A Global Epidemic of Creative Education! Shaping and Implementing Creative Education in Primary Education in Taiwan

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Declaration of authorship

I confirm that this thesis is the result of my own investigations. All other sources are acknowledged giving explicit references and a full bibliography is appended.

Signature:...

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Abstract

This thesis identifies and analyses the limitations and effects of the implementation of creative education in primary schools within the Taiwanese context. It explores how the new government formulated and delivered the policy, and how the teachers put creative education into classroom practice. The analysis presented here consists of a critical analysis of the creative education policy agenda, a survey of how three types of respondents (teachers, students, and parents) perceive creativity, and an investigation of the dilemmas faced by teachers and students in developing creativity in the classroom.

A number of arguments are presented. Firstly, this thesis highlights that creativity has been redefined as a crucial element for education reform in response to the rise of the knowledge economy in Taiwan. I suggest that this economic-led discourse and the short sighted plan have led to misunderstandings of what creativity means. Regarding strategies for policy delivery, I suggest that the role given to policy-makers and their limited experience in developing proper methods has led to more confusion for the teachers. I also suggest that the development of a more liberal and creative education environment has been constrained by entrenched institutional and socio-cultural limitations. I then indicate how these limitations and school cultures have influenced the respondents' perceptions of creativity and of teaching and learning in the classroom. Finally, I suggest that creativity in the classroom involves multiple ways of interaction between all participants.

This research makes three contributions. Conceptually, I combine various psychological, educational, and sociological approaches to discussions of creativity. Methodologically, I develop multilayered methods and visual analytical frameworks for researching creative education. Empirically, I provide dynamic stories about the practice of creativity in the classroom within the Taiwanese context. This thesis provides a political and socio-cultural angle from which see the limitations on developing creative education in Taiwan.

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Lists of Abbreviations

ACER	Advisory Committee on Education Reform
APU	Assessment of Performance Unit (Britain)
BCT	Basic Competence Test for Junior High School Students
CP	Creative Partnerships (England)
CPD	Continuing Professional Development
DCMS	Department for Culture Media and Sport (Britain)
DPP	Democratic Progressive Party
ERAC	Education Reform Action Group
KMT	Chinese Nationalist Party, Kuomintang Party
MOE	Ministry of Education
NESTA	National Endowment for Science Technology and the Arts (Britain)
NICT	National Institute for Compilation and Translation
NUEE	National Unified Entrance Exams
PPDCE	Pilot Plan of Developing Creative Education
SCT	Subject Competence Test

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Introduction

This research has arisen from an awareness of the burgeoning discourse in relation to the development of creative industries and creative education both in the UK and Taiwan. The role of creativity is being recast as a crucial element for individual survival and national prosperity in the so-called globalizing and knowledge economy age. In both the UK and Taiwan, the different strategies employed to instill creativity into economic and educational policies represent this ambition. One of the interests of this research is to understand the rationale behind the emergence of this creativity phenomenon and to consider what the new value of creativity in the policy discourse is.

Creativity was previously located on the fringes of education in Taiwan. However, in 2002, creativity was placed at the centre of education policy when the new government published the *Creative Education* White Paper (MOE, 2002c) and pledged to transform Taiwan into a "Republic of Creativity". Creativity has been given a new role of responding to wider and macro national issues. However, I have been curious about how the government is implementing the *Creative Education White Paper*, which promotes a more diverse and innovative approach to teaching and learning within a relatively centralized and achievement-led education environment. During the early 2000s, the Taiwanese education system was in transition from paternalism to liberalism; also, there is a critical entrenched educational belief in Taiwanese society which gives high value to high educational achievement and which is obsessed with examinations and continuing progress. I am especially interested in observing the tensions and dilemmas for local governments and teachers within this context, and the possible limitations on promoting creativity in education.

"Creativity" has been used as policy and academic rhetoric, focusing on education for special and talented students. The term "creativity" and the theory of creativity have been translated from English into Chinese by academics, and in Taiwan creativity research before the late 1990s was mainly focused on a "programmatic approach" (Niu, 2006). Creativity has always been associated with having a high IQ, being gifted and seen as a mystical ability, and the various ways

it has been understood have generated a foggy climate around creativity research. However, the *Creative Education* White Paper introduced a new notion, that everyone can be creative, and it redefined the value of creativity in education. I am therefore interested to see how people understand and value creativity, and whether they have transformed their perceptions of creativity from a conventional viewpoint to this latest notion. On the other hand, I am also disappointed with the isolated research approaches around creativity in Taiwan, and the paradoxical discourse on creativity there. One of the aims of this research is to clarify what creativity and creative education actually are, and to develop a proper approach to researching creative education within the Taiwanese context.

Based on my MA study (Chiu, 2003), in which I focused on the implementation of "Open Education" [1] in primary schools in Taipei City, I have learned that the style of primary school life is relatively routine and standardized, and that teaching and learning are highly constrained by the tight pace of the curriculum and by regular tests; this is even the case in schools identified as "open education schools". I have also learned that teachers' workloads and students' study-loads are comparatively heavy in Taipei City, due to the high expectations of parents. I am eager to see how government promotes creativity in classroom practices within this controlled and overburdened situation, to explore how teachers cope with the pressures to instill creativity in the classroom, and to find out where students' creativity might be located. This may reveal the possible dilemmas faced by teachers and students in developing creativity in schools, and the institutional and socio-cultural constraints on them.

This research differs from other accounts of creative education research in Taiwan. In this research, I employ multiple theories and methods to research creative education, rather than a single or predefined approach. I explore the different strands of creativity and of creative education; the complications of policy implementation; and the dynamic classroom interactions. These contribute a comprehensive conceptual and analytical framework for my thesis, and an

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[1] In 1996, the Taipei City Government launched a pilot initiative for education reform, titled the "Open Education". Their concept of open education was drawn from the Summerhill School in England. The key feature of open education (also called democratic education) is its emphases on learning as a natural product of all human activity and school governance as a form of direct democracy among all individuals (http://en.wikipedia.org/wiki/Democratic_education).

empirical investigation is used to explore the processes of policy-making and policy practice within the primary school context.

This thesis has seven chapters, most of which are based on data collected from a pilot and empirical study between September 2007 and June 2008 in Taipei City. I employed case studies as my research strategy, I drew on Flyvbjerg's (2001) idea of "critical" and "paradigmatic" cases as my sampling strategy, and I designed a conscious ethical approach to my subjects and the schools. I also drew on Kimbell *et al.*'s (2004) experiences in researching learning and creativity in Design to develop multi-layered methods for data collection. The data consists of: (1) six classroom participant observations; (2) 31 semi-structured interview transcriptions (seven officials, eleven scholars, three head-teachers and ten teachers); (3) 97 Students' Creativity Diaries; (4) 316 questionnaires (for 101 students, 127 teachers, and 88 parents) on attitudes toward creativity; and (5) informal interviews with five parents.

Regarding the use of data, I conducted my fieldwork in Taiwan, and so I undertook translations from Chinese into English. Translated items I cited in the thesis included official documents, Chinese references, interview transcriptions, the transcriptions of classroom interaction between the teacher and the students, and the students' Creativity Diaries. It should be noted that these translated data may include special phrases or terms, because I like to keep the original tone and expression. However, it also should be recognized that these translations may not exactly match the original texts or transcriptions due to the limitations of translation.

Overview of the chapters

In Chapter One, I pay particular attention to the current popularity of creativity in policy; an increased value has been placed on creativity, which is seen as a panacea for regenerating the economy and education. Therefore, I begin with an exploration of globalization and how the influence of the knowledge economy has been particularly significant in regard to the current renaissance of interest in creativity. I then go on to discuss the new role of creativity, particularly with regard to how policy-makers perceive that a new notion of creativity might contribute to

raising the level of cultural and human capital for the promotion of the creative industries and creative education. I also introduce the development of the creative industries and creative education in the UK, and highlight how this has influenced Taiwan. In the next part of the chapter, I turn to discuss the creative education agenda in Taiwan, covering the period beginning in early 2000 up to mid-2008 and mainly focusing on policy texts at the central government level. I explore the concepts underpinning the agenda and the contents of *Creative* Education White Paper*,* and I consider some of the limitations of its policy content. Finally, I demonstrate some of the motivations which inspired me to explore the concept of creativity in this research project, consider the limitations of current creativity research approaches in Taiwan, and outline my research questions.

The manifest purpose of Chapter Two is to explore psychological and educational discourses of creativity and creative education; to uncover some of the mythical and ambiguous understanding that exists around it; and to see the strengths and weaknesses of those various perspectives. I start with discussions about the nature of creativity, drawing on Rhodes' (1961) "four P's of creativity" to introduce the meanings of "creative person", "creative product", "creative press", and "creative process". I then go on to explore questions about where creativity is to be found, and I introduce differences between extraordinary, ordinary, and "democratic" creativity (NACCCE,1999). I also highlight the importance of creativity in relation to human development. In the next part of the chapter, I turn to consider four approaches to the study of creativity within the context of Taiwan, namely the mystical, pragmatic, psychometric, and confluence approaches, and I discuss their respective strengths and limitations. In relation to this, I also outline four periods of development in research into creativity, spanning from the 1950s to the present day. I review and consider transformations which have taken place in relation to the increasing influence of "creativity" within social, economic and educational contexts. Finally, I explore theories of creativity in education, drawing a distinction between creative teaching, creative learning, and teaching for creativity. I also discuss the differences between the linear creative process and the interactive and iterative process of developing creativity; I highlight the limitations of the linear creative process, particularly with regards to its constraints on the indeterminate design and creative process.

Chapter Three is about my research design, the clarification of methods, and the development of my four research instruments. It begins with an explanation of the importance of my pilot study in three schools, and the ways that this helped to clarify the rationale of my research aims. I then go on to introduce my ethical strategy and describe how I was able to gain access to the classrooms and engage with my participants while taking account of the ethical boundaries. The research strategy focuses on a discussion of the appropriateness of the case study method for my research, while the sampling strategy is discussed in relation to how I drew on Flyvbjerg's (2001) concept of "critical" and "paradigmatic" cases to select the three primary schools for the empirical study. In the next part of the chapter, I demonstrate the design of my research methodologies and instruments, including the use of semi-structured interview questionnaires, the participant observation template, the "attitude toward creativity" questionnaires, and the students' Creativity Diaries. I also highlight several revisions which were made as a result of some of the findings which emerged from the pilot study. Finally, I present my qualitative and quantitative data analysis framework, including the tree nodes of the interview transcriptions, the visual chronology of the observation, and the graphic display of the statistical data.

Chapter Four explores the entrenched institutional and socio-cultural limits on the implementation of the *Creative Education* White Paper, the dilemmas for the Taipei City Government in putting the *White Paper* into practice, and the criticisms that have been made of this national pilot plan. At the outset, I explore various institutional limitations, including three previous crucial educational mechanisms: standardized curriculum and textbooks; centralized teacher training; and unitary entrance examination procedures. I make the argument that these three crucial mechanisms helped to encourage an obedient and achievement-led educational climate, and that these have been obstacles to creative education. I then go on to consider the influence of the three new educational reform initiatives: the Grade 1–9 Curriculum; the new Teacher Education Law; and the Multiple Entrance Programme. I compare the new three initiatives with the previous mechanisms in order to seek out contradictions and constraints on the development of a more creative educational environment in Taiwan. In the next part of the chapter, I turn to discuss the socio-cultural limits on creative education;

in particular, the influence of parental values about education, the social obsession with examinations and progress, and the students' utilitarian attitude to their studying. Here I highlight the dilemmas for teachers and students in relation to developing creativity in the classroom. Finally, I consider the strategies that have been involved in putting the *Creative Education* White Paper into practice and I highlight the influence of problematic issues of the role of the Advisory Office; the unevenness of the educational themes promoted by the Taipei City Government each year, and the inefficiency of the budget allocation in relation to the schools. The criticisms that have been made of the *Pilot Plan of Developing Creative Education* are discussed at the end of the chapter.

Chapter Five focuses on the influence of the three schools' cultures on how the three types of respondents (teachers, students, and parents) perceive creativity, and my discussion is based on my statistical data. The analysis begins with an overview of the three schools that were used in the empirical study: I consider their extra economic resources, the high-calibre nature of the teachers, and the key characteristics of each school's catchment area, in relation to housing price, and parents' typical educational and occupational backgrounds. I then consider each school's cultural characteristics, with reference particularly to the "expressive and instrumental order" (Bernstein, 1975). I also look at links which can be made between the teachers' ethos and the students' characteristics. In the next part of the chapter, I move on to explore how the three groups of respondents see and value creativity. This is done in relation to questions around the three best descriptions of creativity, which two school subjects have the most and least potential to develop creativity, what creative people are good at, and student attitudes toward problem-solving. Finally, I explore how the three sets of respondents value creativity in regard to who can be creative, whether girls and boys are equally creative, what it is like being creative, the relationship between creativity, achievement, and future career prospects, and creativity in teaching. I end by highlighting the three types of respondents' common and distinctive opinions about creativity, as well as some of the matches and mismatches between their responses, the school cultures, and parents' socioeconomic backgrounds.

In Chapter Six, I explore practices of creativity in teaching and learning, using empirical classroom observation data from my three cases studies. I attempt to answer two main questions. Firstly, how do teachers practice creative education in the classroom, and what tensions do teachers experience? Secondly, how do students respond to the creative practices of teachers and develop their own creativity? I also outline the conceptual and analytical framework of this chapter, which was designed to enable me to deconstruct the complexity of the fluid and diverse movements that occur in the classroom. The chapter explains the scenarios of the three case studies, and I discuss each teacher's characteristics, the classroom strategy, the use of tone and language, students' responses to the process of developing creative ideas, the critical incidents that occurred, and the classroom climate. Finally, each case study concludes with a comprehensive discussion in which I draw on Rowland's (1987) analytical framework – of the interpretive, didactic, and exploratory models of teaching and learning – to discuss distinct classroom interactions among the three case studies. The scenario of each case study is coupled with a visual chronology (see Appendices 9-11) which hopefully enables readers to "see" the ongoing movements in the classroom and to gain a more holistic picture of classroom activity.

In conclusion, I attempt to draw together a whole story from this research and to identify answers to my research questions. At the outset, I discuss the limitations and effects of the *Creative Education White Paper*, including the problematic process of policy-making and policy delivery, the entrenched socio-cultural and institutional limitations, the limitations of the respondents' perceptions of creativity, and the dilemmas for teachers and students about how to develop creativity in the classroom. I then go on to propose three suggestions: the improvement of the theories and methods used for researching creativity and creative education; a new mechanism, such as working in partnerships; and the utilization of media for the further development of creative education in Taiwan. In the next part of the chapter, I turn to highlight my three contributions in terms of their conceptual, methodological, and empirical aspects, and I consider the possible limitations of this research. Finally, I outline an initial framework for

further research, particularly with regard to the relations between social class and students' creativity.

Hopefully, this research will not just end up on a library shelf, but will provide different angles, perspectives, and methods for other researchers to draw on when researching creative education in schools. The key themes of this research focus may provide a political and socio-cultural framework which can be used to reveal how the relationship between teachers, students, and parents influences the development of creativity in the classroom.

Chapter 1

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Mapping the Creativity Phenomenon

1.1 Introduction

This chapter provides an overview of the creativity phenomenon which is the inspiration for my study. The chapter pays particular attention to its current popularity in policy, where there has been an increased value placed on creativity as a mediating device between the economy and education. Therefore, I begin with an exploration of globalization and how the influence of the global knowledge economy has been particularly significant in regard to the current renaissance of interest in creativity. The chapter explores the role of creativity, particularly with regard to how policy-makers perceive that a new notion of creativity might contribute to raising levels of national prosperity and encouraging economic success. Consequently, the chapter then goes on to explore the new value placed on creativity as a form of cultural and human capital, specifically in relation to the influence of creative industries and creative education. I also introduce the development of the creative industries and creative education in the UK, and highlight their influence on Taiwan.

