experienced, less prepared, skills, personal concerns, curriculum concerns and other concerns as they emerged out of the data.

Analysing the data was conducted simultaneously and continually (Creswell, 2012) by comparing previously analysed interview data to the recent ones to consolidate the information. Following this, the researcher used the combined information taken from 12 interviews to form five themes that best reflected the participants' perceptions, beliefs and implicit theories of creativity:

1. Expression, freedom

2. Technical skills

3. Imagination

4. Opening new processes and actions

5. Discovery learning

Other areas of interest were instructional teaching strategies used during the programs which were divided into four themes:

1.   Learning to know – Technical skills and theory

2.   Learning to be – Own creativity

3.   Learning to do – Material exploration

4.   Learning to work together – Collaborative interactions

Table 5.1   Different types of learning adopted from UNESCO Delor's Report 1998

Type of learning	Meaning	Example
Learning to know	Learning in new ways	In the multiple case studies and reports on findings in the publications
Learning to be	Learning which involves changes in values and assumptions (including those that relate to learning itself), resulting in new understandings of organizational phenomena.	In the multiple case studies and reports on findings in the publications
Learning to do	Learning that changes actions or action strategies	In the multiple case studies and reports on findings in the publications
Learning to work together	Learning which involves working together	In the multiple case studies and reports on findings in the publications

In addition, the perceived inhibitors by students to teaching for creativity in the classroom as related to the literature were:

- Limited preparedness

- Lack of resources

- Rules and regulations

- Overly prescriptive curriculum

- NAPLAN testing in schools

The researcher completed the same process with 24 participant observations made during the workshops and comments made by the critical friends groups.

Taylor's five levels of creativity were used as core categories for the analysis procedure. This meant that they were compared and contrasted against the other themes developed from the semi-structured interviews such as learning to be creative, teaching for creativity, assessment tools and developing intercultural capabilities. Taylor's five levels of creativity was chosen as the theoretical framework because it had the capacity to extend into multifaceted dimensions of creativity offering the breadth and depth of complexity that could encompass all the diverse perspectives of the participants.

The data analysis was completed through a comparison of codes and themes generated from the semi-structured interviews and participant observations made during the studio-based workshops, supported by still and moving images taken during the workshops. The comparison through the triangulation process of these three different data sets was able to answer the Research Question 2: *What approaches to creativity could be incorporated in the creative arts in teacher education?* and Research Question 3: *What are pre-service teachers' implicit beliefs on creativity?*

The interview findings support the results of the initial large-scale quantitative analysis. Positive changes were reported in their confidence to practice and teach creativity in visual arts education. These changes were attributed to their exposure to community artists within a CoP and given an opportunity to develop self-expression, technical skills and innovation through a 'spirit of play'. The participants expressed that this practical experiential knowledge contributed to their teaching experience in the visual arts curriculum and the creative experience in the studio-based workshops had an impact on the way they viewed the teacher education program. These findings will be detailed in this chapter, followed by an article which highlights some of the main findings in the study (Section 5.7).

Overview of the interview sample group

The interview sample consisted of 12 pre-service teachers who volunteered to take part in the semi-structured interview phase of the study during 2011 and 2012. One strength of the study was that these participants were from different cultural backgrounds and represented over 10 cultural groups which included Australia, Bangladesh, Mainland China, Hungry, India, Italy, Korea, Malta and Sri Lanka. All participants contributed in the compulsory eight hours of Creative Arts experiential practice over a two-year period (2011-2012), out of which, two hours

were allocated annually to visual arts education. In other words, two hours of experiential studio-based 'hands-on' practice was allocated to third and fourth (final) year pre-service teachers during their teacher education program.

Description of the participants

For the purpose of answering Research Question 3: *What are the pre-service teachers' implicit beliefs about creativity?* the participants were chosen because they represented demographic aspects of the total cohort of pre-service teachers. For example, the gender balance in the creative arts programs in teacher education consists of 80% female and 20% males. The participants varied in age, cultural backgrounds, life experience and expertise in visual and creative arts education. The following profiles describe their comments made shortly after the studio-based workshops so that the experience was fresh in their minds. All 12 interviews with the participants were formally transcribed into text, however, for the purposes of this study, only seven interviews were chosen to analyse data in this study because the researcher wanted to build on the preliminary findings that showed 80% of the total cohort felt inexperienced in visual and creative arts education (Appendix 3). The questions in the interview specifically focused on understanding prior knowledge of the participants, their implicit beliefs on the definition of creativity, their thoughts on inhibiting creativity and the three elements of surprise from the studio-based workshops. Asking the participants about the three elements of surprise generated further discussion on what they felt was needed in an effective arts education program. The seven participants have been given pseudonyms to protect their identity, as follows:

Taylor's Level 1 – People with novice experience were:
>Susie
>Sharon
>Nikki

Taylor's Level 2 – People with primary school experience were:
>Amber
>Mark

Taylor's Level 3 – People with high school experience were:
>Luke
>Mackie

In this interview focus group there were not any others with further experience in the visual and creative arts.

Section 5.2 highlights insights gained from interview conversations, visual documentation and participant observations made during the studio-based workshops. These participants discuss their experiencing of creativity during the studio-based workshops, which correlates with the first level of Taylor's (1959) levels of creativity.

5.2 Taylor's Level 1: Self-expression as creativity

The first level of creativity is self-expression or 'improvisational play' with the characteristics of spontaneity and freedom as the building blocks for creative learning. This is the most fundamental level of creativity where skills, uniqueness, and the quality of the product are generally unimportant. There is no greater freedom than play which Taylor (1959) says is essential at this level. Children and young people and adults play freely with material exploration using sensory engagement. Freedom in this context has been defined by one of the participants as creativity and in this context means independent, unchained, and loose interaction with material explorations.

An example of participants operating at Level 1 of creativity included Susie, Sharon and Nikki.

Role of the studio leader, teacher, researcher and artist

The studio leader or professional artist in this study facilitates studio-based workshops in open environmental creative spaces so that these spaces become the 'third teacher' to the learners (Edwards et al., 1998). The studio leader encourages open-mindedness through learning spaces designed to engage the learners through 'improvisational play' by providing access to a range of material explorations.

Role of the environment

The studio leader or professional artist facilitates the workshops in open environmental creative spaces so that these spaces become the 'third teacher' to the learners (Edwards et al., 1998). For example, in these workshops, participants were exposed to recycled materials and encouraged to use a 'spirit of play' to discover new ways of expressing themselves.

Susie

Prior knowledge

Susie (20-30 years old) originated from Bangladesh. In Bangladesh, the emphasis on education was predominantly numbers and literacy. Susie arrived in Australian in 1998 at the age of 11 and her prior knowledge of visual arts was through drawing classes from Year 5 in primary school to Year 9 in high school, but even though she learnt school art, she expressed limitation in her ability to create her own artworks. (Appendix X.1: Interview transcript: 1.6.11)

> *My prior knowledge is limited. I come from Bangladesh where the emphasis is on numbers and literacy. I arrived in Australian in 1998 at the age of 11 years. I did do some creativity classes there. The teacher taught how to draw and not to create my own work.* (S-1)

Definition of creativity

When asked how she **defined creativity**, she said that there were a lot of different ways to define it, including self-expression, feelings and emerging to be unique for one's self. Maths is not like this; with creativity everything has meaning – that's its uniqueness.

> *There are a lot of different ways of defining it. Academically at uni in Unit TEP319 and Unit TEP419 defines yourself [expression], feelings and emerging to be unique for one's self. Maths is not like that. Everything has meaning that's its uniqueness.* (S.1)

Inhibitor to creativity

She understood creativity to have innate qualities that need to be encouraged and fostered. When asked what she perceived as inhibitors to creativity, she answered that the teacher telling young people how to do things and not letting them do things themselves. Creativity has innate qualities that need encouragement to be pushed out. If teachers teach young people to do a particular way, then their artwork will not be unique. If a teacher tells them how to do it, then it's not them so the teacher has to build as they experience the process, and some students may need more support and scaffolding than others.

> *Creativity has innate qualities and needs encouragement and to be pushed. Not everyone can but to them it's the best they could do.* (S-1)

127

Three elements of surprise

In response to **three elements of surprise** during the workshops, Susie noted the way the various groups had different artworks, even though they were using black lines only. Susie was a novice artist and she was not aware of how to hold the Chinese brush and the many ways of using the brushes were new to her. The application of black ink on paper was another area she had not considered before, for example, the more energy you have the darker the line is made in the paper.

> *At first I thought how is everyone going to go round and do the same thing? Yes, because it's all going to be like a black dotted line or whatever but at the end I realised two groups had totally different artwork and you can get a lot out of it and also extend that work. Because at first I thought everyone's using black so how is going to be, it's just like probably, going around going black lines, I was amazed at that!*

> *And the using of the brush, like holding of the brush. I wasn't aware of that and with the energy, definitely. Like I didn't think that with the energy, the more energy you have, the darker the line would go.* (S-1)

Teaching for creativity

Susie felt that creativity should be taught to those that have had no experience in it. She suggested that **future creative arts programs** could try to integrate a lot more. She found that when she was teaching theory and linked it to the creative arts the young people are more engaged. Teachers should encourage young people to think and create their own uniqueness and that there is not a right or wrong answer. Additionally, it is important to educate pre-service teachers what they need to know in visual arts education, such as the basics. She said that she needs to know how to do the different expressive forms before she can teach it to children and young people.

> *It is depending on the person, for some students you don't have to teach creativity. Because I don't have the background I feel I need to be taught to get ideas, or maybe see an example and then I can modify the example ... So in order for me to show to the students, I need to know myself, the basics, for example how to do the shading or the light, different types of colours – not so much the colours but the shading of some part is more darker than others.* (S.1)

Discussion

During the studio-based workshops, Susie identifies creativity as a form of collaborative interaction. Firstly, she assumes that collaborative group work would all look the same, however, after some time on her second reading of collaborative interactions, she was amazed to

see creativity being produced in two different ways by two different groups. This highlights her assumption that the same cultural tool (brush) will produce the same result for everyone. This is a common assumption voiced by novice artists and it is only through the 'doing' of the practice that the learner realises the different possibilities available to them. The third element was the control that more experienced artists could have over the energy or weight of the brush stroke. In other words, heavy pressure on the brush creates darker strokes. Susie perceives creativity in visual arts at Taylor's (1959) Level 1. This is mainly because she has little prior knowledge of how to experiment with material exploration in visual arts. Susie's notion of searching intuitively for ideas that can then be modified to links to the literature where Vygotsky, (2004) notes that creativity can be both performative and representational. According to Vygotsky (2004) there are two types of creative activity: (i) reproduction of previously experienced impressions or action; and (ii) creation of new images or actions. Susie is imagining creativity here as a form of reproducing previously experienced impressions, which according to Vygostky (2004) can be mimicked, repeated or modified.

Sharon

Sharon (20-30 years), born in Sri Lanka, is in her fourth year in primary education and has already completed two practicum experiences in schools. (Appendix X.2: Interview transcript: 1.6.11)

Prior Knowledge

Her **prior knowledge of** visual arts was not valued in her home town; the emphasis in her schooling was on learning academic subjects like numbers and literacy. For this reason, she felt limited in her visual arts training and experience. Her family has taught her that visual arts is not important so she has limited prior visual arts experience, however, she has been learning cultural singing since she was three years of age.

> *Before my degree, I would have no knowledge of creative arts and I'm not an expert on artists or different types of, kinds of art or anything like that but ... So I'm not sure exactly how much knowledge is needed to teach visual arts.* (S-2)

Definitions of creativity

Sharon says there is not one way to **define creativity – 'it just means everything'**. She saw creativity as a person's choice, the way you imagine things to be and it's your freedom to express things.

I don't think I could define creativity in one way, just means everything. It's your choice, your way, the way you imagine things. (S-2)

Inhibitor to creativity

When asked what she perceived as the inhibitors to creativity, she said that creativity has innate qualities that need encouragement to be pushed out of the individual. If a teacher is not into creative arts, you can see that in young people. For example, when she tried to give them the freedom to explore, they were not able to perform, and they would just be lost. So this shows that young people do not know what to do with freedom because they are accustomed to guidance. She gave an example of how worksheets can inhibit creativity in the class:

> *I think teachers often see worksheets as a useful tool and it is useful but it shouldn't limit children in creative arts like that's not being creative, that's just doing what you're told to do. So they're very limited in that sense.* (S-2)

Three elements of surprise

The main elements that surprised her were the actual materials used in the workshop. For instance, how different types of brushes and everyday tools like a toothbrush could create different forms of lines and how a stick connected to a paintbrush created a whole different line, and effect on paper. The other element that fascinated her was the how Chinese people use soot, forms it into the rock and stirs it with water. The workshop was different for her because she learnt about the rock and how leaving an ink stick in the middle of the rock creates a dent. The final element that surprised her was the force used in brushstrokes. She found this profoundly important because it is linked to culture. Specifically, she could see when strokes are weak which indicates that someone is not concentrating and how you could read their mood or personality.

She found the cultural chapter to be an eye-opener and suggested that follow-up research could be conducted on people in their paintings to determine their mood

> *The actual materials used the different types of brushes. By that I mean, it just shocked me how something so every day, like a toothbrush, like the different forms of lines we created with that, and how the stick just connected to a paintbrush, created a whole different line, a whole different effect on the paper.*

> *Another element was the stone and the ink stone that you showed us. I'm not sure why but I was just so fascinated about how the people get the soot and they form it into the rock and stirring it with the water and leaving it on the side*

because if you leave it in the middle it creates a dent and that was just so different to me.

The last one would be the force that we have in our strokes was something that was profound, like it showed, like you said, it linked to culture and how they said it shows your weak and where you aren't concentrating. I really liked that and how you could read that into someone's mood or their personality. That was quite eye-opening. (S-2)

When asked what she perceived as inhibitors to creativity, she said that school rules and limited timeframes are needed to complete the curriculum programs and lesson preparation. Sharon also spoke about the use of stencil worksheets that she had seen teachers give children and young people to fill in from space. Because of limited time in the classroom, the teacher allows children and young people to draw or colour in the worksheets. Sharon says that worksheets can be useful but should not be used because they are not being creative but just doing what they are told.

I can say from my experience being a Sri Lankan person, you're taught that art is not important. And it's just an eye-opener like people need to be aware that art is just not drawing. It means so many different things, and how it can be integrated. It's so important you have to think about your different learners if you're a teacher, engaging your children and young people, the different abilities and just, how you can use so – there are so many different forms it's not just the four strands … helps the kids with everyday life. (S-2)

From her own teaching experience, Sharon suggests having the opportunity to be creative and to use your imagination can inspire creativity. Teachers need to give young people as many options as they like and let them open naturally to reach their creativity levels. Certain children and young people will exceed the teacher's expectations while others will simply copy things from the text. Therefore, young people need inspiration and guidance from the teacher to show their own individual creativity.

Sharon's recommendations for the creative arts program were to teach the basic principles and skills in visual arts and to try new ways of creating. She also felt that students need to feel the different levels of creativity and experience how to express themselves. Sharon encourages the opening up to all cultures and different types of art forms rather than just applying art to the types that are recognisable.

Discussion

Sharon discusses her experiences during the studio-based 'hands-on' workshop, stating that these types of creative activities would be an 'eye-opening' for children and young people. She found the visual arts materials to be stimulating, especially the different type of brushes. She was shocked at how an everyday tool, such as a toothbrush, could be used in creative ways to make different effects on the paper. The other element was the Chinese stone, as discussed in the art appreciation session in Section 5.1.

Nikki

Nikki (40-50 years) was born in Malta and is a fourth (final) year student in the creative arts program with limited visual arts experience. She said her background culture emphasised numbers and literacy, not visual arts training, therefore, she has limited visual arts experience. (Appendix X.3: Interview transcript: 30.3.11)

Prior knowledge

Her initial knowledge of visual arts related to general classroom teaching which was in the moderate range. For instance, she is mainly exposed to colouring with pencils and poster paints at school and that she did not have an opportunity to further these skills.

> *When I was at high school in Malta a long time ago, the only thing, I did extra from academic subjects was using ink to make images with the pen, to write. (N-3)*

Definition of creativity

Nikki initially felt that creativity is something that you create, similar to visual things. But since the workshop she realised that creativity can go beyond that and that she could make a story from it. Her comments are quite profound:

> *Before the workshop, creativity used to be something you create visual things. But from that last lesson, from something we created it was something that – went beyond that and made a story from it which looked so clear, before I wouldn't even think about it and another thing that I really, really liked – I can't get over it – is having different items where you can try with and explore and create other ways instead of just a brush stroke or things like that, so it's so many things to think about from it, it's impossible to explain! (N-3)*

Inhibitor to creativity

When asked what she perceived as inhibitors to creativity, she said that it was her lack of knowledge and an opportunity to investigate and explore the visual and creative arts. She also felt she was not encouraged to learn how to teach creativity in arts education.

> *I can talk about my experience. It's just the lack of knowledge and the lack of opportunity to investigate and explore. If I'm not being encouraged or provided with decent opportunity to learn, how do, how can I teach? If I cannot teach, how would the children learn? So it all comes down to opportunities.* (N-3)

Three elements of surprise

When asked what elements surprised her in the studio-based and song workshops, she responded that she now felt more confident and able to research creativity and adapt it to the classroom. She enjoyed being exposed to the different cross-cultural aspects of the workshop, such as learning how to use black and white ink and how it relates to the concept of unit and Yang, and the Chinese culture.

> *From that workshop lesson there was plenty of discussions in the introduction. The introduction was very important because when we knew where we were going, where we were heading, and giving us part of the history – that was very exciting – I've never heard it before and it was very important because we were doing, we were creating this design. You were concentrating on that thing, so I think the way to one important thing is how to approach your body, how to prepare your body and that is something I've never heard before. And that helped me to concentrate more on the thing, that what we are doing, than on everything else and then we talked.*
>
> *I enjoyed having so many different things to try with and it's amazing what was coming out – so, that was very important and the encouragement. I think the teacher is – the way to approach creative arts with the students – I feel, that was very important because that's what started us. Without you we wouldn't have done what we've done. And we've done it because you were ready. You prepared us and we were ready to go ahead. I would have appreciated if the environment was different, that really distracted us. I think we needed more space to work where we wouldn't be so crushed in during the practice.* (N-3)

From the workshop experience, she felt more confident to teach creativity in visual arts and now knows how to plan and teach lessons in a way that is linked to ancient histories and hands-on experiences. The workshop helped her prepare one's body for creativity and the importance of encouragement and risk-taking throughout the creative process. She said that the process was not just about creative arts but about bringing creativity into every aspect of her life.

In the workshop, we talked about creativity in art. Black and white, yin and yang and things like. I haven't come across that learning before. So when it comes to my classroom, I think it's going to be a little bit different now. And I'm looking forward to it but I'm sure I need more training for me to be able to do the best. There's a lot in me that needs to come but I need support someone to start me off. Without that I don't think I'll be able to do it. (N-3)

Teaching for creativity

For future creative arts programs, she encouraged more studio-based hands-on workshops similar to this research study, stating that this type of workshop was not available during her third-year teacher education program. Furthermore, although teachers include inclusivity and diversity, many children and young people need visual and creative arts as an outlet to life and a way of relaxation.

Education is not just giving me a book and read about it. It's like the way we did it in the lesson. We explored. You provided us with a topic. You gave us brief history about it. You showed us the rules how to use the ink, but not the items. You let us go and explore that way. So that's part of the education. Since the workshop I feel a lot more confident. I feel I gained lots of confidence and it's encouraged me even to think, go further, beyond – to do more research. And hopefully I'll be able to adopt them for the classroom. (N-3)

Discussion

Nikki's commented on the classical 'three perfections' of Chinese painting (ink, stone, brush and paper) (van Leeuwen, 2000) are similar to those comments made by Susie. It is obvious by the comments made in the interviews that these novice artist/educators enjoyed the intercultural experiences and appreciated learning about different cultural artefacts. Another element of surprise was that Nikki found the way Chinese black ink was used for two hours and how she valued and appreciated limiting the materials during the workshop. The final element that Nikki found profound was valuing the force or 'energy' in the brushstrokes, particularly the way that moods or personalities can be read through lines of ink on paper. The learning about new art and culture was commonly grounded in the three participants who have been discussed in Level 1 of creativity. Nikki's comments linked to the notion that visual arts is more than just drawing is that it means so many different things for different people. She reflected on pedagogical connections to this new knowledge and the importance of engaging learners and their abilities in the classroom for everyday life skills.

5.3 Taylor's Level 2: Technical skills as creativity

Examples of participants operating at the technical skills level of creativity were Amber and Mark who are pre-service teachers, basically self-taught and exposed to arts education through their primary schooling.

Role of the studio leader

The role of the studio leader is to encourage productive skills in creativity where the artists are building new skills, and learning new ideas, approaches and actions. In the workshops, artists tried new and old technologies, such as silkscreen printing, 3-D sculptural forms and mixed media forms.

Role of the environment

The role of the environment at this Level 2 is to foster patience and tenacity. The intentions of the Level 2 studio leader are to familiarise artists with the behaviours of aesthetic materials and the surface or ground within a solid period of time. The aim is for artists to become proficient at using these techniques in any situation and with any subject matter or visual art forms.

The studio leader's tone in her/his voice is important as the setup is informal and the rhythm of one's voice needs to gain the participant's attention and engagement. Each group spent approximately 20 minutes at each workstation before rotating on to the next group. This is an example of teaching for creativity and is perceived as a performance.

Amber

Australian born Amber (20-30 years old) comes from a cross-cultural ethnic group with her mother being half Fijian and half Indian and her father from Romania. (Appendix X.5: Interview transcript: 17.11.11)

Prior knowledge

Her prior knowledge in visual arts stems from high school into the community. She studied at a creative and performing arts school during Years 9 and 10 and attended community arts classes outside school where she learnt drama and visual arts. It is interesting to note that Amber feels that her visual arts is 'between limited and often competent' even though she studied visual arts and drama throughout her primary school years to Year 10 high school level. Her parents encouraged her to do a lot more academic subjects, such as extension maths, English and history

because they felt that these subjects would help her to obtain a better grade for university entrance. She was allowed to attend a community arts college to study visual arts outside school and used her capacity in visual arts as a way of de-stressing. For example, she explained that when she was in a grumpy mood she would start drawing or painting. Amber expressed her concerns about having the capability to teach visual arts as she was still waiting to teach visual arts during her praxis.

> *I think it is probably between limited and often confident. I feel competent but only in some areas and not in all of the strands of visual arts. I was pushed by my parents to change schools at the HSC stage to a girl's school and I was pushed to do a lot more academic centred subjects. I don't think my parents really appreciate the Arts in the sense that I do.* (A-4)

Definition of creativity

Amber defined creativity in art as a way of expressing oneself and being less structured.

> *I would personally describe it as being able to express yourself in a form of the Arts, whether it be visual arts, music, drama – art as a way of expressing yourself. My definition of creativity is expressing yourself, and so, it can be taught because the person just needs to be aware of what they feel and how they want to communicate that through visual arts or through the creative arts.* (A-4)

Inhibitor to creativity

When asked what she perceived as inhibitors to creativity, she responded 'the traditional way', that is, teachers taught at the front of the classroom just dictating knowledge to the children and young people who would write it down. Currently, children and young people do not respect the teacher who stands up in front of the classroom. Amber commented that she found people who are not creative are those who are very structured because they are not given free time to explore, imagine and think.

> *Well I find that the people that aren't as creative are the people that are very structured. They're not given that freelance time to really explore, imagine, think.* (A-4)

Three elements of surprise

When Amber was asked what surprised her in the studio-based workshops, she responded how she thought the teachers needed to be energetic in themselves and the subject they were teaching. By being enthusiastic, they could perform and watch was happening in the workshops

and could see how Amber was engaging in the lessons. She said that she felt sad that the studio-based workshops happened at the end of her praxis because if she had done it earlier, she could have adapted more of that methodology into her own teaching. Her focus was more on the teacher and the strategies they use to engage the students.

> *The teacher's role in particular. They need to engage their students and by engaging their students they need to be energetic in themselves with the subject that they're teaching. They need to carry out that information in a very enthusiastic way, therefore they are performing. They're using a softer tone when they're talking about a specific dialogue or they're using a harsher tone when they're doing a character from a story. So it's all a performance!*
>
> *Also the different techniques we used with different ways of looking at the skills. Some people have the skills but I know a lot of people don't. I think even if I were to be refreshed on these skills to use with the different types of visual arts it would be really beneficial… The techniques, skills and hands-on, because I reckon with any visual art, or any creative arts, you do it, you remember it!*
> (A-4)

Amber felt one of the things that surprised her was the teaching approach and how teachers in the workshops performed what they wanted learners to know and how everyone became engaged because it related to them. She reflected that the method of teaching is adjusted according to the class, therefore, flexibility is needed.

Amber also found that rotating the groups was a good way to engage learners in a performance. The intonation of the teacher's voice was important. For example, the teacher used a softer tone when talking about a specific dialogue or story and then contrasted this with a harsher tone when performing a character from a book.

The participants in the studio workshops were 'switched on' or engaged when painting with the brushes on long sticks. Amber said many people had never had a connection like that before and they could not stop. There was wiggles square mark-making, which was very exciting to watch as ink lines emerged on the paper. From listening to the music, the rhythm in the painting can create a sensuous response. She observed that this happened when two or more senses were combined together, such as hearing the music, feeling and sensing the mark-making.

Three elements of surprise

As a studio leader, Amber saw that the researcher was modelling what she wanted the participants to learn. This caused them to become more engaged, and because she saw teaching as relational, this was an example of the teacher influencing the learner. She further reflected on

how important listening is as a pedagogical practice, and how the teacher needs to be flexible to adjust lessons according to the differentiation required in her classroom.

The second insight Amber discussed was the freedom to use materials, such as flicking paint. She was impressed by the rotational groups being controlled by the intonation of the studio leader's voice as a way of engaging learners. She was also impressed with the teacher integrating two Key Learning Areas (KLAs), namely, drama and visual arts in the classroom. For example, the teacher modulates her voice in the classroom and the children and young people will follow.

The third element that surprised Amber was how the class engaged with the brushes on long sticks. This links to two participant's comments discussed earlier. Pointing out that many participants had never had a similar connection, they could not stop. This point automatically raises the Moku (ink splash) strategy of Taylor's (1959) Level 3. She observed the participants moving from the known into unknown spaces and it was exciting for all those experiencing and observing it. The mark-making that occurred were wiggles, squares and other strokes, which were very exciting watching the ink lines emerge on the paper. The rhythm in the strokes came from music that was playing, and listening to the music created sensory responses. Amber's sensitivity and experience in visual arts education helped her to become aware of these pedagogical events happening in the classroom by describing how participants combine two or more senses together, such as hearing, feeling, sensing and mark-making.

Teaching for creativity

> *The studio leaders in particular. They need to engage their students and by engaging their students they need to be energetic in themselves with the subject that they're teaching. They need to carry out that information in a very enthusiastic way therefore they are performing.*

> *The workshop really made me think about how I could make engaging lessons and I'm sad that I did this lesson towards the end of my prac because had I done it earlier I probably would have used a few more of that type of methodology. (A-4)*

Discussion

Amber's comment seems to relate to the current NAPLAN challenges that children are experiencing in schools insofar as many children are not being provided with the possibility of experiencing creativity and imagination in the classroom. Amber highlights how people who are not creative are often very structured in the way they do things, and this comment links to

Taylor's (1959) theory that non-creative people generally tend to be more conformist within society. It could also mean that more needs to be done in the implementation of the *Australian Curriculum* because the literature (Wyse et al., 2014) shows that creativity is in decline in primary education.

This raised the question: *How do we teach for creativity in the classroom?* This is a particular problem when structures around the classroom are structured towards more regimented processes, such as standardising testing and other forms of achievement measurements (Eisner, 2006; Wright, 2010; Craft, 2008). Amber clearly understood the challenges that face creative people in the classroom. She defined creativity as a form of self-expression because it is related to her prior experience. And yet it is interesting to note that her definition of creativity was one of the most common grounded responses to this question in the research study. Additionally, when Amber reflected on the creative activities in the workshop, she perceived the teacher's roles in this context as performing links to the notion of teaching creativity as a performance (MacKnight, 2008; Eisner, 2006). Eisner (2006) suggests that educators, parents, children and young people around the world are pushing for new ways of fostering creativity tendencies. In this respect, creativity is seen as performative and therefore, can be repeated. Amber also reflected on her own pedagogical practice and expressed strategies that she could adapt from studio-based workshops, saying she was sad the workshop happened towards the end of her training.

Mark

Prior knowledge

Mark (aged 20-30 years), originally from Korea, is self-taught and started his art career by drawing and copying from Manga-style comics. He did not enjoy art classes at primary school because they were too prescriptive and he was not allowed to pursue his passion for drawing at school. He continued into Year 10 visual arts but only engaged in the drawing exercises. Mark is a sound recording musician and studied music for the High School Certificate and also during his undergraduate BA DipEd. (Appendix X.7: Interview transcript: 25.10.11) Mark said:

> *Yes. I feel competent in drawing and calligraphy and Manga-style comics. I've never actually been trained in visual arts except for maybe a year or two in high school. I did visual arts in Year 10 as an elective but I didn't really enjoy the non-drawing parts of it I guess. We did a lot of sculptures and we were kind of restricted to what we could paint. For example we did Aboriginal or Indigenous art and we'd have to do that only and we'd have to do it in a certain way. We had to use dot paintings and that kind of thing so it was really – it wasn't very flexible and I didn't really enjoy it.* (M-5)

Definition of creativity

Mark felt that creativity was freedom expressed in this way:

> *I think it's just being – not being – denied any roads or paths or thought*
> *processes, must being able to do what you want. I think freedom is creativity.*
> (M-5)

Inhibitor to creativity

Mark felt that art was not being valued in the classroom and his experience in school as a student teacher found that the school structure can often inhibit the way a child or adult expresses him/herself. Additionally, he noted that from his experience not a lot of importance is placed on the Arts.

> *It's just – too many rules I guess, like, too many boundaries. I think like – I'm*
> *not sure about art, but in music in classical terms there's a lot of emphasis on*
> *technique and skills and I think that's important. I think – shouldn't be the main*
> *objective whereas I think that can hinder the way a person expresses themselves*
> *because they're too conscious of the restrictions. I think it's just in general how*
> *– there's just not a lot of importance placed on art. Just on the creative arts.* (M-
> 5)

Three elements of surprise

Mark discussed the three elements of surprise – firstly, the shift that occurred in his own creativity during the workshops. He found the loose structure to be nurturing and the freedom to move within loosely structured guidelines opened up his creative flow. Another element that he valued was the different materials used and trying out different things to explore their own creativity. The second element he valued was the experimentation, describing the way of experiencing and how cultural tools changed his creativity. For example, the toilet brushes, when dipped into a pad and flicked, made splashes that appeared like blood splatter. This new action encouraged him to experience shifting into an unknown area. From observation on the video, it is obvious that Mark was enjoying this experience as he explored that tool for about 15-20 minutes, resulting in being one of the last participants to finish painting. The intensity of involvement was obvious to the studio leader, master teacher and his peers. Mark's behaviour reminded the researcher of children and young people who become obsessed with their art-making at school and find it difficult to break away from. This form of commitment is required in Level 4 of Taylor's (1959) theory of creativity.

Yes, my creativity did change because I liked how the Workshops weren't really structured, there was a task and there were instructions on the task but there was freedom within that task. So there were all these different materials we could have used and so, all the students can just try out different things so they can explore their own creativity so I really liked that kind of aspect of it.

Experimentation changed my way of thinking. I think, I can't remember which thing I was using to paint with but one of them, I think it was the brush – a toilet brush, and I found that when you dip it in the paint and when you kind of, sort of painting with it, you flick it, kind of like blood spatter. I thought I'd try to do something with that, do something, yeah, just being able to experiment with everything.

I saw other people using their kind of tools, differently to how I would have used it. So, I think there was a group who used the feathers like that and I thought, well that's really interesting. Just good to be able to share your views and all those ideas and it just kind of strengthens your own imagination and creativity.

I found the music in the Workshops because I remember the first half of the songs, they were more kind of free flowing and that affected the way I moved and the kind of strokes I would use because of the sound. Then when the music start changing, I could see other people kind of running around a bit more instead of kind of hopping around and so that changed, that affected me as well. (M-5)

Teaching for creativity

Mark appreciated how the creative arts were integrated in the workshops. For example, painting to free flowing music and seeing how that experience affected the way he moved and the kind of strokes he would make to the sound was surprising for him. When the music was changing, he observed others running around and hopping while painting, therefore, watching others change to the music affected his own creativity, direction and mood. Mark gives this following example from his practicum teaching experience.

I've been doing a few music lessons. I'm always trying to incorporate emotion and feelings when children listen, when for example, we're doing tone colours I play a song for them and ask them how did that song make you feel, like what colours did you see and those kind of things. I think it depends on the student. Some students – they're just not really interested in music or don't really know or they just don't really get – understand the concept or they just feel uncomfortable closing their eyes when they listen to a song or trying to express themselves.