In the second part of the chapter, I look in greater depth at the creative education agenda in Taiwan, covering the period from early 2000 up to mid-2008 and focusing mainly on policy texts at the central government level. I explore the rationale and process of policy-making regarding the _Creative Education_ White Paper, and introduce some of the goals and principles which characterize the new agenda that is presented in this text. I then consider some of the limitations relating to the interpretation of creativity within policy texts and within plans for policy delivery.

In the last section of the chapter, I discuss some of the motivations which inspired me to explore the concept of "creativity" for this research project. I also consider the current field of creativity research in Taiwan and where my research questions might be positioned within this field.

1.2 A global phenomenon: the "creativity movement"

The terms "globalization" and "knowledge economy" increasingly feature within current educational discourses. As Ball (2008) argues, globalization has very often been used to "explain" almost anything and is "ubiquitous" in current British educational policy texts and policy analysis. In order to explore how and why the current renaissance of creativity has occurred, in this section I explore two key themes. Firstly, I look at the concept of globalization – in particular, to the way in which it provides a link between economic competition and the knowledge economy. Secondly, I examine how the "creativity movement"[2] has been developed in response to transformations in the economy.

The core meaning of globalization, as Giddens (2002) suggests, is an increasing "interdependence" which not only directly affects economic policy, welfare systems and environmental problems, but which is also reflected in the day-to-day activities of citizens. Globalization also leads to increasing competition between the economics of different countries. Therefore, there is a growing argument that globalization is influential in increasing levels of competition. According to Castells (1999):

> *It is an economy in which all processes work as a unit on real time throughout the planet; that is, an economy in which capital flows, labour markets, markets, the production process, management, information, and technology operate simultaneously at the world level.* (Castells, 1999, p. 54)

The knowledge economy is understood to be a new economic structure, and "driven by new factors involved in production and sources of competitive advantage - innovation, design, branding, know-how which are at work in all industries from retailing and agriculture to banking and software" (Leadbeater, 2000, p. 10). The term "knowledge-based economy" stems from an international

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[2] The creativity movement as Fisher (2004, p. 6) states "…the 'creativity movement' began in Europe and America after the Second World War. There were two impulses for this. First, there was the perceived needed to train scientists, engineers and designers to be more creative and innovative in response to global competition. Second, there was a reaction against prevailing values that were seen as excessively bureaucratic and manipulative."

body, the Organization for Economic Co-operation and Development (OECD), which has introduced several related key terms, such as the "information society", and the "learning economy":

> *The growing codification of knowledge and its transmission through communications and computer networks has led to the emerging "information society". The need for workers is to acquire a range of skills and to continuously adapt these skills underlies the "learning economy". The importance of knowledge and technology diffusion requires better understanding of knowledge networks and "national innovation systems".* (OECD, 1996, p. 3)

As Professor Schwab, the Executive Chairman of the World Economic Forum, notes (2003), harnessing the knowledge economy for the benefit of national prosperity is linked to the use and application of ICT as the best mechanism for developing countries to encourage the development process. Discourses on the prevalence of the knowledge economy themselves suggest that global societies have shifted from being manufacturing-driven to being "knowledge-driven" and that there has been a move from a "traditional society" to an "information society". The new challenges of the knowledge economy for individuals, as Buckingham and Jones (2001, p. 4) note, is that an individual "must be able to draw from the entire range of his/her experiences, to articulate that which in other circumstances would remain tacit and in doing so to respond productively – creativity".

Significantly, the rapid development of ICT in recent decades is also understood to have changed the structure of the workforce and the nature of work. Seltzer and Bentley (1999, p. 13) suggest that transformations in the nature of work have led to diminishing opportunities for certain groups of people, where "the increasing premium on new skills and qualifications is creating new patterns of marginalization among those who lack the means or motivation to acquire marketable knowledge". They suggest that employees are now often required to develop crucial "future skills", the most important of which is "creativity: the ability to apply and generate knowledge in a range of contexts, in order to meet a

specific goal in a new way" (ibid, p. 20).

It is therefore reasonable to suggest that globalization, and the influence of the knowledge economy, have, as Ball (2008, p. 27) observes, "changed the way that we as individuals engage in and experience the world". Both governments and individuals now have to face the increasing threat from global economic competition and must keep pace with the rapid advance of technological development. There is therefore a need not just for governments and policy-makers to encourage greater levels of innovation and creativity, but also for individuals themselves to develop a greater array of "future skills of creativity".

It is useful to explore the emergence of the "creativity movement", and to consider how its aims and principles can be related to the new economy and to education. Since the late 1990s, the concept of "creativity" has been enjoying a global renaissance of interest, and it has become part of a universalized discourse in the Western world (Craft, 2005b). This development echoes Jones and Thomson's (2008, p. 719) argument that creativity "has been revalued as a quality vital to business innovation and to the communicative demands of informational capitalism". Developing creativity has also become a mainstream discourse in East Asia, exemplified by "Cool Japan", "Korea Boom", Singapore's "Renaissance City" and "Eastern Hollywood Hong Kong"[3]. The renaissance of interest in the term itself seems to have been influenced in part by the conditions discussed above. For instance, Charles Leadbeater, a key advisor to the New Labour government in the UK, has argued that "everyone is creative" (2000). Another New Labour thinker, Tom Bentley (1999), has proposed the concept of "weightless economy", in which he has emphasized the need for great creative ability in order to capitalize on the new opportunities that are available. In these terms, creativity is viewed as a panacea; as Craft (2005b) puts it, creativity means "continual innovation and resourcefulness" in dealing with the "integral fear of obsolescence" driven by the globalization of economic competition.

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[3] Itsunori (2004) Speech on Creative Industry: a Key to Solidify Bases for Regional Cooperation in Asia, Ministry of Foreign Affairs of Japan Web page:
http://www.mofa.go.jp/region/asia-paci/speech0411.html; Yang and Chen (2004) The Trend of Developing Cultural World City - New York, London, Singapore and Hong Kong, China Web:
http://big5.china.com.cn/chinese/zhuanti/2004whbg/503891.htm

In the UK, the role of creative thinking in meeting the needs of the economy has been presented as a matter of national survival. A former Prime Minister Tony Blair (2001, p. 3) claimed that "creative talent will be crucial to our individual and national economic success in the economy of the future". According to this definition, developing creativity is inextricably linked to achieving national prosperity; this message was underlined in the England pioneering report on developing "creative education", *All our future* (NACCCE,1999). The report states that "knowledge-based economies increasingly depend on the creative abilities that are essential for economic success". Similar arguments have been made in Taiwan Shyi-kun Yu (2004), a former Premier of the Executive of State, asserted that the potential for creativity and innovation is a key factor for the transformation of industry, and central to achieving economic competitiveness in the 21st century. These policy-makers therefore transmit a message that creativity and innovation are critical resources in securing national economic success and competitive advantage.

The importance of creativity to economic competitiveness has also been instrumental in shaping education policy in recent years. As Robinson (2001) notes, government and businesses throughout the world have had to recognize that education and training are keys to the future, and have a particular role to play in fostering the levels of creativity and innovation which will be required for economic success. In this way, creativity has become a key part of political rhetoric on educational reform. For instance, as Ball (2008, p. 14) notes in relation to the UK, "the complex and expansive political rhetoric of New Labour's ideas of transformation, modernization, innovation, […] creativity and competitiveness are key signifiers in educational reform programmes". In Taiwan, creativity has also been given a central role in recent educational reform programmes. As a former Deputy Minister of Education Sun-lu Fan (2008) has stated, "the role of the creative education is to reform the central issues of education".

Creativity has thus become something of a fashionable term and high value has been placed on it. It can be argued that the discourse of creativity as a necessary solution to global economic competition has served to reinforce the eagerness of governments and individuals to pursue creativity and innovation. In

the following section, I outline further how creativity has been equipped with this new value and deployed in a new form in relation to the economy and to education.

1.3 New value of creativity

Craft (2005a, p. 7) argues that "creativity has moved from the fringes of education and/or from the arts to being seen as a core aspect of educating". She argues that it should be seen as a response to a mix of political, economic, and social changes. This section considers how creativity has been interpreted and deployed in relation to the creative industries and creative education.

1.3.1 The Creative Industries

The creative industries have been seen as a new form of creativity in the new global economic agenda, playing a central role in transforming the traditional industrial economy into a new, "thin" and "weightless" economy. In the global trend towards this economic model, Jeffcutt and Pratt (2002) have argued that the cultural and creative industries have become the driving forces of contemporary capitalism. In the UK, promoting creativity and culture in the economy was a key strategy in the New Labour government's thinking and policy. McRobbie (2004, p. 190) notes that "the cultural industries sector have provided Britain with the possibility of re-invigorating a distinctive national economy in the light of global competition". A former British Prime Minister Gordon Brown (2008, p. 1) has stated, "the creative industries will be important not only for our national prosperity, but for Britain's ability to put culture and creativity at the centre of our national life." A good definition of what creative industries are, and the influence they have, is provided by the UK government's Creative Industries Task Force. In 1997, it defined the creative industries as:

> *those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property. This includes advertising, architecture, the art and antiques market, crafts, design, designer fashion, film and video, interactive leisure software,*

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music, the performing arts, publishing, software and computer
services, television and radio. (DCMS, 2001b, p. 4)

The then-Chair of the Creative Industries Task Force in the UK, Chris Smith (1998, p. 26), emphasized that "the intrinsic cultural value of creativity sits side by side with, and acts in synergy with, the economic opportunities that are now opening up". Regarding this redefinition of cultural and creative practice, Buckingham and Jones (2001) note:

Conservatism was torn between a defence of national heritage and
of traditional criteria of value, and the contradictory championing of
market force, in which cultural forms were evaluated solely in terms
of their commercial success. (Buckingham & Jones, 2001, p. 5)

They add that New Labour "has less difficulty than Conservatism in reconciliation of culture and business, and a 'democratic' commitment to accessibility" (ibid). They also note that creativity and culture were no longer "an embattled intellectual minority" concern, but "a maxim of business innovation" (ibid). A few years later, the Japanese Secretary for Foreign Affairs, Itsunori (2004, p. 1), stated that "the creative industries will be the key for humankind, and above all Asia, with its wealth of cultural traditions, to maintain economic and social vitality". Within this context, the creative industries have been seen as a new form of cultural capital. The concept of cultural capital has been debated extensively in the literature, and Throsby (2001) provides a good definition:

Cultural capital in an economic sense can provide a means of
representing culture which enables both tangible and intangible
manifestations of culture to be articulated as long-lasting stores of
value and providers of benefits for individuals and groups. (Throsby,
2001, p. 44)

According to a recent World Bank research report (2005), the creative industries are estimated to account for seven per cent of world gross domestic product (GDP), and more than 50 per cent of consumer spending is now related to

outputs from the main creative industries in the G7 countries.[4] The global market value of the creative industries increased from $831 billion in 2000 to $1.3 trillion in 2005 (NESTA, 2006). The creative industries have been characterized as part of a new strategy driving the move from traditional products or services to new types of consumption relating to culture and creativity, and global economic investment trends have consequently shifted from investments in traditional and manufacturing industries towards investment in the new cultural and creative industries.

According to NESTA (2006, p. 3), the creative industries now constitute a larger part of the British economy and employ more people than the financial services sector. In the UK, government policy-makers have argued that innovation and creativity have played a central role in driving the process of economic growth, and these policy-makers have encouraged the UK to take of the role of "the world's creative hub" (Purnell, 2005). The UK's agenda for creativity and the influence of its creative industries have also strongly influenced East Asian countries such as Singapore,[5] Hong Kong,[6] and Taiwan, which have developed strategies for their creative industries by drawing primarily on the UK's framework model.

In Taiwan, for instance, the development of cultural and creative industries was first put on the policy agenda in 2002, with the publication of a national development plan, *Challenge 2008* (CfEPD, 2002)*,* which defined cultural and creative industries as encompassing visual arts, music, performing arts, cultural exhibitions, crafts, film, radio, TV, publishing, advertising, design, branding, fashion, architecture, creative lifestyle, and digital leisure entertainment. This shows that the Taiwan government had directly borrowed the concept of creative industries from the UK government, and but had narrowed down the concept to

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[4] The G7 is the meeting of the finance ministers from a group of seven industrialized nations. The G7 members are: Canada, France, Germany, Italy, Japan, the United Kingdom and the United States (http://news.bbc.co.uk/1/hi/special_report/1998/10/98/imf/184401.stm).

[5] In Singapore, the definition of creative industries was adapted from that used by the UK Creative Industries Taskforce. The Singapore government then published the "Creative Industries Development Strategy (CIDS)" comprising three industry-specific blueprints: "Renaissance City 2.0", "Design Singapore", and "Media 21" (Ministry of Information Communication and the Art website: http://app.mica.gov.sg/Default.aspx?tabid=66).

[6] In Hong Kong, the definition of creative industries was directly borrowed from the UK, and the UK's experiences were used as the first case study (Hong Kong Trade Development Council website: http://info.hktdc.com/econforum/tdc/tdc020902.htm#1).

focus mainly on arts, design, and media. There is a reasonable argument to suggest that the rapid development of creative industries and their increasing profile in the Taiwan governmental agenda represents a movement towards creativity. Next, I explore how creativity has influenced the emergence of a new set of values in education.

1.3.2 Creative Education

As Craft (2003) notes, one of the underpinning themes and justifications for the burgeoning interest in fostering greater creativity in education is that creative skills have been seen to be a "good thing" at the social and economic level. Further, Hargreaves (2003) notes that education in the new knowledge society now involves greater creativity and ingenuity among pupils, promoting problem-solving and risk-taking and so on. It is acknowledged that, with the shift from an industrial to a knowledge economy, economic and social wellbeing now requires a greater numbers of "knowledge workers" rather than "machine workers", as well as requirements for workers to think, learn, and innovate (ibid). Consequently, it has been suggested that the increased economic competition in the global market "calls for nation-states to raise the educational standards of their potential labour force" (Jeffrey & Craft, 2001, p. 3).

It is now widely recognized that the creative industries make up an increasingly large proportion of economic activity, alongside a rapidly expanding workforce in the UK (Smith, 1998). For example, approximately two million people are employed in creative jobs in the UK and the sector contributes £60 billion a year – 7.3 per cent GDP – to the British economy (DCMS, 2008). Within this context, there has been a growing emphasis on developing creative skills as a crucial form of capital for young people as they enter the new labour market. Fryer (1996) argues that young people with a creative attitude to living will be in a better position to take advantage of new labour market opportunities and to control their own employment possibilities. Ball (2008, p. 39) notes "the increasing colonization of education policy by economic policy imperatives", arguing that the new emphasis on creative education is ultimately framed by the ideology of the market.

Creative education is in this way employed as a new driving-force to

regenerate education in itself. In the England, a report entitled *All Our Future: Creativity, Culture, and Education* (NACCCE, 1999) was the first government-commissioned report to define creative education. The report proposed that there were four challenges for education: economic, technological, social, and personal. It noted that "creative and cultural education are essential in helping to meet the challenges that education and young people face" (ibid, p. 59). McRobbie (2004, p. 196) has subsequently suggested that "children and young people will now be expected to be creative due to the fact that "thinking creatively is at the heart of the new knowledge economy". A "democratic definition of creativity" was proposed by the NACCCE's report, in which creativity was redefined as a capacity belonging to everyone (rather than just gifted people); the report thus proclaimed that everyone can be creative. As I will show in the next section, this new notion of democratic creativity was borrowed by Taiwan's government in its *Creative Education* White Paper, which outlined the government's agenda to reform education.