There are the basics to learn, but I think just experiencing a lot of different styles, genres, just having these opportunities – they don't have to enjoy it, but just being able to know that it's there and being able to appreciate all the different types of styles out there and can expand the way they think creatively. (M-5)

Discussion

The findings in Chapter 5 indicate that few participants operate at Level 2 (productive) of Taylors's (1959) theory because at this level, they would need to build skills and techniques that require time and a relaxed space of which both were limited in a two-hour workshop. In the researcher's experience as a visual arts teacher, a common grounded complaint from many children and young people in the classroom is that they are directed by their teachers to do visual arts in a particular way rather than working towards individual needs or interests. This notion of the curriculum being too prescriptive is a reoccurring theme and largely supported in the literature (Barone & Eisner, 2012; Dinham, 2011; Gibson & Ewing, 2011; Wright, 2010).

Being given the opportunity to collaborate with other peers and artists in the workshops was something that many participants commented on during the interviews. For example, Mark found that collaborative creativity seemed to strengthen his own imagination and creativity.

5.4 Taylor's Level 3: Inventing as creativity

An example of participants operating at Level 3 (inventing as creativity) included Luke and Mackie who had a continued art education from primary school through to the end of high school in Australia.

Role of the studio leader

The role of the studio leader here is to assist the learner to communicate to others by shifting from something known to something that is unknown. For example, the participant learns to 'get to the basic assumptions underlying the linguistics of our communication system … then discovery of a new assumption is possible' (Taylor, 1959, p. 81). In the inventing dimension, the role of the studio leader is one of a provocateur who encourages the exploration of new ideas, approaches and actions (Sternberg, 1999).

Roles of the environment

The role of the environment needs to be one that fosters a looseness of attitudes between abstract and realities. For example, the studio leader needs to facilitate an environment that fosters new relationships between diverse communities by suggesting to the learners new journeys that they can take when they work within a cultural CoP.

Luke

Prior knowledge

Luke (aged 20-30) was born in Australia with English heritage links. He always draws when he is bored – during schooling and now in university. He has a reasonable background in visual arts having attained the Higher School Certificate and further tertiary study in Industrial Design. His main areas of competence are drawing, digital drawing and painting. (Appendix X.4: Interview transcript: 20 October 2012)

> *Yes, I do feel confident because I've got a reasonable background in visual arts. I did it all through high school and I feel I have a natural ability to some degree with visual arts. First year out of school I was doing Industrial Design at Uni of NSW so I'm confident with more the drawing, painting side of visual arts.* (L-6)

Definition of creativity

> *I think it's different for different people. Creativity is – its essence is coming up with new ways of doing things and interpreting things in different ways and coming out with something. Like it's hard to come up with something completely new and – you always draw from something else, so it's just looking at something in a new way.* (L-6)

Inhibitor to creativity

When asked what Luke perceived as inhibitors to creativity, he responded that he found there were just too many rules and parameters, and the children were looking for criteria to achieve good marks. This comment was similar to several of the other participants, suggesting that children and young people need to be guided by the teacher through broader parameters in the curriculum. But the current curriculum is too prescriptive and there is not enough value placed on visual or creative arts. This finding links to the Reggio Emilia philosophical notion of the value of an emergent curriculum which begins with a focus on the interests of children and young people and emerges out of those interests into a long-term project that has the potential to encompass two or more of the key learning areas.

> *I think there are too many rules and parameters to the learning task. I believe that you have broad parameters which the child can guide themselves through but if you say to them, you have to pay this, this, this and you have strict criteria, it's not going to help them be creative, it's going to do the exact opposite. Every time you do something with the Arts, they're going to look for the criteria to get good marks rather than expression.* (L-6)

Three elements of surprise

Luke found the spirituality way of Mo-Ku (ink splash) painting engaging, particularly as a method for spiritual relaxation involving mind, body and spirit. (Mo-ku practice was previously discussed in the articles.) Luke questions the teaching of such a spiritual painting method in schools, highlighting an area for further exploration. Luke seems to be sending a deeper message here when he commented that the management of this spiritual method could be problematic, as teachers need to be experienced in order to control the class.

Luke sees Mo-ku as not normal, therefore, raising concerns about its non-conformity. From the researcher's perspective, teachers applying Mo-ku while experiencing their own creativity could find they are more in-touch with the children and young people in the class. Mo-ku (ink-splash) practice is not the only method that recognises the value of bringing spirituality into visual arts education. Wisdom creativity (Craft, 2008) advocates for a more in-depth curriculum, one that supports integrating the Arts in 'creativity learning'.

> *Just the spirituality, the connection with body and minds when you're painting. I wouldn't have expected that to be taught necessarily like that at school. I think you'd have to have a very good teacher to teach that because you'd have to be very involved and a lot of control over the kids. Because it's out of the norm, so. It was good, and you'd have to make sure that it wasn't raining or windy.*
>
> *I didn't expect the dance would be involved in visual arts like that. All the visual arts I've come across have been very straightforward. Just having that broad space to dance and paint was – free expression was different.*
>
> *I liked the cultural aspect and how it was not just about the art it was also about where the art came from and how it was, how the background of the art was, and how it came about, what it's used for and – yeah. It's encouraging that it doesn't have to be so structured.* (L-6)

Luke was impressed by the cultural aspects of the workshops and found them to be unstructured. Themes emerging from Luke's data add cultural aspects to visual arts education. This notion links with Anderson's (1995) concept of a cross-cultural approach to art appreciation. In order to fully appreciate visual arts in the 21st century, we need to be exposed to multiple types of meaning that art brings from various multi-cultural groups. Anderson (1995) says that this is possible through a discourse analysis contextual model that asks questions such as: *How was art made? Where does art come from? How does the background to an artefact inform practice?*

Teaching for creativity

> *Just making sure you look at art yourself and you look at all art forms. You don't just look at art you need to go to see art as well is important. And just keep doing art yourself, so it gets ingrained as a part of you. You become better at art by doing more of it.* (Luke-6)

Discussion

Level 3 of Taylor's (1959) theory is 'inventiveness' where participants are concerned with transformations and perceiving new and abstract ways of thinking which shifts them from the known to the unknown. From Luke's perspective as an experienced artist educator, teaching for creativity means doing art yourself and looking at different art forms because he feels the more one does art, the better he/she become at teaching for creativity in art education. In other words, Luke connects to Sternberg's (1999) theory of arts as new ideas, approaches and actions. Furthermore, an artist must master a tradition or practice before they can transform it. From Mark's perspective, creativity connects to contemporary research that advocates there are different forms of creativity and everyone has a form of creativity. Whether they recognise it as creativity or not could be different for people, however, everyone has the ability to be creative.

Mackie

Mackie (mature age) is Australian with Anglo parents and a mother of three. Mackie was enrolled in the BA Dip Ed program. (Appendix X.6: Interview transcript: 4 March 2012)

Prior knowledge

Mackie's initial visual arts knowledge came from school up to Year 12. She studied the High School Certificate majoring in visual arts education and has tried most techniques and explored several forms. Other influences on her creative ability came from working as a mother with children and young people in conjunction with their schooling. Mackie says her prior knowledge is good but she is concerned with extending herself further and practising creative arts lead curriculum at university and at home.

Mackie calls for more support from the system and she perceives visual and creative arts as integrated into life:

> *I often feel competent because of my own experience with art and because of my prior knowledge and my desire to extend myself and learn the practices to extend to my students because I would like to practice a creative arts lead curriculum.* (M-7)

Definition of creativity

Creativity is about breaking boundaries, to be free to experiment in any art form, to be able to communicate your personal thoughts and to be able to interpret other people's perspectives. Mackie said that creativity includes self-discovery, its exploration, its extension and its problem-solving. She also defines creative arts as entwined in all our everyday life experiences and how we solve issues. This is because some problems or learning experiences are rarely defined to one content area in a world-lived situation.

> *In pursuing the higher order thinking levels of Blooms Taxonomy (1956) according to Anderson and Krathwohl (2001), creativity includes self-discovery, its exploration, its extension, its problem solving. I find that all of those elements meet the criteria as defined in that Taxonomy so that's how I would define it. That's how I would define creative arts as entwined in all our everyday life experiences and how we solve issues. For some problems or learning experiences are rarely defined to one content area in a world live situation.* (M-7)

Inhibitor to creativity

When asked what inhibited her creativity, she felt that incomplete training experience meant that she did not receive the ascetic and creative skills needed to teach for creativity in the classroom. Additionally, she felt that teachers who do not do art themselves often do not feel confident to pass on the basic skills to children and young people and therefore there is no-one leading the creative practice.

> *Probably access to the basic skills inhibits creativity and in my experience as a practicum teach and working alongside teachers that are actually in the system. What I have observed is that possibly in their training experience they had not received the skills that I have acquired just because I am a mother and over the years do not feel confident to pass on the basic skills therefore, it's a self-fulfilling prophesies that the children don't do the art because they don't feel that can because their teacher cant and there's no-one to lead the practice. I think that's a major inhibitor.* (M-7)

Three elements of surprise

Mackie was deeply interested in peer learning and collaborations that were forming in the studio-based workshops. Mackie also valued the observations of her peers. She valued the opportunity to observe her peers' individuality, commenting that it would be good to have more time in the workshops to stop and observe each rotational group. Having that opportunity to reflect on their teaching pedagogy and practice would be significantly valuable. The second element Mackie highlighted was experiencing lesson plans that actually connected to material

explorations. Working spontaneously with materials was obviously new in her experience as a pre-service teacher in the particular program. Thirdly, she valued the opportunities to not just listen but to interact and react with her peers during the creative process, hearing new ideas about discoveries made at that particular moment. This reflects elements from the Reggio Emilia philosophy (Fleet et al., 2006) about 'providing opportunities to focus on particular moments … captured moments offered to the participants in the experience' (pp. 4-5). Additionally, the participant communicated her understandings on the philosophies from Reggio where she saw the 'environment as teacher' (Edwards et al., 1998).

> *The individuality that was manifested in each rotational group and how the peer learning really influenced what was produced. I think it was a really valuable process to observe. I think if there had been more time and more opportunity, then maybe other students that may not have had the time to stop and look around them at other rotational groups would have learnt a lot from each other and informed their own teaching practice. Unfortunately there was limited opportunity in the two-hour class to reflect and look at teaching practices because I think it would be nice to make connections.*

> *The other elements were experiencing some lesson plans that connected to the materials I really thought that was a very valuable process. I also think the opportunity to not just listen but to interact and react with the other students during a creative process and hear ideas and things they have brought to that particular moment is quite valuable to one's teaching practice.*

> *Also the self-efficacy as a student as you realize you don't come with this innate ability just because you are studying to be a teacher, so I think that was a really valuable element to observe, learn and share. An example in the workshop was a group I observed where their art was all very similar and yet completely different to the rotational group I had just is in before. As a group they had scaffold each other, experienced peer learning and followed each other and it was obvious that a person was leading and directing while the others were following so they were basing their creativity by basically climbing on the shoulders of others. However, that did not transmit to other groups because they were quite involved and separately engaged. So the value I could see of doing that was that after that rotation had been completed when you came together and shared and observed the work the students were actually seeing multi-ways of using the same process to achieve totally different outcomes. Which again, is a skill that can be applied to every other KLA (N=5). I would like to say that I enjoyed the workshop today and the two hours were quite precious to me and I think it would be a really wonder opportunity for the pre-service teachers that are practicing the creative arts in the schools they are in to have more of those sorts of studio-based 'hands-on' sessions to align and connect strategy and other content that we have to pursue. (Mackie)*

Teaching for creativity

Mackie advocated exposing others to the Arts as much as possible, as well as have as many forms of the creative arts involved in the classroom as possible – and make it ongoing so

147

students feel comfortable with it and can express themselves. Mackie said the creative arts program should provide more hands-on experiences and some creative scaffolding demonstrated during the studio practice in the creative arts program. She specifically felt that she needed this creative experience in order to model creativity in her own students.

> *Teaching for creativity by connecting their classroom to the real world experiences and allow the learning not to remain inside the classroom but extend beyond it. So that what they experience in the classroom links with the reality of the world around them whether it be art gallery visits, or even having professionals coming into the school and demonstrating how they do the art not even just talking about it so that they can experience it. Quite frankly, reflect exactly what I feel I lack, some 'hands-on' experiences to encourage them to feel the freedom to explore their creative identities.*

> *For herself as an experienced artist educator, she would like some more 'hands-on' experiences and some creative scaffolding demonstrated and given to me because I don't think because of my age I learn any differently I think I need the skills base so I can feel that I can be creative and transmit that successfully to students. So I need that model so that I can continue on the modeling onto the students that I will have in the future.* (M-7)

Discussion

Mackie indicated that at the beginning of the study she often felt confident because of her own experience. She commented that without this prior knowledge she would not be able to extend her abilities to learn new creative arts practices. It is interesting to note here that Mackie was one of six pre-service teachers from a total cohort of 350 who were familiar with the Reggio Emilia early childcare philosophy. She raised the concept of self-efficacy and the need for teachers to develop these abilities. She also observed a group scaffolding (Bandura, 1986) each other during the rotational sessions. It was obvious that there was a leader directing while others were following, basing their creativity on their peers. According to Vygotsky (2004), there are two types of creative activity: (i) reproduction of previously experienced impressions or actions and; (ii) creation of new images or actions. Mackie observed reproductive creativity in action as participants experienced peer learning within that group. Interestingly, she enjoyed engaging the students and noted that transmission to other groups did not occur because each group was completely involved and separately engaged in the process of creating.

The final area Mackie valued in the workshops was the creative process and how it allowed for multi-ways of using the same process to achieve different outcomes, which is a skills development that can be applied to every KLA. Further suggestions would allow additional time and opportunities to experience more studio-based workshops for participants practicing

creative arts in schools in order to align and connect those strategies with the curriculum content. This factor connects to Eisner (2000, 2006, 2010) who has repeatedly pointed out over the last 50 years that the government school systems in America (and the researcher would include Australia here) value testing and curriculum uniformity by comparing school test scores as signs of quality education. Eisner stresses, 'What we are doing is creating an industrial culture in our schools, one whose values are brittle and whose conception of what's important narrow' (Eisner, 2004). This can be seen in Australia with the NAPLAN testing system as the sole form of measuring quality education. Several participants mentioned this in their transcripts.

5.5   Taylor's Level 4: Innovating as creativity

Examples of participants operating at Level 4 (innovating as creativity) are not observed because of the two-hour limit allocated to studio-based practice. However, with more resources allocated, this could be an area of future studies.

Role of the studio leader

The role of the studio leader here is to assist the learner to communicate to others by shifting from something that is unknown (discovered during the inventing dimension) towards another unknown. The role of the studio leader at these deeper levels (innovative and emergent creativity) is to be provocative by offering problem-solving situations for participants to solve. The atmosphere needs to have a balance of relaxation and tension. Refer to publication, Generating 'creativity' and provocations through visual arts education: A major goal of twenty-first century arts education, for further participation on how to achieve these levels (Chapter 6).

Role of the environmental space

The role of the environmental space is to act as the 'third teacher' (Edwards et al., 2011) encouraging participants to search for the plausibility and deliberations in various art forms that can help them look at theory in new ways (Atkinson, 2002). For instance, when examining a Chinese brush it could be seen as a functional object or a delicate artefact depending on how the brush was designed. The design can inform us, not only about the maker of the brush, but also about the user of the brush. We could identify the time period it was created, and the state of the brush could offer insights into its journey, whether it was a favourite continuously well-used brush or placed on the mantle and seen as purely decorative. More is learnt about the brush by looking at it from different perspectives rather than from one form of didactic language. This

example of innovative thinking shows that theory is not just a scientific model, but there are other ways of experiencing theory.

The highest expressions of creativity as innovation remain accessible only to a select few human geniuses, as expressed by Taylor (1959):

> *In the everyday life that surrounds us, creativity is an essential condition for existence and all that goes beyond the rut of routine and involves innovation, albeit only a tiny amount, owes its existence to the human creative process.*
> (p. 11)

It is interesting to note that Taylor's (1959) Levels 4 and 5 were not fully observed by the researcher in the workshops because of time constraints, however, they could have happened through the many brief encounters the participants experienced during the workshops, for example, inventing, innovating and allowing for emergent creativity to occur during the creative process. The participants showed they shifted ground when they moved from 'inventing' an unknown to producing another unknown area of creativity. Taylor (1995) suggests this is probable as creativity is not sequential because basic innovations may be made by skipping a level, for example, without technical competence exhibited in the making processes. Additionally, further research will be required to answer these provocative questions.

5.6   Taylor's Level 5: Emergenative creativity

Discussion

None of the participants had the resources (time and space) in a two-hour studio-based workshop to reach their creative capabilities, which means that Levels 4 and 5 were not part of the examination in this study. However, examining Levels 4 and 5 of creativity would be possible in a future longitudinal study. The final level, Level 5 (emergenative creativity) is where the participant demonstrates how they shift people's perceptions into a new way of thinking, for example, shifting one's practice from realism to abstraction in an art movement such as abstract expressionism or the way Picasso assisted with the invention of the Cubist movement. It was interesting to note there was no evidence of any participant working at Level 5 during the two-hour studio-based workshops. However, during the face-to-face interviews, there were participants who indicated they wanted to conceptually shift into a deeper level of cognitive processing, but there was no opportunity to experience this during their teacher education course.

The following episodes (Section 5.7) provide examples of the participants' experiences during the studio-based workshops. Additionally, video footage has been provided in the Appendix as evidence of the different socio-cultural factors, such as material exploration using a 'spirit of play'. Technical skills and inventing with abstract thinking are some ways that influence the participants' implicit beliefs and experience of creativity within the primary educational framework.

5.7 Visual collage

The DVD video recording production represents the thesis as a visual collage with Episode 1 showing third-year pre-service teachers in studio-based workshops and Episode 2 showing fourth-year pre-service teachers in workshops. These moments observed by the researcher during studio-based workshops are an important part of the data gathering process because they show what happens in real-time through a visual collage of moving and still images. Taylor's levels of creativity become alive through the moving images on the video recording in a way that cannot be reproduced or captured through the written word. (See DVD video recording on the front cover of the thesis.)

Teaching for creativity using the five levels with material exploration

Episode 1 – Set up the environment as the 'third teacher' and developing strategies for teaching creativity

The 'third teacher' is the arrangement of creative spaces in the classroom environment where stimulating scaffold strategies and discovery learning experiences provoke the learner into discovering elements of their own creativity abilities (Edwards et al., 2012). The studio leader provides an environment known as the 'third teacher' which involves open free-learning spaces to engage learners through 'improvisational play'. This could include designing for creativity learning by preparing long sheets of paper on the floor, working in small groups at art tables or taking the learners outdoors.

During the workshops, the studio leader invited the participants to focus on their breath by harmonizing it with their expressive action. Music is generally used during the creative process to create a relaxed space for creativity to emerge through sensory engagement.

The studio leader has to be flexible with the program to facilitate opportunities for participants to experience the creative process. They must always be aware that some students may need more support and scaffolding than others.

Episode 2 – Material exploration

An exploratory task is investigating different types of brushes and how everyday tools like a toothbrush or long sticks with Chinese brushes could create different forms of lines (SA).

1. *Opportunities for self-expression:* Examples of being in a state of creative 'flow' and flexibility in thinking and actions – Participant involvement in a state of creative 'flow' can be recognised by their facial, vocal and emotional expressions, the energy, attention and care they apply and the creativity and complexity they bring to the situation (Csikszentmihalyi, 1990, in Ebbeck et al., 2012). Self-expression or 'improvisational play' has the characteristics of spontaneity and freedom, and is generally recognised as the earliest building blocks for creative learning.

2. *Developing technical skills:* Developing technical skills is the commonly found form of reproductive creativity. Examples include mimic, scaffolding, different techniques such as ways of using brushes and developing knowledge about material skills and competencies. For example, participants did not consider that when applying black ink on paper, more energy produced darker lines.

3. *Inventing and abstracting:* Inventing and abstracting is designed to teach basic grounding principles and skills in visual arts and to try inventive ways of creating different types of artworks/artefacts. For example, using visualisation during the workshops, one participant responded to an Aboriginal Elder artist telling a story about 'country' by spontaneously drawing with charcoal on paper. He represented his thinking by modelling with clay, thereby developing a deeper understanding of the creative process.

4. *Innovating creativity:* Innovating creativity is where new images or actions emerge from the learning environment and assumptions are developed, such as a moment in the expressive arts. There was not enough time in this study to pursue the qualities of creativity.

5.   *Emergent creativity:* Emergent creativity in visual arts education can be divided into two main archetypes (Vygotsky, 2004): (i) creative activity: the reproduction of previously experienced impressions or action; and (ii) creation of new images or actions.

5.8 Summary

Chapter 5 interprets the findings from semi-structured interviews and provides evidence from transcripts to support these claims. The interpretation of the semi-structured interviews clearly indicates that pre-service teachers have the power to change their classroom experiences when they use their critical and creative capacities and new discovery learning strategies that could be generated to use with children and young people. It is also clear from the study that pre-service teachers bring to their practice their own socio-cultural background knowledge and experiences. Therefore, it is not only the school that influences children's and young people's creativity in visual and creative arts, but also the teacher's knowledge and creative application. Vygotsky (2004) discusses two archetypes of creative activity: (i) the reproduction of previously experienced impressions or actions; and (ii) the creation of new images or actions. The researcher suggests that pre-service teachers need to develop a working knowledge of the levels of creativity and this could be an area for further research.

The different perspectives and attitudes of the participants were observed during the workshops, thereby demonstrating a plethora of creative thinking and actions that can be used in the classroom. It is suggested that under proper guidance during their education programs, pre-service teachers have the capacity to foster creativity through a variety of strategies and approaches that can be applied in the classroom. After reviewing Publication P5, 'Out of the Shadows: Interacting and responding to the creative and artistic experiences in pre-service teacher education', Chapter 6 explores necessary components of an arts-based inquiry, in particular, reflections on the main findings to illuminate the inter-relationship between the individual, visual and creative arts and the socio-cultural context.

5.9 Publication P5 – Out of the shadows: Interacting and responding to the creative and artistic experiences in pre-service teacher education

Joint AARE-NZARE 2014 Conference, **Brisbane**

Publication P5 is about how pre-service teachers interact and respond to the creative and artistic experiences during studio-based workshops. Creativity is an ability to give new ideas, solve problems and minimise gaps in knowledge and disharmonies. Taylor (1959) suggested that creativity has five levels: (i) self-expression; (ii) development of skills; (iii) inventing old concepts in new dimensions; (iv) innovation for new discoveries; and (v) emergence creativity where entirely new principles or assumptions are made. To nurture and support stimulation and eliciting the complex and important ability of creativity in children, educators need to be oriented with the concept, methods and mechanisms of the skill themselves. Despite the importance and necessity to determine whether creativity can be fostered in pre-service primary teachers, no study had been conducted formally to date. Therefore, based on the established theories on methods and development of creativity (Eisner. 1998; Taylor, 1995, Torrance, 1974) an attempt was taken in the current study to explore how pre-service teachers can be assisted to experience their own creative skills in the framework of active learning principles, as outlined in UNESCO's publication (Watson, 1999) where it is said that learning takes place in four stages: learning to know; (ii) learning to be; (iii) learning to do; and (iv) learning to work together, termed in this study as the '*KnoBedo* collaborative approach to arts education'.

This study evaluated 350 undergraduate primary pre-service teachers during a two-hour studio-based workshop with 30 participants. An arts-based inquiry learning approach is a mixed-method model (qualitative observation, interviewing and experiential studio-based workshops) within a pre-experimental format to identify changes in the participant's implicit beliefs and experiences of creativity. Studio-based workshop experiences of learning and expressing inner-ideas of creatively by the participants were encouraged and facilitated by the studio leader and professional artists. Participants were encouraged to be flexible, mindful and willing to take risks, avoid premature closure and visualize new possibilities through discovery learning strategies. The role of the studio-based workshops was to give participants the opportunity to experience the various levels of creativity, as mentioned by Taylor (1995). The participants were scaffolded, and their artworks/artefacts were displayed and discussed in collaborative reflective sessions. These reflection sessions occurred at the end of the workshops and participants were able to express their feelings in an open and safe environment with each other

(individually) and in groups (collectively). Reflective sessions focused on mindful creativity where participants were able to express their inner thoughts as a process of meaning-making that eventually allowed them to experience the deeper levels of creativity.

Findings in the study suggested that pre-service teachers' personal experiences on creativity through studio-based workshops helped them to be sensitive to a deeper sense of creativity and to be open to future possibilities for innovative expressive approaches in a collective creativity context. Results also indicated that nurturing their own creative thoughts allowed them to feel relaxed and more confident in their creative capacities as their inner thoughts were expressed in a more meaningful manner. Hence, the study could successfully show the possibility of combining theory and practice to develop the artistic and creative experience that links to dispositional outcomes in pre-service teachers.

(Please refer to the following 16 pages)

Out of the Shadows: Interacting and responding to the creative experience in pre-service teacher education

Bronwen Wade-Leeuwen and Dr. Neil Harrison
Macquarie University, Sydney

Abstract

This paper explores how the creative experience and related dispositional outcomes can be fostered in undergraduate primary generalist pre-service teachers through the development of innovative learning approaches to visual and creative arts education. The main purpose of this paper is to discuss the results and show how creative thinking and action can be fostered in pre-service teachers. I argue that the creative arts courses offered in teacher education programs need to design for levels of creativity by developing an understanding how the creative experience generates different dispositional outcomes during experiential studio-based workshops. Building on Eisner (1998) developmental work on creative dispositional outcomes, the paper explores how pre-service teachers develop their 'creativity' through flexibility and risk-taking attitudes; mindfulness and avoidance of premature closure and a willingness to visualise new possibilities through inquiry learning approaches.

This paper reports on the findings of 350 pre-service teachers as part of the Creative Arts program offered at a Sydney-based university. The focus of the mixed-method approach was on how the creative experience affects participants' opinions and experiences of creativity. Pre-service teachers' creative expressions were queried before and after the studio-based workshops. Firstly, a questionnaire was given to the total cohort, followed by participant observations made during the creative activities using video footage. Twelve participants then contributed in qualitative semi-structured interviews; this follow-up part of the research was aimed at evaluating the impact of the creative experience specifically, the participants' changing opinions of creative experiences and how new approaches can be developed with children.

The significance of this study is that it connects to a socio-cultural framework that works with a community of practice model. In this model, the core role of the teacher is to facilitate the development of primary school children's creativity learning in informal classroom settings. Consequences of this study suggest that pre-service teachers need to become more aware of the different levels of creativity and how to develop creative dispositional outcomes. The outcomes suggest that studio-based workshops encourage participants to become more mindful of the artistic creative experience and how to visualise new approaches to use with children.

156

Out of the Shadows: Interacting and responding
to creative expressions in pre-service teacher education

Introduction

This research addresses the question of how creativity can be fostered in undergraduate primary pre-service teachers who are undertaking visual and creative arts programs at a Sydney-based tertiary institution. It examines pre-service teachers' creative expressions, interactions and responses to innovative pedagogical approaches in visual arts education. This article is part of a larger doctoral research into the preparedness of pre-service teachers to teach effective learning approaches that foster creativity in primary classrooms. The purpose of this article is to discuss what has been found in the research and how this relates to pre-service teachers' creative experiences. The article considers the core role of pre-service teachers as facilitators of innovative pedagogical approaches.

Literature review

Kampylis (2010) found there have been limited studies that examined in-service or pre-service teacher's conceptions and implicit theories of creativity and recommends that further research is required in this area. Additionally, Beghetto (2010) argues that there is a disconnect occurring between creativity research in teacher-preparation and teacher's professional development even though there is wide research that supports the importance of creativity as a future goal for twenty-first century education. Similarly, Sternberg and Kaufman (2010) advise that: "Unless educators, policymakers, and the general public can see a clear connection between creativity and learning, barriers to creativity in classrooms will be likely to continue." (p. 459).

The theoretical framework used in this research draws on the original theories of Taylor (1959) and Torrance and Wu (1974) and Sternberg (1999). The five levels of creativity says Taylor (1959) have different dimensions. The first level of creativity is self-expression this level is similar to child-like improvisational play. The second level is the development of techniques and skills referred to as 'reproductions'. This level is used when exhibiting one's artworks/artefacts to an audience. The third level is 'inventing', which involves discovering old things in new ways. Recycling materials to create new possibilities happens at the third level. The fourth level is 'innovation' which aims to move from new discoveries into a more abstracted unknown area of visual arts. This fourth level is rarely achieved and is where more complicated arts practices become simplified or abstracted. The final fifth level of creativity according to Taylor is 'emergent' creativity, this is about developing open-mindedness, and where creative thinking has the potential to change the way society perceives art and culture. Taylor suggests few artists actually venture into these later more profound dimensions of creativity. However, Kaufman and Beghetto (2009) points out that most researchers are looking for BIG creativity in little creativity areas.

Torrance's (1974) notion of creative dispositions and tendencies found there are six main elements that could be used when identifying creative tendencies: fluency, flexibility, originality, elaboration, humour, and avoidance of premature closure. Assessing and evaluating pre-service teacher's creative tendencies in artworks/artefacts or creative outcomes has proven to be problematic (Eisner, 2006), probably due to the subjective nature of the expressive arts. The working definition of 'creativity' has been defined in earlier publications Wade-Leeuwen (2013) and for this study; creativity is viewed in terms of Taylor (1959) and Torrance (1974) theories and extends across the creative person, process, product and environment. The working definition of creativity in this study combines Sternberg's (1999), Taylor's (1959) and Torrance's (1974) definitions of creativity as: "developing new ideas, approaches and actions caught in a process of becoming sensitive to problems, gaps in knowledge and disharmonies."

Method

Arts-based inquiry learning approach Barone and Eisner (2012) was chosen to investigate pre-service teachers' creative expressions and tendencies in order to emphasise how pre-service teachers developed their own artistic creative experience. The empirical material was drawn from both third and final-fourth year primary pre-service teachers participating in the Creative Arts Program at a Sydney-based university. This mixed-methods research Creswell (2012) used predominately qualitative methods to triangulate the data through a pre-workshop questionnaire, participant observations during studio-based workshops, together with semi-structured interviews conducted after the workshops. A multiple case study (Stake, 2006, 2010; Yin, 2009) approach was used with one case study exploring Australian Aboriginal artists and the other case study investigating contemporary Chinese brush painting artists. Constructivist grounded theory (CGT) according to Charmaz and Bryant (2011) was considered as the most appropriate way of analysing the data because it allowed the researchers to ground the different participants' perspectives on how they construct their 'value' knowledge of creativity. For the purpose of this study, all participants were seen either as novices or more experienced artists.

Opening Vignette

The research uses the metaphor 'bring out of the shadows and into the light' to illustrate the interplay of darkness and the shifting towards visibility which can be imagined when this participant who was an artistic novice reflects on her creative experience:

> Creativity used to be something you create like visual things but that's it. [In the Workshop] it was something that went beyond that and made a story from it which looked so clear, before I wouldn't even think about it and another thing that I really, really liked - I can't get over it - is having different items where you can try and explore and create other ways instead of just a brush stroke, so it's so many things, it's impossible to explain (NM).

This final-fourth year pre-service teacher questioned her prior knowledge and implicit theory of creativity, indicating her limited understanding and knowledge of the creative process. The participants had been educated in another country where visual arts were not offered during her schooling. The participant was unable to precisely express her meaning through words; however, she felt the activities in the workshops had helped release her inhibitions and made her more curious to know more and to go beyond her normal practices. Another participant expressed a similar sentiment saying the only problem was experiencing this workshop now and she felt sad that this was her final year of teacher education study. Initially, it was assumed that the majority of the third and final-fourth year pre-service teachers felt competent within themselves to teach Visual and Creative Arts to the expectations of the Australian Curriculum ACARA (2014). However, it quickly became apparent after analysing the initial questionnaire given to the total cohort (n=350) that the majority (or 80%) of pre-service teachers at this tertiary institution felt limited in their capacity to teach visual Arts education. Moreover, they indicated limited understanding about the nature of creativity and what was needed to teach or assess it in the classroom. The article will now discuss the research questions and results of the study to understand how creative expression is being fostered in pre-service teachers.

Learning to work together, to know, be and do

The research focuses particularly on pre-service teacher's creative expressions, opinions and abilities. The research draws on the knowledge gained through the Delors (1996) Report called 'The Treasure Within'. UNESCO's International Commission on Education for the Twenty-First Century Watson (1999), presented four interconnecting principles of learning: learning to work together, to know, to be and to do. These four principles of learning were integrated into the contributing questions in the study and then used to analyse the data. The questions being discussed in this article are:

158

i.   Learning to work together: What collaborative interactions occurred during the studio-based workshops?

ii.   Learning to know: What are the different pre-service teachers' attitudes towards creativity?

iii.   Learning to be: What creative expressions are used during the workshops?

iv.   Learning to do: Is there only one form of creativity practiced during the studio-based workshops?

Learning to work together

What collaborative interactions occurred during the studio-based workshops?
The workshops encouraged group activities by working closely with selected artists within an environment of cultural communities of practice (Lave & Wenger, 1991; Wenger & Snyder, 2000). The workshops were designed to teach the participants about new and old technologies for example, the multiple case studies (Yin, 2009, Stake, 2010) were designed to learn about the ancient traditions of the Aboriginal and Chinese Arts and culture. The pre-service teachers were encouraged to adopt roles as risk-takers, creators and playmates (Wright, 2010) while they interplayed socially with the different cultural tools such as drawing, painting, printmaking and modeling. Vygotsky (1978) found the following:

> Any function in the child's cultural development appears twice, or on two planes. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition . . . [I] t goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships. (p. 227-228).

From a Vygotskian perspective, the cultural development first appears on the social plane, and then on the psychological plane. For example, during the workshops the participants responded to an Aboriginal Elder Artist telling a story about 'country' while being centered at his exhibition space. The participants were then encouraged to internalise their emotive responses to the story by spontaneously image-making by drawing with charcoal on paper. The creative process shifted further into an abstracted space when the participants represent their drawn images through modeling with clay. The creative process allows for the participants to shift from the interpsychological space that joined space with others experienced through an engaged interaction of art and play towards a more intrapsychological space or an internalised space where the participants individually experiences how art and play can be recreated into new image-making. Brooks (2009) builds on this aspect of Vygotsky's framework by examining the relationship between thought and drawing and how drawing can be a powerful cultural tool for learning. Other scholars who are researching this pedagogical approach are McArdle and Wright (2014), who perceive art and play as the first languages of children and it is this first language that underpin the child's understanding of their second languages of reading, writing, and numbering.

159

One participant discussed how she felt there was value in working beyond classroom walls by extending professional development through art and a cultural community of practice:

> By connecting pre-service teachers classrooms to the real world experiences and allows the learning not to remain inside the classroom but extend beyond it. So what children experience in the classroom links with the reality of the world around them whether it be art gallery visits, or even having professional artists coming into the school and demonstrating how they do the art not even just talking about it so that they can experience it. Quite frankly, reflect exactly what I feel I lack, some 'hands-on' experiences to encourage teachers to feel the freedom to explore their own creative identities. (MS).

1 Figure: Artist discussing his work at an exhibition.

Learning to work together in this study represents a theme that provokes new possibilities of inter-relationships and connections with material practice. The 'hands-on' workshop sessions were designed to align with pedagogical approaches and curriculum content material that teachers could implement in the classroom. This was achieved through integrating a cultural community of practice model (Lave, 1991; Wenger et al., 2000) and by provoking participants to venture into the invisible through sensory engagement first through self-expression with others and then to encounter a more abstracted forms of meaning-making in their own individual artworks. It is obvious from the interviewee comments that this section of the research was innovative and thought provoking.

Learning to know:

What are the different pre-service teachers' attitudes towards creativity?
The different attitudes towards creativity varied in this cohort. The results from the semi-structured interviews indicate these pre-service teachers came from diverse backgrounds with several being educated in other countries before coming to Australia. The diverse backgrounds included pre-service teachers predominately from Australia and then the Asian Pacific Region countries such as Mainland China, India, Korea, Sri Lanka and Taiwan, followed by fewer students from Euro-American countries.

160

It is interesting to note, traditional 'Eastern' concepts of creativity are more concerned with community values of expertise and as McArdle and Wright (2014) express, and 'Eastern' concepts of creativity tend to focus less on innovative productivity. Generally, from the primary researcher's perspective of Arts education, 'Eastern' countries perceive creativity to be linked more to socio-cultural learning approaches gained through continuous study of traditional skills, techniques and competencies that have been learnt through the interactions with knowledgeable others. For example, one interviewee explained:

> I can say from my experience being a Sri Lankan person, you're taught that art is not important. It's what your parents say; I didn't actually get to choose Arts from 9, 10-11-12. In my culture there is the restrictions of particular subjects, the view is that Visual Arts is not important which I don't believe in, so I don't have much prior knowledge because of it (SV).

The diverse backgrounds of the pre-service teachers in this study came to the university Creative Arts course with their own personal conceptions and implicit theories about their construct of creativity. The construct of creativity depends largely on the person's prior-knowledge and personal experience. Creativity according to Taylor (1959) has multifaceted dimensions and can be communicated as self-expression, technical skills, knowledge and competencies, inventiveness, innovation or emergent creativity. Understanding the different pre-service teachers' attitudes and implicit theories of creativity, depends on their definitions of what they believe creativity is and the questionnaire indicated that their understandings of creativity were diverse and varied. For example, 60% of the total cohort (n=350) believed creativity was a form of self-expression a typical response said:

> Creativity is expressing yourself - is my ultimate definition of creativity. I think its expression and more of the physical expression rather than that academic knowledge sort of thing. (AA).

Other definitions of creativity included technical skills or freedom and an ability to think 'outside the box'. The initial findings showed these pre-service teachers often lacked the skills and knowledge of visual arts education, and five of the twelve participants in the semi-structured interviews expressed they felt limited in their confidence to teach visual Arts education. Another initial finding was that fewer than 3% of participants believed creativity was connected to creative thinking skills or imagination. An example of the difficulty with the complexity of defining creativity was clearly expressed by this pre-service teacher:

> I don't think I could define creativity in one way, just means everything. It's your choice, your way, the way you imagine things. …. You can't define it because everyone's creativity is individual and I think creativity also links to freedom. In a way it's your freedom to express things. (SV).

2 Figure: Learning how to build up layers in artworks.

Learning to be

How do the participants imagine teaching creativity through the visual Arts education?
'Learning to be' addresses the question of how the pre-service teachers imagine teaching creativity in and through the Visual Arts in teacher education. This section relates to the foundational key competency for 21st-century learning and teaching in schools UNESCO (2013) and to the Australian Curriculum (ACARA, 2014). The pre-service teachers in the research expressed a general feeling of inadequacy in their professional training at university. This was specifically in the area of visual and creative arts education and most was not confident to foster children's creativity during classroom activities. Moreover, several pre-service teachers pointed out they had limited opportunities to learn about the nature of creativity and time was rarely allocated to reflecting on their own artistic practice. It was surprising to find most participants found difficulty in defining or understanding the different dimensions of creativity. As seen in this statement:

> I don't think I could define creativity in one way, just means everything. It's your choice, your way, the way you imagine things. (AK).

This comment relates to Taylor's (1959) theory that states contradictory definitions of creativity exist and that teachers ought to become more aware of the nature of the creative process. Taylor further expressed that teachers need to feel confident in their own abilities to foster creativity within themselves before they can possibly teach any form of creativity to children. Taylor (1959) maintained creativity needs both fantasy associations and relaxation for unconscious play to occur. However, if pre-service teachers are not exposed to possibilities of experiencing their own creativity then barriers will continue to manifest in the curriculum. In the literature, it has been widely documented that minimal time allocation to visual and creative arts education during schooling, actually, undermines the teacher's confidence to teaching Visual Arts education (Hudson & Hudson, 2007; Price, 2010). McArdle and Wright (2014) clearly found in their research that art and play, "the first languages should not be discarded or replaced" (p.21) in young people because the Arts are central to their curriculum. Coincidently, limited time allocation to Visual and Creative Arts means that teachers are less able to model creativity in classrooms however this is a mandate of the NSW Board of Studies (2006), Creative Arts (K-6) Syllabus and explicitly states, teachers need to model creativity to children. The Creative Arts Syllabus encourages:

> Modelling creativity and using as many opportunities to show and display visual arts and relating it to other subjects, so integrating it into all kinds of teaching experiences. (p.9).

Darling-Hammond (2014) discusses how the current Arts: Australian Curriculum needs to focus more on developing modelling approaches that develop 21st century skills like problem-solving, critical and creative thinking skills. However, this study has found evidence to the contrary. For example, one typical comment by a participant highlights how she perceived the current situation in a NSW school during her two-week praxis experience:

> I see in the classroom it is hard for children to just do what they want. They have to be given a lot of direct instruction because they're afraid to be free to experiment in their art. There should be some form of modelling but that modelling should not limit what they have to do. (KN).

The research suggests pre-service teachers need to model new learning approaches and develop strategies that scaffold integrated creativity experiences across the curriculum. Many participants reported how they found the school children limited in their self-expression and lacked confidence in their technical knowledge and skills. Taylor (1959) points out that it is only when the teacher or in this case, pre-service teachers, tap into their intuition and experience their own form of self-expression can any type of creativity occur. This raises the case for more modeling to occur during the pre-service professional development or this could also happen during their praxis experiences at school. A typical comment from one of the participants highlighted:

> My previous teacher she was also from an Indian or Sri Lankan background and- I'm not sure, that is why she didn't like, she didn't engage in art, or dance at all. At my current school, there's a lot of integration, there's a lot of artwork ...she really relates to creativity. (SV).

The limited engagement of teachers in schools and lecturers at tertiary institutions appears to be related to teachers' own lack of prior knowledge in the visual and creative arts. Another interrelated finding was that pre-service teachers found that because they were novice educators, the time needed to prepare curriculum documentation and implementation, often without proper guidance from teachers in the classroom tended to inhibit their own sense of creativity. However, the Arts-based inquiry revealed:

> The workshop showed me how the teacher taught creativity and how teachers can teach and adapt workshops in our classrooms. (SV).

Linking to the literature, it is generally agreed by scholars that creativity has the potential to develop life-long learning (Boden, 2009; Bowell, 2012) and see publication ((Wade-Leeuwen, 2011). It is generally agreed that creativity in and through the Visual and Creative Arts can be integrated into other learning domains such as Science, English and Mathematics (Atkinson & Dash, 2005; Bamford & Dennis, 2007; Gardner, 1983). Another participant commented:

> Exposure to all forms of creativity in their life experiences, just by trying to do it! Exposing children to the different ways people can be creative. Showing them that it's not just in the Arts but pretty much everything they do. (JKM).

3 Figure: Modeling how to create a silkscreen print.

However, the research has shown that many Australian schools and tertiary institutions tend not to value visual and creative arts education so without exposure to the different levels of creativity and integrating it into other discipline area means that long-term changes in society are unlikely to occur. One participant discussed how he resolves these challenges when he is imagining teaching:

> Exposing children to the Arts as much as possible so maybe have music running in the classroom, have artworks up, have - as many forms of the creative Arts involved in the classroom as possible. And make it ongoing so the students feel comfortable with it and can express themselves. (LM).

Linking these challenges to the literature, Edwards, Gandini, and Forman (2012) comments on how Vygotsky's concept of Zone of Proximal Development (ZPD) can be used in approaches to learning:

> The Zone of Proximal Development (ZPD) works with the child's level and their potential level attained with the teacher's help "the child is about to see what the adult sees. (p. 71).

The challenge for the pre-service teachers then is to be able to imagine what creativity is, and expect to see it. Edwards, et al., (2012) point out that when educators allow time in their planning for creativity to emerge they are assisting children's learning and thereby encouraging: "Children climb their own mountains, as high as possible. No one can do more." (p.71). This statement verifies the sentiment expressed by some of the pre-service teachers during the interviews as voiced below:

> Fostering children's creativity is pursuing all the higher order thinking levels of Blooms Taxonomy (1956) and Anderson, & Krathwohl (2001). It includes self-discovery, its exploration, its extension, its problem solving. That's how I would define Creative Arts as entwined in all our everyday life experiences and how we solve issues. For some problems or learning experiences are rarely defined to one content area in a world live situation. (MS).

This participant perceives visual and creative arts education as being linked to higher order thinking skills. Mason (2006) points out creativity need to be relevant to the socio-cultural context and the physical, emotional environment. In light of these findings, the thesis uses the metaphor of 'bring out of the shadows and into the light' the relationships between pre-service teachers' prior-knowledge and

164

the creative experiences juxtaposed against the Australian Curriculum expectations of everyday practice in the primary classrooms. One participant expressed learning about the levels of creativity in visual arts is important for teachers to see that creativity leads not just too visual arts but to so many different aspects of your life.

4 Figure: Scaffolding learning where participants adopt a risk-taking attitude.

The literature according to Sternberg (2006) perceives creativity is an attitude towards life as well as ability. Creativity is complex and hard to measure and many conflicting misconceptions exist about creativity. The literature found that creativity as creative thinking and action can be taught; therefore, it is concerning those schools and tertiary institutions are not teaching children and teachers how to think creatively. Sternberg (2006) found the following:

> Creativity is as much a decision about and an attitude toward life as it is a matter of ability. Creativity is often obvious in young children, but it may be harder to find in older children and adults because their creative potential has been suppressed by a society that encourages intellectual conformity. (p. 93).

In Australia primary teachers are employed to teach all school subjects. In the privately funded schools, specialised teachers are often employed to teach specific subject matter such as music, Visual and Creative Arts and foreign languages. Furthermore, primary teachers can be divided into two distinct groups, those that are experienced and those that are novice. This study confirms previous research (Kampylis, 2010; Bamford, 2005) that primary pre-service teachers need to be educated in understanding the different levels and dispositions of creativity in order to foster children's creative thinking and action.

Learning to do:
Is there only one form of creativity practiced during the studio-based workshops?
In this study, the pre-service teachers demonstrated how they were able to transform a variety of

165

artistic cultural tools used in the workshops from simple line drawings to more elaborate sculptures and then transform those ideas into a series of contemporary printmaking with new and different meanings and interpretations. Throughout the creative process, the pre-service teachers demonstrated in their thinking, flexibility of thought and freedom from functional fixedness (Torrance, 1974). The participants were able to adopt a 'spirit of play' (Edwards, et al., 2012) to produce diverse and unique responses.

5 Figure: Participants displaying and discussing their creative acts.

In order for creativity to occur, pre-service teachers need to become sensitive to drawing out aesthetic problems points out Eisner (1972) through sensory engagement with materials. Moreover, Sternberg (1988) suggests creativity is a dynamic process involving "transformation of thought, reinterpretations, and freedom from functional fixedness in order to derive unique solutions" (p. 46). This study contributes to the work of Taylor (1959), Torrance (1974) and Sternberg (1999) who argues that by understanding the basic principles of creativity educators can enhance their own creative ability and the ability of others. The underlying premise according to Sternberg (2006) is that we can teach human beings to think and act more creatively. However, if an individual is to master a practice says Sternberg (1999) they can then transform it from one state to another. The pre-service teachers developed their own artistic creative experience in the two-hour workshops but they were unable to venture into the more complex dimensions of creativity because of the limited time. One participant discussed the benefits of 'hands-on' studio-based workshops as a valid learning approach in the curriculum:

> As a consolidation, visual arts are good because it's tactile and it's hands-on so children really get into it. I've noticed anything that's hands on, they're constructing, and they are more involved. (KN).

During the workshops the researcher observed different types of creativity being practiced. One type of creativity according to Vygotsky (2012), was the repetition of practices previously known to the learner and the other was the exploration of innovative ideas, approaches, and actions (Sternberg, 1999) that were previously unknown to the participant. For example, one participant expressed how this creative experience was an eye-opener to her because she had no prior knowledge of different types of creativity. She also commented on how the creative experience opened up different types of art forms including abstract art. The participant commented:

166

The actual materials used in the Workshops, the different types of brushes, it just shocked me how something so every day, like a toothbrush, like the different forms of lines we created with that, and how the stick just connected to a paintbrush, created a whole different line, a whole different effect on the paper. (LM).

Exploring how the materials lead the artists was an important segment of the research. The artistic material exploration consisted of recycled materials, such as drawing with toothbrushes and sticks. This form of discovery learning through material exploration links to Taylor's level I (self-expression) and level III (Inventing) where these materials interplay in new ways of creating. An example of this can be seen through the experience of grinding the Chinese black ink stick into the stone and then using the black ink they made to make intuitive mark-making by drawing with long sticks on long sheets of rice paper as illustrated in the image below.

6 Figure: Participants discovering different forms of lines.

Another element was the stone. I was just so fascinated about how the people get the soot and they form it into the rock and stirring it with the water and leaving it on the side because if you leave it in the middle it creates a dent and that was just so different to me Just simple black paint we used for a whole two hours and we created so much, like you don't need a whole box of pencils and I really appreciated that. We used one thing in so many ways for two hours and you really begin to value your materials. (SV).

Moreover, by allowing 'the materials to lead you' connects to the theories of Taylor (1959), the Reggio Emilia philosophy Edwards et al. (2012) and Eisner (1972) typology of creativity where the participants began to value the aesthetic materials they were using and realised that one cultural tool could be used in so many diverse ways. Another participant commented:

I liked learning about the in-depth of the force and the energy. The force that we have in our strokes been something that was profound…it showed, like you said, it linked to culture and how they said it shows your weak and where you aren't concentrating. How you could read that into someone's mood or his or her personality. (SV).

Material exploration opens up new possibilities where insights can be gained through emotions and personalities. In the workshops, 'Eastern' concepts such as working with the energy force, or 'chi' (qi) is the Chinese term (van Leeuwen, 2000) this is where participants use their own internal energy flow in interplays and also when exploring their own individual energy. Energy flow is an important element used in the two case studies and links to deeper levels of creativity where innovation and emergent creativity are possible.

Furthermore, most of the participants in the interviews reported that they have limited access to material exploration and other Visual Arts resources. This finding provides evidence for tertiary institutions to address the needs of pre-service teachers' preparedness to teach Visual Arts education. This can be achieved through artistic material exploration, unconscious play, and fantasy associations in order to foster pre-service teachers' own creativity, imagination and transferability to others. Another 'Eastern' concept is that of 'uncertainty' or referred to in this article as 'happy accidents'. One typical comment from a participant was:

> For me it's all about experimenting. And then you can either, get ideas from other artists or yourself. The first brush stroke is always the hardest and once you get that done the rest should be easy because you're just going along, experimenting and that's what I think too, like, I love it when I make mistakes, because that can enhance your art work. (KN).

7 Figure: Participant experimenting through meaning making.

Assessing the creative process and creative tendencies in artworks/artefacts has always been problematic because of the subjective nature of the visual and creative Arts. Torrance (1974) said six main elements could be used when identifying creative tendencies. These are fluency, flexibility, originality, elaboration, humour, and avoidance of premature closure. In the studio workshops the participants were asked to identify the creative tendencies that they were displayed in the artworks/artefacts they created. It became obvious from observations made during the workshops that from a Vygotskian lens (Vygotsky, 1928/2004), there were two archetypical forms of creativity. The first form was repeated and linked to the past and the other formed creations of new possibilities and linked to the future.

The pre-service teachers adopted roles as risk-takers, creators, and playmates (Wright, 2010) as well as inventors. Once the participants were aware of how the six elements of creativity: flexibility and risk-taking, mindfulness and avoidance of premature closure and visualisation with fantasy associations could be used to identify creative artworks/artefacts, participants began to relax and play with the six elements during the assessment process. Relaxation is one of the key themes emerging

from the analysis as being important in visual arts education. Visual arts can be used as a form of relaxation in contrast to many of the other key learning strands. For example, the participants spoke about having 'space' to explore suggesting they needed the time and relaxing environment to gain greater depth of meaning during the creative process. Other references to relaxation included: "Just having that broad space," "allowing space," "open minded and supportive, allowing space", "a little bit of time and space for children to explore" is what is needed in a quality visual arts education program.

Conclusion

The paper has considered the core role of pre-service teachers as facilitators of innovative pedagogical approaches within a socio-cultural framework. The findings suggest that pre-service teacher's need to be aware of how to design for teaching the levels of creativity and identifying dispositions such as flexibility of thought and risk-taking attitudes, mindfulness and avoidance of premature closure and the ability to visualise through fantasy associations. These dispositions become obvious when creativity is defined as an ability to sense deficiencies and gaps in knowledge when problem seeking. This does not mean that all people who adopt these dispositions will behave in a highly creative manner; however, these dispositions can increase a person's chance of behaving creatively and should be encouraged in teacher education. Additionally, the study found that by understanding the different levels of creativity pre-service teachers could connect to possibilities as they emerge out of their own creative experiences.

Acknowledgements

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170

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CHAPTER 6:
RESEARCH FINDINGS
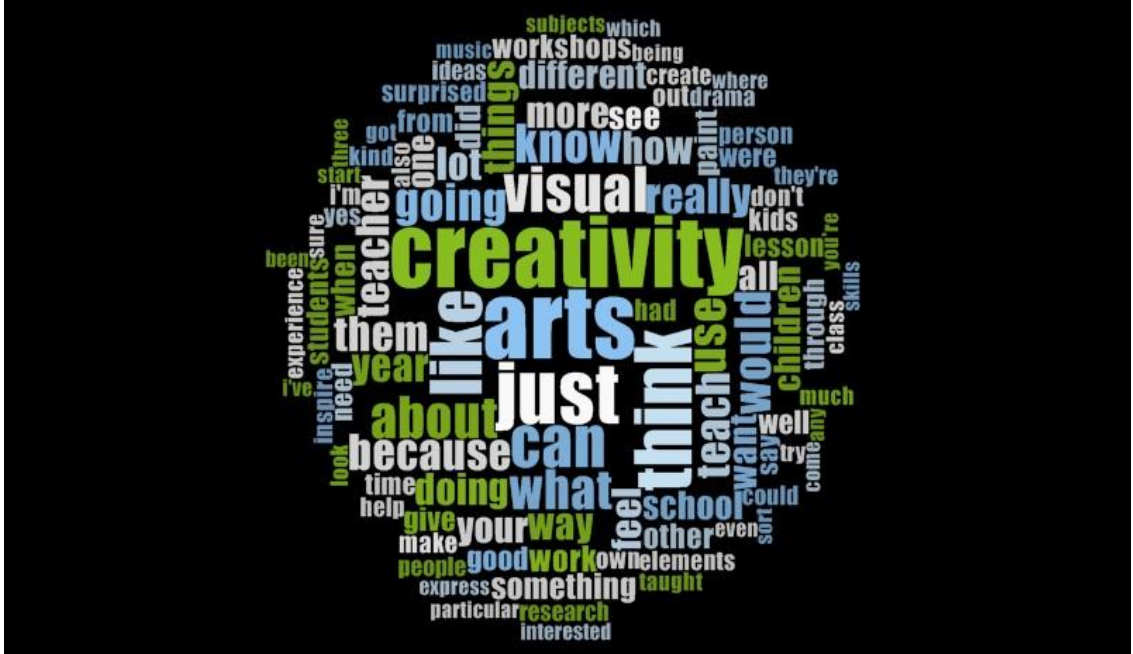
Figure 6.1   Word image representing the groundedness of findings generated by the
Nvivo10 QSR software

6.1   Introduction

Chapter 6 discusses the findings in relation to the study's theoretical framework and intersects with the research question on how to foster creativity in pre-service teachers in creative arts programs offered in teacher education. This chapter is organised into the following sections: main findings, research design and integration of the research, and limitations of the study. Chapter 7 then presents the conclusion, implications and recommendations. The mixed-method research design selected for the arts-based inquiry used a variety of expressive qualities and forms to create meaning (Barone & Eisner, 2012). Each of the six publications that constitute the main body of this thesis by publication presents elements that contributed to the research findings. The following pages give an overview of these findings and should be viewed as 'a thesis as collage' because of the way the different languages draw together to produce a larger picture of what is currently happening in the visual and creative arts programs in teacher education at this Sydney-based university.

The research approach used arts-based inquiry as a major component because it was believed to be the most appropriate way of collecting and analysing the data. The benefits of using an arts-based inquiry were several. One was that it employed empirical and interpretative methods to gain insights into the nature of creativity in teacher education. Another was it was designed to engage the audience/reader's capacity to imagine 'new worlds' (Barone & Eisner, 2012), thereby raising important questions 'for the sake of generating and redirecting conversations' (p. 24) in arts education. According to Barone & Eisner (2012) and Langer (1957), the visual arts offer non-discursive modes of representation that express how learners think, act, feel and sense the world around them. In this sense, this arts-based approach opened up possibilities to knowing how the participants felt about creativity and provided them with a deeper understanding of their implicit beliefs about teaching for creativity in the classroom. Additionally, understanding the different perspectives of pre-service teachers' artistic and creativity experience opened up future possibilities of knowing, doing, being and working together in teacher education programs.

The following diagram (Figure 6.2) indicates a visual collage showing how constructivist grounded theory was used through three phases to analyse data: (i) open coding; (ii) axial coding; and (iii) selective coding. As discussed in Chapter 3, the theoretical framework was used to extend the possibilities of fostering creativity in teacher education and the diagram shows the different components in the thesis.

The five areas of study developed from the data were:

1.   Creativity learning ('spirit of play')
2.   Teaching for creativity strategies
3.   Assessment for creative solutions
4.   Taylor's five levels of creativity theory
5.   CoP model to develop intercultural creative capabilities

The systematic analysis model was adapted from Strauss and Corbin (1998). The open coding category selected as the core or essential category for the analysis was Taylor's five levels of creativity because the creativity theory had not been applied to higher education before and it offered the best possibility of eliciting deeper levels and types of creativity. Further, making the five levels of creativity central to the analysis procedure meant it could guide the research towards different teaching strategies, such as those used in the workshops, and expand the current thinking on creativity in teacher education.

Diagram of the systematic design used to analyse the data
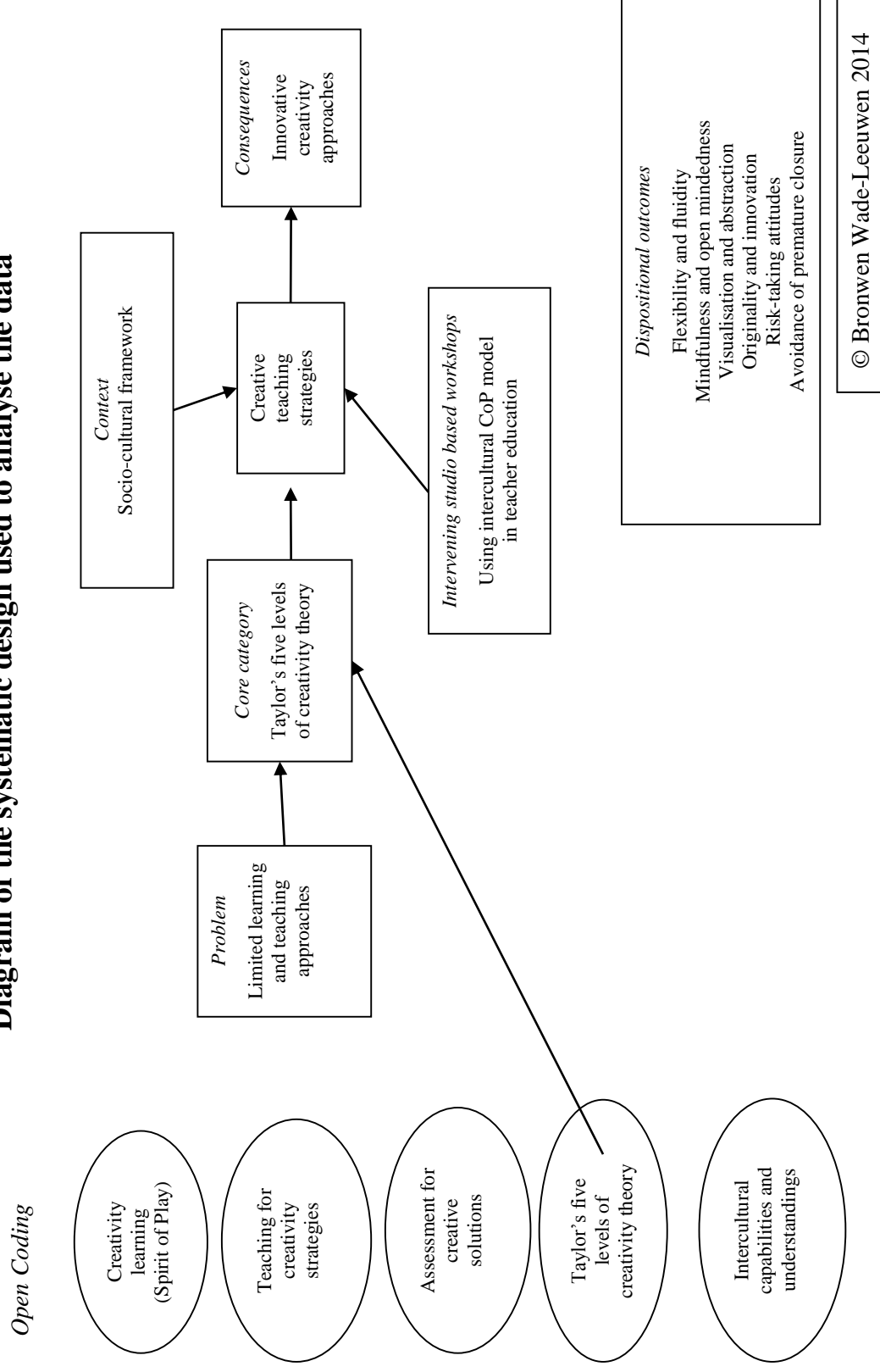
Figure 6.2   A systematic way of analysing data gathered in the study

174

This research argues that Taylor's five levels of creativity have not previously been trialled in a higher educational context and that this present study adopted and trialled a new theoretical framework (*KnoBedo* collaborative learning approach) that was designed to 'teach for the levels' with 350 pre-service teachers at a Sydney-based university. The overall findings in the study indicated higher education has a responsibility to further resource teacher education programs so that pre-service teachers can develop their own creativity before they are expected to design creative teaching strategies in their classrooms.

Figure 6.2 illustrates the systematic design that was used to structure the analysis of the data presented from the research. As discussed, the theoretical framework presented a systematic way of analysing the data and extended the possibilities of applying the theoretical framework to other visual and creative arts programs in teacher education.

Eisner (1998) points out that using only formal statistical analysis of the data is not enough to capture the subtleties of qualitative research in arts-based enquiry. In order to answer the research questions from an arts-based enquiry perspective, the researcher draws on Eisner's research (1998) which gives three levels or tiers that arts education may expect to make a contribution. The first tier, *arts-based outcomes of art education,* discusses the design and implementation of an arts program. The second tier, *arts-related outcomes of art education,* is where the artist uses artistic perception to create works with intention through material exploration. The third tier, *supplementary outcomes for art education,* looks at the effects of arts education on pre-service teachers' performance in other academic subject areas. Each tier contributes to an effective arts education is discussed in this chapter. The author also examines the fundamental research questions (detailed below) of how to foster greater creativity in pre-service teachers. This section examines the findings in relation to the first and third tier of Eisner's (1998) method as the second tier was not a focus of this study and could be an area for further research.

6.2   Arts-based outcomes of arts education

Arts-based inquiry works more with non-discursive (affective) modes of communication, making it possible to know how others feel (Langer 1957). It serves two purposes: (i) as a methodology; and (ii) as a pedagogy. These two threads of the thesis are articulated in the research findings in this chapter and give a methodology to guide the study. The arts-based outcomes from the first tier in an arts education program require art educators to actively develop outcomes that are directly related to the initial design and ongoing implementation of

the arts program. In this study, in order to teach creativity in a manner that meets the criteria of the *Australian Curriculum* and the *Creative Arts Syllabus*, the researcher looked to current local and global research, particularly around the notion of developing intercultural CoP models and working with pre-service teachers' sensory engagement. This research project investigated intercultural settings, building on Australian Aboriginal and Chinese Diaspora perspectives. Employing a socio-cultural approach to an arts-based enquiry means that knowledge, skills and experiences could be gained from both local and global contexts to provoke social and artistic interactions and collaborations with pre-service teachers during their teacher education programs. The effectiveness of this socio-cultural approach to arts education has been documented in Publications 2, 3, 4, 5 and 6, and reported in the seven participants' responses (Chapter 5). This next section will examine the research questions.

Research Question 1: What are the tensions that exist between the diverse perspectives on fostering creativity in arts education?

As reported in Chapter 2, this research is presented in the current *Australian Curriculum* context where educational policy is predominately centred on measuring student learning (e.g. NAPLAN testing regimes) while neglecting issues of context and social outcomes (Lingard, 2001). Particular concerns are the need for a broader intercultural approach to fostering creativity in and through the Arts in teacher education and within the primary educational framework. Against the background of a 'hands-off' approach to teaching visual and creative arts education in many parts of the western world, Eisner (2006) advocated that the visual and creative arts are often considered by the school community as peripheral to the real 'mission' of education.

The tensions that exist between the diverse perspectives on fostering creativity were gathered from the literature review, initial teacher questionnaire and interviews. The data revealed that the majority of participants felt limited in their ability to teach for creativity in their classrooms despite the expectation for teacher to have creative capabilities, as documented in the *Australian Curriculum* (2014). This relates to the Research Question 1 because it highlights concerns being voiced in the literature review (Bamford, 2002; Hudson, 2007; Ewing & Gibson, 2011).

Research Question 2: What approaches to creativity could be incorporated in the creative arts in teacher education?

According to Dewey (1934), learning is a fundamental social activity aimed at connecting learners with their prior experiences. This study aimed to connect pre-service teachers to social and artistic experiences by developing a variety of creative approaches that could be incorporated into their teacher education programs in the creative arts.

Responding to Research Question 2, the study examined Arts-related outcomes where the participants used artistic perception to produce their artworks/artefacts with intention through material exploration. Factors influencing the participants may include the choice of materials used, arrangement of the learning space and the atmosphere they intend to create, as well as the application of newly learnt technical skills and capabilities. The creative opportunities provided during the studio-based workshops used a variety of discovery learning approaches through a 'spirit of play' designed to further develop creative thinking and action in pre-service teachers. The semi-structured interviews found the majority of pre-service teachers felt more positive about teaching for creativity in the classroom after attending the studio-based workshops. For example, one participant commented:

> *I think I would need more 'hands-on' workshops – I'd want to go out and research it more myself as in how I can bring back these teaching strategies into the classroom, because I haven't – I'm still a bit 'iffy' about how I'm going to do this because it's such a broad thing to do and you really have to have your own classroom to understand how the children and young people work first before I bring my ideas in.* (AK-9)

This novice participant's comments have a positivity compared to the more experienced participant's comments, as follows:

> *I would like to say that I enjoyed the workshop today and the two hours were quite precious to me and I think it would be a really wonderful opportunity for the pre-service teachers that are practicing the creative arts in schools are able to have more of those sorts of 'hands-on' sessions to align and connect strategy and other content that we have to pursue in our creative arts course.* (Mackie-7)

It is obvious from comments of the novice and more experienced participants that they value the 'hands-on' intrinsic nature of the workshops. Generally, these comments reflect the opinions of all 350 participants.