As noted above, creativity has been positioned as a new form of human capital, particularly in regard to the way in which new forms of work rely increasingly on high levels of specialist knowledge, creativity, and innovation. The relation between creativity and human capital, as explained by Walberg (1988), is as follows:

> *Human capital refers not to mere hours of labour, but to the quality of work or the motivation, skills, and creativity of the workers, therefore it was Adam Smith's original theory that the wealth of nations depends on the ability of people* (Walberg, 1988, p. 342)

Craft (2005a) suggests that in education systems it is no longer merely sufficient for an individual to develop an excellence grasp in-depth of knowledge, but it is also crucial to nurture a certain amount of critical and creative capability. For instance, a UK Green Paper, *Culture and Creativity: The Next Ten Years (*DCMS, 2001a), pledged to increase opportunities for children and young people to be better able to develop creative skills through participation in cultural activities. However, McRobbie (2004, p. 188) argues, more cynically, that "the Green Paper

looks forward to a future generation of socially diverse creative workers who are brimming with ideas and whose skills not only be channeled into the fields of arts and culture but will also be good for business." The Taiwan the *Creative Education White Paper* (MOE, 2002c) takes a similar perspective, that fostering the nation's creativity is one of the important goals of educational reform and the ultimate hope is to transform Taiwan into a place where creativity is indispensable for everyone's lives.

The literature and policy discourses outlined above seem to imply that creative education will inevitably enable young people to deal with a more diverse range of challenges. However, Buckingham and Jones (2001, p. 13) make the criticism that "there is a danger that 'creativity' and 'culture' will come to be seen as magic ingredients that will somehow automatically transform education, and bring about broader forms of social and economic regeneration, in and of themselves". In the next section, I explore the way in which this tendency has been incorporated into government policy texts within the context of Taiwan.

1.4 The Creative Education Agenda in Taiwan

In 2000, a significant political milestone was reached when the Democratic Progressive Party (DPP) won the presidential campaign and ended the Chinese Nationalist Party's (Kuomintang Party, KMT) fifty-year authoritarian regime (I will analyze the KMT's three centralized education mechanisms in Chapter Four). The DPP government brought with it an agenda of democratization, which was rooted in a desire to transform Taiwan from reflecting the authoritarian, centralized values which characterized the KMT government, into showcasing the diverse values of a more liberalized regime. The DPP government's election manifesto pledged to liberalize the educational system in Taiwan as part of its agenda of political democratization; this pledge has been promoted in subsequent legislation and policy-making initiatives, which have sought to remove the legacy of the previous regime. There was also a weight of expectation from educators, parents, and scholars that the DPP government would undertake reforms of this nature.

In May 2000 the first Minister of Education in the new government cabinet, Professor Zhi-Lang Tzeng, (2000–2002), proposed three pilot initiatives, including:

the "Reading Movement", "Life Education", and "Creative Education". On the implementation of the three pilot initiatives, he commented:

We aim to loosen the constraints on students from pursuing non-standardized answers. Let them see others' perspectives and experiences, and foster in them a sense of possibility and critical thinking, […] so fostering an attitude that students can get free from formulaic thinking. (Tzeng, 2008, p. 6)

In such statements, the government endorsed three pilot initiatives as an important aspect of educational reform; one of which is more oriented around developing an individual's capacity for more diverse ways of thinking. However, there is also an argument to suggest that government investment in this area of reform is rooted, not only in the perceived intrinsic value of creative education, but also in its *instrumental* value. In line with the DPP government's economic and educational agenda, it could be argued that, within DPP government pledges to transform Taiwan into a "Republic of Creativity" (MOE, 2002c, p. 5), creativity has been given a new role in meeting a wider, macro shift in policy aims.

The transformation of Taiwan's economic structure, as Dutta *et al.* (2005) note, has taken over half a century, and comprises a transition from being a country defined by poverty and underdevelopment, into being an information and communications technology powerhouse and the world's fifth-most competitive national economy. They add that as Taiwan has no significant natural resources, it has built its competitive advantage on its "*human capital*", creating a model that other countries aspire to follow. As Florida (2007) explains, Taiwan is a host to some of "the world's best semiconductor manufacturers"; it invests in technology, develops science parks, and focuses on recruiting top entrepreneurial talent, particularly from the United States.

Eagerness to promote its stock of human capital, and to find a niche within the global economy, has become an integral objective for the DPP government. One of the pioneers of the Taiwanese creative education agenda, who was interviewed as part of this research, stressed the significant role of creativity in

Taiwan's industrial transformation:

'The concept of developing creativity is linked to the industrial development in Taiwan. Before the 1990s, Taiwan used to be a world manufacturing location […]. If our economy wants to move forward, we have to create our own designs, which must be supported with research development. Therefore, innovation and creativity are needed to improve the Taiwan's industry, both as an OEM (Original Equipment Manufacturer) as well as an ODM (Original Design Manufacturer). […] The root of our industry is in our own designs, and these designs need creativity to make us better than others.' (Interviewee, O5: YHS)

In the remaining section of this chapter, I will discuss the Taiwan government's rationale for developing creative education as a key part of its agenda for educational reform. The overview of this period covers the time from early 2000 to mid-2008 and focuses mainly on policies that have been developed at central government level. It begins by outlining the initial blueprint relating to creative education and discusses the key themes contained within the new rhetoric. I then examine the contents of the *Creative Education* White Paper and explore the possible limitations of these policy texts and discourse.

1.4.1 The new rhetoric of educational reform

Since the late 1990s, discourses of creativity and innovation in Taiwan have been rekindled by the emergence of the global knowledge economy. Therefore, in order to understand the rationale of the creative education agenda in Taiwan, it is necessary to examine the wider context of the DPP's economic policy.

In 2000, the Executive Office of the State published the *Development of the Knowledge Economy Programme*. This programme also contained a subsidiary plan, the *Nurturing Students' Innovation and Continuing Learning Skills Plan*, which was positioned under Ministry of Education (MOE) control. The MOE then appointed the Advisory Office – a specific department responsible for national pilot initiatives – to draw up a preliminary blueprint. The vision contained in the

blueprint was to "generate an environment characterized by innovation and lifelong learning for whole nations", and "to embark on education reform with a concept of global thinking and local action" (Yan, 2008, p. 18). The Advisory Office outlined five central aims for this blueprint. These were:

1. **To conduct innovation-led aims** in order to enhance the improvement of the curriculum, pedagogy, and teaching materials, and to foster students' innovative abilities and continuing learning capability;
2. **To improve the quality of teacher training** in order to develop teachers' capabilities and to encourage the spirit of creative teaching;
3. **To follow trends of international development** in order to enable schools to expand and update their perspectives on the world;
4. **To establish a learning society** by encouraging a continuation of lifelong learning;
5. **To integrate resources between the public and private sectors** in order to stimulate the nation's innovative capacities.

Finally, in response to the *Nurturing Students' Innovation and Continuing Learning Skills Plan*, the Advisory Office proposed six concrete strategies, which would target students, teachers, the teaching and learning programme, cooperation between universities and industries, and international collaboration. These were:

1. **To nurture students' innovation capabilities**;
2. **To promote educators' capabilities for creative thinking** and continuing professional development;
3. **To plan an integral programme** of creative thinking;
4. **To encourage research on creativity**;
5. **To enhance the innovative and enterprise cooperation between higher education and industries**;
6. **To develop international collaboration on creative education** between Taiwan and other countries.

Based on these strategies for education reform, with innovation and creativity at its centre, the Advisory Office launched an ambitious national project

in late 2001, entitled *The Pilot Plan of Developing Creative Education* (PPDCE). Before continuing with an overview of this plan, I will discuss two key themes related to the context of the creativity movement which underpinned the PPDCE, and I will indicate possible limitations on the government's particular perceptions of creative education.

Firstly, in relation to observations made earlier in this chapter, I want to suggest that the ideology of PPDCE is driven by a pragmatic and market-led agenda, which has been a primary response to the requirements of the knowledge economy and economic globalization. Here it is argued that the new political rhetoric of creativity and innovation is articulated within a policy discourse which accentuates the competitive advantages of fostering creativity within the context of a global trend towards a creative economy. As Premier, Shyi-kun Yu (2002–2005) stated that "the key to global competition is competing with brains, not brawn; with quality, creativity and speed, not price and number" (Yu, 2002). Interestingly, Yu's line of thought echoed then-Prime Minister Blair's statement that "in the 21st century, we are going to see the world increasingly influenced by innovation and creative minds" (as cited in Robinson, 2000, p. 2).

In response to this global tendency towards an economy based on creativity, the PPDCE programme closely followed the experiences of developed countries such as the UK and USA. In order to do this, a special group of international communication experts was mobilized to draw on other countries' experiences in developing creative education programmes. The director of group, Professor Jing-jyi Wu *et al.* (2008), noted that "we have collected information relating to creative education in seventeen countries, and used various ways to communicate with those foreign experts, in both public and private sectors." Therefore, drawing on the "best practice" of other countries' models of creative education was a significant influence on the PPDCE programme.

In particular, the models of creative education pursued by other countries strongly influenced the later action plans of the *Creative Education* White Paper, as I demonstrate in the next section. For instance, there is a strong argument suggesting that new rhetoric such as "creative education", "learning society", and "lifelong learning", which began to feature in Taiwan's policy texts, had been

borrowed and translated from English-speaking countries. It could be argued that this international translation of particular policy discourses and programmes of reform is a reflection of the government's desire to find a quick solution to national issues. Therefore, the government has been more concerned with transposing western experiences into the Taiwanese context than in considering whether those new terms are appropriate and accessible for educational practice in Taiwan. It should also be noted that formation of Taiwan's creative education agenda is dependent on demands from the knowledge economy and the experiences of those western countries. Thus shows how global, macro policies formulated from the trend towards creativity are played out unevenly and roughly in Taiwan at the micro level.

Secondly, the role of creative education as defined within the PPDCE is to equip students and teachers with "powers of creativity and innovation" to sustain a "lifelong learning society" and an educational revival. Creativity is employed to motivate the thinking and learning capability of students, teachers, and even society. Tsai (2008), who was involved in the implementation of the *Creative Education* White Paper, has argued that if the role of teacher can be expanded to incorporate the role of supervising teacher training, this will influence the development of a "new culture" in which teachers serve not only as educators, but also as researchers, learners, and decision makers. She makes the point that teachers could become the "main body power brokers" in continuing professional development. This means that teachers should empower or enable themselves to be creative teachers in response to the requirements of the economic and political turn, but this possibility has remained largely neglected due to the constraints of current educational settings on teachers and students; these settings are highly focused on achievement and progress rather than developing a capacity for creativity (this will be discussed in more detail in Chapter Four).

Creative education has been positioned as a central driver of the government's agenda to reform Taiwan into a "Republic of Creativity", particularly in relation to the creative economy niche. In the next section, I introduce the *Creative Education* White Paper and explore its potential limitations in relation to policy texts.

1.4.2 The *Creative Education* White Paper

In 2002, the MOE published the *Creative Education White Paper*, which set out to deliver on the objectives established in PPDCE. The White Paper was based on a ten-month investigation (February–December 2001) of the enabling factors and challenges to developing creative education, and an evaluation of the current six areas of education (infant, primary, secondary, higher and adult education, and the international trend toward developing creative education). The content of the White Paper is very similar to the NACCCE (1999) report *All Our Futures.* Taiwan's *Creative Education* was the first government-commissioned text to state the government's commitment to implementing creative education across all levels of education. It marked a key milestone in the government's consideration of, and investment in, creative education. The government's determination to promote creativity in education has been described by Niu:

> *Promoting creativity has been a stated goal of the Taiwanese government, particularly in the Ministry of Education. Laws and reform policies have been formed to advocate the inclusion of creativity in Taiwanese educational curricula. With the endorsement of the government, creativity in Taiwan is not only an important research topic but also a lifelong learning goal and an asset for success in Taiwan.* (Niu, 2006, p. 385)

The government's ambitions for creative education are arguably embodied in the opening statement of the *Creative Education*, which states that: "fostering creativity and innovative skill is not only a crucial element of promoting the quality of nations, but is also a prerequisite of developing the Knowledge Economy" (MOE, 2002c, p. 1). It offered a broad view of creativity and of innovation skills:

> *Innovation skills broadly encompass creativity and an enterprising spirit, and so their concrete outcome can be seen in creative performances in various fields. Innovation skills are an important indicator of the development of the Knowledge Economy. Creativity is an indicator of effective learning and is a foundation of innovative*

knowledge. (MOE, 2002c, p. 2)

Creative Education (MOE, 2002c) stated five goals and ten principles as guidelines for the implementation of the government's creative education agenda:

1. To foster lifelong learning and a creative lifestyle;
2. To provide an enjoyable learning environment where people respect individual diversity;
3. To accumulate fruitful and accessible knowledge capital;
4. To develop an environment where people respect intellectual rights
5. To shape a creative, diverse, and sharing cultural climate.

According to *Creative Education*, the five goals should be implemented according to these ten principles:

1. **The All-inclusive Principle**: Everyone can be creative, including both extraordinary and ordinary people. Creativity can develop and be applied in all subject areas including the sciences, humanities, and the arts.
2. **The Structural Principle**: Promoting a climate where creativity and culture are encouraged in administrative settings and organizations;
3. **The Ecological Principle**: Improving culture and society for developing creativity.
4. **The Integral Principle**: Connecting policies related to creativity so as to save educational resources.
5. **The Coherence Principle**: Covering every level of education from infant education to lifelong learning education.
6. **The Empowerment Principle**: Empowering people to participate in policy-making and practice, and to encourage spontaneity;
7. **The Motivation Principle**: Enabling teachers, students, and schools to enjoy creativity;
8. **The Accessible Principle**: Establishing a cultural mechanism for the assembly, delivery, and sharing of creative knowledge;
9. **The Experiential Principle**: Enabling students to experience the benefits of creative processes;

10. **The Fostering Principle**: Embedding creativity in every subject.

These "five goals and ten principles" imply that creativity is both ubiquitous and omnipotent. Interestingly, they echo Jeffrey and Craft's (2001, p. 11) observation that "creativity is good for the economy, good for the individual, good for society and good for education". However, it is also apparent that the goals and principles are also vague and inaccessible and have only a tenuous connection with the nature of creativity. The investigation involved no observation in schools, and there was no involvement by teachers, parents or students. Policy-makers were not asked to undertake a review of new literature relating to the distinction between education for gifted students and the policy rhetoric of "democratic" creative education which they borrowed from the NACCCE report. Some might argue that there was not enough deliberation for this national pilot plan.

This carries the danger of creativity as a term being made meaningless by an overemphasis in policy texts on its instrumental value without exploring and defining what creativity in education actually is. Arguably, the value of creativity, which is being promoted in official texts, is likely to be distorted and to develop into a paradox. In relation to this concern, in Chapter Five I explore how teachers, students, and also parents perceive creativity. The government's current *pragmatic* view of creativity corresponds to Niu's (2006, p. 390) criticism that creativity discourse in Taiwan "seems to be driven by practical goals: to *make* its people and its society more creative".

There is an argument that these goals and principles represent a number of policy "buzzwords", such as "empowerment", "creative lifestyle", and "knowledge capital", which are applied across policy texts but without their meaning ever fully defined or understood. The policy rhetoric which features in official documents presents itself as if it was applicable to every educational issue, but it may in fact be too general to be usable. This suggests that it reflects how the Taiwanese government borrowed and copied various terms relating to creativity and innovation from other countries' policies, and transposed them into its own policy context without a full consideration of the implications. Moreover, these policy-makers asserted that their positions were derived from the context of teacher- and student-centred approaches. They criticized the prevailing

administrative system as a crucial constraint on teachers' creative approach. They proposed a "bottom-up" model of action for local educators, and supposed that these educators could understand these goals and principles. When I asked an officer who was responsible for the PPDCE to explain the meanings of the goals and principles that form the aims of *Creative Education*, she provided a confused explanation:

> *'People ask us to define what is creativity and creative education. […] Taiwanese people always want a definition and they want you to tell them whether what they have done is creative. In fact, what they are doing is creative. […] It is not possible to explain it completely, even if we make a definition, is it? Hence, our strategy is that we don't make any definition, but we outline principles in the White Paper. […] We think if people can refer to those ten principles in their projects, then creativity and creative things will come out.'* (Interviewee, O3: CJY)

This officer's explanation implies that teachers, students, and schools need to experience the creative process themselves, and that through this experience they will develop a sense of creativity from which creativity will automatically emerge. It could be argued that this policy practice strategy is similar to current approaches used in studying creativity, which Wehner *et al.* (1991) describe using "the fable of the blind men and the elephant" as a metaphor: the participants touch different parts of the same elephant and derive distorted pictures of whole from what they experience. Those who hold only its tail would say the elephant is like a snake; others who touch only its ears would say that the elephant is like an eagle (ibid). This situation might therefore lead to an increasingly misunderstood and distorted interpretation of creative education. The policy delivery strategy outlined by the *Creative Education* White Paper is very much a "self-exploratory" and "learning from each other" approach, as one of the policy-makers explained when I asked him how they help front line educators to understand what creative education is:

> *'You have to believe that someone can have a better understanding*

[of creativity] and can do better. We hope to find some best models [of creative practice] and let others see these models to find a starting point. So we arrange several meetings to enable all participants to share their ideas and to learn from each other.'
(Interviewee, SC3: WJJ)

This explanation, namely an emphasis on participants learning the meanings of creative education by trial and error, would suggest that the government lacks a clear mechanism for delivering creative education and neglects educators' difficulties. This is typified in a saying in Taiwanese culture that encourages people to cross a river by groping the stones underfoot. It means that people have no idea about how to do something, but they should learn by grappling with difficulties in the process.

Finally, *Creative Education* proposed six *Action Plans*, for developing creative students, creative teachers, creative schools and colleges, creativity in the community, an on-line creative education database, and sustainability for creative education. The concepts developed in these action plans imitate established models used in developed countries which were identified as successful experiences by the authors of the *Creative Education* White Paper. According to Wu (2008), who was a director of the international communication group, "the idea of the creative college is from University of California Santa Barbara (UCSB) College of Creative studies, and the idea of the creative teacher has been learnt from the Disney teacher award."

Therefore, as already argued, there is a strong suggestion that the process of policy-making was very short-sighted and less deliberate. Also, the Taiwan government may not be completely certain about how to deliver and implement creative education in an effective way, tending to do it first and then to see what happens. In Chapter Four, I will look at how the agenda has been implemented within schools in Taipei City; discuss the dilemmas for local governments and the teachers, and examine in more detail the socio-cultural and institutional limitations on creative practice in primary schools.

1.5 Focus of the research

In the last section of this chapter, I outline the context of my study and my motivations for embarking on the research project. I also introduce the field of contemporary creativity research in Taiwan and identify the particular ways by which the study is situated in relation to this field. Finally, I outline the research questions which I have identified from these issues.

1.5.1 Context of the study

The context of the research is the current growing trend towards developing creativity, particularly within the education in Taiwan. Discourses of creativity and innovation have been employed and have featured prominently in both national and local development strategies. More specifically, creative education has apparently moved from the fringes of the educational system and into the mainstream.

One of the aims of the research is to try to understand the creativity movement as a global phenomenon, and to examine how a new set of values has been placed on creativity. A related research aim is to explore how the Taiwanese government has deployed and presented the policy rhetoric of creativity and to examine how conflicts between policy, current educational settings, and socio-cultural beliefs have played out around education within the Taiwan context. I am also very interested in the issues around the nature of creativity and creative education, and in methods for researching creativity in teaching and learning. I look closely at perceptions of creativity among teachers, parents, and students, and at the processes of creative teaching and learning within primary schools.

There are several reasons why this research project focuses on teaching and learning in primary schools. Firstly, it has been suggested that younger children have more potential for developing and expressing creativity within their learning than older children, as Fryer (1996) stresses:

A decline in creative ability associated with transitions such as the move from infants to juniors or from primary to secondary school has

been quite well documented. (Fryer, 1996, p. 31)

Specifically, the university examinations in Taiwan (similar to the A-Levels in the UK) place intensified competition and pressure on teachers and students within secondary schools, and this arguably hinders the possibilities for creative teaching and learning. It could be argued that the educational climate of primary schools, where there is less emphasis on attainment and examinations, is more liberal and flexible, and that this allows teachers and students greater freedom to practice creativity in the classroom. More details about institutional and cultural limitations on the development of creativity are discussed in Chapter Four.

The field of creativity research in Taiwan has predominantly focused on creativity as the property of geniuses, educational elites, and gifted individuals, and considered for the most part as relevant only to special education. Other research in the field has focused on the relationship between creativity and management, and has been treated as a concern of business administration. As Niu (2006, p. 390) notes, the majority of the research on creativity in Taiwan emphasizes ways by which creativity can be stimulated in schools or business organizations, "rather than investigating the nature of creativity itself or people's views on creativity". Niu however also indicates that since the late 1990s, the development of creativity research in Taiwan has flourished, with researchers adopting a wide range of approaches to studying the concept of creativity. These approaches include historiometric, psychometric, cognitive, social-personality, developmental, and organizational approaches (ibid). This has often been contrary to the "pragmatic approach" that characterized the previous period of creativity research. For example, the number of postgraduate theses related to creativity research has increased fourfold in recent times (ibid).

However, research that critically examines the creative teaching and learning process remains limited, and the majority of educational research projects are focused on designing educational programmes and toolkits for promoting creativity in classroom, and developing assessment indicators for assessing creativity. The differences between creative teaching, creative learning, and teaching for creativity have not been clarified in the relevant texts, and have not

been the subject of examination through case studies. Also, evaluations of significant policy texts, notably on the effectiveness of the *Creative Education* White Paper, are very few. It appears that while the political rhetoric of creativity has been integrated with global trends in this area, creativity research *per se* has not yet become mainstream.

In this research study, I will not only examine the theoretical literature related to the nature of creativity and creative education, but I will also investigate policy delivery and practice in classrooms through empirical fieldwork in Taipei city, Taiwan. During the research process, I employed case studies as a research strategy, using quantitative and qualitative methods to evaluate the effects and limitations of the implementation of *Creative Education*.

1.5.2 Research Questions

The research questions that guide this study were divided into three key areas, detailed below:

1. **Policy delivery and its conflicts**
- How is creative education policy delivered within primary schools, and by what methods and mechanisms?
- What conflicts may exist between the creative education agenda and current educational settings, particularly with regard to the curriculum, entrance examinations, and teacher recruitment and retention?
- What conflicts may occur between the creative education agenda and wider socio-cultural beliefs about education, particularly with regard to teachers', parents', and students' perceptions of creative education?

2. **Teachers' dilemmas**
- What is the relationship between a teacher's characteristics and his/her teaching practice?
- How do teachers practice creative education in the classroom? What plans, pedagogy, techniques, and resources do they use?
- What dilemmas may teachers experience between creative practice, the curriculum, exams, and parents' involvement?

3. Students' creative capabilities

- In which areas do students have creative ideas?
- How do students respond to creative teaching, particularly with regard to the relationship between a teacher's teaching techniques and the development of student creativity?

1.6 Conclusion

The above research suggests that the development of globalization and the knowledge economy has led to a global policy trend towards creativity that can be observed both in the West and in East Asia. There is therefore a need both for governments and for individuals to pursue a greater array of creative and innovative skills, and research discourses have therefore transmitted a message that creativity and innovation are critical resources for securing national prosperity and a competitive advantage. I have also shown that creativity has been positioned as a new form of cultural and human capital to be deployed in the creative industries and creative education. It is therefore reasonable to suggest that the new political rhetoric of creativity emphasized in creative education is ultimately framed by the ideology of the market. Both in the UK and Taiwan, the general orientation of the creative education agenda to the demands of economic competition and the knowledge economy is very evident.

I have argued above that formation of Taiwan's creative education agenda is dependent on the demands of the knowledge economy and on the experiences of western countries. It has also been argued that the role of the creative education agenda is to empower teachers and students to be self-exploratory and to take charge of education reform, but that this agenda completely neglects the institutional and socio-cultural constraints on them. Regarding the "five goals and ten principles" in the policy text, the above suggests that they are likely to lead to a paradox and to a distorted view of the nature of creativity, due to a lack of research. Moreover, I have indicated that the government asks local educators to explore these buzzwords and to define creativity based on their own experience. This encouragement for educators to learn by grappling with difficulties in the process can create chaos in terms of practicing creative education. Finally, I have

explained the main interests of this research, outlined its significance, and introduced the three key themes of my research questions.

With this curiosity about what is creativity and creative education in my mind, in the next chapter I embark on the literature review. I explore questions such as: "What is creativity?" "Where is creativity?" and "Why is creativity important?" I then explore mainstream approaches to creativity research within the context of Taiwan; and outline four waves of creativity research, particularly noting their foci and methods. Finally, I attend particularly to research related to creativity in education.

Chapter 2

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Theories of Creativity

2.1 Introduction

Whilst creativity is a word that has appeared with increasing frequency in recent times, three of the leading experts in the field of creativity research, Feldman, Csikszentmihalyi and Gardner (1994, p. 1), have argued that its meanings "often are not made explicitly enough to avoid confusion and impede communication". Nevertheless, creativity has featured heavily in political rhetoric around economic and educational reform initiatives in Taiwan. While there are various approaches to the study of creativity, continued confusion and disagreement over the concept itself are the starting points for this research.

Therefore, the main purpose of this chapter is to explore the psychological and educational discourses on creativity and creative education; to uncover some of the mythical and ambiguous meanings that exist around the concept; and to clarify some of the diverse interpretations which have been made. I start with a discussions of what creativity is, drawing on Rhodes's (1961) "four P's of creativity" to introduce the ideas of creative person, creative product, creative press, and creative process. I then go on to explore where creativity can be found, introducing the differences between extraordinary and ordinary creativity. I also highlight the importance of creativity in relation to human development.

I then consider four approaches to the study of creativity within the context of Taiwan; these are the mystical, pragmatic, psychometric, and confluence approaches. In relation to this, I also outline four periods into which the development of research into creativity can be characterized, spanning from the 1950s to the present day, and I review and consider the transformations which have taken place regarding the increasing influence of "creativity" within an economic, social and educational context. Finally, I explore the more recent practice of creativity in education, drawing a distinction between creative teaching

and teaching for creativity, the role of a creative teacher and a creative learner in an educational context, and the differences between the linear creative process, and the interactive and iterative process of developing creativity.

2.2 Understanding Creativity

In this section, I explore the "what", "where", and "why" questions relating to creativity, clarifying definitions by taking account of the four aspects of process, product, person, and place. I then analyse the differences between what has been called "big C creativity" and "little c creativity" in order to try to explain where creativity resides, and how creativity becomes recognized and validated. Finally, I consider some of the reasons why creativity has played a significant role in human evolution.

2.2.1 What is creativity?

It is difficult to say, can we skip this question? (A teacher, T6: TCZ)

The terminology of creativity in education scares off many teachers. Nowadays many people talk about creativity, but it is difficult to convey the concept of creativity to those who do not understand. (A head-teacher, H1: CKH)

Can we not talk about this basic question? I have written many papers in response to the question of "what is creativity?" and how to measure creativity. (A policy-maker and scholar, SC5: CCY)

The above quotations were collected from a cross-section of interviewees which included a teacher, a head-teacher, and a policy-maker, who were each asked to define "creativity". The quotes illustrate some of the difficulties that are experienced by front-line educators in making sense of what creativity is. The responses imply that there is a gap between front-line educators and academic theorists in understanding the concept of creativity.

The responses also point to some of the practical limitations to the idea of creativity. As Craft (2003) notes, this might well be due to a "slippage of language"

when applied in practice. Wehner *et al.*, (1991) for instance, have created a typology of United States' doctoral dissertations relating to research into creativity. They discovered that that each discipline appeared to have its own set of terms with which to describe creativity. They note that dissertations in education were more likely to have "creativity or innovation" in their title or keywords; in business, the preferred terms were "innovate and entrepreneur"; in history, the terms of "science, entrepreneur, innovation and invention" were all used as the most common terms of reference (ibid). In the Taiwanese *Creative Education* White Paper, creativity, innovation, and entrepreneurship are clearly emphasized as central themes, reflecting a combination of educational and business terminologies.

Wehner *et al.* (1991) argue that, in defining creativity, each discipline tended to occupy a distinct territory corresponding to its own particular sphere of interest. They note that studies of education dealt mainly with "processes" and with "individuals"; business dissertations were mostly concerned with "organizational process"; dissertations in psychology concentrated mostly on "individual traits" (ibid). Wehner *et al.,* (1991, p. 270) conclude that the landscape of creativity research ultimately "shows the parochial isolation of the various disciplines that study the same phenomenon". They also highlight that "there are almost no dissertations written on the traits or products of creative cultures, and on the traits or products of creative groups" (ibid). These findings provided a starting point for me to attempt to clarify the many varied terms, foci, and definitions of creativity within the educational field, and to consider the relations between creative cultures and specific creative groups.

Here it is useful to draw on Rhodes's (1961) conceptual framework of the "four P's of creativity", which encompass person, process, press, and product, to explore, respectively, the definition, focus, and features of creativity. From a compilation of forty definitions of creativity and sixteen of imagination, Rhodes found that the definitions of creativity were "not mutually exclusive", but that "they overlap and intertwine" (ibid, p. 307). He therefore defined four strands of creativity:

> *One of these strands pertains essentially to the person as a human being. Another strand pertains to the mental processes that are operative in creating ideas. A third strand pertains to the influence of the ecological press on the person and upon his mental processes. And the fourth strand pertains to ideas. Ideas are usually expressed in the form of either language or craft and this is what we call product.*
> (Rhodes, 1961, p. 307)

The 4 P's of creativity provide a useful mapping framework for enabling a more comprehensive understanding of the varied aspects of creativity, and a starting point for negotiating the complexities of creativity. Therefore, I will not provide a universal definition of creativity, but will rather primarily explore how creativity can be interpreted within these four strands.