First approach used in the workshops

The first approach trialled in the project focused on using creativity learning ('spirit of play'). This provided opportunities in the workshops to provoke and elicit creative tendencies, such as material explorations, narratives and old/new technologies. The findings showed that using spontaneous intuitive mark-making was a way of shifting participants towards self-expressive responses. For example, this participant described the atmosphere through a 'spirit of play' in his workshop, specifically discussing how collective creativity changed the way he made his art practice. He said:

> *Then when the music started changing, I could see other people kind of running around a bit more instead of kind of hopping around and so that changed the way I did my artwork … I remember the first half of the songs, they were more kind of free flowing and that affected the way I moved and the kind of strokes I would use because of the sound.* (Mark-5)

Another participant referred to the interplay with material exploration as a way of creative learning through a 'spirit of play'. She said:

> *Another element was the stone and the ink stone that you showed us. I'm not sure why but I was just so fascinated about how the people get the soot and they form it into the rock and stirring it with the water and leaving it on the side because if you leave it in the middle it creates a dent and that was just so different to me.* (A-9)

The two comments indicate the usefulness of creative learning through a 'spirit of play' during one component of a teacher education programs.

Second approach used in the workshops

The second approach trialled in the project focused on teaching for creativity strategies. This investigated ways of incorporating creativity into a teacher education program in the visual and creative arts. Sternberg (1999) states that 'creative individuals typically master a practice or tradition before they transform it' (p. 500); in this way, these studio-based workshops provided opportunities for participants to learn new technical skills while developing intercultural creative capabilities. The approaches to creativity used drew on old and new technologies and used different modelling and scaffolding strategies (Vygotsky, 1978). Vygotsky (2004) advocated that creativity is an action and all humans have this creative ability, to some degree, and it is influenced by the socio-cultural context in which it is created. Vygotsky's theory of the 'zone of proximal development' (ZPD) was used to help participants learn about the creative

process under the guidance of the studio leader. The ZPD process also provided opportunities for participants to discover diverse teaching strategies that support teaching for creativity in and through visual arts education. For example, this participant voiced her opinion about wanting more creative scaffolding strategies so she can transmit the lesson content to children through the process of modelling. She said:

> *I would like some more 'hands-on' experiences and some creative scaffolding demonstrated and given to me because I don't think because of my age I learn any differently I think I need the skills base so I can feel that I can be creative and transmit that successfully to children. So I need that model so that I can continue on the modelling onto the children that I will have in the future.*
> (Mackie-7)

The main finding was that pre-service teachers should learn how to design arts lessons that are 'teaching for the levels of creativity'. Examples of strategies that can produce creativity can be seen in digital collage format on the attached visual collage DVD production. For example, the visual collage DVD shows a third-year pre-service teacher in the case study investigating how Aboriginal Elder artists practice with drawing, printmaking and sculpture. The workshop started with a narrative by the studio leader and was transformed through the process of visualisation into a pencil and chalk drawing. The image was then transformed further, or re-imaged, into a three-dimensional model using plaster. It thus became a more personal symbolic representation of the narrative with meaning and a deeper understanding of the creative thinking process. This transformation of material exploration from the spoken word through the creative process of visualisation into a drawing with pencil and then into a new artefact made with plaster illustrates the importance of working with the formal qualities of aesthetic and expressive forms during arts practice.

This example demonstrated how an experienced artist could imbue personal symbolic meaning into an artwork, in comparison to a novice artist who may provide no symbolic meaning except for the way it was assigned as an exercise. Therefore, the example of a participant working with material explorations demonstrates how arts-based outcomes in arts education require a working knowledge and understanding of the culture and the personal side of the artist's work. To extend this point further, this illustrates that to differentiate between the perceptions of forms as mere 'forms' (such as a tree, ball or an orange) and the art 'form' which belongs to artists with intention, are not one-in-the-same thing. Valuing this notion of an art form and its importance to arts-based outcomes in art education is illustrated in the comments made by a third-year pre-service teacher (Mackie-7) during an interview in the workshop where she was working on her drawing and sculptural work and can be viewed on the visual collage DVD production.

Effective teaching strategies have the potential to encourage participants to produce expressive art forms that follow an arts tradition because they are repeated forms of creativity more connected to past experiences. These artworks/artefacts provide the artist with the potential for self-expression and meaning-making, especially when using mindful creativity and open-mindedness during the artistic and creative experience and when reflecting on the creative process. However, from the data collected, novice artists and pre-service teachers may not have the knowledge, technical competencies or skills to express their inner meaning through the artistic materials and this limits their ability to communicate with the children in their classroom.

Third approach used in the workshops

The third approach trialled related to developing assessment procedures for creative solutions, investigating how to develop teaching approaches that could identify different dispositions of creativity and differentiating between the varied creative solutions. This particular group of dispositions of creativity had not been drawn together in a study with pre-service teachers. Therefore, it can be surmised that without the six dispositions discussed in Chapter 5, for example, flexibility and fluidity; mindfulness and open-mindedness; visualisation and abstraction; originality and innovation and risk-taking attitudes with avoidance of premature closure, creativity is unlikely to be fostered in pre-service teachers during teacher education programs.

Reflecting on creative solutions and dispositional outcomes produced in the workshops were assessed at the end of each workshop by the participants under the guidance of the studio leader in the art appreciation sessions. The art appreciation sessions applied Torrance's (1974) theory on creativity thinking tendencies, looking for dispositions such as flexibility, fluidity, originality and elaborations emerging in the artworks/artefacts. Eisner (1998) points out that arts-based dispositional outcomes reside in the perceptions of the learners and the discourse unique to the Arts. For example, the benefits of applying a theoretical framework based in educational psychology and arts-based inquiry means that the participants were able to see how theory connects directly to practice and can then apply this new knowledge to their future classrooms. This was a successful part of the research findings because many participants were unsure of how to analyse creative artworks/artefacts and this method offered a valid and trustworthy approach to assessment in the visual and creative arts. How the participants discussed the assessment of creative solutions during the art appreciation sessions in the different workshops are further discussed in Publication 2. Bwo-me (life's breath) (2013); Publication 4. Breaking

boundaries (2012); Publication 5. Out of the shadows (2014); and Publication 6. Generating creativity (2015).

Fourth approach used in the workshops

The fourth approach trialled was Taylor's five levels of creativity as an analytical tool. The main findings, when investigating the use of Taylor's (1959) five levels of creativity, applied to a higher degree program that teaching for the levels of creativity helped in understanding the very nature of creativity and how it can be applied in studio-based practice. According to Torrance (1966), creativity is the ability to produce new ideas, solve problems, minimise gaps in knowledge and work with disharmonies. Taylor (1959) suggested that creativity has five levels, namely (i) self-expression; (ii) development of technical skills; (iii) inventing old concepts in new dimensions; (iv) working towards innovations; and (v) new emergence ideas. These definitions of creativity connect together and support each other in a way that deepens understanding. For example, at Level 1 (spontaneous self-expression), participants need to have the dispositions of flexibility and fluidity. At Level 2 (technical skills for production), participants need the disposition of mindfulness by being task-orientated and avoiding premature closure in their decision-making. At Level 3 (inventing and abstraction), participants need the dispositions of risk-taking and open mindedness so they can shift from the known into unknown spaces and establish new synergies. At Levels 4 and 5 (innovating and emergenative creativity), participants need to possess all five dispositions for creativity; this is where entirely new principles or assumptions are developed.

An example of developing technical skills in creativity at Level 2 has been illustrated by the following participant who reflects on the importance of learning new skills during her school practicum:

> *I had my last practicum day yesterday so I'm still in that modelling mode now. But I think it is important for teachers to learn skills ... For example, it is just those different techniques and displaying what's the effect to children. Such as using the brush and saying: 'If I press hard I – look at that stroke, press softly, see that stroke and I can create lines. Look at how it starts off thick and it goes thinner.' 'What does that mean I have to do if I want this line? I need more paint.* (Amber-4)

This finding demonstrates the participants' interactions with material explorations during the creative process. There is often a critical difference between the artworks/artefacts made by a novice artist compared to those made with intention by an experienced artist. The artwork created with intention by the experienced artist has something to say about the artist who is

trying to work within the constraints of the environment and present new possibilities simultaneously. A good example of a participant operating at Level 3 can be viewed on the visual collage DVD (see video production) which shows an experienced participant shifting through the three levels of creativity and who can clearly articulate her creative intentions when discussing her own artworks.

This participant talked about the technical skills, knowledge and modelling needed to teach visual arts education. She said:

> *I think to teach visual arts you've got to first practice it yourself. I think with visual arts it's not just something you can grab and demonstrate on the spot. You've got to have a bit of knowledge about it before you teach it, whether it be your drawing, your painting and I think modelling, especially for your younger kids is a crucial part in showing them how to do something.... I think it's important for teachers to learn skills. Although teachers think visual arts is just drawing at the end of the day. No, there's a lot more to it.* (Amber-4)

The findings indicated that participants need to learn how to apply visual arts language in the classroom, especially how to teach the levels of creativity in their programs. The researcher has argued that creativity is a form of communication and needs visual language in order to access and discuss the multi-dimension of creativity to others.

For example, one finding in the fourth approach is demonstrated in the participants' interactions with material explorations during the creative process showed there is often a critical difference between artworks/artefacts made by a novice artist and those made with intention by an experienced artist. The artwork created with intention by the experienced artist has something personal to say about the artist who made it and how that artist worked within the constraints of the environment. Another example of a participant operating at Level 3 can be viewed on the visual collage DVD production, showing an experienced participant operating at inventing Level 3. She clearly articulates her intentions as the artist and explains the transformations of her artworks as they shift from one expressive form to another. This example demonstrates the benefits of using an arts-informed inquiry as the theoretical frame, and is further elaborated in the fourth publication. See Publication 2. 'Bwo-me (life's breath) …' (2013); Publication 4. 'Breaking boundaries …' (2012); Publication 5. 'Out of the shadows …' (2014); and Publication 6. 'Generating creativity …' (2015).

Fifth approach used in the workshops

The fifth approach trialled was the development of intercultural capabilities through collective understandings of creativity. The socio-cultural approach to the conceptual framework provided opportunities for participants to break boundaries and shift their attitudes and behaviours. Studio-based intercultural workshops designed in an intercultural CoP model developed the participants' critical awareness and observational skills embedded in language, arts and culture.

One participant commented that she valued working together in peer rotational groups and how this strategy influenced her own art making processes. These observations assisted her with comparing and contrasting some of the artistic practices happening during the workshops. Her comment highlights some of the strengths of collective creativity:

> *The individuality that was manifested in each rotational group and how the peer learning really influenced what was produced. I think it was a really valuable process to observe. I think if there had been more time and more opportunity, then maybe other students that may not have had the time to stop and look around them at other rotational groups would have learnt a lot from each other and informed their own teaching practice. Unfortunately there was limited opportunity in the two-hour class to reflect and look at teaching practices because I think it would be nice to make connections.* (Mackie-7)

Applied to this study, Vygotsky, (2004) expresses that creativity is collaborative. For example, when collective creativity combines together in the activity (workshop), it is easier for participants to perceive how a vast amount of the total production of creativity is unidentified and belongs to a collective creative work of unknown inventors.

The last finding of this study values creativity as an attitude to life that can be achieved through working within an intercultural CoP model. For example, there was evidence from the data that collective creativity assisted them in making practical judgements of their own artistic and creative practices. Results also indicated that working collectively with peers and professional artists in a supportive environment nurtured the participants' own creative thoughts. This open space allowed them to feel relaxed and more confident as their inner thoughts were expressed in a more meaningful manner. Building on their artistic and creative experiences through supportive environments, collaborative interactions, creative thinking, action and reflection means the Arts are being valued as an attitude to life.

This section of Chapter 6 has focused on different approaches to fostering creativity and found that developing intercultural capabilities through collective understandings is limited in research

particularly within the primary educational framework and teacher education at this university. Further research in this area would be beneficial as the *Australian Curriculum* (ACARA, 2014) and the Creative Arts syllabus (BOS, 2006) is encouraging educators to build critical and creative networks between schools, universities, and the local and global communities. Developing opportunities to work collaboratively within an intercultural CoP model is discussed further in Publication 2. 'Bwo-me (life's breath) …' (2013); Publication 3. 'Fire, ink and play …' (2011); Publication 4. 'Breaking boundaries …' (2012); Publication 5. 'Out of the shadows …' (2014); and Publication 6. 'Generating creativity …' (2015). The next section in this chapter examines Question 3 regarding the pre-service teacher's implicit theories of creativity.

Research Question 3: What were pre-service teachers' implicit beliefs on creativity?

One of the aims of the study was to investigate the opinions, attitudes and behaviours of pre-service teachers towards creativity in visual arts education. This study provides evidence through theoretical and empirical methods that mentors, such as studio leaders, and social factors such as studio-based intercultural workshops have a profound influence on the level of creativity that pre-service teachers can attain during their teacher education. For example, this participant represented the majority of responses from the study as he believed that creativity was connected to self-expression stated:

> *I think it's just being – not being – denied any roads or paths or thought*
> *processes, must being able to do what you want. I think freedom is creativity.*
> (Mark-7)

However, a more experienced participant who defined creativity from a different perspective said:

> *There are different forms of creativity. I think that everyone has a form of*
> *creativity that – whether he or she recognises that it is creativity is different, but*
> *I think that everyone has that ability.* (Luke-6)

Understanding the different implicit theories of the participants as expressed during the interviews indicates there are many different definitions. Theorists agree that defining creativity can be very challenging and complex (Taylor, 1959; Kaufman & Sternberg, 2010; Runco, 2014). That is why this study used a broad working definition in order to encapsulate the different participant responses. Teacher education needs to prepare pre-service teachers so that

they fully understand the nature of creativity before they can offer creativity opportunities and solutions to children in the classroom. Prior to teaching in the classroom, arts educators need to be aware of their own creativity before they will know how to identify when children are engaging and developing their creative capacities and dispositions. This raises an important question for further research such as: *Do pre-service teachers make better practical judgements when they are aware of the different definitions and theories of creativity?*

Taylor's five levels of creativity were applied in order to interpret the data from the semi-structured interviews to understand and clarify the emergent themes arising from the study. The main findings related to the experiences the participants had in the artistic and creative arts and how these experiences intersected with Taylor's levels of creativity. The results were based on an examination of Taylor's Level 1, 'self-expressive', included three novice participants operating mainly at this level (Susie, Sharon and Nikki). Taylor's Level 2, 'technical/production skills', was completed by two participants (Amber and Mark) who had some intermediate experience of the visual and creative arts through their primary school education. Taylor's Level 3 'inventiveness', included two participants (Luke and Mackie) who were experienced in different expressive forms and could visualise how art could be a metaphor for life. For example, they both used visual and creative arts in their private lives with Luke practising drawing from a young age and eventually learning new technological drawing tools, such as CAD drawing for designers.

Whereas, Mackie was a mature aged student and through her desire to lead an arts-based life with her children, she showed them different artistic techniques to do at home and she spent weekends visiting art galleries and the theatre. It is interesting to note, in inventive creativity, the main motivation for participants was to use a 'spirit of play' through sensory engagement with the material exploration. This attitude to life helped shift them beyond their normal practices from a position of known risk-taking behaviours that reached unknown spaces. Inventive creativity in visual and creative arts usually develops over time and with diverse artistic and creative experiences. To be in Taylor's inventing level means the person has explored the medium (Taylor's Level 1) and has some sense of mastery over the 'technical/productive skills' (Taylor's Level 2). In Taylor's level of 'inventing', a cognitive shift occurs where the person's thinking shifts from what is 'known' to 'unknown' ways of thinking. In this study, there was not the time or resources to investigate Taylor's Levels 4 and 5 structure of hierarchy; therefore, it is an area for further research. Addressing Research Question 3, *What were the pre-service teachers 'implicit beliefs about creativity?* tended to raise further questions related to how to teach about creativity during teacher education programs and what explicit

theories would generate an effective arts program? The next section examines the research question on how creativity can be fostered in teacher education programs.

Research Question 4: How can creativity be fostered in creative arts programs in teacher education?

This research builds on Sternberg's (1999) and Torrance's (1966) definitions of creativity and defines it for teacher educators as a willingness to engage in new ideas and approaches through a process of becoming sensitive to problems, deficiencies and gaps in research. Adopting a broad working definition, the researcher was able to capture the different aspects of the multi-dimensional facets of creativity. How to foster creativity in pre-service teachers during their visual and creative arts programs is a complex question. The research has found that creativity is performative and therefore can be repeated. Pre-service teachers have their own implicit beliefs and choose their own creative ways of thinking about teaching for creativity in the classroom. Their considerations include the choice of materials they use, the arrangement of the learning space and the atmosphere that they intend to create. The plethora of creativity and imagination the teacher can use in the classroom is endless.

The study identified six dispositions of creativity are essential for artistic and creative experience, and without them, creativity is unlikely to occur in an arts-based program. Dispositions are the capacity to think creatively, innovates, solve problems and engage with new disciplines (ACARA, 2012, p. 20). They are primarily learned as a consequence of experiences that are related to the self of the person. Listed below six dispositional outcomes emerging from the data analysed supported from participant statements and observations made after contributing to the studio-based workshops. The dispositions of creativity found in this study were:

Definitions of dispositions of creativity

1.   **Flexibility and fluidity:** The ability to think flexibly, to communicate well and to work in teams

2.   **Mindfulness and open-mindedness:** An ability to recognise and explore multiple-dimensions and perspectives. Focusing more on the creative process rather than the product

3.   **Visualisation and abstraction:** A willingness to imagine and visualise new possibilities by developing abstraction for further meaning-making.

4.   **Originality and innovation:** The capacities to think creatively, innovate, solve problems and engage with new disciplines'

5.   **Risk-taking attitudes:** The ability to go beyond the techniques normally used to approach a problem and generate innovative solutions

6.   **Avoidance of premature closure in creative thinking:** A desire to explore ambiguity and avoid premature closure long enough to make the mental leap to original ideas.

Eisner and Barone (2012) advocate the importance of fostering specific artistic and dispositions of creativity during art making and prioritising the learner's dispositions of creativity is the key to an effective arts education program. Pre-service teachers have the power to change their presentations when they use their imagination, and develop their dispositions of creativity and capacities. Additionally, they bring to their practice their own socio-cultural background knowledge and practices, which can benefit the arts programs therefore, it is not only the school that influences children's creativity but it is within the power of the pre-service teacher to shift their 'ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (UNESCO, 2013, p. 35).

This section of the chapter investigated ways of fostering creativity in pre-service teachers and has the unexpected benefit of highlighting six dispositions of creativity which seem key to the process and research question on how to foster creativity in teacher education programs. For further information on the developing dispositions of creativity see Publication 2. 'Bwo-me (life's breath) …' (2013); Publication 3. 'Fire, ink and play …' (2011); Publication 4. 'Breaking boundaries …' (2012); Publication 5. 'Out of the shadows …' (2014); and Publication 6. 'Generating creativity …' (2015).

6.3   Supplementary outcomes for art education

Fostering supplementary outcomes for art education relates to the effects of art education on pre-service teachers' performance in other academic subject areas. The supplementary rationale for an effective art education program is that skills such as artistic perception, creation and comprehension of the Arts are transferable to non-arts tasks and practical activities. This study mainly draws on arts-based outcomes in the first tier and arts-related outcomes in the second tier of art education. Supplementary outcomes are the third tier and this area of research has not been the focus of this study due to time constraints. Instead, the main focus centred on understanding creativity as new ideas, approaches and actions and how to teach the levels of creativity.

One important question that could be raised from a supplementary-based outcome perspective is: *Does the pre-service teacher's ability to experience relationships in any of the different art forms enable him/her to think more creatively about integrating them into other discipline areas of the curriculum?* In other words: *Were the skills developed in the studio-based workshops from an arts experience transferable into other areas of the curriculum?*

One participant addressed examples of how the Arts can be integrated into the curriculum. She is a novice artist who has been well mentored through her practicum experience in schools, and as a result of this scaffolding, she feels confident to teach visual and creative arts to children. She said:

> *I am a fourth-year student so I have had my two practical experiences now out at a school and I have been lucky that this semester my teacher has actually offered me a lot of opportunities to do creative arts. There's a lot of integration, there's a lot of artwork. In fact we're actually running out of space to put the artwork around the room so we're rotating. I do feel confident and I do feel that we can use the syllabus very well for visual arts.* (Sharon-2)

The above response demonstrates how participants feel about their teacher education program, particularly pointing out that many teachers felt limited in their knowledge, skills and experience of visual and creative arts.

A few months later, one of the participants contacted me. She was a novice artist and the workshops had a lasting impression on her professional development. She said:

> *The lessons that you gave me in the workshops are still printed in my brain, in my long-term memory. They have given me the courage and confidence in looking for that something special to make the lessons a lot more interesting for children. Now this term is going to be a test for me as my students are more visual so I am going to try and include visual art in most lessons, if not all the lessons and what I would like to do is to integrate as many KLAs as possible into each topic.* (Nikki-3)

It is obvious from responses gathered from the workshops that the participants need to learn how to foster creativity in their teaching, therefore, the researcher designed a new methodological approach called the *KnoBedo* collaborative model which can be used in most arts education programs (further discussed in Chapter 7).

KnoBedo collaborative learning approach

The main findings revealed that visual and creative arts courses in higher educational programs can foster pre-service teachers' own dispositions of creativity so they can design strategies for teaching at all levels of creativity in their classrooms. The five main findings discussed in this chapter indicate that teacher education programs must support new approaches to learning and teaching for creativity if they are to cultivate creativity and imagination in teacher education. The Australian National Professional Standards for Teachers (AITSL, 2011) encourages pre-service teachers to develop:

> *Critical and creative thinking and resources to engage children and young people by drawing on local, national, and global context through virtual and/or real environments for their programs.* (Item 3.4, p. 14)

This notion links to the conceptual framework for this study in Chapter 3. In order to meet the expectations stipulated by AITSL (2011) and the *Australian Curriculum* (2014), the researcher developed a new approach to learning and teaching the Arts, termed the *KnoBedo* collaborative learning approach (to know, be, do and work together). This approach emerged as the study progressed, commencing with a practical understanding of how Taylor's five levels of creativity, Torrance's dispositions of creativity and UNESCO's (1998) Delors report on the four pillars of learning needed in quality education (Publications 5 and 6). Additionally, Eisner (1998b) argued for an arts-based inquiry based in a theoretical framework structure that supported teachers' understandings of how to teach the expressive arts in the classroom. The inquiry resulted in the creation of a new model called the *KnoBedo* collaborative learning approach to visual and creative arts in teacher education through a series of ideas about how creativity could be fostered within the expressive and creative arts.

By incorporating the *KnoBedo* collaborative learning approach, pre-service teachers will learn how to develop their own creativity and foster creativity in the children and young people they teach. The *KnoBedo* collaborative learning approach identifies dispositions of creativity therefore, resulting in an awareness of new ideas worth pursuing to achieve creativity solutions in their own artworks/artefacts or those of others. A diagram of the *KnoBedo* collaborative learning approach is illustrated in Chapter 7 and discussed in Publication 5 and 6.

The *KnoBedo* collaborative learning approach draws on Sternberg (2006b) who insightfully said that 'creativity is as much a decision about and an attitude toward life as it is a matter of ability' (p. 93). This study uses the metaphor, 'creativity is an attitude to life'. This is significant

because, firstly, the project was situated in an intercultural environment of diverse socio-cultural influences, and secondly, there is currently limited understanding of how to foster creativity in pre-service teachers during their visual and creative arts programs. Educational institutes in Australia need to re-imagine what teacher education programs can teach and how these lessons can be transferred into a school environment. It is obvious from this study that teaching for creativity evokes a set of values required in an effective art education program at tertiary level and within the primary schools framework. The unique qualities needed for an effective art education program have been discussed in this chapter and throughout the thesis publications. These qualities are seldom found in other discipline areas of the curriculum because they are based in artistic and creative expressive forms only available to the five arts disciplines (dance, drama, media, music and visual arts). Chapter 7 concludes the research with a discussion on a newly-proposed theoretical framework designed to teach the level of creativity, limitations of the study, implications for teacher education programs and future directions in art education.

6.4 Summary

Chapter 6 discusses the findings in relation to the study's theoretical framework and intersects with the research question on how to foster creativity in pre-service teachers in creative arts programs offered in teacher education. The underlying purpose of this section was to use a systematic design to analyse the data using constructivist grounded theory by examining the different perspectives and contextual situations and addressing the research questions in order to understand how creativity could be fostered in pre-service teachers during teacher education programs. The examples provided in this chapter suggest that it was possible to identify three tiers to which art education can make a valuable contribution. Additionally, the research suggests that pre-service teachers warrant further support to develop self-confidence in artistic and creative inquiry. One suggestion is to develop new approaches to learning, resulting in the *KnoBedo* collaborative learning approach being introduced. Chapter 7 concludes the research with a discussion on a newly-proposed collaborative learning approach designed to engage the senses, teach Taylor's level of creativity, develop creative thinking and capabilities in pre-service teachers and discuss implications and recommendations for future directions in art education.

6.5 Publication P6 – Generating 'creativity' and provocations through visual arts education: A major goal of twenty-first century arts education

International Journal of Arts Education (to be published in 2015)

Preamble

Section 6.5 presents the findings from the interview data in the research study and a related publication. The related article will discuss the method of analysis of the interview data and finally the interview results will be examined to understand if pre-service teachers' understanding of creativity changed after participating in the studio-based workshops.

These participants represented over 10 cultural groups including Australia, Bangladesh, Mainland China, Hungary, India, Italy, Korea, Malta and Sri Lanka who all participated in the compulsory visual and creative arts program during the two-year study period (2011-2012). The interview findings support the results of the initial large-scale quantitative analysis. Positive changes were reported in their confidence to practice and teach creativity in visual arts education. These changes were attributed to their exposure to interactive group work with professional artists within an intercultural CoP model, as well as having the opportunity to develop self-expression through a 'spirit of play'.

The participants expressed that this newly gained practical experiential knowledge contributed to their creative and cognitive skills and assisted with cultivating creativity and imagination in their art practice. The overall creative and artistic experiences had an impact on the way they viewed the role of the teacher in developing creativity. The participants voiced their opinions that they were able to imagine how to generate creative solutions by thinking 'outside the box' and by breaking boundaries beyond their normal practices.

This article concludes with an understanding that the main role of studio-based workshops was to develop a 'spirit of play' in pre-service teachers so they can become adaptable, flexible and creative risk-takers by providing them with opportunities to experience various creativity techniques, strategies and approaches that could be incorporated into different learning environments within the university and school context.

(Please refer to the following 16 pages)

Generating "Creativity" and Provocations through Visual Arts Education: A Major Goal of Twenty-first Century Arts Education

Bronwen Wade Leeuwen, Macquarie University, Australia

Abstract: The workshop is designed to encourage preservice teachers to find new ways of discovery through the Visual Arts by working with a newly developed Chinese Mo-ku-chi model (ink splash drawing with energy). This Arts-based research inquiry explores "creativity" to foster critical thinking, communication, collaboration, and creativity, particularly in the aesthetic, expressive and emotive domains (Kao 2010). It's a practical-oriented intercultural (Australian-Chinese) workshop employing a discovery learning approach where participants have the opportunities to use a "spirit of play," to engage their imagination, to delight in the unknown in a non-traditional environment. The results of using this Arts-based learning approach have been very positive in generating collaborative and individual "creativity." The findings reveal that five levels of "creativity" can be developed through visualisation, meaning-making, and practical experiential knowledge of the artistic creative experience, yet its potential is often ignored in preservice teacher education.

Keywords: Visualisation, Meaning-making, Intercultural (Australian-Chinese)

Introduction

Cultivating creativity and imagination in teachers' education seems to have been largely ignored by educational policymakers in most of the Western world (Sullivan 2005, Wu 2011). However, most scholars agree, a major goal of 21st-century education is to develop critical thinking, creativity, communication, and collaboration, and teachers need to become adaptable, flexible, and creative risk-takers (Kao and Oxford 2014). This paper is part of a larger doctoral research interested in developing understandings and insights into how creativity can be fostered in pre-service teachers during their teacher education. I argued that the main role of studio-based workshops is to develop a "spirit of play" in pre-service teachers so they can become adaptable, flexible, and creative risk-takers. The paper is divided into three sections. The first section discusses creativity educational research and the theoretical framework used in the thesis. The second section introduces the methodology and method used during the study, and thirdly, the article provides some relative examples from the interview findings and comments on the results in relation to the literature.

Related to the Literature

This paper links to future goals of 21st-century education perceives teachers as facilitators of learning and engaging children through critical and creative thinking skills and processes. Similarly, the Australian National Professional Standards for Teachers (AITSL 2011) encourages pre-service art teachers to develop:

> Critical and creative thinking and resources to engage children and young people by drawing on local, national, and global content through virtual and/or real environments for their programs (Item 3.4, p. 14).

However, according to Maras (2014), Ewing and Gibson (2011), limited funding and resources have been given to support creativity research in Arts education in Australian government primary schools. Interestingly, some Asian-Pacific countries such as Hong Kong,

COMMON GROUND

South Korea, Singapore and Taiwan have intentionally supported the Arts as central to fostering creativity in their learners. Many of these Asian Pacific program initiatives, generally developed through collaboration with UNESCO Institute for Statistics (2013), focus on evidence-based research outcomes that recognise children's creativity and imagination need to be stimulated in the classroom (Wu 2011). This research draws on some Asian-Pacific regional contemporary artists from the Chinese Diaspora (Tan 2011, Wang 2010, Lo 2010), and collaboratively works in partnerships through a cultural community of practice (CoP) Model (Lave and Wenger 1991, Wenger and Snyder 2000). These experienced artists form the critical friends groups (Bamford 2002) in the study and generate visual artworks, artefacts, or media arts installations specifically designed to re-imagine connections to their traditional cultural past (Wang 2010, Wade-Leeuwen 2011, 2013a, b).

Creativity as a Creative Process

Early studies into the concept of 'creativity' in the 1950's according to Chase, Ferguson, and Hoey (2014), believed it to be a predisposition of the individual and a quality that only belonged to those exceptionally talented and gifted people. Today, creativity researchers generally agree (Eisner 2006, Kampylis and Valtanen 2010); definitions are more diverse and complex. The study of creativity from an educational psychology perspective, became popular in and around the 1960's and Sternberg (1999) found the word *creativity* was not included in the index of the Psychological Abstracts prior to 1950 and that only 0.2% of published articles referred to any form of creativity tendencies. J.P. Guilford was instrumental in drawing people's attention to the importance of understanding the nature of creativity in children's education (Torrance and Myers 1970). Over the years, the field of Psychology used varied and conflicting definitions of creativity mainly for the purposes of measurement (Chase, Ferguson, and Hoey 2014). Some of the notable early theorists interested in the creative process were (Taylor 1959, Torrance and Wu 1974, Eisner 1965). Taylor (1959) built his research on Maslow's theory of self-actualisation (Maslow 1959) and envisaged that the heart of creativity was the creative process, which has the ability to mould new experiences through different and diverse learning approaches. Taylor (1959) saw the creative experience as being divided into five interconnected dimensional levels starting with self-expression; technical skills; inventiveness and abstracts; innovation and eventually emergent creativity which had the power to change cultures. Taylor commented that the majority of researchers were hoping to find emergent creativity or what some researchers refer to as Big 'C' (Beghetto, Kaufman, and Baxter 2011) but they were only looking for it in little 'c' areas of self-expression and technical skills. Whereas, Torrance (1972b) defines creativity as "the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies" (663-4). Understanding creativity to be a process means that psychologists were able to measure the different facets of creativity using a psychometric approach pioneered by J.P. Guildford's group (Guilford 1967, Csikszentmihalyi 2014), confirming the complex and multi-faceted nature of creativity. Building on Guilford's research, Torrance's perceived creativity as a process, product, or disposition (Torrance 1972b). Whereas, Eisner (1972), saw creativity more from the perspective of a creative process and as a form of inquiry that focused mainly on the inter-relationship between the individual, the visual arts, and the socio-cultural context. Eisner (2006) continually expressed his concerns about the lack of quality experiential Visual Arts education programs being offered to children and he lamented about this state of affairs until his death in 2013. He believed, as does the researcher, that the Arts produce different outcomes compared to the social sciences, for instance, creative inquiry is less concerned with critique or policy and more concerned with generating deeper understandings, making meaning from lived experiences and raising important questions. Creativity as a creative experience that lives in an in-between-space of 'uncertainty' alters when divergent thinking comes into play because it provides opportunities for choice and discovery

(Nickerson 1999) and shifts the learner out of their normal practices either by rejecting what has already been known or breaking boundary towards new future directions.

Creativity as a Disposition

Contemporary scholars according to the Macquarie Dictionary (2011) suggest creativity can be a disposition, an inclination or tendency to act in a particular way. Building on these notions of creativity, Sternberg (1999) defined creativity as the ability to produce of new ideas, approaches, and actions; furthermore, creative individuals typically master a practice or tradition before they transform it. This broad definition of creativity demonstrates an awareness of the tensions that exist between the different facets of creativity. Sternberg, Grigorenko, and Singer (2004) believe that creativity cannot be subjected to the same interpretations as other scientific or logical methods. Collectively, these researchers support the notion that creativity involves not only ability but also a decision about life. Sternberg (2006) argues "creativity is in large part a decision that anyone can make but that few people do make because they find the cost too high. Society can play a role in the development of creativity by increasing the rewards and decreasing the costs" (97). Artists and creative industries are intrinsically aware of the benefits and costs involved when being creative through their life experiences. Thomas (2007), offers a complimentary perspective on creativity in Visual Arts education by suggesting creativity is a continual gift exchange between the visual arts educator and his/her pupil. Thomas perceives creativity to be the space, which is caught during studio-classroom negotiations between the studio leader and learner. This paper adopts a working definition of creativity as the production of new ideas, approaches, and actions caught in the space of becoming sensitive to gaps in knowledge and uncertainties.

The Theoretical Framework

The paper builds on Vygotsky (1978) socio-cultural framework by drawing on the social interactions of the pre-service teachers during the studio-based workshops. It also examines how Vygotsky's theory of the zone of proximal development (ZPD) shapes and scaffolds the learning of the pre-service art teachers. This has been further discussed in previous publications (Wade-Leeuwen 2013b, 2014). There were two main foundational principles that underpinned this study. The first principle was to work within a cultural community of practice model (Lave and Wenger 1991), and this research project explores how creativity can intersect between pre-service teachers' preparing for teaching education, visual arts, and the socio-cultural context. Wenger and Snyder (2000) argues for new kinds of organisational designs that require the involvement of informal gatherings of people who are passionate about an issue. These researchers advocate that people learn particular knowledge and skills, which rely on the environment where the learning takes place. In this study, the studio-based hands-on workshops were seen as ideal and as an instrumental way of supporting pre-service art teachers during this research. The researchers were experienced educators with the primary researcher positioned as an Arts educator of children and adults and had studied Arts in the Asia-Pacific region. This meant that she was well connected to various artistic cultural communities of practices particularly in Australia, Shanghai, Singapore, and Taiwan. This interconnection to the Asia-Pacific region became a major design element. Drawing on local, national, and global content, the study space was designed as a creative learning environment where studio practice exposed the pre-service teachers to the art practices of several different contemporary artists. These experienced artists included Australian Indigenous Artists (Samuels 2011) to Australian Chinese Artists (Lo 2010), Mainland Chinese Artists (Wang 2010), and Lin Hwai-min, a cosmopolitan choreographer with Asian/Euro-American connections (Szeto 2010), as well as Singaporean Artists (Tan 2011). One artist was studied during the twenty-four workshops and this process

provoked opportunities for these artists to discuss their artist practice with the pre-service art teachers.

The second foundational principle of this study was to explore various creativity techniques and approaches to teacher education. Drawing on the UNICEF Convention on the Rights of the Child (United Nations High Commissioner for Human Rights 1989), which is a belief in the importance of play in children's lives including playing through the Arts (Wright 2010). The theories of the Reggio Emilia educators (Edwards, Gandini, and Forman 2011) privilege language, art, and play as necessary ways of fostering creative learning environments, which they refer to as the 'third teacher'. In this study, the third teacher is the creative learning environments where the research space becomes experiential studio-based hands-on workshops. This is where pre-service teachers are provided with various opportunities to develop their artistic and scientific embodied experiences. This space is where the third teacher provokes novice artists to explore the multidimensional facets of creativity. Provocations allow the materials to lead them into new possibilities with an expectation from the co-learners (researchers) that studio-based workshops have the capacity to provide for collaborations and interactions, opening spaces for creativity to exist.

Figure 1. Studio Leader is learning new ideas, approaches and actions.

Methodology

This small-scale, Arts-based research inquiry(Barone and Eisner 2012) used a mixed method approach (Creswell 2012) to analyse pre-service art teachers' opinions and experiences of creativity during their studio practice. The study took place on a Sydney-based university campus over a 2-year period with 24 studio-based hands-on workshops offered to 350 pre-service teachers in their third or final-fourth year of a Creative Arts Course. The sample cohort came from diverse cultural backgrounds from regions including Australia, Africa, Europe, United Kingdom, North America, Mainland China, Hungary, India, Korea, Sri Lanka, and Taiwan. The age range was between 20 and 55 years with the majority age between 20-30 years. The methods consisted firstly of a quantitative questionnaire, which was given to the total cohort of 350 pre-service art teachers. This was followed by participant observations made during the 2-hour

studio-based hands-on workshops. Following this, 12 final-fourth year pre-service art teachers then volunteered to participate in qualitative semi-structured interviews, which were conducted on campus. The semi-structured interviews generally lasted for 30 to 60 minutes for each interview. This follow-up part of the research aimed at evaluating the role of the studio-based workshop activities with experienced Artists particularly, noting any surprises or changes in opinions; improved confidence or creative skill competencies; or an awareness of possible teaching techniques or strategies for facilitating creative performances with children.

The multiple case studies (Stake 2010, Yin 2014) were used with experienced Artists from diverse cultural backgrounds including case studies with Aboriginal Elder Artists; Chinese Master Artists from Australia, Shanghai, Singapore and Taiwan. The researcher designed an innovative approach to learning and teaching creativity called the *Kobedo* collaborative approach. The *Kobedo* collaborative approach is informed by the UNESCO Delor's Report (1998) on global pedagogical methods and research by Nickerson (1999), Boden (2001). This approach is designed to encourage a 'spirit of play' in learners while exploring various creativity techniques from four different aspects:

1. Learning to know about domain-specific knowledge
2. Learning to be represents building intrinsic motivation
3. Learning to do stimulates curiosity and exploration
4. Learning to work together with Artists in cultural community of practice.

The *Knobedo* collaborative approach encouraged connections with Artists from diverse cultural backgrounds that formed part of the critical friends groups. The role of the critical friends was to mentor the pre-service teachers during improvisational approaches (Sawyer 2011) used in the studio-based workshops. The improvisational approaches provoked opportunities for generating creativity through choice, discovery and expression as well as building pre-service teacher's creative skills and dispositions.

Reporting on the Findings

The preliminary research results from the initial quantitative questionnaire (Creswell 2013) given to the total 350-person cohort indicated that the majority of these primary generalist pre-service art teachers in third and final-fourth year generally do not feel competent to teach Visual Arts education to children or young people. The results indicated that 80% of the (n=350) participants' responses in the questionnaire indicated that their background prior knowledge and experience in visual arts was limited. Further discussion on this section of the research can be found in an earlier article (Wade-Leeuwen 2013). The data analysis used a constructivist grounded theory (Charmaz 2006) and Nvivo10 matric coding system as a way of developing useful themes related to learning to know, learning to be, learning to do and learning to work together.

In the following section, the interviewees discuss elements that surprised them during their participation in the studio-based workshops. The paper draws on the *NoBeDo* approach which is divided into four phases these are: phase one: learning to know; phase two: learning to be; phase three: learning to do; phase four: learning to work together through making and art appreciation. The interviewee comments are then followed by links to the literature and the conclusion.

Phase One: "Learning to Know"

The first role of the studio-based workshop was to build basic skills. 'Learning to know' supported beliefs about diverse creativity techniques (Nickerson 1999). The role of the studio-based workshops was to expose the learners to experience possibilities through a variety of old

and new technologies. For example, a variety of painting brushes, ink stones and sticks and digital images of installation artefacts were investigated. In this case study, the participants were introduced to the Moku-chi (ink-splash drawing with spiritual energy) technique, they learnt about the 10th century style of painting and how to use the classical Chinese four treasures of brush, paper, ink stick and stone. The Chinese four treasures are discussed further in (van Leeuwen 2000).

Figure. 2. Participants learning how to hold the Chinese brush

Building new skills included: how to hold the brush, how to engage in ritual breathing while making brush strokes, and learning how to mix the Chinese black ink in the traditional way with water, ink stick, and stone (van Leeuwen 2000). In addition, each brush was explored as a new inventive tool to use when drawing or painting. The Chinese brushes consisted of different types of hair such as sheep, fox, squirrel, goat, and horse hair provoking the Artist to explore the materials in new and exciting ways that created different mark-making effects. The aim of using different brushes in the workshops was to encouraged curiosity and exploration often leading to inventiveness, which connects to the multifaceted dimensions of Taylor's (1959) five levels of creativity discussed in earlier papers (Wade-Leeuwen 2014). One of the participants in the workshops commented:

> I would like to say that I enjoyed the workshop today and the two hours were quite precious to me. I think it would be a really wonderful opportunity if the pre-service teachers that are practicing the Creative Arts in schools are able to have more of those sorts of 'hands-on' sessions to align and connect strategies and other content that we have to pursue in the curriculum (S10).

This is a common thread expressed by the participants in the workshops. It became obvious to the researchers through the participant observations made during the study that the allocated two hours per week to Arts education was seen by the pre-service art teachers and the Studio Leader of the Creative Arts program as limited. Additionally, it was felt by all of the interviewees that they were not given the resources needed for developing deep learning in the Creative Arts. The pre-service art teachers called for a need to develop teaching techniques and strategies for facilitating creative performance in the classroom.

Phase Two: "Learning to Be"

The second role of the studio-based workshop was to encourage 'learning to be' draws on the Belonging, being and becoming: Early years Framework (Australian Government 2009) and notions of creativity as described by Reggio Emilia approach to early childhood . Creativity is described in the 'hundred languages of children' (Edwards, Gandini, and Forman 2011) sees different ways of knowing and being. This participant reflected on how she believed that teachers need to engage with the subject and she saw teaching as performing. She reflects on what she learnt from her workshop experience:

> I learnt how teachers in particular need to engage their students and by engaging their students they need to be energetic in themselves with the subjects that they're teaching. They need to carry out that information in a very enthusiastic way, therefore they are 'performing'. The workshop really made me think about how I could make engaging lessons and I'm sad that I did this lesson towards the end of my practice teaching because had I done it earlier I probably would have used a few more of that type of methodology (S10).

This pre-service art teacher reflected on how the workshop made her think more about making more engaging lessons for children. She realised that it was through being and experiencing creativity in the workshop she was able to generate more ideas and approaches to use with children.

Figure 2. Participants are learning how to use the Chinese Four Treasures

Phase Three: "Learning to Doing"

A third role of the studio-based workshops was to provide opportunities for the pre-service art teachers to engage in material exploration through choice and discovery. 'Learning to doing' (Dewey 1938), in the workshops meant the pre-service teachers were discovering innovative approaches through a 'spirit of play'. For example, the workshops stimulated action through material exploration while providing opportunities to shift towards artistic and scientific responses. The participants were encouraged by the studio leader to apply an improvisational approach to discover new possibilities using different cultural tools (Vygotsky 1978). They were provoked to 'break boundaries' by inventing new ways of interacting with the materials through mark-making (Eisner 1972). It was interesting to observe how the more experienced participants in visual and creative arts were able to use the cultural tools to reveal two different forms of meaning (Wertsch 2000). One form of meaning was abstracted and the other form was more related to their personal visual language system. It soon became apparent that the relationship between language, thought, ink-splash painting, and drawing could function as a powerful tool for learning. One participant reflected on how she valued the opportunity to experience the creative process during her teacher education commenting:

> I think the opportunity to not just listen but to interact and react with the other students during a creative process and hear ideas and things they have brought to that particular moment is quite valuable to one's teaching practice (M10).

According to (Brooks 2009), says the role of the teacher is to provoke occasions of discovery by facilitating stimulating dialogue with the children. This means that artistic expression is stimulated by opportunities to explore open spaces through visual language, art, and play.

Another participant said in one of the semi-structured interviews said she was amazed at the variety of creative techniques that she observed in the workshops:

> At first I thought how is everyone going to go round and doing the same things because it's all going to be like a black dotted line or whatever but at the end I realised two groups had totally different artwork and you can get a lot out of it and also extend that work. Because at first I thought everyone's using black so how is it going to be different, it's just probably going around black lines, but yeah, I was amazed at that. And the using of the brush, like holding of the brush. I wasn't aware of that. Oh, with the energy 'chi', definitely. I didn't think about it, like with the energy. I didn't think the more energy you have; the darker the line would go. I though you just drew a line sort of thing (NV11).

These comments from pre-service art teachers that participated in the study demonstrate that the intercultural workshops were of value to most teachers. It also links into what (Wright 2010) has claimed: that it is the actual act of drawing (either manually or digitally) that can extend children's (or adults) senses, imagination, emotions, and aesthetic capabilities. The workshops used visual thought, drawing, and ink-splash painting as a way of illustrating how participants could use creativity by connecting to fantasy associations, imagination, and visualisations. One of the participants described what he was surprised about the workshops by saying:

> I would have to make sure that I'm very comfortable with the content; I wouldn't be comfortable teaching a similar sort of thing in dance, but maybe in visual arts.

> I didn't expect the second part, you know, where you had the drawing, painting on the floor. I didn't expect the dance would be involved in visual arts like that. All the visual

arts I've come across has been very straightforward - it's been very what you expect of visual arts. Visual arts at school has been mask making, albeit, it was surrealist mask making, but it was still very standard step by step sort of thing, rather than ... Just having that broad space to dance and paint was - free expression, it was different!

Figure. 3. Participants collaboratively drawing with cultural tools on the floor.

This participant had engaged in the Arts since he was in early primary school and considered himself as an experienced drawer. He expressed how he needed to be comfortable with the domain-specific knowledge before he would attempt to facilitate teaching techniques similar to the workshops. However, he did also express he had not seen Art classes like this before and that this creative experience encouraged a willingness to take risks.

'Learning by doing' in the workshops prepared the pre-service art teachers to become more mindful of their actions. Learning different expressive ways of mark-making meant that drawing was being used as a vehicle for transforming their thoughts into greater mental abilities; the joining of thought, language, and drawing to make meaning (Brooks 2009). Chinese ink washes on rice or mulberry paper and long sheets of drawing paper were the main medium used. The only instruction given at this phase was how to develop the skill of holding the Chinese brush. This phase started with the narrative told by the studio leader and then the participants interpreted their own thoughts into visible images. Several works were created and then there was time allocated to discuss and compare the outcomes of their artworks with others. These interactions with others within a cultural community of practice provided a safe place for exchange of ideas and valuing others' works.

Observing and experiencing multiple ways of using the different cultural tools was the main strength of the research, demonstrating how pre-service art teachers can develop their creative skills and how these capacities could be applied to every other key learning area (KLA) in the primary curriculum (ACARA 2011). It is important to understand the different

perspectives of the pre-service art teachers because it provides opportunities to build on their tacit knowledge and first–hand experiences of what they were learning to do, and also to document what actually happened during the workshops.

Figure 4. Participants are engaging in Arts experiences through a 'spirit of play'.

Phase Four: "Learning to Work Together"

The role of the studio-based workshop were to support a cultural community of practice model (Lave and Wenger 1991, Wenger and Snyder 2000). The studio-based workshops were designed to provide opportunities for novice Artists (pre-service art teachers) to work together with more experienced artists in creative partnerships both on campus and off campus at art galleries and museums. For example, the studio-based workshops built on Vygotsky (2004) theory of zone of proximal development, where knowledgeable others provide scaffolding particularly for the novice Artists. For example, in one of the workshops, the Artists Professor Wang Tien-de, (Wang 2010) created a contemporary Chinese installation consisting of 3-dimensional sculptures and 2-dimensional linear artworks on rice paper scrolls. The sculptures were made from the burning of rice paper books with calligraphic black Chinese ink (Wade-Leeuwen 2011). These burnt sculptures were re-invented into landscape which were burnt out using a cigarette as a brush with continuous line formation rather than drawn with a brush in the normal way. A video production by Wang (2010) describes how he typically masters the traditional four treasures before transforming his artwork into these new creative practices.

It is interesting to note, the studio-based workshops provided a creative learning environment for the participants to explore new ways of learning by working together with the experienced artists and their peers. Scaffolding strategies employed by the Artists shifted the novice artists beyond their present level of creativity skill development towards new possibilities. One participant commented on how she had observed the different peer groups during rotational activities and expressed her surprise at how the group dynamics differed from the other groups. She said:

> An example in the workshop was a group I observed where their art was all very similar and yet completely different to the rotational group I had seen before. As a group they had scaffold each other, experienced peer learning and followed each other and it was obvious that a person was leading and directing while the others were following so they were basing their creativity by basically climbing on the shoulders of others. However, that did not transmit to other groups because they were quite involved and separately engaged (M8).

202

Developing collaborative interactions and interplays during the studio-based workshops provided opportunities for different perspectives to surface. The value of learning by experience was clearly described by this participant:

> The value I could see of doing that was that after that rotation had been completed when you came together and shared and observed the work the students were actually seeing multi-ways of using the same process to achieve totally different outcomes (M8).

The comments from the semi-structured interviews suggested that by applying strategies from the Reggio Emilia philosophy (Edwards, Gandini, and Forman 2011) during the workshops, participants discovered how the Arts could be both meaningful and valuable as both collaborative and individual processes. These findings contribute significantly towards better understanding of how various creativity techniques can be applied in informal classroom settings.

Engaging in art appreciation involves responding to the creative outcomes, artworks or artefacts through discussion and some form of evaluation. This is a very subjective space requiring the role of the studio-based workshop to encourage confidence and a willingness to take risks (Nickerson 1999). The pre-service art teachers who were limited in experience using artistic material practice, often found it hard to engage with any confidence in these art appreciation sessions.

Figure 5. Learning to work together by making and responding to Art.

Another role of the studio workshop was to provide a safe environment that encouraged confidence and a willingness to take risks (Torrance 1972a). As indicated in the quantitative questionnaire, the majority of the total cohort of pre-service art teachers in the Creative Arts course (80%) felt limited in their ability and confidence to discuss artworks with artists. This finding confirms (Hudson and Hudson 2007) research that showed how pre-service art teachers felt they needed more support with their own artistic practice. This research also showed that pre-service art teachers felt inhibited about bringing out creativity in the classroom. Another research study conducted by (Bowell 2012) found that when pre-service art teachers work with expert artists in cultural communities of practice they further develop their confidence and competence in visual art education.

The final fourth phase in the studio-based workshops is to discuss and display the creative outcomes and artefacts produced. The Arts: Australian curriculum (ACARA 2014) encourages teachers to discuss and display their artworks for art appreciation sessions. The participants display their 2-dimension and 3-dimension creative outcomes for critical discussion. Discussion centred around elements suggested by Torrance and Wu (1974) as identifiers of different creative dispositions. Examples of creative dispositions evident in the study included: flexibility and fluidity, mindfulness and visualisation, avoidance of premature closure and risk-taking behaviours.

In summary, the major research goal was to explore various creativity techniques in studio-based workshops through collaborative interactions between experienced Artists and pre-service art teachers. The participants were encouraged to build on their creative dispositions through encounters with different expressive forms of drawing and painting, printing and modelling. The researcher observed more experienced pre-service teachers were able to shift emphasis from spontaneous intuitive mark-making to a more mediated abstracted symbolic system (Vygotsky 1962, 6), this supports Taylor's (1959) notion that creativity is multifaceted and there are different types and levels of creativity. The study highlights how improvisational approaches such as the *Kobedo* collaborative approach can build basic creativity skills and dispositions; as yet its potential is generally ignored in the teacher education programs at this university. The outcomes of the findings suggest that studio-based workshops encouraged pre-service at teachers to become more mindful of the multi-dimensional levels of creativity. Furthermore, all of the pre-service art teachers interviewed expressed improved confidence while collaboratively connecting to Artists, peers and materials through these improvisational approaches in the workshops and were able to visualise new techniques and strategies to use with children.

Conclusion

In the context of a rapidly changing world under consistent global pressures to be critical and creative (ACARA, 2014), I argued the main role of studio-based workshops is to develop a 'spirit of play' in pre-service teachers so they can become adaptable, flexible and creative risk-takers. The workshops became the 'third teacher' as they provided opportunities for pre-service teachers to experience various creativity techniques, strategies and approaches that could be incorporated into different learning environments. In what the researcher referred to as the *Kobedo* collaborative approach to pedagogy, new ideas, approaches and actions were experienced with peers, intercultural Artists and the Studio Leader. The study found these improvisational approaches fostered pre-service teacher's creativity dispositions such as flexibility and fluidity, mindfulness and visualisation, avoidance of premature closure and risk-taking behaviours. These findings contribute significantly towards a better understanding of how a cultural community of practice can be incorporated in teacher education programs.

Acknowledgements

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ABOUT THE AUTHOR

Bronwen Wade Leeuwen: PhD Candidate, Department of Education, Faculty of Human Sciences, Macquarie University & Workshop Art Centre, Sydney, New South Wales, Australia

CHAPTER 7:
CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

Figure 7.1   Work image represents the groundedness of the research generated by the *Nvivo10 QSR* software

7.1   Conclusion

Chapter 7 considers the main results, limitations of the study, implications for fostering creativity in teacher education and future directions for research in this area. The purpose of this chapter is to return to Research Question 4 presented in Chapter 1: *How can creativity be fostered in creative arts programs in teacher education?* This chapter raises more important questions that may be of benefit to educators, academics, policymakers and students in the field of visual and creative arts education.

KnoBedo collaborative learning approach model

Eisner (1998b) argued that art education, as a discipline, had a structure that was based on a set of ideas about how a particular phenomenon within that discipline was related. His theoretical position supported the notion that structure was necessary in order to progress and broaden understanding, as well as provide a framework for learning and teaching in the expressive arts. Arts-based enquiry methods suggest inventing a new framework to use in the field.

The new theoretical framework model, *KnoBedo* collaborative learning approach, was designed specifically for this study as a pictorial representation of the structure necessary to progress and broaden understandings in the Arts. It connects directly to the goals of the *Australian Curriculum*: The Arts (ACARA, 2011), that is, to develop critical and creative thinking in learners.

In the main elements of the *KnoBedo* collaborative learning approach, the theories of creativity have been unified into one model, drawing on Taylor's (1959) five levels of creativity, Eisner's typology of creativity (1972), Torrance's (1972) dispositions of creativity, Vygotsky's socio-cultural framework (1978), UNESCO's (1998) four learning approaches and Wenger's (2000) communities of practice model (Figure 7.2).

A description of the *KnoBedo* collaborative learning approach includes a large outer circular shape that represents a socio-cultural approach connecting with arts-based inquiry needed in an effective arts program that caters for different socio-cultural environments. As discussed in Chapter 2, literature review, the Reggio Emilia philosophy of the environmental setting as the third teacher (Edwards, et al., 2012) is an arrangement of creative spaces in a classroom environment where stimulating scaffold strategies and discovery learning experiences such as arts-based inquiry provoke the learner into discovering elements of their own creative abilities. In the inner circular shape, the triadic elements are artistic and creative knowledge, practice of teaching and learning approaches that encourage engagement in intercultural CoP models. Radiating from the outer circle are different teaching strategies that use Taylor's five levels of creativity, commencing with Level 1 (self-expression), Level 2 (technical skills and productions), Level 3 (inventing and abstraction), Level 4 (innovating) and Level 5 (emergenative creativity). It should be noted that Levels 1 and 2 can be used interchangeably with children and adults, whereas, Levels 3 and 4/5 can be used progressively over a period of time during more gifted and talented programs.
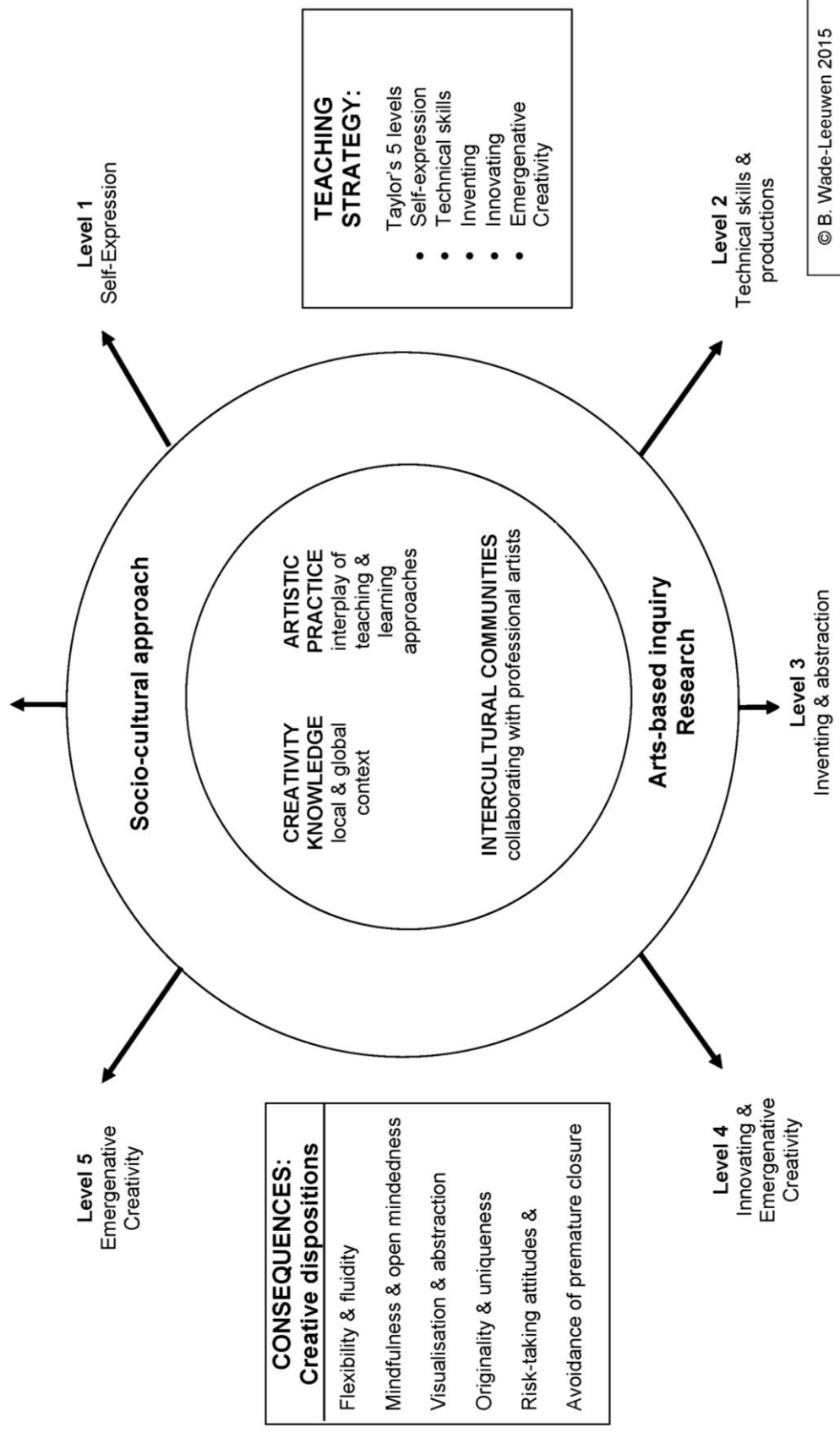
Level 1
Self-Expression

TEACHING STRATEGY:

Taylor's 5 levels
- Self-expression
- Technical skills
- Inventing
- Innovating
- Emergenative Creativity

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Level 2
Technical skills & productions

Socio-cultural approach

CREATIVITY KNOWLEDGE
local & global context

ARTISTIC PRACTICE
interplay of teaching & learning approaches

INTERCULTURAL COMMUNITIES
collaborating with professional artists

Arts-based inquiry Research

Level 3
Inventing & abstraction

Level 5
Emergenative Creativity

CONSEQUENCES:
Creative dispositions

Flexibility & fluidity

Mindfulness & open mindedness

Visualisation & abstraction

Originality & uniqueness

Risk-taking attitudes &

Avoidance of premature closure

Level 4
Innovating & Emergenative Creativity

Figure 7.2 *KnoBeDo* collaborative learning approach model

The *KnobeDo* collaborate approach model is designed to teach the levels of creativity, including a 'spirit of play', scaffolding learning through the zone of proximal development (ZPD) (Vygosky, 1978) and practical strategies, such as Eisner's (1972) boundary breaking, inventing and aesthetic organisation. The curriculum approach and teaching strategies that have emerged from the research confirm the use a socio-cultural approach in teacher education. The use of the intercultural context in the form of studio-based workshops made it possible to work within an intercultural CoP model (refer to Publications P6 and P7).

7.2   Integration of the research

The first finding of Taylor's (1959) five levels of creativity can be applied during the workshops to understand the very nature of creativity, For example, at Level 1 (spontaneous self-expression); participants need to have the disposition of flexibility and fluidity. At Level 2 (technical skills for production), participants need the disposition of mindfulness by being task-orientated and avoiding premature closure in their decision-making. At Level 3 (inventing and abstraction), participants need the disposition of risk-taking and open mindedness so they can shift from the known into unknown spaces to establish new synergies. At Levels 4 and 5 (innovating and emergent creativity), participants need to possess all six dispositions for creativity according to Taylor's (1959) theory that entirely new principles or assumptions are developed.

An intention of this study was to integrate different socio-cultural factors that influence teaching strategies into studio-based workshops. Socio-factors include engaging a learner's sensations (feelings, thinking, seeing, hearing and touching), practising through a 'spirit of play' using discovery approaches to find new possibilities with various material explorations and investigating further artistic and creative experiences. Guided by prior research, a modification to Taylor's (1959) levels of creativity theory was trialled during studio-based workshops, followed by documentation in the multiple case studies conducted. Further, this study extended the five levels of creativity theory beyond constructivist grounded theory analysis generally used in social and cognitive psychology applied in visual and creative arts programs in higher education. One modification was made to the concept of innovation which has changed over the last 50 years to a more contemporary notion in artistic and expressive forms shifting from one unknown space to another.

The second finding was how to identify and differentiate between dispositions of creativity that are needed for creativity during the workshops (Table 7.1).

Table 7.1   Six dispositions of creativity

	Dispositions of creativity	Definition	Levels of creativity
1.	Flexibility and fluidity		1 to 5
2.	Mindfulness and open mindedness	The learner is actively present, task oriented and focused more on the creative process than on the product or outcomes.	Depending on the socio-cultural environment of participants and educators.
3.	Visualisation and abstraction for meaning-making		
4.	Originality and novelty		
5.	Risk-taking attitudes	The ability to go beyond the techniques normally used to approach a problem and generate innovative solutions (UNESCO, 2013, p. 35).	
6.	Avoidance of premature closure in creative thinking skills		

The six dispositions of creativity, build on the works of Taylor (1959), Eisner (1972), Torrance (1974), Sternberg (1999), Brooks (2002), Langer (2006) and UNESCO (2013), were used in the studio-based workshops, emphasising on the creative process, which according to ACARA (2012) requires 'capacities to think creatively, innovate, solve problems and engage with new disciplines' (p. 20). Dispositions of creativity were identified as one of the main findings in the study and learning occurred as a consequence of direct experiences with the Arts during the studio-based workshops. This particular group of dispositions of creativity had never been drawn together in a study with pre-service teachers in higher education and it can be surmised that without these six dispositions, creativity is unlikely to occur. Chapter 1 raised significant concerns that this cohort of 350 pre-service teachers at the Australian university did not possess the necessary skills at the commencement of their visual and creative arts course and they were unfamiliar with non-discursive ways of knowing. It was only through the creative experiences offered in the studio-based workshops that creative capacities and skills were able to emerge.

The third finding was the researcher's pre-existing proposition (hypothesis) that has been confirmed in this study. Teachers need to learn how to design 'teaching for creativity'. For example, studio-based workshops provided opportunities for modelling in the visual and creative arts through using different scaffolding strategies (Vygotsky, 1978). Vygotsky's theory

of the 'Zone of Proximal Development' (ZPD) was used to help participants learn about the creative process under the guidance of the studio leader. The ZPD process provided opportunities for participants to discover diverse teaching strategies that support teaching for creativity in and through the visual arts education.

The fourth finding was that collaborative creativity within a cultural CoP develops pre-service teachers' intercultural understandings and capabilities, including 'an understanding of, and respect for, diversity and difference, as well as openness to different perspectives and experiences that, in turn, develop world-mindedness and a sense of global citizenship' (ACARA, 2012, p. 9). Additionally, the intercultural CoP model provides a rich environment for collaborative creativity, as expressed by participants who commented that they valued working interculturally, particularly learning about old and new technologies in and through the Arts.

The fifth and final finding was that creativity needs to be valued as an attitude to life. All main findings emerge towards creativity being an attitude to life and this was supported by findings in the case studies. This means that pre-service teachers need to understand the nature of creativity before they can offer creativity opportunities and creative solutions in the classroom.

The five most important findings in the study revealed that visual and creative arts courses in higher educational programs can foster pre-service teachers' own dispositions of creativity so that they can potentially design strategies for teaching all levels of creativity in the classrooms. What this research adds to the literature is new knowledge regarding the definition of creativity and new methodology. In this study, the creative and artistic experiences created a holistic notion of creativity, consisting of the creative person, process, product and environment. Despite earlier studies that provided evidence of pre-service teachers developing effective creative arts programs in schools (Bamford, 2002; (Macknight, 2009), the findings of this study indicate that the process of creativity in visual and creative arts education is not an individual attitude, personal disposition or attribute but it is an attitude to life that requires nurturing during the early years (Robinson, 2011).