Persons

Rhodes (1961, p. 307) suggests that the term *person* "covers information about an individual's personality, intellect, temperament, physique traits, habits, attitudes, self-concept, value systems, defense mechanisms, and behavior". Research in this strand therefore tends to focus on the characteristics of individuals whose work is determined to be creative. In respect of personality, Runco (2004, p. 28) suggests that "creative people are capable and interested in applying their interpretive capacities and will put effort into constructing original interpretations of experience." He adds that creative people probably undertake this process regularly, many times each day, but they may also bring this tendency to bear on notable problems (ibid). Therefore, Fisher (2004, p. 13) argues that some of the characteristics of creative people include being "flexible"; "curious and inquisitive"; showing "aesthetic taste"; are able to connect ideas; and often "question accepted ways of doing things". Moreover, Csikszentmihalyi (1996, p. 57) suggests that creative people are as a "multitude" instead of "individual" and have a "complex personality", "able to express the full range of traits that are potentially present in the human repertoire". Finally, Starko (2005, pp. 114-126) has proposed a set of nine clusters of traits, each related to how creative people choose to think and to what ends. These are:

1. Willingness to take risks;

2. Perseverance, drive, and commitment to a task;

3. Curiosity;

4. Openness to experience;

5. Tolerance of ambiguity;

6. Broad interests;

7. Valuing of originality;

8. Intuition and deep emotions.

9. Being internally occupied or withdrawn

In relation to what he sees as similarities and differences in personalities in relation to artistic and scientific creativity, Feist (1999, p. 290) suggests the similarities are that "creative people in art and science tend to be open to new experiences, less conventional and less conscientious, more self-confident, self-accepting, driven, ambitious, dominant, hostile and impulsive". The differences are that "artists are more affective, emotionally unstable, as well as less socialized, and accepting of group norms, whereas scientists are also more conscientious" (ibid). Feist also notes that artistic personalities "appear to be more anxious, emotionally labile and impulsive", and "can be classified as low socialization and low conscientiousness" (ibid, p. 283). Feist's research implies that the personalities of creative people may be diverse across different domains, making it is difficult to give a "one-size-fits-all" (Starko, 2005, p. 128) description of the creative individual.

Process

Rhodes (1961, p. 308) suggests that the term *process* applies to characteristics such as "motivation, perception, learning, thinking, and communication". Research in this strand focuses on the questions:

What are the stages of the thinking process? Are the processes identical for problem solving and for creative thinking? If not, how do they differ? Can the creative thinking process be taught? (Rhodes, 1961, p. 308)

Here, the process of creativity appears to be related to a special class of problem-solving activity or "possibility thinking", characterized by novelty and imagination (Craft, 2000; Fryer, 1996). Regarding the question of whether creative process can be taught, Rhodes's (1961) answer is "yes". He used Alex Osborn's description that "creativity is an art, […] a teachable art – a learnable art – an art in which all of us can make ourselves more and more proficient" (ibid, p. 308).

In relation to the techniques for developing the creative process, there are two early linear models that explore procedural thinking techniques. John Dewey's (1920) model of problem-solving is one of the earliest contemporary models of creativity, and includes five logical steps: (1) a difficulty is encountered; (2) the difficulty is located and defined; (3) possible solutions are considered; (4) the consequences of these solutions are weighed up; and (5) one of the solutions is accepted (as cited in Starko, 2005, p. 40). A second model based on this approach was developed by Alex Osborn (1963), who first developed the technique of "brainstorming". He argued that this creative thinking process includes a seven-step process, incorporating: (1) orientation; (2) preparation; (3) analysis; (4) ideation; (5) incubation; (6) synthesis; and (7) evaluation.

Craft (2000), in contrast to such linear models of process, has also proposed the concept of a creativity cycle (Figure 2-1). Craft's creativity cycle contains five phases. First phase "preparation", involves "getting into an appropriate 'place' for being creative" (ibid, p. 32). She suggests an appropriate place means that "a physical space is also an emotional space, and it can mean making time, or being with other people who stimulate or support or both" (ibid). Craft suggests that this kind of preparation can also mean "reaching a point of frustration with an issue", such as feeling stuck and feeling the need to make change happen. The second phase, "letting go", involves "a period of passivity and emptiness where there is a lack of direction and loss, and where the main activity is about letting go and surrendering control" (ibid, p. 33). The third phase she describes as "germination", when the idea is conceived. She suggests that this is often accompanied by a great burst of energy and enthusiasm. The following phase Craft describes as "assimilation", which she describes as "like the gestation period of the human birth cycle" (ibid) – an internal stage which requires time for the idea to take root. The

last stage is characterized as "completion", "bringing to fruition the original idea, which involves the capacity to 'receive' and to 'create'" (ibid). Craft adds that "*creativity increases and multiplies*" as creativity itself leads to more creativity and the cycle repeats continuously.
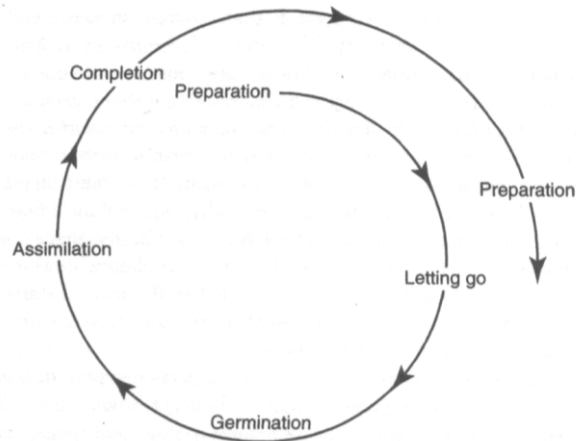
Figure 2-1: Craft's Creativity Cycle (Craft, 2000, p. 33)

Alongside these linear models and the creativity cycle, the NACCCE report (1999) provides four characteristics of the creative process:

> *First, it always involves thinking or behaving imaginatively; second, this imaginative activity is purposeful; third, these processes must generate something original; fourth, the outcome must be of value in relation to the objective.* (NACCCE, 1999, p. 30)

There are a number of keywords which emerge from the above discourse, showing that the creative process refers to the action of generating and incubating ideas and taking risks, and also to originality, imagination, and value. These would seem to challenge the limitations of the *predefined* and linear thinking process. I discuss this in a later section.

<u>Press</u>

Rhodes (1961, p. 308) uses "*press* to refer to the relationship between human beings and their environment". He suggests that "each person perceives his environment in a unique way; one man's meat is another man's poison and vice

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versa" (ibid). He also notes that "studies of press attempt to measure congruence and dissonance in a person's ecology" (ibid).

Regarding environmental impacts on individuals' creativity, Csikszentmihalyi (1996) suggests that surroundings can influence the incubation of creativity in different ways. This suggests that creating a personal, comfortable, and meaningful space can theoretically enable individuals to develop their creativity more possible. He has proposed that there are four aspects to creative surroundings, whereby creative individuals "manage to give their surroundings a personal pattern that more readily echoes the rhythm of their thoughts and habits of action" (ibid, p. 129). The first is "being in the right place", meaning that "one must be in a position to access the domain in which one plans to work" (ibid). The second aspect is "inspiring environments", whereby there is a conscious awareness that "the physical environment deeply affects thoughts and feelings" (ibid, p. 135). He suggests that it is important to encourage such "a more unique home environment", workplace or car which "helps to increase the chances that one will act out one's uniqueness" (ibid, p. 143). Finally, he observes that "personalizing patterns of action helps to free the mind from the expectations that make demands on attention and allow intense concentration on matters that count" (ibid, p. 145).

In relation to the role of such social "creativity assisters", Cropley (2004) highlights the role of aspects such as social support factors and networks in fostering creativity; this might include the role of parents, teachers, spouses, mentors, and colleagues. He asserts that these "creativity assisters" are vital, "not only for the acquisition of a high level of technical skill, but also for development and maintenance of the intense motivation" (ibid, p. 67) for individuals. He concludes that a creative environment is characterized by "openness, positive attitude to novelty, acceptance of personal differences and willingness to reward divergence" (ibid). These discourses suggest that creative press is the combination between physical space, emotional reaction and human interaction. I will discuss further in relation to creative space in school later.

Product

Rhodes (1961, p. 309) argues that "the word *idea* refers to a thought which has been communicated to other people in the form of words, paint, clay, metal, stone, fabric, or other material". Furthermore, he suggests that "when an idea becomes embodied into tangible form it is called a *product*" (ibid). According to this argument, therefore, creative products are the outcomes of our creative efforts related to what we do, and are both new and valuable (Fisher, 2004; Fryer, 1996). The features of creative product, as Barron (1969, p. 18) notes, are related to the *properties* of creative products, notably their originality, aptness, validity, and adequacy in meeting a need.

Robertson (1999) notes that creative products should be "novel" and "valuable or useful", either to the creator or to the particular culture into which they come into being. He calls this "psychological creativity or P-creativity". Robertson also defines the concept of "historically creative (H-creativity)" which means "to be historically creative", the novel product has to be one that has never been seen or thought of before and is appreciated within a wider cultural meaning.

Creative products can be "tangible and intangible" (Cropley, 2004) in their format. Cropley (2004) notes that the majority of creative products are tangible, material, and frequently take the form of works of art, musical compositions, written documents, machines, or buildings or other physical structures; and intangible products might include plans, strategies, and ideas for solving problems. Finally, Cropley notes that the properties of creative products are related to "a specific context: 'novel' means previously unknown in a specified setting, 'relevant' means that the novelty refers to a specific context, and 'effective' means helping to deal with a particular problem, remembering that 'problem' can be understood in a general, abstract way" (p. 98). These discourses suggest that creative product is original and relevant to a specific context, and can be referred to as either P-creativity or H-creativity, or as either tangible or intangible.

The above studies provide a number of varied interpretations of the 4 P's of creativity – process, product, person, and press – and reiterate some key words and themes that have been associated with the study of creativity. They are useful

in that they provide further elaboration on the four strands of creativity as well as a list of stable descriptions of the 4 P's. However, it is not possible to understand creativity from just a single strand. As Csikszentmihalyi (1996, p. 23) notes, "creativity does not happen inside people's heads, but in the interaction between a person's thoughts and a socio-cultural context." He suggests that creativity is a "systemic" rather than an "individual phenomenon". Next, I explore the systems models of creativity, including "big C creativity" and "little c creativity" (Craft, 2001b) and see where is creativity.

2.2.2 Where is creativity?

In this section, I discuss the differences between what is known as "big C creativity" and "little c creativity". This distinction will be used to explore questions such as: where is creativity, how does creativity happen, and how do we recognize creativity? I also introduce the similarity between Maslow's (1970) concept of "self-actualizing creativeness" and the NACCCE (1999) report's concept of "democratic creativity". Finally, I question the conceptual framework of creativity in the *Creative Education* White Paper.

Csikszentmihalyi (1996) has developed a three-pronged systems model of creativity which can be understood to be focused on what is called "capital C or big creativity". This model changes one of the basic questions that have been intrinsic the study of creativity, namely the emphasis on "what is creativity?", to that of "where is creativity?" He reasons that creativity can be observed only in the "interrelations" within a three-part system that incorporates domain, field, and person and cannot be isolated from them. His definitions of the three main parts are as follows:

> The domain […] consists of a set of symbolic rules and procedures. […] Domains are in turn nested in what we usually call culture, or the symbolic knowledge shared by a particular society, or by humanity as a whole. (ibid, p. 27)
>
> The second component of the creativity is the field, which includes all the individuals who act as gatekeepers to the domain. It is their job to

decide whether a new idea or product should be included in the domain. (ibid, p. 28)

The third component of the creativity system is the individual person. Creativity occurs when a person, using the symbols of a given domain, such as music, engineering, business, or mathematics, has a new idea or sees a new pattern and when this novelty is selected by the appropriate field for inclusion into relevant domain. (ibid, p. 28)

Csikszentmihalyi's systems model of creativity focuses on extraordinary creativity and provides insight into issues such as innovation, novelty, excellence, (Craft, 2001a); however, in this model of creativity "only occurs when something of enduring value is contributed to an existing body of knowledge" (Feldman *et al.*, 1994, p. 2). Cropley (2004) suggests, for instance, that the existence of "extraordinary" or "sublime" creativity is associated with winning or coming close to winning esteemed awards, such as the Nobel Prize, the Booker Prize and so on. This interpretation of "big creativity" has also been explored by Feldman *et al.* (1994):

creativity as the achievement of something remarkable and new, something which transforms and changes a field of endeavor in a significant way. […] People who do that change the world. (Feldman *et al.*,1994, p. 1)

In contrast, Craft (2001b) proposes a framework constructed by agents, domains, and processes, and which is characterized by "little c creativity". This focuses on the agency of ordinary people, rather than the extraordinary contributions and insights of a few. She argues that the framework of big C creativity is a very "intellectualist approach to capability" and serves to omit some of the core processes of thinking (Craft, 2000). Her concept of "little c creativity" has been described as a "life-wide attitude" towards life that is driven by "possibility thinking", and it is primarily about acting effectively with flexibility, intelligence, and novelty in the everyday. She proposes five specific criteria that

are characteristic of this concept, where "little c creativity" itself

- *involves the active and intentional taking of action in the world;*
- *is a way of coping with everyday challenges, which may involve knowledge-based intuition just as much as step-by-step thought;*
- *involves innovation […];*
- *involves a 'moving on';*
- *may involve problem identification as well as problem-solving.*

(Craft, 2001b, p. 53)

Table 2-1: A comparison between big C creativity and little c creativity

Big C creativity	Little c Creativity
Extraordinary people	Ordinary people
Person	**Agents**
Brings novelty into the domain	Acts undertaken by the person
Field	**Processes**
Experts (gatekeepers) to the domain	Problem finding and solving
Domain: culture, symbolic knowledge	**Domains**: all knowledge

In particular, Craft observes that that the role of "domain" in this framework is "about all knowledge, not simply the academic domains but all of life" (2001b, p. 56). She believes that "little c creativity" can be fostered in school classrooms and can enable all children to develop the capability to innovate and cope with everyday challenges. She suggests that "children need to be initiated into creativity, and thus there is an important role for education to play here" (ibid, p. 59). Table 2-1 provides a comparison of "big C creativity" and "little c creativity" and their constituent components.

Maslow, one of the foremost spokespersons of humanistic or "third force" psychology (Frager, 1970), proposed another, what he believed to be more widespread, type of creativeness. For Maslow (1970), creativity is not a quality displayed or possessed by a select few but "an everyday phenomenon". He suggested that it was experienced across everyday life by many individuals, not simply in the arts but also in everyday occupations. Maslow developed the concept of "self-actualizing creativeness", referring to people's desire for self-fulfilment and the potential for them to achieve self-actualization. Maslow reasoned that the personality could be expressed through the development of qualities such as boldness, courage, freedom, integration, and self-acceptance, rather than through achievement. Maslow concluded that "self-actualizing creativeness is emitted, like radioactivity, and hits all of life, regardless of problems, just as a cheerful person emits cheerfulness without purpose or design or even consciousness" (ibid, p. 167). Boden (2004, p. 1) has also made this point, stating that "creativity is not a special faculty but an aspect of human intelligence in general, which is grounded in everyday abilities such as conceptual thinking, perception, memory, and reflective self-criticism".

The concepts of "little c creativity" and of Maslow's "self-actualizing creativeness" are echoed in many ways by the "democratic" definition of creativity in the NACCCE (1999) report, which argues for a recognition of "the potential for creative achievement in all fields of human activity; and the capacity for such achievements in the many and not for few" (p. 30). In particular, it emphasizes the "pervasiveness of creativity":

> a. creative possibilities are pervasive in the concerns of everyday life, its purposes and problems;
> b. creative activity is also pervasive: many people who are being creative do not recognise that this is what they are doing;
> c. creativity can be expressed in collaborative and collective as well as individual activities, in teamwork and in organisations, in communities and in governments.
>
> (NACCCE,1999, p. 30)

In Taiwan, the *Creative Education* draws on this concept of "democratic

creativity", stressing that "everyone can be creative, and it is crucial to promote everyone's creative potential" (p. 11). However, there is an argument to suggest that the political rhetoric of creativity within the UK and Taiwan oversimplifies and lessens the possibilities of "little c creativity", providing little clarification of their new perspective of "everyone being creative". In the UK, McRobbie (2004) argues that creativity has traditionally been nurtured in interiorised, and slow ways; however, in New Labour's new cultural economy, creativity is encouraged to be increasingly "populist" and weightless.

In Taiwan, for instance, there is evidence to suggest that policy-makers simply scrabble together various terms from different English theories and then assemble a hybrid conceptual framework. I asked one interviewee, a key member of the policy-makers, "how did they develop the conceptual framework for the *Creative Education* White Paper?" He explained that "our concepts are drawn from Csikszentmihalyi, Gardner, and Amabile, and we assemble their idea as our concept" (SC6: CYH). This quote reflects the possible misuse both of Csikszentmihalyi's "big C creativity" concept and of NACCCE's "democratic creativity". The notion that 'everyone can be creative' was stressed in the text of *Creative Education*, but the policy-maker, by contrast, referred to Csikszentmihalyi's theory. As I discussed in Chapter One, there was no further discussion of the relevant literature in relation to the *Creative Education's* conceptual framework of creativity.

Overall, the two systems models (big C and little c creativity) provide a framework for the study of creativity, and they also broaden the sphere of creativity. However, it is important to consider how to use these frameworks to study a small group of individuals and classroom practice; for example, students within a classroom instead of a single individual.

2.2.3 Why is creativity important?

In this section, I focus on questions such as: why can humans create diverse cultures, and why do humans need creativity? Lumsden (1999, p. 160) states that "human creativity is the fire that drives gene-culture co-evolution". The unique human faculties of thinking and foresight differentiate humans from other animals.

Bronowski (1973) described a number of features of human creativity:

> *Man is a singular creature. He has a set of gifts which make him*
> *unique among animals: he is not a figure in the landscape – he is a*
> *shaper of the landscape. Among the multitude of animals around us,*
> *man is the only one who is not locked into his environment. His*
> *imagination, his reason, his emotional subtlety, and toughness, make*
> *it possible for him not to accept the environment but to change it.*
> (Bronowski, 1973, p. 19)

Eisner (2002, p. 4) has argued that: "human imagination gives us images of the possible that provide a platform for seeing the actual, and by seeing the actual freshly, we can do something about creating what lies beyond it". Bronowski (1973) for instance, argued that the human capacity for imagination is responsible for dramatic developments which have taken place in art and science:

> *Art and science are outside the range of anything that animal can do.*
> *And here we see that they derive from the same human faculty: the*
> *ability to visualize the future, to foresee what may happen and plan*
> *to anticipate it, and to represent it to ourselves in images that we*
> *project and move about inside our head.* (Bronowski, 1973, p. 56)

Csikszentmihalyi (1996, p. 2) has also noted that "what makes us different – our language, values, artistic expression, scientific understanding, and technology – is the result of individual ingenuity that was recognized, rewarded and transmitted through learning". He highlights two reasons for the significance of creativity and its articulation through human expression:

> *Creativity is a central source of meaning in our lives for several*
> *reasons. […] First, most of the things that are interesting, important*
> *and human are the results of creativity. […] The second reason*
> *creativity is so fascinating is that when we are involved in it, we feel*
> *that we are living more fully than during the rest of life. […] creativity*
> *also leaves an outcome that adds to the richness and complexity of*

the future. (Csikszentmihalyi, 1996, pp. 1-2)

On the other hand, Cowley (2005) argues that in an educational context, being creative can lead to a huge amount of enjoyment and can also provide the chance for a student to discover his/her strengths in the classroom. He concludes that creative and imaginative abilities are a vital factor in personal, cultural, and educational development. Finally, it is reasonable to suggest that creativity is a unique human capability and a key element for human evolution.

2.3 Creativity research

In this section, I focus on four significant approaches to the study of creativity – mystical, pragmatic, psychometric, and confluence – that have been used and discussed in the context of Taiwan. These have been selected for their relevance to the Taiwan context; for instance, pragmatic and psychometric approaches in particular comprise the mainstream of research into creativity in Taiwan. As is explained below, these approaches have been emphasized further because the Chair of the *Creative Education* White Paper, Professor Wu Jing-jyi, had previously worked with E. Paul Torrance, a well-known US psychometric scholar. The confluence approach, meanwhile, has been employed as a new theory by scholars within the policy-making committee of PPDCE, and numerous books by the relevant theorists have been translated into Chinese in Taiwan. Finally, the mystical approach to creativity refers to an embedded belief found in the culture of Taiwanese society.

2.3.1 Mystical approaches

Mystical approaches to creativity, as Sternberg and Lubart (1999) note, have always been associated with mystical beliefs. For example, the pre-Christian understanding of creativity was linked with the concept of genius, which was also associated with mystical powers of protection and good fortune; later the Greeks placed emphasis on an individual's genius which was progressively associated with an individual's abilities and appetites (Albert & Runco, 1999). By the time of Aristotle, creativity was associated with madness and frenzied inspiration, and during the Middle Ages, it was viewed as an illustrious male's creative power and

unusual ability (ibid). During the Romantic era inspiration, creativity was then transferred to being a quality of human beings, and was seen as accompanied by a corresponding gift for artistic expression (Ryhammar & Brolin, 1999). These discourses suggest that mystical approaches are associated with divine glory and special talent, with the idea that some are born to be creative, and with artistic expression. These perspectives are reflected in how three kinds of respondents (teachers, students, and parents) perceive creativity, and this is discussed in Chapter Five.

Sternberg and Lubart (1999) have argued that mystical approaches have probably made it harder for scientific psychologists to be heard within debates around creativity. They suggest that "many people seem to believe, as they do about love", that creativity does not lend itself to scientific study (ibid, p. 5). This spiritual connection between love and creativity was highlighted by a professor, who is a very famous creativity researcher in Taiwan, when he explained the features of his conceptual framework of creativity:

> *'Love is a core value of my research. I make a lots effort to promote this concept. […] Creativity is as love, which makes all God's creations brilliant and extraordinary. Love is motive and attention.'*
> (Interviewee, SC7: CLA)

His main argument echoes Sternberg and Lubart's (1999) analysis that creativity is a "spiritual process", meaning an understanding of creativity as dependent on personal experiences and insights. This concept of spiritual process is also emphasized by the policy-makers who created *Creative Education*; as I mentioned in Chapter One, they claim that teachers have to empower themselves, and then to find the meaning of creativity based on their own experience and exploration of creativity in their teaching practices. This problematic approach not only leads to a serious limitation on policy delivery, but also echoes Sternberg and Lubart's (1999) argument that it is hard for the scientific approach to shake off people's pre-existing deep-seated views about creativity.

2.3.2 Pragmatic approaches

Sternberg and Lubart (1999) argue that "pragmatic" approaches to the study of creativity are primarily concerned with developing creativity, and only secondarily with understanding it. This is an approach that is highly focused on *practice* rather than *theory*. They also note that this type of approach has gained considerable commercial success. Edward De Bono and Alex Osborn have been the two foremost proponents of the pragmatic approach to creativity. De Bono (1985) asserts that individuals and businesses can both adapt to create a climate of clearer thinking, improved communication and greater creativity. He created six different colored hats for a role-playing activity in which each hat represents thinking for a specific purpose. The six thinking hats that he developed can be summarized as follows:

1. White hat: the neutral hat, to identify the facts and details of a topic;
2. Black hat: the judgement hat, to examine the negative aspects of a topic;
3. Yellow hat: the optimistic hat, to focus on the positive and logical aspects of a topic;
4. Red hat: the intuitive hat, to look at a topic from the point of view of emotions and feelings;
5. Green hat: the new ideas hat, requiring imagination and lateral thinking;
6. Blue hat: the meta-cognition hat, to encompass and reflect on all other hats in looking at the big picture.

In Taiwan, De Bono's model of the Six Thinking Hats has been promoted since the 1980s by a very famous creativity researcher, Professor Chen Lung-An, and it is widely used in schools. Professor Chen has been devoted to the development of creativity techniques for more than twenty years. He has published many practical books and directed the most popular research team for teacher training, particular in terms of the practice of creativity. Numerous teachers who I spoke to me for my fieldwork told me that they had attended workshops run by Professor Chen, suggesting that the Six Thinking Hats have

become influential on teaching creativity in Taiwan.

The second key practical approach is the Creative Problem Solving (CPS) model and brainstorming technique, which is also widely used in Taiwan. The CPS model was developed originally by Osborn in 1952, and the most recent CPS version, 6.1 TM, was developed by Isaksen and Treffinger (2003). As with De Bono's model, use of the CPS model has been widespread. As Fryer (2003) notes, it has spawned major programmes all over the world and been widely used by small and large organizations including Motorola and AT&T. Treffinger *et al.* (2003) argue that the CPS model assists both individuals and groups in using creative and critical thinking skills in harmony; to understand challenges and opportunities; to generate ideas and develop effective plans for solving problems; and for managing change. The CPS model comprises an attention-directing device which is designed to focus attention systematically on each stage. "It is an iterative process involving both productive and critical strategies at every phase of the process" (Fryer, 1996, p. 93). The CPS version 6.1 TM contains four main components and eight specific stages (Treffinger *et al.*, 2003), which can be summarized as follows:

1. "Understanding the challenge": this involves investigating a broad goal, opportunity, or challenge, and clarifying or formulating thinking to set the principal direction for an activity. It engages with a three-stage process: constructing opportunities (identifying a constructive goal to pursue); exploring data (getting to the heart of the matter); and framing problems (discovering creative ideas).

2. "Generating ideas": this generally means coming up with new possibilities through "brainstorming", which is a useful tool for generating options. Individuals tend to generate many ideas (fluency in thinking), varied new perspectives (flexibility) and unusual or novel ideas (originality).

3. "Preparing for action": this involves exploring ways to turn a promising option into a workable solution, and then preparing for a successful implementation. It engages with two stages: developing solutions

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(transforming possibilities into promising solutions) and building acceptance (evaluating effectiveness).

4. "Planning your approach": this involves keeping track of thinking to ensure the right and desired direction. It engages with appraising tasks (taking stock of the commitments, constraints and conditions) and designing process (using knowledge to plan the stages that will be best suited to achieve goals).

Regarding the significance of applying the CPS in schools, Starko (2005, p. 216) notes that "with CPS, students have a powerful process for attacking school, social, and personal problems from elementary grades into adulthood". Moreover, Fryer (2003) also suggests that use of the CPS model can enable students to develop valuable problem-solving skills, while they are dealing with fictional or actual problems,

In regard to the limitations of these approaches, Sternberg and Lubart (1999) indicate three problems: firstly, pragmatic approaches to creativity have had considerable public visibility, and may well be useful for businesses and schools, but they "lack any basis in serious psychological theory", and no serious empirical attempts have been made to validate them. Secondly, pragmatic approaches provide a technique for producing ideas, but do not evaluate the quality of those ideas (ibid). Thirdly, these approaches do not take into account individual differences, ignoring that it is not possible for everyone to follow the same standardized thinking techniques or procedures. As already mentioned in Chapter One, the pragmatic approach has become the mainstream perspective on the study of creativity, and its limitations as outlined above are reflected in Taiwan, where teachers seem to pursue creativity in school by following simplified techniques and steps. This implies that in Taiwan, this pragmatic-led approach not only narrows teachers' understanding of creativity, but its regimented thinking steps may also hinder students' varied ways of being creative. There is further discussion relating to the limitations of pragmatic thinking techniques will in later section.

2.3.3 Psychometric approaches

Psychometric approaches to creativity use a set of standard creativity tests involving prototypical items and analytic methods; and have been applied to four specific areas of quantitative research investigation, including: creative processes; personality and behavioural correlations to creativity; the characteristics of creative products; and the attributes of creativity-fostering environments (Gardner, 1993; Plucker & Renzulli, 1999). Mayer (1999) suggests that psychometric approaches view creativity "as a mental trait" that can be quantified by scientific instruments of measurement. Mayer highlights three important characteristics of this approach: firstly, "*quantitative measurement*", where a creative person can be categorized into a particular number; secondly, "*controlled environment*", where testing takes place in artificial contexts; and thirdly, "*ability-based analyses*", which means that human creativity depends on the level of the component abilities of reasoning (ibid, p. 452).

This approach was first pioneered by Guilford (1950), and he proposed that creativity could be studied in everyday subjects with a psychometric approach, using paper-and-pencil tasks (Ryhammar & Brolin, 1999). Guilford identified three components of what he called "divergent thinking": fluency (generating many ideas), flexibility (generating different types of ideas or ideas from different perspectives), and originality (generating unusual ideas) (Starko, 2005). These ideas have formed the backbone of much of the research on assessment of creativity and have become one of the main instruments for measuring children's creativity (Starko, 2005; Sternberg & Lubart, 1999).

Building on Guilford's work, Torrance (1974) formulated the "Torrance Tests of Creative Thinking" (TTCT), in which students provided multiple responses to either figural or verbal prompts, which were then scored for fluency, flexibility, originality, and elaboration (Plucker & Renzulli, 1999; Sternberg & Lubart, 1996). The TTCT is by far the most commonly used test of divergent thinking; it has permeated school contexts and is used to assess pupils' creative thinking, particularly in the USA (Craft, 2001a; Plucker & Renzulli, 1999). In Taiwan, Professor Jing-Jyi Wu and Professor Hsin-Tai Lin, who are regarded as the

so-called first generation of creativity researchers, have since early 1980s been devoted to promoting the TTCT in research measuring students' creativity. Professor Wu (one of policy-makers responsible for the *Creative Education* White Paper) has adjusted the TTCT to practice in Taiwan, and he has published a number of related books, and Torrance was Professor Lin's PhD supervisor. Due to their promotion of TTCT, the psychometric approach is seen as a scientific and valid method for researching creativity in Taiwan.

However, psychometric measurement approaches have come in for harsh criticism for supposedly measuring intelligence-related factors rather than creativity. They have also been criticized for several other reasons. Firstly, some researchers argue that brief paper-and-pencil tests are an inadequate method for measuring creativity, and that the duration of studies on the subject has generally been too short to make conclusive claims about people's creative abilities (Plucker & Renzulli, 1999; Sternberg & Lubart, 1999). Secondly, some critics suggest that scores relating to the criteria of fluency, flexibility, originality, and elaboration fail to capture the concept of creativity, and that the quality of creative performance is overlooked in favour of quantity (ibid). Finally, Craft (2001a) argues that the procedures of these psychological tests are primarily "outcomes-based and product-linked", and they "measure creativity on request". She sees such approaches as not particularly able to encourage creative thinking, and as invariably at odds with the ways in which creativity features in daily life. However, it is reasonable to suggest that the approach's paper-and-pencil tests and statistical results accord with Taiwan's socio-cultural belief in exams (as I argue in Chapter Four) as the fairest and most scientific method of measuring students' performance.

2.3.4 The confluence approaches

The confluence approach emphasizes that creativity is associated with complex interactions between society, culture, and the environment in which creativity occurs. The confluence approach broadens the study of creativity, and, as Mayer (1999) suggests, focuses on "context" rather than creative thinking *per se* in individuals. Sternberg and Lubart (1996) have identified the characteristics of the

confluence approach as follows:

> *We believe that confluence theories offer a relatively newer and more promising approach to the study of creativity. They have no connection with mysticism; they are based in psychological theory and are susceptible to experimental test; they use concepts from the mainstream of psychological theory and research; they do not attempt to view creativity as a special case of ordinary representation and process; and, perhaps most important, they are multidisciplinary, calling upon the resources of various aspects of psychology.* (Sternberg & Lubart, 1996, p. 686)

One notable confluence theory, which focuses on the relationship between intrinsic motivation and creativity, was proposed by Amabile (1983). She suggests a componential framework of creativity, which includes three major components: domain-relevant skills, creativity-relevant skills, and task motivation:

> *Domain-relevant skills can be considered as the basis from which any performance must proceed. They include factual knowledge, technical skills, and special talents in the domain in question. Creativity relevant skills include cognitive style, application of heuristics for the exploration of new cognitive pathways, and working style. Task motivation accounts for motivational variables that determine an individual's approach to a given task.* (Amabile, 1983, pp. 362-363)

Amabile also observes that the most important feature of this framework is "its inclusion of social-environmental variables and their interaction with personality characteristics and cognitive skills in producing creative responses" (ibid, pp. 369-370). She adds that such variables have been largely ignored in previous research. Significantly, her componential creativity framework provides a "general working model of the dispositional, cognitive, and social factors that determine creativity" (ibid, p. 372).