Other recent research on education systems in Europe, United Kingdom (Wyse & Ferrari, 2014) and USA (Kim, 2011) show the fostering of creativity in primary education has declined since the 1990s in primary education, however, increasing in secondary education in the United Kingdom (Wyse & Ferrari, 2014). Related to these findings, this study reveals that pre-service teachers are not learning about creativity in their teacher education programs at this university.

Similar to Brown (2006) and Kampylis (2010), the findings of this study indicate that creativity is not supported or resourced in Australia's current education system. This is mainly due to the economic climate and a strong emphasis on NAPLAN's testing regimes and functional skills. Furthermore, it implies that creativity for pre-service teachers should be investigated, not only from an Aboriginal, Chinese or Western perspective, but from a broader perspective, namely through a cultural CoP that values creativity as an attitude to life.

7.3   Limitations

There were several limitations to this study. The first limitation was there is only one visual and creative arts course offered at a Sydney-based university in Australia, which could form part of a longitudinal study as a way of developing intercultural understandings across the globe. The findings of the study are subjected to alternative interpretations and were not intended for formal generalisable and transferable pedagogy to other contexts. A further limitation of the study was its focus on only two diverse cultural groups for the case studies, (i) Aboriginal Elder artists; and (ii) Chinese master artists. Future replications of the study could focus on fostering creativity with other cultural groups in creative partnerships across the globe. Among the benefits would be the opportunity to compare and contrast resultant findings with current findings presented in this study. Another major limitation was the two-hour time limit allocated for the studio workshops; this was not enough time to investigate the possible dispositions that could occur during collaborative interactions in the workshops and a more in-depth study of creativity would require further research.

Some other challenges encountered with this research design included the complexity of the nature of creativity as an area of enquiry; this made the research difficult to elicit and map logically. Additionally, pre-service teachers presented diverse implicit beliefs and theories on the nature of creativity; 50% had never experienced visual arts prior to their teacher education program in Australia. This meant that the relationship between the participant's implicit beliefs and their knowledge and experience of the visual and creative arts required the researcher to design a program that consisted of an eclectic mix of theories and processes in order to encapsulate an effective arts education course that could capture the richness and depth required in teacher education. A further limitation was that this research worked with pre-service teachers, however, future studies could include in-service teachers to examine and compare their implicit beliefs and behaviours with those of pre-service teachers (Appendices 4, 5 and 6).

Summary

The teaching of creativity is not being supported by education in Australia in three ways:

1. Within constraints of the current *Australian Curriculum*, the visual and creative arts syllabus (BOS, 2006) has not been revised at the time of submitting this research. However, from the research data analysis and literature review presented in Chapter 2 (Ewing, 2012) visual and creative arts are not being valued in many primary school curriculums possibly due to priority being given to high-stake testing regimes such as NAPLAN.

2. There are many misconceptions about the nature of creativity and learning in primary schools (Kampylis, 2010; Ewing, 2012), and the literature review (Chapter 2) found that children need to be given further opportunities during schooling to learn new ideas, approaches, dispositions of creativity and actions.

3. There is a need for more focussed support from policymakers, tertiary institutions and schools. For example, in 2014-2015 at this Australian university, the Creative Arts course structure remained the same during the data gathering stages but was further cut to four hours of teacher instruction and practice over the two-year degree, that is, one hour of theory and three hours of practice were provided to pre-service teachers during their teacher education in the Arts.

As an artist, researcher and teacher, the researcher wanted to help pre-service teachers promote creativity in the school curriculum. This research investigates the impact of experiential studio-based workshops conducted with 350 primary pre-service teachers during their third or fourth (final) year in a creative arts course offered at a Sydney-based university. The major goal was to develop their creative capacity and non-discursive ways of knowing so that they could foster creativity in the classroom. The initial findings revealed that 80% of the total group felt limited in their confidence to teach visual arts; this indicated that they lacked the knowledge needed for creative development. The findings also indicated that 60% believed creativity was purely a form of self-expression.

There is a need to build on existing knowledge through the five levels of creativity (in order):

1. Spontaneous self-expression

2. Technical skills and production

3. Inventiveness (moving from the known to the unknown)

4. Innovation (combining two un-known together)

5. Emergent creativity (the ability to change cultures)

The outcomes suggest that art teachers need to be mindful of how the creative experience can generate layers of meaning. All participants expressed improved confidence after collaboratively connecting through the creative process. They could visualise new approaches to use with children in their classes. It became increasingly evident that building on their cultural background and artistic experiences shape what the artist educator brings to the creative space of the pupil.

7.4   Implications for the study

Pre-service teacher education programs are governed by two government accreditation processes. The first is provided by the Tertiary Education Quality and Standards Agency (TEQSA), whose most recent higher education standards framework says that content needs to be based on the following:

1. Current knowledge and scholarship in relevant academic disciplines.

2. Study of the underlying theoretical and conceptual frameworks of the academic disciplines or fields of education or research represented in the course.

3. Emerging concepts that are informed by recent scholarship, current research findings and, where applicable, advances in practice.

The second process is the accreditation of initial teacher education programs through the Australian Institute for Teaching and School Leadership (AITSL). AITSL's mission statement requires evidence-based practice, which has been found to be the most effective basis for improving teaching and school leadership (AITSL, 2011). In other words, Australian teacher educators in the Arts need to support their programs with current pedagogical research and valid theory applied to proven and emerging conceptual frameworks in art practice.

The context of this study resulted from the direction of the first national *Australian Curriculum* (ACARA, 2014), underpinned by philosophical decisions made under the Melbourne Declaration on Educational Goals for Young Australians (MCEETYA, 2008). This declaration clearly values the important need to develop 'confidence in creative individuals', a society that is 'cohesive and culturally diverse, and values Australia's Indigenous cultures' (MCEETYA, 2008, p. 4). The implications for this study came from the concern that pre-service teachers are not experiencing art processes or modelling creative quality pedagogical strategies within their teacher education programs. Further, visual and creative arts education programs generally lack the resources needed to teach creativity (Kampylis, 2010), including confidence, priority, time, knowledge and experience, thereby causing major concerns for pre-service teachers.

A multiple case study approach (Stake, 2010; Yin, 2014) was incorporated into the design of this study in order to:

1.   Identify the different perspectives of pre-service teachers in relation to their own creativity capacities.

2.   Investigate innovative teaching strategies that could foster creativity in and through the visual and creative arts in the classroom.

The aim of the study was to use a socio-cultural approach within an arts-based inquiry to develop pre-service teachers' artistic and creative experiences during their teacher education. Elements from multiple perspectives were experienced during the researcher's fieldtrips to Reggio Emilia in Italy and the Assets School in Honolulu, as well as informed by the literature and her own personal experience as an art/researcher/teacher Irwin and others (2006) contributed to the researcher's understanding of what is needed in a quality visual and creative arts program in teacher education. Both schools support a child-centred philosophy and adopt elements from the UNESCO (2013) vision towards the development of an imaginary global creativity where children and young people develop 'the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (p. 35).

The relevance of the Reggio Emilia philosophy to this research is that it informed the foundation principles behind the whole study, namely, that 'creativity requires that the school of knowing finds connections with the school of expressing' (Edwards et al., 2011, p. 71). For example, exposing children and pre-service teachers to playful creative ways of thinking can develop a better sense of well-being and self-realisation (Rinaldi, 2006). The Reggio Emilia

philosophy also informed the teaching strategies used in the studio-based workshops because it showed how professional artists (studio leaders) can build creative learning environments (known as the 'third teacher') and confirmed that working in creatively designed environments can open up windows to other imagined worlds for the participants.

Contributions of the Assets School educators to this research included understanding that teachers can facilitate their students' competencies, skills and knowledge through specifically-designed and sequenced strategies and learning approaches that foster critical and creative thinking in the classroom. Creativity in the Assets School was demonstrated through a focus on students with learning difficulties communicating their ideas through different creative arts, such as visual arts, new technologies, music, dance or dramatic play. The implications of these research findings in the domain of primary education can direct future policy development in teacher education, and this can be achieved through an emergent curriculum where the studio leader builds on creative learning environments ('third teacher') and where the learners are encouraged to go beyond 'normal' approaches to a problem and generate innovative solutions in the classroom.

There are several implications arising from this study. In terms of theoretical debates, they show that pre-service teachers have implicit beliefs about creativity (Kampylis, 2010, Sawyer, 2006; Brown, 2006) and varied perspectives on the nature of creativity. Importantly, 60% of the participants perceived that creativity was mainly about spontaneous self-expression, and prior to participating in the studio-based workshops, they were not shown other ways of defining creativity in their course.

Discourses on the construction of creativity suggest that creativity is complex and hard to define (Sawyer, 2006) but it is generally agreed that key defining elements of creativity are originality and value based on thinking skills that relate to discovery and enquiry (Wyse & Ferrari, 2014). For the purposes of this study, the working definition of creativity builds on a combination of Sternberg's (1999) and Torrance's (1966) definitions, whereby creativity is defined as creative thinking and action and a willingness to engage in new ideas and approaches through a process of becoming sensitive to problems, deficiencies and gaps in research. As applied to this study, reference is made to the phenomenon of creativity as creative thinking and action, including the creative person, creative process, creative product and creative environments and/or spaces. Taylor's (1959) 'five levels of creativity' construct was a useful addition to the theoretical framework because of its humanist perspective and works on multi-dimensional levels of creativity. This allows pre-service teachers to develop creative solutions in different ways

during their teacher education. The five main socio-cultural factors that influenced the study have been analysed under the following themes:

1. Creativity learning through a 'spirit of play' and 'third teacher' – The role of the pre-service teacher in visual and creative arts.

2. Teaching for creativity strategies such as using scaffolding pre-service teachers' zone of proximal development (ZPD).

3. Assessment for creative solutions by using five sets of identifiers: (i) flexibility and fluidity; (ii) mindfulness and open-mindedness; (iii) visualisation and abstraction; (iv) originality and novelty; and (iv) risk-taking attitudes and avoidance of premature closure in creative thinking skills.

4. Teaching Taylor's levels of creativity in the classroom: Level 1 (self-expression); Level 2 (technical skills and productions); Level 3 (inventing and abstraction); Level 4 (innovating); and Level 5 (emergenative creativity).

4. Developing intercultural capabilities and understandings through an intercultural CoP model by working collaboratively with professional artists and creative industries.

This study also has implications for teaching-for-creativity strategies. In the context of a rapidly changing world under constant global pressure to be critical and creative, the researcher have argued that pre-service teachers can learn to teach all levels of creativity. In the semi-structured interviews conducted after the workshops, the participants said they were now familiar with some explicit theories on the nature of creativity and could see themselves designing innovative strategies to teach for creativity. In a similar way, (Craft, 2001; Spendlove & Wyse, 2008) pointed out that creativity is an integral part of children's learning and the teacher, as facilitator of their learning, is required to provide creativity opportunities in the classroom.

Some teaching strategies used in the workshops developed intercultural understanding through material exploration with old and new technologies. Such exploration opened up new possibilities, generating insights gained through emotions and personalities. In the workshops, participants worked with some 'Eastern' concepts as an energy force, or 'chi' (qi), the Chinese term used to explore one's own internal energy flow. Energy flow was an important element in

the two case studies because it linked to deeper levels of creativity where innovation and emergenative creativity are possible. As one participant (AK-8) commented:

> *With the energy I didn't think the more energy you have, the darker the line would go. I though you just drawing a line sort of thing, so yeah that was amazing! (AK-8)*

Similar to several other responses, one participant (AK-6) found that there were too many rules and parameters, suggesting that children need to be guided by the teacher through broader parameters in the *Australian Curriculum*. He felt that this over-prescribed structure hindered children's creativity in the classroom. This finding links to the Reggio Emilia's philosophy on the types of structures required for early childhood centres based on an emergent curriculum where children and young people interests guide the curriculum process and creativity emerges out of the interactions with peers and the environment. The researcher proposes that the interchangeable multi-dimensional five levels of creativity can provide a framework that is broad and deep enough for participants to develop an understanding of the different facets of creativity. Applying the *KnoBedo* collaborative learning approach to teacher education means that pre-service teachers will experience and practice working with an emergent curriculum during their professional development.

Using an arts-based inquiry method during teacher education provided beneficial implications for future directions in teacher education because educators, policymakers and the general public need to see a clear connection between creativity and learning otherwise barriers to creativity in classrooms will continue (p. 459). One participant pointed out that it is not explicit what creativity is and neither was it ever explained during the teacher education programs, therefore, novice pre-service teachers find it difficult to understand creativity because they do not know what it is or how to develop strategies to foster creativity in the classroom. This resulted in 80% of participants not prepared to teach for creativity in the classroom.

The implications for this present study draw from research by Catterall and Peppler (2007), which showed that a high quality visual and creative arts educational program can evaluate changes in the uniqueness of children and young people's artworks/artefacts when using elements from Torrance's (1974) theories on creative thinking. This study applied the four elements of creativity thinking from the TTC testing, namely, fluidity, flexibility, uniqueness and elaboration. These elements were applied to the artworks/artefacts developed in the case studies (Chapter 5). It was found that by actively looking for these four creativity tendencies in

artworks/artefacts, the participants were able to develop a visual language around the evaluation of artworks which in turn developed their critical and creative thinking skills.

The literature review put forward an argument for a new universal visual language, one that transcended cultures and unified people of all creeds. Sahasrabudhe (2005) claimed that the Arts should become integrated into one's life practices, thereby presenting new possibilities that could 'reconcile ancient world views reflected in Asian cultures with the needs of the 21st century' (p. 47). Australia has responded to the call for communication across the globe by launching a new universal visual language through the Arts Council's Arts Education Strategic Plan in 2014.

The study responded to the research questions by adopting two contrasting analytical lenses (Barone, 2001). The first looked at how socio-cultural forces can influence the creative process; and the second lens looked at what program organisers can learn from the diverse perspectives of pre-service teachers. This socio-cultural approach (Vygotsky, 2004) found that exposing participants to diverse socio-cultural experiences had a positive impact on their development. Operating within a socio-cultural approach meant that the study focussed on the participants' social collaborative interactions with diverse professional artists (studio leaders) and peers during the studio-based workshops. The implications for this study were that planning, implementing and evaluation teaching and learning processes were in accordance with AITSL Professional Practice Standards 3 (AITSL, 2011). The participants were encouraged to adopt dispositions, such as risk-takers, creators and playmates (Wright, 2010a) while interacting socially and artistically with different cultural tools, such as drawing, painting, printmaking and modelling. However, without the knowledge, experience or skills in teaching for creativity, pre-service teachers will not be able to foster creativity in the children they teach.

Implications for the cultural community of practice (CoP)

The *Australian Curriculum* (ACARA, 2012) states that intercultural capability 'involves students learning about the diversity of languages, institutions and practices, and developing perspectives on complex issues related to global diversity' (p. 22). In other words, teachers are expected to encourage primary school children to value intercultural relationships during their schooling.

The cultural CoP model showed the participants' alternative strategies through which they could connect to contemporary global trends in both real and virtual worlds. Further benefits of the cultural CoP model meant that they could collaborate with a network of professional artists in

creative partnerships. This meant that they had opportunities to engage with 'diverse cultures in ways that recognise commonalities and differences create connections with others and cultivate mutual respect' (ACARA, 2014, p. 15). Related to this study, Wenger's (2000) CoP model was fundamental because of its notion that creativity is collaborative. By working with diverse professional artists and other creative industries, the participants felt they were supported and mentored through the creative process whereby they learnt new skills and techniques to take into the classroom. The implications for a CoP model were that they opened possibilities for developing new art practices in teacher education programs and these newly-established networks could be further developed when teaching in the classroom.

Also related to this study are teacher education programs that should attempt to develop instrumental and intrinsic values for the Arts. By involving participants in discussions on different arts pedagogies, these programs would develop an awareness of progressive ideologies and their relationship to the role of the art teacher. The explicit implications of the research findings in the domain of the primary educational framework are a broader understanding of the nature of creativity in arts education and connections, if any, with the implicit beliefs of art teachers. It was found during the study that many pre-service teachers were not teaching for creativity in their classrooms. This finding concurs with research by Kampylis (2010) and Brown (2006). Additionally, practical knowledge of how the Arts can be integrated into the curriculum is required because the neglect or omission of the Arts in education narrows the cognitive potential of tomorrow's adults (McCarthy et al., 2004, p. 47). The more experienced participants were aware of this problem and the following passage from the data is representative of the general feeling of the total cohort.

> *I think you would need more time because it seems pretty compressed, this whole course because there's so much to get through. If there was more time they could split creative arts into different strands. Instead of having creative arts for just four weeks, you could have had drama for four weeks, then music for four weeks, and visual arts for four weeks. But because we do creative arts for four weeks only, each week is just one of those strands so we can't really get that much out of it. We just kind of get a taste and that's about it.* (JMK)

This study revealed that strategies required for a quality teacher program in visual and creative arts were not being imparted during current teacher education programs. The implications for promoting early exposure to expressive art forms during teacher education programs and developing a universal visual language have been discussed in Chapter 6.

7.5 Directions for future research

The study concludes with recommendations for future research by educators, researchers, policymakers and the wider community in the primary educational framework. This multi-disciplined and multi-layered exploration of how to foster creativity in pre-service teachers offers a unique blend of perspectives and presentation forms.

The study was narrowed in scope by its exclusive focus on pre-service teachers and their collaborative interactions with studio leaders (professional artists) during studio-based workshops in their teacher education program. It could be further expanded if greater resources, particularly time to practice and space to develop intercultural capability was available, including an understanding of, and respect for, diversity and difference, as well as openness to different perspectives and experiences that, in turn, develop world-mindedness and a sense of global citizenship (ACARA, 2012, p. 9). Similar studies were conducted by Brown (2006) with generalist primary teachers in Western Australia, and Kampylis (2010) with primary generalist teachers in a Greek primary education context.

This study specifically focused on the inter-relationships between the perceptions of pre-service teachers and developing strategies for teaching for creativity. This area could be expanded into a longitudinal study that traces early careers teacher strategies used when teaching for the levels of creativity in the classroom. The benefits of such a study would indicate the levels of creativity being assessed and whether transformations from one level to the next were visible during collaborative interactions.

Issues from the research as retrospective reflection

This research grew out of the author's professional training as an arts educator, and an exhibiting and practicing artist who has lived closely with three different cultures (Australian, Singaporean and Hawaiian), having gained more than 30 years of teaching experience across the spectrum of early childhood (0-8 years), primary (Years K-6), secondary (Years 7-12) and tertiary education, as well as community-based adult education programs. This research has been deliberately positioned in a transitional space between early childhood and primary educational philosophies on arts education because it is in this space that the author believes the gap lies between the different philosophies currently being taught in teacher education programs. For instance, the literature review points out the differences between designing for child-centred art educational programs and designing for more prescriptive art education

programs (see Brown (2006) for a comprehensive overview of these diverse philosophies). It is through this lens that the author approached this study.

The topics emerging from the research are that further attention needs to be paid to resourcing and preparing pre-service teachers and visual and creative arts programs in higher education. One important observation made in the study was that there were only two key participants from the group of 12 who said they used their own visual arts practice experiences during their day-to-day routine and they were able to reflect confidently on their visual arts practice during the study. This indicates an urgent need for further resources, such as teacher preparation time for material exploration during practical sessions and more emphasis on how the theory of creativity informs practice for all primary pre-service teachers in teacher education.

Secondly, observation of the intercultural teaching strategies in the workshops provided an added dimension to the study. For example, the diversity of backgrounds, perceptions and experiences of the participants enabled deeper insights to be gained from diverse perspectives and raised important questions about how teacher programs could be designed for creativity in higher education. This is of particular relevance to organisers planning their programs to reach diverse global audiences.

Thirdly, changes need to occur in teacher education programs. The shared common ideas were grounded in the knowledge that the current visual and creative arts programs offered at this university indicated an urgent need for educational reform. All participants were studying the same teacher education-training program in primary education. Before the workshops, 80% of the total cohort felt limited in their capacity to teach for creativity in the classroom. This raises the question: *What circumstances would allow pre-service teachers to become more creative in their thinking and actions in their creative arts programs.* Another question is: *Why have the Arts been marginalised in the teacher education program at this university?* Once again, the author is reminded of the importance of integrating the Arts into one's life practice.

Recommendations

In Chapter 7, the researcher provided recommendations for researchers, educators, policymakers and communities on how to foster creativity through innovative approaches to learning and teaching within the primary educational framework. Higher education needs to develop pre-service teacher's intercultural understandings and capacities. UNESCO (2013) states that creative development is 'the ability to go beyond the techniques normally used to approach a problem and generate innovative solutions' (p. 35). Art educators should consider shifting

teaching programs beyond the current techniques towards 21st century skills within the primary school framework. In addition, artist-led studio-based workshops could use formal, informal and non-formal environmental settings to learn how to foster creativity in pre-service teachers during their teacher education programs.

7.6   Concluding remarks

Chapter 7 discussed the main findings of the study in relation to the theoretical framework by returning to the overarching research questions of how to foster creativity in pre-service teachers during their teacher education programs. This research adopted a socio-cultural approach and theoretical framework to analyse the data. The findings show that the Arts have the capacity to stimulate pre-service teachers' imagination and engage their senses, as well as educate them about different and intercultural ways of seeing. These findings may contribute significantly towards a better understanding of alternative teaching strategies and practices that could be applied to traditional classrooms, museums and art galleries. Sternberg (2006b) suggests that 'creativity is as much a decision about and an attitude toward life as it is a matter of ability' (p. 93). This means that educators, academics and policymakers could consider their responsibility for educating the next generation of teachers, which can only be achieved by valuing the visual and creative arts in teacher education programs and acknowledging that the Arts contribute unique qualities to our society and the education of our children.

Visual & Creative Arts-based inquiry

Cultural community of practice sponsors:
Australian Fujian Association
Boomalli Aboriginal Artists Cooperative, Leichhardt, Sydney
Children and Families Research Centre (CFRC)
Darug Research and Information Centre
Creative Arts Program, School of Education, Macquarie University
Mo-ku Expressionist Artists Australia
National Institute of Chinese Education (Nice learning School)
Workshop Art Centre, Sydney.

Supervisor:
Dr Neil Harrison
Associate Professor Alma Fleet
Emeritus Alan Rice

Figure 7.3   Bronwen during her artist residency in Taiwan (2002-03) after given an ancient Chinese brush from the Taiwan Palace Museum's brush maker

Out of the shadows	在黑暗的阴影中
I could see the light in the darkness	我却可以看见光
Crowded in dreams	熙攘于诸多梦境中
Nuances of colours already visible	色彩斑斓依稀可见
Streaks of light shoot forth and beyond	流光四溢

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List of Appendices

Appendix 1: Letter of Approval (2 pages)

Appendix 2: Arts-based Inquiry Research (8 pages)

Appendix 3: Teacher Survey Questionnaire (3 pages)

Appendix 4: Critical Friends Groups (1 page)

Appendix 5: Semi-structured Interview Questions (1 page)

Appendix 6: Transcripts from Questionnaires (36 pages)

APPENDIX 1:
LETTER OF APPROVAL

HS Final Approval - Harrison (Ref: 5201100181)
1 message

Ethics Secretariat <ethics.secretariat@mq.edu.au>   **Thu, May 12, 2011 at 9:40 AM**
To: Dr Neil Harrison <neil.harrison@mq.edu.au>
Cc: Ms Wen-Chen Jane Wade-Leeuwen <bronwen.wadeleeuwen@mq.edu.au>

Dear Dr Harrison,

Re: "Fostering "Creativity" in pre-service teachers in Creative Arts
programs"

Thank you for your recent correspondence. Your response has addressed the
issues raised by the Faculty of Human Sciences Human Research Ethics
Sub-Committee and you may now commence your research.

The following personnel are authorised to conduct this research:

Dr Neil Harrison
Ms Bronwen Wade-Leeuwen

Please note the following standard requirements of approval:

1.   The approval of this project is conditional upon your continuing
compliance with the National Statement on Ethical Conduct in Human Research
(2007).

2.   Approval will be for a period of five (5) years subject to the provision
of annual reports. Your first progress report is due on 1 May 2012.

If you complete the work earlier than you had planned you must submit a
Final Report as soon as the work is completed. If the project has been
discontinued or not commenced for any reason, you are also required to
submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:
http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/
human_research_ethics/forms

3.   If the project has run for more than five (5) years you cannot renew
approval for the project. You will need to complete and submit a Final
Report and submit a new application for the project. (The five year limit
on renewal of approvals allows the Sub-Committee to fully re-review
research in an environment where legislation, guidelines and requirements
are continually changing, for example, new child protection and privacy
laws).

4.   All amendments to the project must be reviewed and approved by the
Sub-Committee before implementation. Please complete and submit a Request
for Amendment Form available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/
human_research_ethics/forms

Appendix 1.1

5.   Please notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6.   At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

http://www.mq.edu.au/policy

http://www.research.mq.edu.au/for_researchers/how_to_obtain_ethics_approval/human_research_ethics/policy

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have final approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

If you need to provide a hard copy letter of Final Approval to an external organisation as evidence that you have Final Approval, please do not hesitate to contact the Ethics Secretariat at the address below.

Please retain a copy of this email as this is your official notification of final ethics approval.

Yours sincerely,

Yours sincerely,

Dr Katey De Gioia
Acting Chair
Faculty of Human Sciences Ethics Review Sub-Committee
Human Research Ethics Committee

****
Office of the Deputy Vice Chancellor (Research)

Ethics Secretariat

Research Office
Level 3, Research HUB, Building C5C
Macquarie University
NSW 2109

Ph: +61 2 9850 6848
Fax: +61 2 9850 4465

Email:
For Enquiries: ethics.secretariat@mq.edu.au

http://www.research.mq.edu.au/

Appendix 1.2

APPENDIX 2:
ARTS-BASED INQUIRY RESEARCH

Refer to the following eight pages

Appendix 2.1

Department of Education, Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109
AUSTRALIA
Phone +61 (0)2 9850 8722
Fax   +61 (0)2 9850 8674
Email   bronwen.wadeleeuwen@mq.edu.au
Room   C3A 915

Arts-based inquiry research

The Creative Arts Course Lecturer has agreed to be involved as a full active participant in the research. She will record observations and we will discuss the data gathered and together make suggestions for improving the teaching and learning program.

Reflective diary and observations

The researcher will keep a reflective diary / journal and my own observations and notes.

Tape recorded interviews

I intend to audio tape the discussions and interviews with participants and the Course Lecturer, and the tape-recorder will be turned off at the participants' request during any part of the discussions and interviews. I intend to transcribe the discussions myself. This will assist with the security of data. Transcriptions and translations will be made available to the participants upon request. I intend to store the information as both a sound and written file in my electronic Flash Drive. All tapes, transcriptions and notes will be kept in a locked cabinet at Macquarie University for a period of six years and access to it will be restricted to the researcher and the researcher's supervisor. At the end of this time all written, recorded and digital information will be disposed of.

I am excited at the potential that this research will have not only in improving my own personal teaching practices but the contribution it will make in the knowledge of wider educational purposes. The Creative Arts Program offered to 3rd and 4th year Education Students will benefit from participating in this research by positively influencing students' achievement and enjoyment.

By signing this consent form you acknowledge that you have understood the nature of my research project and its aims. You recognise and understand my research methods and are giving me approval to conduct my research within the Creative Arts Program at Macquarie University.

Thank you very much for your time and help in making this study possible. If you have any queries or wish to know more please phone me or write to me at the following address and number:

Bronwen Wade-Leeuwen

PhD Candidate

Department of Education
Faculty of Human Sciences
Macquarie University

Email: bronwen.wadeleeuwen@mq.edu.au

Phone**:** *04-22211645*

Department of Education, Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109
AUSTRALIA
Phone +61 (0)2 9850 8722
Fax   +61 (0)2 9850 8674
Email   bronwen.wadeleeuwen@mq.edu.au
Room   C3A 915

My supervisor is

Dr. Neil Harrison
Department of Education
Faculty of Human Sciences
Macquarie University
NSW 2109
Neil.harrison@mq.edu.au
02 9850 8674 Mob 0422808052

For any queries regarding ethical concerns please contact:

The ethical aspects of this study have been approved by the Macquarie University Ethics Review Committee (Human Research). If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Ethics Review Committee through its Secretary (telephone 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

………………………………………………………………………………………………

CONSENT FORM FOR COURSE LECTURER

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Research Title*: Fostering 'Creativity' in Pre-Service Teachers in the Creative Arts.

Researcher: Bronwen Wade-Leeuwen

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered. I support the proposed research.

I agree and consent to allow the research project entitled 'Fostering 'Creativity' in Pre-Service Teachers in the Creative Arts to be conducted within the Creative Arts Program at Macquarie University, North Ryde Campus.

I agree that this research project will not have a negative impact on the educational progress on the participants or the Education Department.

Name of the Course Lecturer: _____

Signed_____

 Date _____

Appendix 2

PROSAL

<u>**PROPOSAL**</u>

<u>**Information and Consent form for participants**</u>

Name of the project*:*

Fostering creativity in pre-service art teachers in Creative Arts Programs

 You are invited to give consent to participate in the research Fostering creativity in pre-S]service art teachers in Creative Arts Programs. The purpose of the research is to investigate interactions through the visual arts in the Creative Arts Program. The aim of this research is to focus on improving teacher education so that pre-service art teachers can more effectively mentor the children they teach.

This Visual Arts Intervention program will be conducted through two Case Studies. Case Study 2. (TEP419- has approximately 150 mixed gender students) and Case Study 3. (TEP320- has approximately 200 mixed gender students) Each Case Study will be conducted over 5 sessions for the duration of 1 hour each session, over a 10 week cycle within the Semester. (See TEP419 Unit Guide Attached, p4). Included in this research will be my observations and reflections of my own teaching as the Studio Leader over a 10 week period in Semester One and Two, 2011.

The research is being conducted by Bronwen Wade-Leeuwen,

PhD Candidate Department of Education, Faculty of Human Sciences, Macquarie University.

Email: bronwen.wadeleeuwen@mq.edu.au

Phone: *04-22211645*

My supervisor is Dr. Neil Harrison.

www.mq.edu.au

You will be asked to complete pre-activity data survey questionnaire investigating ways of fostering 'Creativity' in the Visual Arts through Creative Arts Programs.

Complete an anonymous short critique of the Intervention Visual Arts sessions at the beginning of week 1 in Semester 1 (TEP419) and the end of Semester 1. (TEP320) will be at the beginning of Semeser 2 and at the end of Semester 2.

Participate in the sessions knowing that most sessions will be video or audio-recorded. Some samples of participant's artwork may be photocopied and displayed for focus group conversation.

Keep a Visual Arts Journal (which will be provided to you free of charge) about the changes that occur during the Intervention program.

Invited to take part in one (one hour) interview with the Co-Investigator/ researcher. In this interview, you may be asked in more depth questions about your experiences in the Creative Arts Intervention program. The interview will be audio-recorded and conducted in a private and comfortable environment on the University campus.

What use will be made of the research data?

Any information and personal details gathered for this project are confidential. No individual will be identified in any publication of the results. The data and the findings will be accessible to the researcher. I may present findings from the research project in a journal article or present a paper about it at a conference. The Education Department in Human Science at Macquarie University will get full acknowledgement as the department, which the research project will be conducted on. I will write a feedback report about the findings of the project, and this report will be available to all participants. The whole project will be completed by December 2012.

This project is being conducted under the guidelines of Macquarie University of Sydney for PhD research project. Your participation is voluntary and if you decide not to participate you are free to withdraw from further participation in the research at any time without having to give a reason and without consequence.

If you have any queries or wish to know more please phone me or write to me at the following address and number:

Bronwen Wade-Leeuwen

PhD Candidate

Department of Education

Faculty of Human Sciences

Macquarie University

Email: bronwen.wadeleeuwen@mq.edu.au

Phone**:** *04-22211645*

Appendix 2

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For any queries regarding ethical concerns please contact:

The ethical aspects of this study have been approved by the Macquarie University Ethics Review Committee (Human Research). If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Ethics Review Committee through its Secretary (telephone 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

If you give consent please fill in the form below and return it to me at my Macquarie University office.

……………………………………………………………………………………………

I, _____ have read (or, where appropriate, have had read to me and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to give consent for my child/ward to participate in this research project, knowing that I can withdraw from further participation in the research at any time without any consequence. I have been given a copy of this form to keep.

Signature:_____ Date:_____

Investigator's name: <u>Bronwen Wade-Leeuwen</u>

Investigator's Signature: _____ Date:_____

COPY TO KEEP

Appendix 2

www.mq.edu.au

Department of Education, Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109
AUSTRALIA
Phone +61 (0)2 9850 8722
Fax +61 (0)2 9850 8674
Email bronwen.wadeleeuwen@mq.edu.au
Room C3A 915

Figure 1. A sample of the case-study developed in the research project

Figure 1. Poster on Fostering Creativity in Pre-service Teachers by Bronwen Wade-Leeuwen, 2010.