Csikszentmihalyi (1996) proposes a systemic approach and highlights the interrelations of the individual, domain, and field, as I have outlined above. Sternberg and Lubart (1996) propose an investment theory of creativity, according to which creative people are those individuals who are willing and able to "buy low and sell high" in the realm of ideas. They further explain that *buying low* means "pursuing ideas that are unknown but that have growth potential", and that a creative individual persists in the face of this resistance and eventually *sells high*, "moving to the next new or unpopular idea" (ibid, p. 683). The investment theory proposes that "creativity requires a confluence of six distinct but interrelated resources: intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment" (Sternberg & Lubart, 1999, p. 11).

In general, therefore, the confluence approach to creativity offers the possibility of accounting for a greater diversity of factors that influence creativity. Sternberg and Lubart (1996, p. 686) suggest that "the confluence approach helps integrate different approaches to the study of creativity and thereby relates creativity to research in a number of different areas of psychology as a whole.

These psychological systems models indeed provide an integral approach to understanding the complexity of creativity. In Taiwan, these psychologists' books, such as Sternberg's *Handbook of Creativity* and Csikszentmihalyi's *Creativity: Flow and Psychology of Discovery and Invention*, were translated after 2000 into Chinese, suggesting that theories relating to creativity have gradually been updated. However, it also needs to be considered whether these various translated confluence models can be fully applied to Taiwan's context, and, if so, in what ways might they clash with older conventional understandings of creativity, including mystical, pragmatic, and psychometric approaches.

2.4 Four waves of research into creativity in education

In this section, I outline the evolution of creativity research within an educational context, exploring transformations in the focus, methodology, contents, and value of research into creativity. This overview is divided into four periods, from the early 1950s to the present day.

2.4.1 Geniuses and giftedness: creativity in the1950s

Prior to the 1950s, according to Sternberg and Lubart (1996, p. 680), "the psychodynamic approach and other early works on creativity relied almost exclusively on case studies of eminent creators"; this served to marginalize wider research on creativity. However, during the 1950s a flurry of activity began to change this situation, this early research primarily revolved around psychometric investigations into individual genius and giftedness, which included personality, cognition and how to stimulate creativity (Jeffrey & Craft, 2001; Ryhammar & Brolin, 1999; Shallcross, 1981).

As argued above, research during this period focused on identifying the characteristics of creativity in relation to eminent individuals, using a set of standard scientific tests primarily focused on adults and to identify processes and products. Feldman (1999, p. 169) argues that the preoccupation with testing for creativity, as if creativity is "a trait analogous to intelligence, led the field into a narrow and limited conception of creativity". He further argues that "in the effort to operationalize variables and gain experimental control over them" (ibid), an over-simplification of what is meant by creativity became the norm.

2.4.2 Shift to children: from the 1960s to the 1970s

From the 1960s to the 1970s, the most significant development in creativity research was a shift in emphasis away from psychometrical approaches towards investigations which focused more on understanding the creative mind and its association with imagination (Jeffrey & Craft, 2001; Ryhammar & Brolin, 1999). As part of the social reforms of the 1960s in the USA, "creativity research was recast as a way of breaking away from the perceived stranglehold of conservative educational practices", and part of the rationale for this was to demonstrate how traditional practices were instrumental in destroying creative expression (Feldman *et al.*, 1994, p. 7). Research into creativity was seen as a way to help to lift some of the constraints on "free expression" to enable radical school and social reforms (ibid). This social influence was reflected in the UK's Plowden Report (1967), in which creativity was interpreted as meaning "self-expression" (Craft, 2005a).

For example, in contrast to Guilford's divergent thinking model, the Torrance Tests of Creativity Thinking (TTCT) shifted the focus from adults' to children's creative abilities, and creativity tests were developed for younger children in the USA (Feldman *et al.*, 1994). In this period, researchers gradually moved the field away from the standard and scientific measurement towards a greater focus on individuals' creative expression and creative thinking. Their aim was to develop strategies by which to foster children's creativity productively. Significantly, "creativity research became seen as part of the revolutionary social movement of the 1960s" in the USA (Feldman *et al.*, 1994, p. 9).

2.4.3 Social psychology research: the 1980s and 1990s

From the 1980s, the development of creativity research had turned its focus to social psychology and systems theories, in which social structures and environmental conditions were recognized as key factors which affected individual creativity (Amabile, 1996; Jeffrey & Craft, 2001). This meant an ever-increasing interest in putting the human capacity within a social context , and environmental factors were thereby accorded a far greater importance than previously (Ryhammar & Brolin, 1999). The influences of social structures on individual creativity were "contextualised" into a social psychological framework, and this in turn directed research into creativity within education (Craft, 2005a). Craft (2005a) highlights four changes in creativity research which mark it as distinct from earlier periods:

- *characterising, rather than measuring;*
- *ordinary creativity rather than genius;*
- *encompassing views of creativity which include products but do not see these as necessary;*
- *emphasis on the social system rather than the individual*

(Craft, 2005a, p. 15)

During the 1990s, under the influence of perspectives from developmental, cultural, and social psychology, "creativity research moved in the direction of more comprehensive and integrated models, variously emphasizing and combining

personality-related, cognitive, social, and cultural factors" (Ryhammar & Brolin, 1999, p. 262). Moreover, the methodology for investigating creativity in education also shifted away from "large-scale studies" involving measuring creativity, toward ethnographic and qualitative approaches in research focusing on the "actual site of operations and practice" and involving contextualizing creativity in social and cultural values (Craft, 2005a, p. 15).

2.4.4 Political and economic pragmatism: 2000 onwards

Life in the 21st century demands that ordinary people develop "little c creativity" as a life skill (Craft, 2001a). Since the late 1990s, the creativity discourse has influenced an "empowerment" culture within which the responsibility for social change has shifted from the government to the individual (Jeffrey & Craft, 2001). Jeffrey and Craft argue that, as such, creativity is operating in an economic and political field and is seen as a possible vehicle for individual empowerment in a competitive environment.

There is consequently an argument suggesting that current creativity discourses are responses to the requirements of a mix of economic, political, and market changes (changes which I discussed in Chapter One). In this economic and market context, creativity has been given a "new value" – of increasing the capabilities of individuals to face a more uncertain future. It has been suggested that the concept of creativity is now anchored in a global marketplace, so that the relationship between creativity and work has become more "symbiotic" (Craft, 2005b; Jeffrey & Craft, 2001).

Finally, the evolution of creativity research, as Ryhammar and Brolin (1999, p. 270) note, "will continue along many paths, both wide and narrow, but there is already a fair number of studies on different levels with different perspectives and different methods". Research into creativity has constantly placed differing values on how creativity should be principally characterized. For example, in the 1950s, creativity was associated with geniuses and intelligence. In the 1960s, creativity was viewed as a way to enable children to have "self-expression". In the 1980s, creativity was seen as a combination of personality-related and socio-cultural factors. In the 2000s, creativity is regarded as individual empowerment for survival.

On the other hand, both in the 1960s and 2000s, the breadth of the concept of creativity makes it almost any kind of strategic solution to cope with social and economic changes. I argue that this economic and political rhetoric may lead to more confusion in relation to understanding creativity. Moreover, these differentiated psychological approaches and models are not connected to one another and may create more jargon, suggesting that the various approaches exist in parochial isolation. As the three wisdom creativity experts, Feldman, Csikszentmihalyi, and Gardner (1994, p. 173) state, "the still mysterious and baffling aura that surrounds creativity will be with us for the foreseeable future".

2.5 Creativity in Education

Moving on from the above exploration of psychology-focused creativity research, in this section, I turn to focus on research which discusses actual creative practice in teaching and learning, and to pedagogical strategies for fostering creativity. Here, I attempt to draw a distinction between creative teaching, teaching for creativity, and creative learning, and also to explore the role of the creative teacher and the creative learner.

Practicing creativity in school has gradually changed the learning environment in classrooms and had an impact upon the relationships between teachers and learners. As Starko (2005) states:

> *Structuring education around the goals of creativity involves shifting our visions of teachers and learners. Learning activities designed to foster creativity cast students in the roles of problem solvers and communicators rather than passive acquirers of information. Teachers, in turn, are transformed from founts of all wisdom to problem setters, problem seekers, coaches, audience, and sometimes publicity agents.* (Starko, 2005, p. 19)

2.5.1 Creative Teaching

Regarding creative teaching, my aim is to explore what creative teaching is, what the role of the creative teacher is within it, and how the creative teacher practices

creativity in teaching.

As Jeffrey (1997) states, creative teaching requires an innovative idea or approach; a degree of ownership and control over the teaching and learning process; and that the event be relevant to every participant in classroom. The NACCCE report (1999, p. 89) defines creative teaching as "using imaginative approaches to make learning more interesting and effective". Three key elements of creative teaching can be identified within the above discourse: an innovative and imaginative idea or approach, and making learning effective.

In terms of the significance of the role of the creative teacher, Jeffrey (1997) stresses that a teacher who artfully develops learners' learning experiences is at the centre of the creative process. Fryer (1996) echoes this, stating that the teacher plays an important role in improving children's capacity to be creative and can significantly affect learners' lives. She argues that good-quality creative teaching is always the result of careful planning and of a good relationship between teachers and learners. This is similar to Craft and Lyons's (1997) emphasis that the relationship between teacher and learner, expressed in encouragement and dynamic interaction, is essential to achieving creative outcomes.

It has also been argued that teachers of creativity need to have a greater awareness of the variety of students' capabilities. Craft (1997), for instance, advocates a teaching application based on Gardner's theory of "multiple intelligences" (1984, 1993), and she encourages educators to broaden their awareness of the different intelligences which need to be fostered in a variety of domains and forms. According to Craft, a teacher should be able to recognize multiple intelligences and then use diverse approaches of encouragement and dynamic interaction within a more responsive teaching style. Woods (1995, p. 2) suggests that creative teachers should "have a fund of knowledge – of subject-matter, pedagogy, and pupils" – with which to develop ability and flair, to formulate and act upon hunches, and to "play with ideas", all within a disciplined framework.

Creative teaching processes involve: risk-taking; possibility thinking;

encouraging pupils to ask questions; play; problem-finding; problem-solving; cross-curricular work, and collaborative conversation in the classroom (Craft, 1997; Fisher & Williams, 2004; Fryer, 1996; Liptai, 2004). For instance, Craft (1997, 1999) has developed "possibility thinking" as a core element of creativity in teaching and proposed three main principles: first, "not being put off by one set of circumstances, but using imagination to find a way around a problem" (1999, p. 145); second, "posing questions"; and third, "combinatory play". She suggests that possibility thinking is for both adults and children, and happens both in lessons and elsewhere in the school.

It is also important for educators to consider the creative space (environment). As Craft (2000, p. 116) suggests, "fostering creativity requires commitment to space: physical and conceptual". She suggests that space refers not simply to the layout of *physical* space, but also to the *conceptual* learning environments, which should "allow mistakes and encourage experimentation, openness, and risk-taking" (ibid). In addition, the emotional climate of the classroom needs to offer each child personal confidence and security if they are to be creative (ibid). Kimbell (2002) proposes three factors within the environment which impact on creative performance: collaborative working with peers; trust relationships between teacher and student; and the breadth teaching resource provision in the school. Kimbell's concept of collaborative working with peers is similar to the UK's Qualifications and Curriculum Authority's (QCA) (2005) observation that successful creative learning involves working collaboratively with creative and innovative individuals and groups, within and beyond the school. Overall, these discourses suggest that developing a creative space means considering the social, physical, and conceptual factors involved in creative teaching.

In an example drawn from design and technology activities, Stables (2000) developed the practical teaching activity of "handling collection" as a way of improving teachers' creative teaching and planning procedures. It has three key elements:

Head: engage learner's mind to develop the critical thinking skills;

> *Hand: enable learner to learn through their 'hand' in such a way that*
> *physical engagement with further understanding;*
> *Heart: engage learner's hearts in a way that motivates their curiosity*
> *sufficiently to give them the desire to persevere with the*
> *challenge in hand.*
>
> (Stables, 2000, p. 14)

Finally, Craft (2005b, p. 44) adopts a more cautious approach to this perspective, suggesting that "creative teaching does not necessarily lead to learner creativity". She argues that it may provide suitable contexts for both teacher and learner to be creative in number of ways, but that the application of creative teaching would rely on circumstances.

2.5.2 Teaching for Creativity

Craft (2005b) suggests that teaching for creativity may be more likely to succeed in fostering learners' creativity. Starko (2005) therefore argues that when "teaching to enhance creativity", teachers should provide students with the knowledge, skills, and surroundings necessary for students' own creativity to emerge. She adds that the results of this will be seen in students' performance, including in: real problem-finding; problem-solving and seeing things from multiple points of view; analysing data; and self-expression in multiple genres. The NACCCE report (1999, p. 103) also indicates that teaching for creativity is a form of teaching that is "intended to develop young people's own creative thinking or behavior".

Craft (1997) draws on Michael Kirton's (1989) identification of two main styles of creative behaviour: she argues that "adaptation" is about "doing things better", but "innovation" is about "doing things differently". She also makes a distinction between adaptors and innovators, arguing that schools are good at supporting adaptors and fostering adaptive behaviour in teaching practices, but are less good at supporting innovators.

The NACCCE report (1999) proposes three related tasks in teaching for creativity: *encouraging*, *identifying*, and *fostering*:

> *The first task […] is to encourage young people to believe in their*

creative potential, to engage their sense of possibility and to give

them confidence to try. (NACCCE, 1999, p. 104)

The second task is to identify "young people's creative abilities, including helping them to find their creative strengths – to be in their element." (ibid), and the third task is to foster creativity by developing "the common capacities and sensitivities […] For example, curiosity can be stimulated, memory can be trained. and awareness can be enhanced." (ibid)

Finally, Starko (2005, p. 22) argues that "teaching for creativity is not an additional curriculum" and that "it is a set of strategies for designing curricula so that both content learning and creative thinking are enhanced". These studies suggest that teaching for creativity needs to be aware of the distinction between adaptation and innovation, whilst being able to encourage, identify, and foster students' creativity.