Department of Education, Faculty of Human Sciences

MACQUARIE UNIVERSITY NSW 2109 AUSTRALIA

Phone +61 (0)2 9850 8722
Fax   +61 (0)2 9850 8674
Email   bronwen.wadeleeuwen@mq.edu.au
Room   C3A 915

'Creativity' Workshops
in Visual Arts

Fostering creativity in pre-service art teachers
By

Bronwen Wade-Leeuwen

Held at
Macquarie University
2011- 2012

Appendix 2

REFLECTION AND THE KEEPING OF A JOURNAL.
How can we know the extent to which student's creative imagination has been used in their artwork?
Eisner believes that this can be done by assessing the extent to which the artist's creative imagination has been used in their artwork.

Keeping a Journal
A journal will be provided for artists to jot down any sparks of creativity or moments when changes occur in their creative process. The journal will provide the artists with a away of debriefing through out the process, recording creative ideas as they come. The journal will remain with the students for two sessions over two weeks. As each mode of creativity develops and changes, artists will note the changes.

DISCUSSION AND CRITIQUE (*formative and summative feedback*).
Debriefing Sessions will be conducted each week. This will give the participating artists an opportunity to discuss and critique the creative process over the next two weeks.

Questions used in focus groups sessions.
Eisner says "Evaluation can be conceived of as a process through which value judgments are made about educationally relevant phenomena" (Eisner, 1972, p.201). These are the kinds of questions you can ask yourself when discussing your artworks. Use these questions to focus on the imaginative aspects of the artwork**.**

Critical Appreciation Questions

1. **What are the ways in which creativity is displayed?**

2. **To what extent does the work display ingenuity?**

3. **Has the child used materials in a fresh way?**

4. **Does the work provide a sense of insight?**

5. **Does it illuminate some aspects of the world or self that was previously obscured?**

6. **Have they produced highly imaginative works that are technically competent?**

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APPENDIX 3:
TEACHER SURVEY QUESTIONNAIRE

Fostering creativity in pre-service art teachers in the creative arts programs report

Last Modified: 03/18/2015

1.

Do you feel competent using visual arts practice?
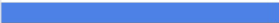
47% were limited and 53% felt competent using visual arts.

#	Answer		Response	%
1	Choice 1 Never		15	6%
2	Choice 2 Limited		94	41%
3	Choice 3 Often		93	40%
4	Choice 4 Always		30	13%
	Total		232	100%

Statistic	Value
Min Value	1
Max Value	4
Mean	2.59
Variance	0.63
Standard Deviation	0.79
Total Responses	232

2.

What is your prior knowledge about Visual Arts practice?

80% felt limited in their prior knowledge of visual arts. 20% believed their prior knowledge was good or very good.

#	Answer		Response	%
1	Choice 1 None		5	2%
2	Choice 2 Limited		179	78%
3	Choice 3 Good		34	15%
4	Choice 4 Very Good		11	5%
	Total		229	100%

Statistic	Value
Min Value	1
Max Value	4
Mean	2.22
Variance	0.31
Standard Deviation	0.56
Total Responses	229

Appendix 3.1

3.
Are you stronger in one particular strand in the Creative Arts?

46% felt stronger in one art strand of creative arts. 42% did not feel strong and 13% were unsure.
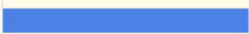
#	Answer		Response	%
1	Choice 1 Yes		105	46%
2	Choice 2 No		96	42%
3	Choice 3 Undecided		29	13%
	Total		230	100%

Statistic	Value
Min Value	1
Max Value	3
Mean	1.67
Variance	0.48
Standard Deviation	0.69
Total Responses	230

4.
Do you believe that creativity can be taught in schools?

59% believed creativity could be taught in schools 25% believed creativity could not be taught in schools 17% were undecided if creativity could be taught in schools.

#	Answer		Response	%
1	Choice 1 Yes		135	59%
2	Choice 2 No		57	25%
3	Choice 3 Undecided		38	17%
	Total		230	100%

Statistic	Value
Min Value	1
Max Value	3
Mean	1.58
Variance	0.58
Standard Deviation	0.76
Total Responses	230

Appendix 3.2

5.
Indicate if you would be interested in participating in this research?

93% expressed willingness to work with creativity in the classroom 8% were not interested in working with creativity in the classroom.

#	Answer		Response	%
1	Choice 1 yes		52	23%
2	Choice 2 No		18	8%
3	Choice 3 be interested in knowing more		161	70%
	Total		231	100%

Statistic	Value
Min Value	1
Max Value	3
Mean	2.47
Variance	0.70
Standard Deviation	0.84
Total Responses	231

Appendix 3.3

APPENDIX 4:
CRITICAL FRIENDS GROUPS

Following is a list of critical friends groups, professional artists and creative industries associated with this study as part of a cultural community of practice.

Creative Partnerships	Association
AUSTRALIA	
Andrew Lo	Australian Chinese Painting Association
Josephine Lam	Australian Fujian Association
Susan Yu	National Institute of Chinese (NICE)
Alice Liu	Arts Educator (NICE)
Bronwyn Bancroft	Boomalli Aboriginal Cooperative
Jeffrey Samuels	Artist
Jessica Birk	Assistant curator
Tahjee Moar	Assistant curator
Jacinta Tobin	Durang artist
Chris Tobin	Durang artist
Leanne Tobin	Durang artist
Bronwen Wade-Leeuwen	Mo-ku Expressionist Artists
Trish Wade Quinn	Mo-ku Expressionist Artists and Workshop Art Centre (WAC)
SHANGHAI, CHINA	
Wang Tien-de	Contemporary Chinese artist
SINGAPORE	
Tan Kian Por	Nanyang Academy of Fine Arts Alumni artist
Po Bee Chu	Nanyang Academy of Fine Arts Alumni artist
TAIWAN	
Chen-Cheng Lee (Father)	Calligrapher
Mu-Yun Lee (Daughter)	Calligrapher
Professor Lin	National Taiwan Normal University

APPENDIX 5:
SEMI-STRUCTURED INTERVIEW QUESTIONS

Fostering creativity in pre-service primary art teachers semi-structured Interview questions

Q.1. Competent in visual arts practice

Do you feel competent using visual arts practice?

Q. 2. Prior Knowledge in Visual Arts

What is your prior knowledge about Visual Arts practice?

Q. 3. Confidence in Creative Arts strands

Are you stronger in one particular strand in the Creative Arts?

Q.4. Definitions of creativity

How would you define creativity?

Q.5. Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

Q.6. Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Q.7. Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach Visual Arts?

Q.8. Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

Q.9. Is creativity taught or learnt

Do you believe that creativity can be taught?

Q.10. New ways of inspiring creativity in children and self

After experiencing the Workshops, how would you inspire creativity in the children you teach?

Q.11. Help needed in visual arts

What additional help in the visual arts would be useful for you?

Q.12. Participating in creativity research

Indicate if you would be interested in participating in this research?

Q.13. Three elements of surprise in the Workshops

Can you give me three elements, which surprised you in the creativity workshops?

Appendix 4.2

APPENDIX 6:
TRANSCRIPTS FROM QUESTIONNAIRES

Video Transcript No. 1 – 1 June 2011

Susie: 4th year pre-service teacher

Q.1   Competence in visual arts practice

Do you feel competent using visual arts practice?

I feel limited in visual arts. I come from Bangladesh where the emphasis is on numbers and literacy. I arrive in Australian in 1998 at the age of 11 years. I did do some creativity classes there the teacher taught how to draw and not to create my own work.

Q.2   Prior knowledge in visual arts

What is your prior knowledge of visual arts practices?

I started primary school [in Australia] in Year 5 and did visual arts up to Year 8. In High School I did not like art, the teachers changed a lot and we were straight into it not teaching any skills. It was at Randwick High School, an inner Southern Sydney suburb.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

I am more knowledgeable in visual arts.

Q.4   Definitions of creativity

How would you define creativity?

There are a lot of different ways of defining it. Academically at uni in Unit TEP319 and Unit TEP419 defines yourself feelings and emerging to be unique for one's self. Math's is not like that. Everything has meaning that's its uniqueness.

Q.5   Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

By not telling them how to do things but by being yourself, express your feelings and thoughts into it. It gets the frustration out of someone.

Q.6 Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

… some innate qualities, [creativity] needs encouragement and to be pushed. Not everyone can but to them it's the best they could do.

Q.7 Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

If children are trying to be unique and doing things their way, if I would teach them to do a particular way, then they wouldn't be unique. So if they wanted to draw a flower and you tell them how, then it's not them, so I guess they just need to build as they go with experience and in that case I wouldn't really teach them the process. Unless some students may need that support and scaffolding and then they can, you know … get help.

Q.8 Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

Okay, my own creativity. Well I am thinking positive towards it now and I am more satisfied in my practicum teaching this year, I'm doing a lot of creative arts, specially visual arts, but I think I'll have to get my ideas, like I don't have that well of ideas of creativity so I guess I have to search in and get ideas and then I can just modify it to myself.

Have you tried any strategies yet?

In visual arts?

Yes

Yeah.

Like what?

Yes I have for example, I was teaching Aboriginal studies – so I got the children to look at photos and I gave them some symbols of Aboriginal studies, like Aboriginal people, and they use that symbol to create their own, like visual arts, use that symbol to create their own Aboriginal arts. And also I've done the same process with Mother's Day creative flower. And I've done music as well.

Do you find that you're integrating?

Yes, I try to integrate a lot and I found that –For example, when I'm teaching some theory and linking that to creative arts they're more engaged, so in that way –I am getting them to understand, when one child understands theory but by doing it, they might get more out of it.

You're feeling it's working well.

Yes, I feel this is working well.

Q.9   Is creativity taught or learnt?

Do you believe that creativity can be taught?

In between, like to a certain extent I think creativity can be taught, I think it depends on the person. Some students they don't need to be taught that's how they are. For example – me and my sister. Because I don't have the background I feel I need to be taught to get ideas, or maybe see an example and then I can modify it but my sister, it's amazing how she just paints and brushes and just does whatever. She goes I didn't think of doing that, it just turned out to be like that, and I've seen her drawings and it's just like, I would have never in a million worlds, like think of doing that. So I think yes, depending on the person it can be taught. For some students you don't have to teach it.

Q.10   New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

Encourage children to do what they think and create their own uniqueness and tell them that it's not right or wrong, whatever they do is to interpret a different way. Like everyone interprets different ways, so it's what you think, it's your quality, so … And maybe if I'm teaching with visual arts for example, they can do what they learnt, rather than, instead of me telling them the answer of the question.

Q.11   Help needed in visual arts

What additional help in the visual arts would be useful for you?

I think the basics, I can't think of any of the top of my head because if I'm teaching visual arts I need to know my stuff. Because there will be some kids who will say: 'I don't know what to do' whereas others, once they're given the paints and brush, they just go ahead and do it. So in order for me to show to the kids, I need to know myself, the basics, for example how to do the shading or the light, you know, different types of – the colours – not so much the colours but the shading of – you know sometimes some part is more darker than others.

Q.12   Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes, I would. Maybe not in the part of the course because not everybody – but maybe as a side if anyone's interested they can come, so that way it gives everyone an opportunity to know they can, whether they want to go or not instead of just forcing like on to someone.

Would you be prepared to go in your own time? Like on the weekends, or night times?

I would be now because – if you ask me before I'd probably say no. But now I would be, yes.

So when you're not too busy

Yes, that's right – maybe one day a couple of hours or so.

Indicate if you would be interested in participating in this research?

As you've indicated that you'd volunteer, that's question 12, so that's good. Thank you very much.

Q.13   Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

At first I thought how is everyone going to go round and do the thing because it's all going to be like a black dotted line or whatever but at the end I realised two groups had totally different artworks and we can get a lot out of that process and also extend that artwork. At first I was like, oh, everyone's using black so how is going to be, it's just like probably, going around going black lines, but yeah, I was amazed at that.

The using of the brush, like holding of the brush. I wasn't aware of that. What else? Oh yeah, with the energy, definitely. Like I didn't think. Yeah, like with the energy I didn't think the more energy you have, the darker the line would go. I though you just drawing a line sort of thing, so yeah that was amazing.

Well thank you very much for doing the interview with me.

Video Transcript No. 2 – 1 June 2011

Sharon: 4th year education teacher

Q.1 Competent in visual arts practice

Do you feel competent using visual arts practice?

Ah yes, I do. As I said earlier I'm a fourth year student so I have had my two practical experiences now out at a school and I have been lucky that this semester my teacher has actually offered me a lot of opportunities to do creative arts. There's a lot of integration, there's a lot of art work. In fact we're actually running out of space to put the artwork around the room so we're rotating. I do feel confident and I do feel that we can use the syllabus very well for visual arts.

So inner west or out west?

Inner west state school.

Q.2 Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

I would say music. Because I sing, for myself, I do cultural singing since the age of three. So I can relate to tune, I can see how music can entertain kids and then engage them and it's something that everyone has. You don't have to have a good voice. It's something that everyone has and you can manipulate so many ways to so many areas. It can be like a brain awakening activity or something like that, I just – yeah.

Q.3 Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

I'm much stronger in music than in the other strands. Probably because I have more personal connection to it through my whole life, so yeah …

Q.4 Definitions of creativity

How would you define creativity?

It's a hard thing to define and also it's the sort of thing that you can't define because everyone's creativity is individual and I think creativity also links to freedom. In a way it's your freedom to express things. Creativity is the way you choose to express things not just in art form or dance or drama. Your creativity could be just the way you choose to finish a sentence or the choice of vocabulary that you have – if that makes sense. Yes, so to me. I don't think I could define creativity in one way, just means everything. It's your choice, your way, the way you imagine things.

Appendix 6.5

Q.5   Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

Well at the moment I'm with a stage 2 class, stage 1 and stage 2 actually a 2/3 composite and this group that I have is eager to show their creativity and I can see that. In between lessons they will quickly draw a picture or fold an origami flower or something and I can see that they're very creative and eager to do so, so with most of the work that we do I do allow a lot of degree of freedom and with my previous class my teacher wasn't into creative arts at all and I can see that in the kids because when I gave them that freedom they wouldn't be able to perform, they wouldn't – they were just lost and I, we discussed this in one of our tutorials as well – where [these] kids, you're giving them that freedom and they don't know what to do with it because they're used to guidance. So when I have my own classroom I really want the kids to be creative and I want to give them the room and they might not have it straight away but I want to train them to – not train – just a sense of feeling comfortable to show and to draw or sing or whatever what you feel and what you think without the limitations – like the rules, or what you have to do. Also by linking it to all the activities I think that like, the repeated opportunity to show your creative side, just having the time to be creative inspires it in a way because they get the taste of it, they get the experience and they'll see others and they might try something one day and be like – I kind of like that but I want to change it – so having the opportunity to do it the next day and then looking around and viewing and appreciating everyone else's artwork can input, like have an influence on theirs.

So, at the moment with my class we're doing descriptive. I'm trying to teach them descriptive text. So far every single one of my English lessons have been influenced by creative arts by far. Because with descriptive text there's a more focus on adjectives and noun groups and instead of limiting them to the one big/small/large whatever, I wanted them to create their own character, describing – I gave them the list of things they have to include but they could include more, so for instance, if you have to describe the head, eyes, ears, nose, mouth and I gave them options for as many as they like but that open nature I could really see in their creativities, like, their levels of creativity. There were certain kids that exceeded, like, my expectations of what they do and they exceeded it my far and there were certain kids that I could see were simply copying things from text before, so they needed more inspiration and more of a push to show their own individual creativity – or that could be what they want to do genuinely, but – yes, but I do think, just having the opportunity to be creative, to use your imagination can inspire creativity.

Q.6   Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Rules, limitation, time. For instance, as a teacher you are to do a whole lot of different content from a lot of subjects in a certain period of time and there's a program that you need to, that you organise at the beginning of the semester and the term and you need to get everything done. So that just limits, inhibits, you know, your own creativity as a teacher, so what kind of lessons could you prepare. Oh know I can't do that because I don't have enough time. And also scaffolds and guidelines and just stencils that kids do – the teachers often do creative arts just to fill in space. I don't have anything to do and there's assembly in 20 minutes. I'll just let

them draw this sheet or colour this sheet in. And I think teachers often see it as a useful tool and it is useful. Worksheets are useful but it shouldn't limit them in creative arts like that's not being creative, that's just doing what you're told to do. So they're very limited in that sense.

Q.7   Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

Well as we just learnt, you know, there are, there's like a whole bunch of skills that you would need to know. Knowledge needed to teach. I think, I wouldn't have – before my degree – I would have no knowledge of creative arts and I'm not an expert on artists or different types of, kinds of art or anything like that but … So I'm not sure exactly how much knowledge is needed to teach visual arts. Especially if it's linked to creativity I think that it should be left open, but, yeah, it's a difficult question. I think I'm answering it because I don't have that much knowledge of it, but I think the more knowledge and the more experience and the more experimenting itself allows you to teach visual arts.

Q.8   Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

Strategies would be to experiment, like I said before. Opening myself up to all the different cultures, all the different types of art. Not just applying it to the types that are recognised. Does that make sense? Just – yeah – definitely experimenting, opening it up, looking at what the students are interested in at the moment, so like I said at the moment there's an origami craze in my classroom, so I'm trying to look into the cultural background of that to inform the students and looking at the different types of origami and the different things you can do instead of you know, just making the one thing they're focusing on. But for me, because of my lack of knowledge I just simply think that the one strategy that I need to do is to explore and to investigate, to research the different kinds, to read about it, to try, you know, I think myself as the more hands-on teacher, so more hands-on learner myself as well. So definitely trying the different kinds.

Q.9   Is creativity taught or learnt?

Do you believe that creativity can be taught?

Relating back to the 'defining creativity' question, I don't think you can teach someone how to be creative because it is an independent thing but again, I'm probably just repeating, I strongly believe that kids need to have the opportunity to be creative because in schools there is rules, there is times, there is recess, lunch and everything and there's a timetable of the things that need to be included so technically it is kind of taught, so yes and no, if that's okay. Yes we can teach them because we need to provide them with the opportunity but no because their creativity is independent and their creativity might be in different forms.

Q.10 New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

Accepting all different forms and accepting different abilities. Just as in every other single subject, like in English, they say, give room for differentiation, and it's exactly the same. Like one student might not be, might have a 3D model, but another person might have just drawn something and that's not wrong, like accepting all the different forms, all the different abilities, because I do see there is one kid, there is one particular boy in one table. I'm picturing him in my head right now. He's amazing. He's really good. He's really creative and he'd loves doing what he does and the other students just try to do what he does and I appreciate them just trying that so I do encourage them to look around and see each other's art work and to inspire them to keep trying, to just keep trying, to look around and yeah, to inspire creativity in my children. I'd just be giving them the chance to be creative, the chance to have the freedom in artwork, freedom with material and also accepting all the different kinds of artwork that they come up with.

Q.11 Help needed in visual arts

What additional help in the visual arts would be useful for you?

Both. Okay. From university, I did really enjoy the class actually by you with the Chinese drawing and I think that would just be eye-opening, like I've learnt so much. I've seen Chinese calligraphy and that was all my knowledge but to have the in-depth of the force and the energy. I've seen what the Chinese people see through their artwork and like, how much energy you have and all that stuff was so interesting and opening up to different – cos we do know how to apply different strategies and different games and everything in creative arts and it's fun and it's so useful, but just in opening up to different types and abstract art and all. I've heard all the names and just to see how you taught it and how we can teach and adapt it to our kids in our classroom. Additional help would be more resources, reading material. I definitely want to start collecting my material, as simple as – we just use an old passport. I thought that was amazing to have kids to actually hold a real passport and the creativity you can get from that, like – we had a name, we had a person, and we saw the different countries that he went through. Different resources, different material. There are so many art books out there that suggest different activities and levels, like levels of ability of the kids – struggling with it and – yep.

Q.12 Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes.

Q.13 Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

The elements that surprised me was the actual materials used, the different types of brushes. By that I mean, it just shocked me how something so everyday, like a toothbrush, like the different forms of lines we created with that, and how the stick just connected to a paintbrush, created a whole different line, a whole different effect on the paper. Another element was the stone and the ink stone that you showed us. I'm not sure why but I was just so fascinated about how the people get the soot and they form it into the rock and stirring it with the water and leaving it on the side because if you leave it in the middle it creates a dent and that was just so different to me. Like I have textas and crayons, gel pens and glitter and just simple black paint we used for a whole two hours and we created so much, like you don't need a whole box of pencils and I really appreciated the way we just used one thing in so many ways for two hours and you really begin to value your materials. The last one would be the force that we have in our strokes was something that was profound, like it showed, like you said, it linked to culture and how they said it shows your weak and where you aren't concentrating. I really liked that and how you could read that into someone's mood or their personality. That was quite eye-opening. I liked that actually. Maybe if someone, like you could do a test on moods of different people and their paintings and to see so much into their paintings just from their stroke, just using the black as well. So that was the three elements that I loved in the workshop.

Any other comments you'd like to make about this that might be useful for the research?

Definitely continue with the research and continue the eye-opening because I can say from my experience being a Sri Lankan person, you're taught that art is not important. And it's just an eye-opener, like people need to be aware that art is just not drawing. It means so many different things, and how it can be integrated. The integration – everyone says – why are they just repeating this [the importance of integration] in lectures, but it's such, so important that … you have to think about your different learners if you're a teacher, engaging your children, the different abilities and just, how you can use so – there's so many different forms. It's not just the four strands. There are so many different things within the strands that you can use to apply within your classroom and just … Integration [the arts] helps the kids with everyday life, like drama. I'm a confident person and I have the ability to just jump out and do it – at random playing – but I think that all kids need to have that confidence and be comfortable within their skin, comfortable to present what they want and also to show their creativity to different people, so, yeah, fostering creativity is such an important thing for teachers and – I think when you grow up you're going to meet children of your own. You create children, or your cousins, even your parents. It doesn't matter what age you are, I think it's important to see that creativity leads not just to visual arts but to so many aspects of your life at school.

I do notice that from the difference from my current teacher and my previous teacher and I think maybe she was also from an Indian or Sri Lankan background – not sure – and I think maybe -I'm not sure, but is that why, is that why she didn't like, she didn't engage in art, dance, at all, so, yeah, this lady that I have right now, this teacher, she's amazing with artwork and she can really see, like every single song – they have so many songs.

Well thank you very much.

Video Transcript No. 3 – 1 June 2011

Nikki: 4th year teacher

Q.1   Competent in visual arts practice

Do you feel competent using visual arts practice?

Since the workshop I feel a lot more confident. I feel I gained lots of confidence and it's encouraged me even to think, go further, beyond – to do more research. And hopefully I'll be able to adopt them for the classroom.

Q.2   Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

Just colouring and poster colours. When I was at high school a long time ago, the only thing, I did extra from visual arts was using ink but to make, like, with the pen, to write.

And where were you brought up then?

I was brought up in Malta, we bought a glass jar, and the ink and we just did it to make like, signs. But that's as far as the ink went, or anything else went, so I didn't really do visual arts. Nowadays children, I think that they are more exposed to it before it was just the same desk and the same classroom and you don't move about.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

I'd say, it's not the strength, it's but I am aware of what I know. I know I can be creative if I can have opportunity. If I had I would have more situations where I can be stronger in other parts of the creative arts. But it's all about education, which I didn't have unfortunately.

Q.4   Definitions of creativity

How would you define creativity?

Well, relating to that lesson we did in the workshop, creativity used to be something you create like visual things. But from that last lesson, from something we created it was something that – went beyond that and made a story from it which looked so clear, before I wouldn't even think about it. Another thing that I really, really liked – I can't get over it – is having different items where you can try and explore and create other ways instead of just brush strokes, so many things to think about from that workshop, it's impossible to explain.

Q.5   Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

Until now I didn't really have an opportunity because I have to follow the school rules, when it comes to creative arts. I have had two experiences of two different practicum – Year 6 and Kindy. My experience with Kindy is, until now, they just sit down and colour in, cut and paste every single time. With Year 6 there were more options, there were more elaborations by using corks and making penguins. But from my observation during the workshops it was all creative art. In the Year 6 classrooms there was nothing that could extend from it. In the workshop, we did the lesson and we talked about it. Black and white and the yin and yang and I haven't come across that before.

So when it comes to my classroom, I think it's going to be a little bit different now and I'm looking forward to it! But I'm sure I need more training for me to be able to do my best because there's a lot in me that needs to come out but I need support someone to start me off. Without that I don't think I'll be able to do it.

What do you think the restrictions are in your school, and where is it situated in Sydney?

It's situated in the north west one was in Castle Hill and one was next to Kellyville, which is very close, the next suburb public schools.

I'm wondering whether, especially this one is maybe because of the pressure of time. There isn't an opportunity as well. Like it's push, push, push…The children, they don't get the opportunity to appreciate what they do within the day. Yes. Too much pressure and I don't think it's creative arts. It's being justified or given the justice it deserves and because it could go to other subjects which that is the way; hopefully I'd be able to do, to try to do. It is very important to integrate the arts especially for children to come close to understand the subject or unit, they need to enjoy it and with young children the best way of starting with art and then extends from there to other things. They would have done something and then they can appreciate it. They're enjoying it, so we move to the next stage of understanding what's in visual arts and where art history come from because they've already been geared into this topic so they could excel at it, but it's not being taught that way in primary schools at the moment.

Q.6   Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Well, I can talk about my experience. It's just the lack of knowledge and the lack of opportunity to investigate and explore. Like at the moment in schools there is lots of time for lots of things but in certain subjects there is not that much time for creative arts. If I'm not being encouraged or provided with decent opportunity to learn, how do visual arts, how can I teach it? If I cannot teach it, how would the children learn? So it all comes down to providing opportunities.

Q.7 Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

It's your whole body; it comes from everything because your knowledge is obviously your education, information, research and skills. If you have them but you are not aware of them or you're not encouraged to use them, then you can't use them because this is the way things joining together and it's like a circle.

In the cognitive way, the mind is amazing in what it can process like what we did in just one workshop lesson. I wouldn't have used my mind to see from a picture like the way we did in the workshop. How many things that picture was telling me, showing me, so it just all comes all together. It's a difficult question.

Q.8 Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

Especially with primary school children, I believe, which I would not have thought of it before the workshop but if there is a topic or a project that is going to be taught in the classroom, from now on I do the opposite. I start from creative arts. For example, if it's about an author or somebody like that I wouldn't go first on the English lesson as an author, and dates of birth. I know now the idea is to find out about the person and then I can understand their arts but from thinking about things, I would go the opposite way.

For example, first I would show the arts and I would encourage the children to have some fun and explore doing some things themselves using arts so that they can connect with what the children are doing, like the way you did with us. So I'll ask them questions and they can explain from their own arts situation and then we can connect that with the author or artist we are studying – connecting to his or her own art forms – and work from there once they got it from their heart. They then get it into their minds, then we can spread it out into other subjects.

Q.9 Is creativity taught or learnt?

Do you believe that creativity can be taught?

Yes, creativity is something you could have in yourself but if you don't know about it or you don't know how to take it out. So it needs to be encouraged and there are other things then that comes from creativity. Creativity comes with certain rules, rules you need to learn. So it's both ways. To follow the creativity you need to know the rules. For example, I cannot use a brush properly if I don't know how. So I can create something with a brush but if I know the rules I can't even create something and then go that step further ahead.

So when you say rules, could that also be developing skills?

Definitely it is about developing skills, I wouldn't have had this skill I have now before the workshop lesson with you if you didn't develop that skill in me, so it needs to be taught.

Q.10 New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

By looking at my face when they think about creativity and Laugh! I wouldn't inspire, I'd just let them explore their own way of creating because people are different and I'd encourage them to explore. For example, I would say: 'Don't be scared, don't hold back. Just, there are these materials, try these things out and if somebody's doing something, if you want to copy to explore that – yes, – but just do your own thing. If you have an idea, don't keep it to yourself, just go out and do it'.

I know you work in disabilities and you have experience in that area. Would you treat the disabilities students in any different way?

No. All of people have got their own lives. I work at the centre for disabilities and I see where they are given opportunities to explore from one art teacher to another art teacher then they can go a long way. And it's amazing to see what they come up with because they have their own vision. They have their own mind. And they use that once they're being encouraged to use it. So no, I wouldn't treat any of them differently.

Q.11 Help needed in visual arts

What additional help in the visual arts would be useful for you?

Education! Education is not just giving me a book and have me read about it. It's like the way we did it in the workshop lesson. We explored! You provided us with a topic, you gave us a brief history about it. You showed us the rules how to use the ink, but not the items. You let us go and explore that way. So that's part of the education process. So if you didn't provide these things I would not have been able to create something the way that I did. So it's got to come from teachers educating the pre-service teachers for us to educate or students or parents to educate their kids. And then, I believe once most children for a few years have been given the opportunity as part of an education program – you can do this with this one, you can do this with that one. How about maybe you can think of something, try something, see what works and what doesn't. When the child reaches high school, they are more aware, and I honestly believe that creative arts will enhance the cognitive section of their brains, even more, because it's a way of exploring. Exploration! So instead of doing just research, you're doing practical things yourself and when you're doing things yourself you understand more because you've experienced it.

Q.12 Participating in creativity research

Indicate if you would be interested in participating in this research?

Definitely! I've just done one lesson and it did amazing things, so definitely want to participate in the research.

Q.13 Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

This comes down to education. I do not know what I would like to see built up from that workshop lesson unless things are being provided. For example, I can say – I could ask or can you show me another type of visual arts with different tools? Then, maybe there is more ways of extending what I've learnt in our workshop with the types of ink that we used, and things like that. So it goes both ways extending this way but extending that way as well.

From the workshop lesson there was plenty of discussions in the introduction. The introduction was very important because when we knew where we were going, where we were heading, and you gave us part of the Chinese history – that was very exciting – I've never heard it before and it was very important because we were doing, we were creating this design. When I was concentrating on that thing, I was thinking how to approach my body, how to prepare my body and that is something I've never heard before. And that helped me to concentrate more on the materials and what we are doing, than on everything else and then we talked about it.

I enjoyed having so many different materials to try and it's amazing what was coming out of them- so, that was very important and the encouragement you gave. I think it's the way the teacher approaches creative arts with the students – I feel, that was very important because that's what started us. Without you we wouldn't have done what we've done. And we've done it because you were ready. You prepared us and we were ready to go ahead. I would have appreciated if the environment was different because that really distracted us.

Were you painting inside or outside at this stage?

I think we needed more space where we wouldn't be so crushed in. We were painting outside and with the large number of students we needed maybe more paper so that we can go further, even though we split up the group into half.

This is in the group work you're doing?

The idea would have been good to work collaboratively because it would have been the whole group, loads of people in one space. And this is how actually the village Aboriginal people work as well. They create so many beautiful artworks. I keep on looking at them and it's amazing part of their art and culture. So the group work itself was an experience I've never had that before. I felt a little bit too restricted but as I said it's because of the situation we were in.

In my classes, hopefully I have the right materials, right environment and right choices. I would encourage both Individually and working together because when you're together then you're seeing other people and I like the idea. When you showed us the art work that we did altogether, you said – it doesn't have to stop there. We can take sections and create from that and that the art work could go both ways. It's something that I have to try out and see. I think it depends how well the group of children are. If they are willing or they want to, but I think that they would. Children would want to have fun. It's just a matter of giving them the opportunity.

The workshop was amazing and I'm sure I mentioned it in the beginning; I would have normally done just the painting – that's what's currently happening at schools. That's it there is no discussion. During the workshop we had discussions and we came up with things I would have never thought of – I would have never seen- you really showed me the story behind the drawing and the creativity of the story at the same time because it was all creative. It was not just creative arts it was creative in every single way. That is something that's stuck and I liked it! I really liked it!

The third one, as I mentioned, I think the teacher and the equipment are both important. Everything was important in the workshop- from the beginning to the end. I see it as one big element of education, of exploring ourselves, explaining ourselves.

Is there anything else you want to add?

In the video recording I have my hands together. Asking: please, please keep on teaching us keep on providing us with opportunities. Don't stop. I can assure you, that's from that one workshop lesson, from before the lesson to after the lesson, the children that I'm going to have, when I'm teaching, are going to now have more knowledge and be more prepared to teacher than I was before that workshop lesson. So please, keep on teaching me, keep on providing us – not only me, the pre-service teachers, we need it. There is a lack of it, I see the current teachers now, there's a lack of it.

The workshop we did this time, I never had any knowledge of visual arts at all. The previous lessons I had knowledge, or if I didn't I know I could continue because they are more of an everyday creativity. If somebody's not that creative and they concentrate they can go so deeper into analysing a picture.

This workshop has prepared me more, it has taught me something, told me something, helped me take out something which I would have not – it wasn't there in the third year teacher training program at university.

Thank you very much.

Video Transcript No. 4 – 17 November 2011

Amber

Q.1   Competent in visual arts practice

Do you feel competent using visual arts practice?

Yes, I do feel competent but I feel in some areas of visual arts I'm not as strong as in other areas. Probably between limited and often, or maybe more often. I feel competent but only in some areas not in all, in some of the strands of visual arts – it's quite broad, using definite materials like your oil pastels in comparison to your paints, your graphite pens and things like that, using different techniques, like I seem to use a lot more oil pastel, so I like to use that.

Q.2   Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

I have done some courses in visual arts and I went to a creative arts high school – Ku-ring-gai and there I chose visual arts as one of my electives during Year 9 and Year 10 and as a Nova subject during those years as well. A Nova subject is – I can't exactly remember what it stands for, but it's something you're interested in that will carry you further in terms of what you want to be. Say you have a gifted and talented child per se and they need an extension and say they're gifted and talented in maths so a nova subject might be maths acceleration, so they do maths acceleration. But because it's a creative arts school and you're really interested in Spanish, then they had a Spanish acceleration and then they had a visual arts where you did murals and things like that and work together doing visual arts and things like and they have drama, and put on plays. I did visual arts for 2 terms in each year and I did drama as well. I enjoyed visual arts a lot – for me it's my de-stress so if I'm ever in one of those grumpy moods I always get out a pencil or paint and start painting or start drawing.

For my HSC? No I didn't. I was pushed by my parents. I changed schools at that stage too – an all-girls school. I was pushed to do a lot more academic centred subjects. I don't think my parents really appreciate the arts in the sense that I do. For me I thought that that would be better for me because my parents are very convincing and at that stage I was upset that I didn't do drama or visual arts but I thought that having the extension Maths and the extension English and extension History it would get me into university so that I could ultimately become a teacher. And my parents did in a way that – I didn't do it at school but I did it outside of school, so I did it in those community college courses, so I used to go to a community – one of the Ku-ring-gai ones, so I did visual arts for … and I think I did a Music one – I can only sing and it was much more playing, and I didn't really do that much. Yes, but the visual arts ones, I did pottery, ceramics, and Mum used to get me up and I used to do in my spare time.

I am a very energetic person so I also did Taekwondo as well, and my meditative stuff through art and creating pottery where you get your hands really dirty. I just loved it, I loved that sense of play- finally I'm able to create a bowl on a spinning wheel.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

I'd say probably drama and after that visual arts.

Q.4   Definitions of creativity

How would you define creativity?

I would personally describe it as being able to express yourself in a form of the arts, whether it be visual arts, music, drama – art as a way of expressing yourself.

Q.5   Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

Do you mean if I had a visual arts lesson when I was teaching and how would I? Well I haven't taught that many visual arts lessons. Well in an art lesson, I would make it in relation to the kids and get them to use their imagination, things like that, playing some music in the background to that feeling and pointing out characteristics for kids that might need that, your lower ability kids. The higher ability kids that are a bit creative, say 'what about the surroundings'. I've used visual arts as a consolidation. Recently with the Year 3 class that I had they studied the human body. I said, 'Here's some pipe cleaners, can you use these materials to make a diagram, however you want it, about how the digestive system works.' So they got the pipe cleaners and moved them and different kids used them for different things. Some of them used the pipe cleaners as food to demonstrate how the digestive system worked and other kids used the pipe cleaners for other things and, like seashells as well, like, as the joints and things like that. So as a consolidation visual arts is good and because it's tactile and it's hands-on children really get into it. I've noticed anything that's hands on, they're constructing, they're more involved and for me, being a preservice teacher, being in a class. It's not really my class, so to get them to be on task and to be focused is an incredible thing.

They would have easily, with a few questions, an hour. And my lessons were only an hour, and I only gave them 20 minutes to do it, because we had to go and talk about it first and then bring up their prior knowledge because others would be coming in so sporadically, 20 minutes and they were able to complete.

'Oh miss we need more time, it's not enough, can we stay back at lunch?'

'Do you really want to stay back at lunch?' So okay I had a few kids in while I was sitting down doing my next plans.

The workshop really made me think about how I could make engaging lessons and I'm sad that I did this workshop lesson towards the end of my prac because had I done it earlier I probably would have used a few more of that type of methodology. You know, have, even a paper clip and go – create a symbol using this paper clip. Just using something like that to get them – like hands on, creating something – can be significant to them. I said:

Q.6   Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Well I find that the people that aren't as creative are the people that are very structured. They're not given that free-lance time to really explore, imagine, think. Luckily in Year 3 a lot of them have a quite vivid imagination and they're quite good with that but I did have a few students who said –

'Miss, is it all right to use this to do this? '

'Think about and just do it. It's all up to you.'

'Oh but miss I'm not sure, can I …'

They need that and you think – you know, you can do it, you can do it by yourself. Be an independent. And it's just as if they shut down. No, if I'm not doing it this way, if I don't ask as many questions as I can, then it's not so many, then your background, your family background, your family itself and the type of person you are. My little brother's autistic and I feel that he's very structured, very linear, – I was doing a small kind of lesson with him at home and – figures of speech, like- 'Use your head'. And my other brother was being silly to my autistic brother. I said, 'Use your head, what do you think you can do.' So then he head-butted him, and I said 'No, I didn't mean literally use your head. I meant, think of other ways. It happened on a few occasions but he's very linear, so to get to imagine other things, it's – 'What's another way we can do this?' If I gave him this paper and said 'Draw anything'.

'What do you want me to draw?'

'Anything, you just draw anything.'

'Um, okay. What's your favourite thing?'

It can't come from him. He can't go – my favourite thing, I'll draw that.

It's a stop and start thing with my brother. I find some days he'll be really good. I find that if I take him out of his room, closed room, I take him out, go to the park with him, go – you can create something out of the leaves. We create something, take some sticky tape. It's a surrounding thing. Other days I take him to the park again,

'What do you want me to create?'

'We did this before.' Yes, so he bounces back and you've just got to keep pushing it. Consistency is pretty much the thing I think. As a teacher I like to foster that, it's the thing I like to foster. Hopefully I'm successful at it.

Q.7   Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

I think to teach visual arts you've got to first practice it yourself. I think with visual arts it's not just something you can grab and demonstrate on the spot. You've got to have a bit of knowledge about it before you teach it, whether it be your drawing, your painting and I think modelling, especially for your younger kids is a crucial part in showing them how to do something – for example: using oil pastels, and the merging of the colours. You've got to model. 'You've got that colour and you've got this colour underneath and you can merge them using a third colour.' 'But can that third colour be darker than my first colours?'

I had my last practice day yesterday so I'm still in that modelling mode. Yes, so just those skills. I think it's important for teachers to learn skills. Although teachers think visual arts is just drawing at the end of the day. No, there's a lot more to it.

Q.8   Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

I like to go to workshops I see around. I live in Hornsby and I also try and go to the art gallery. I think the community has an art gallery and I go in there once every fortnight and have a look at the art and say to myself:

Yeah, it's pretty much practice and I think everyone can draw if they put their mind to it. And if they are persistent enough to carry that skill through. I've even done a rough sketch on the board and the kids have gone:

'Miss Khan you're such a good artist.' And I go – 'Really. Not really good for me, but if you think so …'

It's about that ability that skill that you might not think is important but it's very important to kids because visually, there was a kid who came into the school the other day.

Drawing is such a powerful thing – it's universal. Everyone, from every country can draw. You might not be able to speak the same language as someone in another country but they can understand your drawing.

Q.9   Is creativity taught or learnt?

Do you believe that creativity can be taught?

Yes, I think it can be taught because my definition of creativity is expressing yourself, and so, it can be taught because the person just needs to be aware of what they feel and how they want to communicate that through visual arts or through the creative arts. Even if they're learning a new skill in visual art it can lead to creativity because they can find that creative arts can make them feel a certain way and therefore when they want to feel a certain way they can do that.

Q.10   New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

It's hard because I think each kid is different. So for a kid who doesn't have a lot of creativity, they're being creative in themselves in expressing what they do. I think one great lesson that Jan did was the idea of a box and have things in a box and say to the kids: 'Okay you have to create a story using these things.' I did that with one of my kids and they were amazing. I think I had a little stone owl and I had an umbrella and I had a postcard and I had a car and I said,

'Using these things, can you write a story?' And I had magic umbrella and the owl that turned into stone, and different subjects about it and you just think, Wow! This is such a great creativity lesson and then you can even extend it by getting them to write a script and then acting it and then you can get them to create a soundscape to match the script, leading them through it all. I think, having in front of the kids and them exploring the options is much more succinct.

Q.11   Help needed in visual arts

What additional help in the visual arts would be useful for you?

I think different ways to teach different types of visual arts. So in visual arts, using your graphite pens, your oil pastels, different techniques you can use with different ways of looking at the skills. Some people have the skills but I know a lot of people don't. I think even if I were to be refreshed on these skills to use with the different types of visual arts it would be really beneficial when I do a visual arts, I can incorporate that in a visual arts lesson. Techniques, skills and hands-on, because with any visual art, or any creative arts, you do it, you remember it!

Q.12   Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes, if I've got time, definitely. I can't say, it would depend on the month and the timetable also because we've got practicum teaching as well.

Q.13   Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

Yes, teachers in particular need to engage their students and by engaging their students they need to be energetic in themselves with the subject that they're teaching. They need to carry out that information in a very enthusiastic way, therefore they are performing. They're performing the way a digestive system works. They're performing, how you can flick paint and rotate brushes and things like that and they're using their voice to engage the kids. They're using a softer tone when they're talking about a specific dialogue or they're using a harsher tone when they're doing a character from a book. So it's all a performance.

Historically, teachers were at the front, just dictating knowledge and the kids were writing it down but as society has developed so has this view of teachers and kids aren't respecting the teacher that just stands up the front any more. So you have a lot of kids these days especially in your Stage 3 classes, your 5 and your 6 who might say,

'You know, you're a teacher, you're not important. My mum says that you're not important so I don't really have to listen to what you're saying.' And if you have a kid like that – you know their mum said it, so you can't really go to their parents and say:

'Excuse me; I am important, I'm teaching your kid this and that, because you don't know what their family circumstances are so how are you going to get that kid's attention in a class. You've got to engage them and you've got to engage them by getting their attention by doing something out of the ordinary to gain their attention and drama is fantastic at that. Because you can then go: 'hang on a second, you might not feel that way about teachers, but I'm a different teacher, and when I teach, I'm not really teaching. You perform what you want them to learn. So they become engaged and they end up going 'Oh yeah, we get that. That's cool. They're either going to be making fun of you which means that they've got to be listening to you so that they can make fun of you. But by listening to you they're also learning something. Also with humour you've got to be careful because a lot of students, especially young ones, don't really get it.

I think with teaching strategies are important because when you do the lesson, how are you going to conduct it. Are they going to be in groups? What type of abilities? I think teaching is such a broad way and all classes are different.

Video Transcript No. 5 – 17 November 2011

Mark

Q.1   Competent in visual arts practice

Do you feel competent using visual arts practice?

Yes. I feel competent in drawing and calligraphy and manga-style comics. I've never actually been trained in visual arts except for maybe a year or two in high school.

Q.2   Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

I've never actually been trained in visual arts except for maybe a year or two in high school. I was interested in it since I was little in primary school. My primary school used to have a group of us who used to draw comics. That's what we really liked doing except our teacher didn't like it. My sister and I used to get sketch books and just sketch things. Just for fun. Because when we had relatives coming from Korea they'd buy us paints and so we didn't really know how to use them but we just painted with it. So I was always interested but never actually had proper training.

I did visual arts in Year 10 as an elective but I didn't really enjoy the non-drawing parts of it. We did a lot of sculptures and we were kind of restricted to what we could paint. For example we did Aboriginal or Indigenous art and we'd have to do it in a certain way. We had to use dot paintings so it wasn't very flexible and I didn't really enjoy it. Sometimes I've borrowed books from the library or bought books from like book club, on calligraphy or drawing cartoons or sketching and use those as a guide. I also have a lot of Asian comic books that are a manga and ones that I try to copy the style of so – comics I enjoy.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

Yes, probably is music because that's what I did as an elective in high school and I studied that as my undergrad degree at Macquarie. It was mainly sound recordings. I think it can be really creative.

Q.4   Definitions of creativity

How would you define creativity?

I think it's just being – not being – denied any roads or paths or thought processes, must being able to do what you want. I think freedom is creativity.

Q.5 Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

I think, one thing I've noticed, just in the practicum with master teachers or even specialist, not only specialist teachers that come in as an incursion, but in the school – it's more like, they'll teach students techniques and styles, but I think one thing that's really missing is the human side of it. You know, like using it as a form of expression. It really shows in a lot of students where if they don't do – if they try and teach, the other day we did Cubism in my class and one of the students' mothers who is an artist came in and showed some examples and we did some Cubist kind of style and half the class at least would say – what do I draw? They just can't think for themselves, they just want to be given ideas instead of think for themselves.

Q.6 Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Yes. It's just – too many rules I guess, like, too many boundaries. I'm not sure about art, but in music in classical terms there's a lot of emphasis on technique and skills and I think that's important. but should'nt be the main objective. Whereas, I think that can hinder the way a person expresses themselves because they're too conscious of the restrictions. Just in general how – there's just not a lot of importance placed on the creative arts.

Can you give me an example?

A good example would be NAPLAN – standardised testing. I know this year the teachers found that NAPLAN was about persuasive writing so the students hardly did any creative writing – which is a form of expression and they can't do that – they're just sticking to a rule, this is how you've got to do it. They were just doing drills on that pretty much. They were just learning kind of formulas pretty much- those kind of things can disengage students I think.

Have you seen them being disengaged?

There's a couple of students in there – one has reading difficulty and – he's really good at sport but he has reading difficulty but he's a really good artist. I've seen, when he does art. He'll start mid way through a teacher's explanation because he just wants to get into it, his ideas, put them on paper. There's a girl who has autism and on the cubism one she just did something that nobody else could that even teachers or even I couldn't have thought of. It was just something really exciting, great and … the teacher praised her a lot for that – she's just really involved.

Q.7   Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

There are the basics, but I think just experiencing a lot of different styles, genres – they don't have to enjoy it, but just being able to know that it's there and being able to appreciate all the different types of styles out there can expand the way they think creatively.

Q.8   Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

What I've been trying to do – I've been doing a few music lessons. I'm always trying to incorporate emotion and feelings when children listen, when for example, we're doing tone colours I play a song for them and ask them how did that song make you feel, like what colours did you see and those kind of things. I think it depends on the student. Some students – they're just not really interested in music or don't really know enough or they just don't really get it – or understand the concept. They just feel uncomfortable closing their eyes when they listen to a song or trying to express themselves.

So do you think peer pressure comes into it?

Yeah, I think peer pressure would play a lot in the ways we are engaging children.

Q.9   Is creativity taught or learnt?

Do you believe that creativity can be taught?

I don't think creativity can be taught explicitly. It can be nurtured and encouraged but I don't think it can actually be taught.

Q.10   New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

Just trying to do it! Exposing children to the different ways people can be creative. Showing them that it's not just in the arts but pretty much everything they do outside of school, in their free time, all has some form of creativity involved. So even sports, or if they're playing video games or things like that they all can involve their creativity.

Q.11   Help needed in visual arts

What additional help in the visual arts would be useful for you?

I think just some technical background knowledge and some theory. Just even learn how to paint in a certain style-such as using charcoal. Just have a general basic idea, learn a bit of ground work.

So would you require more time in the program to do that?

I think you would need more time because the curriculum seems pretty compressed, this whole creative arts course because there's so much to get through. If there was more time they could split creative arts into different strands – instead of having creative arts for just four weeks, you could have had drama for four weeks, music for four week and visual arts for four weeks. But because we do creative arts for four weeks in total, each of those weeks is just one of those strands so we can't really get that much out of it. We just kind of get a taste and that's about it!

Q.12 Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes

Q.13 Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

Yes, my creativity did change because – I liked how the workshops weren't really structured, there was a task and there were instructions on the task but there was freedom within that task I guess. So there were all these different materials we could have used and so, all the participants can tried out different things so they can explore their own creativity – I really liked that kind of aspect of it.

Experimentation. I think, I can't remember which thing I was using to paint with but one of them was the brush – a toilet brush, and I found that when you dip it in the paint and when you kind of, sort of painting with it, you flick it, kind of like blood spatter. I thought I'd try to do something with that, just being able to experiment with everything. I saw other people using their kind of tools, differently to how I would have used it. So, I think there was a group who used the feathers and I thought, well that's really interesting. Just good to be able to share your views and all those ideas together and it strengthens your own imagination and creativity.

What were you trying to achieve with your art practice in the workshops?

In the workshops I was trying to be in a more uncomfortable position I guess. Because it was such a long kind of brush I was using, I thought I could go on my knees and hold it like a pencil or a paint brush, like hold it near the end, but I thought, how would it feel if I stood up and held it like a broom or something and used it like that, then there'll be less control. it'll just be interesting to see what kind of results you get.

What did you think when you finished?

I thought it was really uncomfortable but I think that the effect that resulted would be something you could have only done by holding it like that, like if I went down there's too much control to get something like that. I guess.

How did the workshop integrate with other KLA's?

I always like having music in the background, not just for arts for any other subjects. It just creates atmosphere and different songs can produce different emotions and you can inspire students to follow on tasks or if you have music, you can actually control the pace of a class, with that music. I found it worked in the workshops because I remember the first half of the songs, they were more kind of free flowing and that affected the way I moved and the kind of strokes I would use because of the sound I heard. Then when the music start changing, I could see other people kind of running around a bit more instead of kind of hopping around and so that changed, that affected me as well. In that part, I felt a bit stuck because the music was going a bit too fast and more material things were getting involved in it and I felt pressured to think of something quickly. It was a good experience because it's like working under pressure. I don't think I really got to do much creatively in a sense at this stage because it was more random – just doing random things.

Well thank you so much for the interview.

Video Transcript No. 6 – 1 June 2011

Luke: 4th year primary school teacher

Q.1   Competent in visual arts practice

Do you feel competent using visual arts practice?

Yes, I do feel confident because I've got a reasonable background in visual arts. I did it all through high school and I feel I have a natural ability to some degree with visual arts. First year out of school I was doing Industrial Design at University so I'm confident with more the drawing, painting side of visual arts.

Q.2   Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

School and university and I draw when I'm bored sometimes. Probably midway through high school I started drawing for myself. I didn't have great hand-eye co-ordination when I was younger but grew into it.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

Probably Painting and the strands is visual arts. I'm all right at music but I wouldn't say I'm confident. I grew up learning instruments but I've learnt by hearing rather than by notation. I haven't much prior experience with drama. My brother does lots of drama but I've never really been involved with it. No dance at all.

Q.4   Definitions of creativity

How would you define creativity?

I think it's different for different people. The essence of creativity is coming up with new ways of doing things and interpreting things in different ways and coming out with something. Like it's hard to come up with something completely new and you always draw from something else, so it's just looking at something in a new way.

Q.5   Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

I guess, exposing children to the arts as much as possible so maybe have music running in the classroom, have artworks up, have as many expressive forms of the creative arts involved in the classroom as possible. Make it ongoing so the students feel comfortable with it and can express themselves. High school we did not do it, not so much, primary school, yes. We had

choir, we had visual arts a fair bit. In year two class in particular was very creative arts orientated. That class has stuck with me and that's how I want to teach my classroom because it was just fun to be in.

Q.6   Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Too many rules and parameters to the task! I believe that you have broad parameters which the child can guide themselves through but if you say to them, you have to pay this, this, this and you have strict criteria, it's not going to help them be creative, it's going to do the exact opposite. Every time you do something with the creative arts, they're going to look for the criteria to get good marks rather than expression.

Q.7   Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

I think the main skill would be the ability to take a back seat and let the students take control and the teacher isn't be so rigid in the structure of the lesson because the whole point of the arts is to express yourself and that can't happen if you're so tightly bound to a lesson plan that it's not allowing the students to express themselves. Another skill is open-mindedness. What you think art is not necessarily what others will see art. Students may prefer a different way or see art in a different way to you and so you just have to be open-minded and understand that others can learn differently and express themselves in different ways. In my experience, I do a lot of drawing to express myself and I've got friends who are very music-orientated and they don't necessarily create music, they just connect with music through an emotional connection to music. My brother who can't paint and can't do what people usually think is art is a lot into drama aspect and he does acting.

Do you think they choose that, or is it an innate quality?

I think it depends on your personality. I don't think a massive introvert is likely to get up on stage and start performing a monologue to large crowds. I'm quite retiring in nature and so I like to have my own time so I can draw, I can be with myself, but – I think it depends. And it also depends on what you're brought up with and what you're exposed to. When I was younger my parents would constantly take me to art exhibitions at the gallery in the city and also in Canberra and that was a very big part of my youth. I just remember sitting on those chairs. They would take a lot longer to look at the paintings than I would. I'd just go, Oh that's nice and wouldn't bother reading the blurb under the artwork.

Has that affected the way you look at art now do you think?

Yes, I've got a lot more time for art, the main stream would not necessarily consider to be art, like all the abstract sort of stuff I can see in the process, I understand what they're trying to bring across, whereas someone who hasn't been exposed to that, would just think – that's weird and I don't understand it. They may say, why don't you just paint something normal, or create something normal. My cousin is actually, she's in Perth and she's had an installation in PICA which is the modern art gallery. It's like a whole big thing where you walk through and

ride on stuff, and so, even just having my cousin doing that sort of stuff meant that I was exposed to from an early age as well.

Q.8 Teaching strategies that enhance creativity

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

I think again – just making sure you look at art yourself and you look at all art forms. You don't just look at art to see art is important. Just keep doing art yourself, like, so it gets ingrained as a part of you. You become better at art by doing more of it. I notice that in that year I was doing industrial design my drawing became that much better because I had to keep on drawing each week and I had a process diary to work through, just constantly drawing, drawing, drawing. It just helped me with creativity because I'm using the tools and it just becomes normal as I learn to express myself in that way.

Q.9 Is creativity taught or learnt?

Do you believe that creativity can be taught?

I don't believe it can be taught, but I think that everyone has an innate ability with creativity. It can be fostered and grown but I wouldn't say that it can necessarily be taught. I think, there's different forms of creativity. I think that everyone has a form of creativity whether they recognise it is creativity but I think that everyone has that ability.

Q.10 New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

Exposing them to art, taking them on excursions, showing them art that I have done – that it's not just them that does art, and it's not just a school thing. That other people do art. You don't have to be an artist to do art. Letting them know that art is more than just drawing and painting and it's broader than that.

Did you see any of your art teachers do that with you in your school?

No. I don't think it's good or bad either way really. I think showing children your art would be encouraging because they would see that you do it yourself and that it's normal, it's a way of expressing yourself and it's not a task just to be graded. It can be fun. It's an enjoyment thing. I wouldn't see that as a bad thing necessarily unless it was expressing something that was beyond the students.

Q.11 Help needed in visual arts

What additional help in the visual arts would be useful for you?

More resources and more time. You know, big problem for school is having to do all this Maths and English, prioritising stuff. Maybe just when planning timetables, stick to a period where there is art done. Just more emphasis on the arts would be the biggest help I think.

So you've been out teaching already.

Yes

And have you experienced that there's not a lot of time.

Well my previous primary practicum, the only art we did was the art that I did. I'm yet to have any art that is dance or drama at either of the practicum that I've done.

So there's been no dance or drama

No dance or drama. I was at a small public school. The one I'm at now at is a big private school and they have a specific music teacher and art teacher, so those bases are covered but no dance or drama. I think they cover their drama by having a school musical at the end of the year but not everyone's involved in that.

Q.12 Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes

Q.13 Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

Just the spirituality, the connection with the body and mind when you're painting. I wouldn't have expected that to be taught necessarily like that at school. I think you'd have to have a very good teacher to teach that because you'd have to be very involved and a lot of control over the children. Because it's out of the norm, so it was good, and you'd have to make sure that it wasn't raining or windy.

Could you see yourself doing that? Or similar?

I would have to make sure that I'm very comfortable with the content. Like I wouldn't be comfortable teaching a similar sort of thing in dance, but maybe in visual arts.

I didn't expect the second part, you know, where you had the drawing, painting on the floor. I didn't expect the dance would be involved in visual arts like that. All the visual arts I've come across has been very straightforward and it's been very what you expect of visual arts. Visual arts at school has been mask-making, albeit, it was surrealist mask-making, but it was still

very standard step-by-step sort of thing, rather than … Just having that broad space to dance and paint it was – free expression that was different.

Could you see yourself doing something similar with a group of students in your class?

I think so. I think it would be hard to come into a practicum class and do it. But when I have my own class I can see myself doing something along those lines. It's something that would be good for after lunch.

And one more thing from the workshop? What about the variety of materials?

Yes, it was good. I liked the cultural aspect and how it was not just about the art it was also about where the art came from and how it was, how the background of the art was, and how it came about, what it's used for. It's encouraging that it doesn't have to be so structured. I think for art, creative arts, it needs to start at the classroom level. It needs to start from both ends. Art needs to be revamped and viewed in a different way. Because otherwise it will continue to be taught the way that every other subject is and it shouldn't be taught in that way because it's completely different. Art is its own thing. You can't teach it like Maths, sit children down, explain where it comes from and then give them something out of a text book or tell them to do this activity, following these steps.

You're doing CAD drawing, so you're being taught almost in that rigid way aren't you in CAD drawing. So what's the difference?

Well. I don't necessarily see my work with CAD as creative art, because, yes, it's drawing, but it's not creative, it's basically copying. Being a primary teacher and being a guy is not fashionable. Generally though I think, with the boys wouldn't think it's too bad. They just need that background of visual arts or creative arts to appreciate it and become comfortable with it. It's hard to teach something that you're not comfortable with or understand necessarily.

How do you think NESB students would go in the workshop situation, any ideas or suggestions?

Maybe have [NESB teachers] get practical experience of a class, observation of a classroom with these motions in effect, so they understand how to involve visual arts and modelling art. Because I expect it would be hard to come into a different country not having any understanding of the way things are taught or the expectations of schools in that new country.

Anything else you'd like to comment on?

Yes, that I think there needs to be more help with people in the lesser, or less preferred areas of creative arts to make them comfortable with teaching those areas. I think that when teaching in dance and drama it would help, in my experience, to have more knowledge and practical experience teaching children. When we have a tutorial at university, as we have, for each subject, we have four tutes for creative arts and we'll only spend one tute on each of those creative arts strands. So we will have one tute on drama, one on dance, so really we're only getting two hours in a semester.

And that was the same last year?

Yes. The expectation of the syllabus is quite large coming from a situation where you're very uncomfortable with teaching one of those creative arts strands.

Have they told you that someone will inspect you. I mean, can you get away with not teaching those strands? It's an expectation, but is it implemented?

There are [curriculum expectations]- I've been told that people visit you every couple of years or something like that but it's only for a little while so you can pretty much get away without knowing art, and they know when people are coming, when they're due, so pretty much you can get away with it. I've been told by friends who are in practicum training as well, they have only done Maths and English at their school and nothing else. I'm thinking, wasn't that deadly boring for the kids? I think it's got something to do with NAPLAN. It was just before the NAPLAN tests were happening.

Thank you for your time.

Video Transcript No. 7 – 1 June 2011

Mackie: 4th year primary school teacher

Q.1   Competent in visual arts practice

Do you feel competent using visual arts practice?

I often feel competent because of my own experience with art and because of my prior knowledge and my desire to extend myself and learn the practices to extend to my students because I would like to practice a creative arts lead curriculum. In my own life that extends to basically emersion in creativity.

Q.2   Prior knowledge in visual arts

What is your prior knowledge about visual arts practice?

My prior knowledge is from my visual arts high school education (HSC) and any techniques I used with my own children in conjunction with their schooling. I lead an arts-lead curriculum in my home life that extends to going to the Opera House and music basically emersion in creativity because I see creativity as foundational to learning all the other subjects.

Q.3   Confidence in creative arts strands

Are you stronger in one particular strand in the creative arts?

If I was asked to produce something from a particular strand I would probably do something, however, that is from my own learning experiences, and I am a mature aged student and I feel without that life experience I would really need to connect with some creative arts practice to feel competent. I feel I have a grounding to connect to creative arts practices but I wouldn't say absolutely confident but have a base to build on but that's not from university studies that's from life experiences and real life roles.

Q.4   Definitions of creativity

How would you define creativity?

The pursuing of all the higher order thinking levels of Blooms Taxonomy (1956) and (Anderson & Krathwohl, 2001, p. xxviii). Creativity includes self-discovery, its exploration, its extension, its problem solving. I find that all of those elements meet the criteria as defined in that Taxonomy so that's how I would define it. I would define creative arts as entwined in all our everyday life experiences and how we solve issues. For some problems or learning experiences are rarely defined to one content area in a world live situation.

Q.5 Inspiring creativity in children

In your capacity as a preservice teacher, how would you inspire creativity through visual arts practices in the children you teach?

I really embrace web integration. I find particularly inspiring reading books such as Ewing and Gibson; and Dinham. Inspire children where the creative arts curriculum is integrated throughout the units of work whether it is Maths or English or HSIE. That's how I would inspire my students, they would not be thinking, we are now doing art and it ends up as a compartment but a way of expressing themselves through all the KLAs. This gives them another strategy for learning and so that you as a teacher are not just focusing on one group of learners and the way they learn all the time so that opportunities are extended to all students and they receive equity and content.

Q.6 Barriers to creativity development

In your opinion, what do you think inhibits a person's creativity?

Probably access to the basic skills inhibits creativity and in my experience as a practicum teacher and working alongside teachers that are actually in the system. What I have observed is that possibly in their training experience pre-service teachers have not received the skills that I have acquired just because I am a mother and over the years I did not feel confident to pass on the basic skills. Therefore, it's a self-fulfilling prophesies that the children don't do the art because they don't feel that can because their teacher can't and there's no one to lead the practice. I think that's a major inhibitor to creativity.

Q.7 Skills, knowledge and processes

What are the skills, knowledge and processes needed to teach visual arts?

To be open minded and approach everything with enthusiasm and confidence! I think the knowledge and process is fairly well laid out and you can read it however, skills are needed for creativity and expression. I feel concerned that those basic skills aren't acquired in the university setting as I have experienced very little 'hands-on' connections with visual arts. I have observed the tentativeness with the other pre-service teachers because they have not done it either as I have only had in my 4 years here two experiences with making and exploring materials. Once was in 3rd year and once in 4th year. I find it concerning that I will be receiving a Degree that I am proficient as an Art Teacher within the K-6 Stages based on two hour sessions. So four hours all up equates to a university Degree qualification in that particular content area. Again, I think that probably leads to the lack of skills within the student population of the schools if I am reflective of the practices currently utilized in all the universities if that were the reflection then I expect that is the connection.

Q.8   Teaching strategies that enhance creativity?

Can you suggest some strategies you can use to enhance your own creativity in the visual arts?

Comparing and looking at other peoples work, criticism and be open to opinion and discussion of each other's creative work. I can think of strategies, because I have been out practice teaching I have had to engage myself in my own learning activities to fill my desire to fulfil an arts-lead curriculum. So an arts-lead curriculum has made me have to pursue literature ideas of other people in the artistic world and can demonstrate things to me or I can experiment at home. A lot of extra hours go into the strategies as I need to be able to transmit to my students to enhance their abilities to create and fulfil their outcomes.

Q.9   Is creativity taught or learnt?

Do you believe that creativity can be taught?

Not necessary taught but I think you can help a student define the parameters they need to feel free to create. I think you can model and exhibit to them that there is a certain degree of safety and that there is no right or wrong in the area of arts and I also think this is a really strong strategy in the other KLAs such as in Maths or Science that that same philosophy applies. I don't think you can teach creativity but I think you can support it and scaffold it in the right environment with the right attitude and with the right skills.

Q.10   New ways of inspiring creativity in children and self

After experiencing the workshops, how would you inspire creativity in the children you teach?

By connecting their classroom to the real world experiences and allows the learning not to remain inside the classroom but extend beyond it. So that what children experience in the classroom links with the reality of the world around them whether it be art gallery visits, or even having professionals coming into the school and demonstrating how they do the art not even just talking about it so that they can experience it. Quite frankly, reflect exactly what I feel I lack, some 'hands-on' experiences to encourage children to feel the freedom to explore their creative identities.

Q.11   Help needed in visual arts

What additional help in the visual arts would be useful for you?

I would like some more 'hands-on' experiences and some creative scaffolding demonstrated and given to me because I don't think because of my age I learn any differently I think I need the skills base so I can feel that I can be creative and transmit that successfully to children. So I need that model so that I can continue the modelling onto the children that I will have in the future.

Q.12 Participating in creativity research

Indicate if you would be interested in participating in this research?

Yes

Q.13 Three elements of surprise in the workshops

Can you give me three elements which surprised you in the creativity workshops?

The individuality that was manifested in each rotational group and how the peer learning really influenced what was produced. I think it was a really valuable process to observe. I think if there had been more time and more opportunity, then maybe other students that may not have had the time to stop and look around them at other rotational groups would have learnt a lot from each other and informed their own teaching practice. Unfortunately there was limited opportunity in the two-hour class to reflect and look at teaching practices because I think it would be nice to make those connections.

The other elements that surprised me were experiencing some lesson plans that connected to the materials. I really thought that was a very valuable process. I also think the opportunity to not just listen but to interact and react with the other students during a creative process and hear ideas and things they have brought to that particular moment is quite valuable to one's teaching practice. Also the self-efficacy as a student as you realise you don't come with this innate ability just because you are studying to be a teacher. So, I think that was a really valuable element to observe, learn and share.

An example in the workshop was a group I observed where their art was all very similar and yet completely different to the rotational group I had just is in before. As a group they had scaffold each other, experienced peer learning and followed each other and it was obvious that a person was leading and directing while the others were following so they were basing their creativity by basically climbing on the shoulders of others. However, that [scaffolding from one group to the other] did not transmit to other groups because they were quite involved and separately engaged. So the value I could see of doing that was that after that rotation had been completed when you came together and shared and observed the work the students were actually seeing multi-ways of using the same process to achieve totally different outcomes. This again, is a skill that can be applied to every other KLA.

I would like to say that I enjoyed the workshop today and the two hours were quite precious to me and I think it would be a really wonderful opportunity for the pre-service teachers that are practicing the creative arts in schools are able to have more of those sorts of 'hands-on' sessions to align and connect strategy and other content that we have to pursue in our teacher education course.