2.5.3 Creative Learning

Creative learning, as Craft (2005b) states, can be seen as both learning creatively and learning to have *confidence* in being creative. She proposes seven creative learning behaviours as below:

- *goal-direction;*
- *fascination for a task;*
- *orientation toward risk-taking;*
- *preference for asymmetry and complexity;*
- *willingness to ask many unusual questions;*
- *capacity to display results and consult other people;*
- *a desire to go beyond the conventional*

(Craft, 2005b, p. 57)

The outcomes of creative learning processes include the capability to take risks, originality, and daring/effective combinations (Craft, 2005b). The QCA (2005) developed the following criteria for assessing learners' creativity:

- *questioning and challenging;*

- *making connections and seeing relationships;*
- *envisaging what might be;*
- *exploring ideas, keeping options open;*
- *reflecting critically on ideas, actions and outcomes.*

In relation to the learning experience, Craft (2000) emphasizes that "body" and "feelings" are both forms of experiencing and expressing creativity. She argues, for instance, that the ways in which a learner feels may have a huge impact on what is learned, and how and what is associated with that learning experience. Lucas (2001) highlights four key conditions for creative learning which are particularly relevant to the school context:

1. *The need to be challenged both by having goals set for us and by being helped to set our own.*
2. *The elimination of negative stress […].*
3. *Feedback. […] With effective high-quality feedback we acquire self- knowledge deepen our self-esteem and continue to be motivated to learn.*
4. *The capacity to live with uncertainty. […] Teachers can offer robust and workable alternative structures and processes to their pupils, which can be developed and personalized.*

(Lucas, 2001, p. 39)

Bruce (2004) argues that the characteristics of creative learners suggest that a creative individual: belongs to but remains separate within a group; develops interests which are linked with creativity; enjoys being able to use personal space creatively to discover or develop creativity; and, finally, feels emotionally safe enough to be creative on their own. She reasons that being creative brings a different kind of satisfaction to life. The above studies suggest that creative learners are good problem-finders and solvers, and that they also offer insights and new discoveries.

So far, I have explored the complexity of putting creativity into practice within the educational context. Next, I go on to identify the limitations of these linear creative process and paradigmatic lists of creative practices described above, and

explore the differences between interactive and iterative process of developing creative ideas.

2.5.4 Interactive and iterative process of developing creativity

In the previous section, I outlined several linear theories and thinking techniques that are linked to creative thinking processes, such as De Bono's (1985) Thinking Hats, Osborn's (1963) CPS model and brainstorming, and Craft's (2000) creativity cycle. I also outlined various suggestions on how to put creativity into practice in the classroom. Buchanan (2000) suggests that some scientists, business professionals, and designers find the idea of a linear model of creativity attractive, and believe that it represents the main hope for a "logical" understanding of the mental processes involved in design.

However, Buchanan also indicates two obvious points of weakness in linear models. Firstly, he argues that the actual sequence of design thinking and decision-making is not a simple linear process; and, secondly, that in actual practice, the problems addressed by designers do not necessarily yield to linear analysis and synthesis. Buchanan also notes that the linear model of design thinking is based on "determinate problems" which have definite conditions, but that design problems are "indeterminate and wicked", because design has no special subject matter of its own. Buchanan's emphasis on indeterminate and "wicked" design processes are similar to the creative thinking process, which requests tolerance for ambiguity, "almost a *sine qua non* of creative performance" (Sternberg,1988, p. 143). In the creative thinking process, as Buchanan (2000, p. 14) suggests, "there are no definitive conditions or limits to design problems".

In this section, I explore "the APU (Assessment of Performance Unit) model of interaction between mind and hand" developed by Kelly *et al.*(1987). They propose that this model (Figure 2-2) can help us in different ways to describe and predict how our creative ideas will work in reality, and claim that it provides an assessment framework for design and technology. Their study concentrates on the thinking and decision-making processes of design. They see the essence of design and technology as "being an interaction of mind and hand – inside and outside the head" which involves conceptual understanding, communication, and

practical skill. They state (1987, p. 12) that the "relationship between the activities inside and outside our minds is interactive rather than sequential and the total activity is cumulative, experiential, and reflective". They highlight that the design activity is iterative, "as ideas are bounced back and forth, formulated, tested against the hard reality of the word and then reformulated" (Kimbell, 1997, p. 30).

THE INTERACTION OF MIND AND HAND
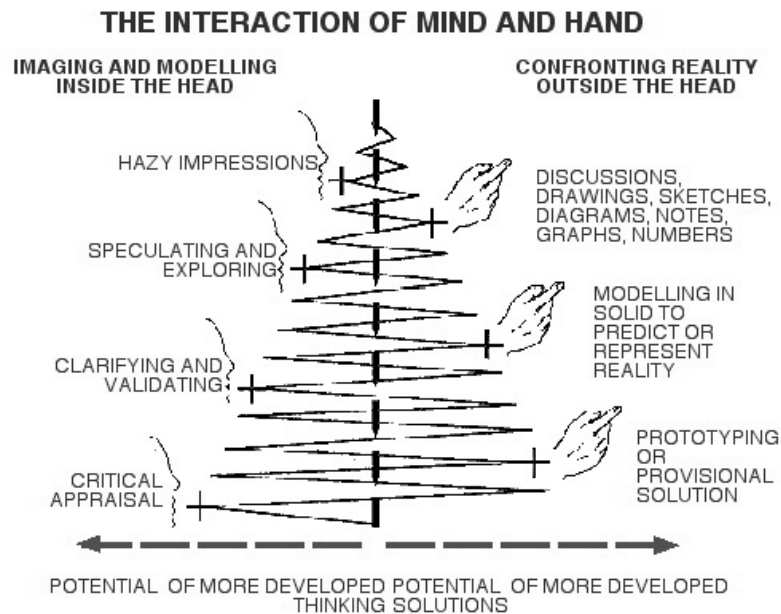
Figure 2-2: The APU model of interaction between mind and hand
(Kimbell *et al.*1991, p. 20)

Kimbell *et al.* (1996) also indicate that in any design and technology activity, there is a careful balance to be struck between active designing and reflective appraisal of what is being done. While they were developing the APU project, it became obvious that the best levels of learner performance were associated with activities in which action and reflection were kept in balance (p. 13). Their research for APU led them to the conviction that:

Cognitive modelling by itself – manipulating ideas purely in the mind's eye – has severe limitations when it comes to complex ideas and patterns. It is through externalised modelling techniques that such complex ideas can be expressed and clarified. […] It our contention that this inter-relationship between modelling ideas in the

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mind and modelling ideas in reality is the cornerstone of capability in design & technology. It is best described as "thought in action". (Kimbell *et al.* 1991, p. 21)

They are more interested in 'why' and 'how' learners chose to do things, rather than in what they chose to do. Therefore, there is a strong emphasis on the procedural capability in their work. Kimbell (1997) suggests that

Procedural capability is at the heart of the matter, for in design and technology it is the driving purpose of the task that prevents conceptual understanding being merely intellectual detritus, and communicative facility being merely organ grinding. (Kimbell, 1997, p. 29)

As noted above, this model recognizes the centrality of the interaction of mind and hand, and shows thought and action in an iterative and interactive relationship. The limitations of both linear and cyclical models, as Kelly *et al.* (1987) argue, is that although these models have been helpful guides to the "staging posts" in activities for teachers, it is difficult to fit the models to a actual design project. They stress that this "artificial" interpretation of the activity can be a constraint on students. Therefore, they conclude that:

Used unsympathetically, the approach can reveal a greater concern 'doing' all the stages in the process, than for combining a growing range of capabilities in a way which reflects individual creativity and confident and effective working methods. (Kelly *et al.*, 1987, p. 11)

Therefore, it could be reasonably argued that creative and design thinking processes cannot be simplified into either a linear or a cyclical model, as this can be detrimental to creative thinking. As Buchanan (2000, p. 11) argues, "when a designer's conceptual placements become categories of thinking, the result can be mannered imitations of an earlier invention that are no longer relevant to the discovery of specific possibilities in a new situation". The creative process is so indeterminate, but actual teaching and learning somehow is routinized and

standardized. It is necessary to consider whether these psychological and educational approaches to creativity are relevant and workable to school teachers and students, and where the conflict between the indeterminacy of creativity and the routine of schooling may be.

2.6 Conclusion

In this chapter, I have mapped out the 4 P's of creativity, discussed the differences of "big C", "little c", and "democratic" creativity, and noted the importance of human creativity. However, the argument that I developed suggested that the four strands of creativity cannot present an integral picture of creativity and that there is a tendency to neglect the importance of other perspectives. Subsequent to this argument, I argued that the two systems models (big C and little c creativity) provide a framework for the study of creativity, but that there needs to be greater consideration of how to develop these frameworks for the study of social groups (i.e. a school class), rather than just single individuals.

In the next part of the chapter, I explored the strengths and weaknesses of four key approaches to the study of creativity, including mystical, pragmatic, psychometric, and confluence approaches. I argued that these psychological models provide a more holistic approach to understanding the complexities of creativity; however, I also noted that there are no specific links between them, meaning that they remain isolated as explanatory theories of creativity. I also argued that, in Taiwan, these four mainstream approaches have created more confusions and misunderstandings, which reflect on my three types of respondents' (teachers, students, and parents) perceptions of creativity (I will discuss this in Chapter Five). Overall, these findings echo Ryhammar and Brolin's (1999) criticism of creativity research; they argue that it has been

> *extremely fragmentary and the conceptual apparatus extremely varied. It has chiefly been pursued as if every particular part of the phenomenon of creativity could be understood in isolation from every other part.* (Ryhammar & Brolin, 1999, p. 270)

As the current chapter has argued, these varied interpretations and

approaches to creativity are derived from different territories and theoretical origins; however, the creative process is ambiguous and "wicked". It is important to consider whether we can understand creativity without relying on something pre-established. Weber (1987) poses the question thus:

> *The question that needs to be explored is one that concerns not so much the survival of the "author-function" as such, but rather the manner in which it lives on; not whether or not such an assumption must be made, but rather how it is performed and with what consequences; the question, in short, of its style.* (Weber, 1987, page xix)

Moreover, as the chapter has further argued, creativity is "the interaction between a person's individual thoughts and a socio-cultural context" (Csikszentmihalyi, 1996, p. 23). Therefore, it is not possible to understand creativity via a single approach or pre-established method. Creativity involves being in a relationship or dynamic interaction with all participants involved in fostering creative action, (Craft, 2000). There is a good argument suggesting that the complexity of creativity in education should be investigated through interactive and iterative processes – which the APU model (Kelly *et al*., 1987) provides as a conceptual framework for my research design. However, it is also important to consider that the practice of creativity in education is a complicated and diverse performance which should be explored through multiple approaches and diverse layers. Bearing these issues in mind, in the next chapter I outline my research design and define the different methodologies used within this study.

Chapter 3

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Research Design and Methods

3.1 Introduction

This chapter outlines my research design, data collection methods, and the research process itself, which took place over nearly eight months from late September 2007 to early June 2008. It begins with an explanation of the importance of my pilot study, and the ways in which this helped to clarify the rationale of research aims. I then go on to introduce my research framework, including ethical issues, the case study itself, and the sampling strategies that I employed. The ethical strategy describes how I was able to gain access to schools and classrooms and engage with my participants while taking into consideration appropriate ethical boundaries.

The research strategy section focuses on a discussion of the appropriateness of the case study method for my research, and the sampling strategy is discussed in relation to how I selected my three case studies for the empirical part of the research. Next, I discuss my research methods and demonstrate the evolution of my research methodologies and instruments, including the use of the semi-structured interview questionnaires; the participant observation template; the "attitude toward creativity" questionnaires; and students' Creativity Diary. I also highlight several changes which were made as a result of some of the findings which emerged through the pilot study. Finally, I present my qualitative and quantitative data analysis framework in terms of coding and the graphic display of the data.

3.2 Clarifying the research aims through a pilot study

My pilot study assumed an important role due to the way in which it verified the research plan and became a "testing ground" for my research methods. Yin (2003a) stresses that a pilot study is important for research, as nearly all the

relevant data collection issues will be encountered here. For instance, in my pilot study, a hidden social class issue emerged which was not present in the current literature. Therefore, the pilot study that I used provided important "conceptual clarification" for my research design and contributed to what Yin (2003a, p. 80) describes as "an on-going review of relevant literature". The experiences learned from the pilot study helped me to ensure that the empirical study was able to "reflect significant theoretical or policy issues as well as questions relevant to contemporary cases" (ibid). In this section, I introduce the challenges of getting access to the pilot school, the background of the three pilot cases, and the initial research subjects and methods. After that, I demonstrate how I refine my research aims through the lessons learned from the pilot study.

3.2.1 An overview of the pilot study

As I have already argued, it is not possible to understand creativity via a single approach or pre-established method, because creativity in education is constructed from dynamic interactions between all participants. Therefore, the pilot study became necessary in order to try out the initial research design and methods. The role of a pilot study, as Blessing and Chakrabarti (2009) note:

> *is to try out the whole research approach from data collection to drawing conclusions, to identify potential problems that may affect the quality and validity of the results, and to modify the approach as needed. Despite this, things can go wrong; planning for contingency is important.* (Blessing & Chakrabarti, 2009, p. 139)

The importance of the pilot study, as Maxwell (2005, p. 58) stresses, "is to develop an understanding of the concepts and theories held by the people you are studying – what is often called "interpretation"". It was hoped, therefore, that the pilot study would help to provide "an understanding of the *meaning* that these phenomena and events have for the people who are involved in them, and the perspectives that inform their actions" (ibid). Maxwell highlights that the meanings and perspectives gained from carrying out a pilot study; these

are not theoretical abstractions; they are real, as real as people's behavior, though not as directly visible. People's ideas, meanings, and values are essential parts of the situations and activities you study. (Maxwell, 2005, p. 58)

My pilot study took place during September to December 2007, and the research sites included three primary schools in Taipei City. The three pilot cases were chosen for their diversity and were treated like a "laboratory", which allowed me to "observe different phenomena from different many angles or to try different approaches on a trial basis" (Yin, 2003a, p. 79). Getting access to the three schools was relatively difficult and complicated in terms of using "social networking". This accords with Buchanan *et al.*, (1988, p. 56) who argue that "negotiating access to an organization for the purpose of research is a game of chance, not of skill".

Taiwan is very much a "relationship culture", which means that a researcher's social relationships are the determining factor for deciding access to schools. If a researcher knows somebody working in the schools, or is introduced by an authoritative referee such as an official, professor, or head-teacher, it will be more likely that s/he will get to talk to the key persons and then to get further access. If the researcher uses "cold calling" (ibid) for these purposes, for instance either through email or telephone, the response is likely to be less positive. I was introduced by a well-known professor (who had expertise in creativity research), and also by a head-teacher. They then recommended me to six teachers who had either received awards for creative teaching (a competition named "GreaTeach", which is held by Taiwan's Creativity Development Institute) or been recognized for their motivational skills in embedding creativity in their teaching practice. Finally, after an intensive round of negotiations, three teachers showed a willingness to let me into their classrooms. The variables by which the pilot schools were divided up are shown as table 3-1:

Table 3-1: The details of the three pilot schools

	School A1	School B	School C
Status	experimental school	state school	state school

Catchment	advantaged area	advantaged area	disadvantaged area
Teacher	Mr Wang	Mrs Yu	Miss Yang
Length of service	3 years	27 years	8 years
Number of students	33	6	32
Year	5 (10–11 years old)	6 (11–12 years old)	6 (11–12 years old)
Class	ordinary class	talented class	ordinary class
Curriculum	Visual Arts	Project Study	Social Study
Project	Class uniform Design	Handbag design	Investment
Duration of project	6 weeks, 6 sections (1 section 40 mins)	7 weeks, 7 sections	4 weeks, 8 sections

The three schools constituted the "purposive sampling" (critical cases) (Cohen *et al.*, 2007), and were handpicked on the basis of the judgement of the referee and myself of the teachers' reputation for creative teaching. The teacher from School A1 was well-known for his creative practice of photograph education, and he also participated in a "Creative Teacher" governmental initiative (one of the six action plans). Both Schools B's and C's teachers had won the competition of the "GreaTeach", which had also been awarded to the professor who acted as my referee (as I mentioned above).

My research subjects were initially for the most part the three creative teachers and the students from the three classes. My initial data collection methods included semi-structured interviews with the creative teachers; participant observation in the classrooms; a questionnaire on the students' perception of creativity; and a Creativity Diary for students to record their creative thinking process in the activity (I discuss the evolution of my use of multiple methods in Section 3.4).

In the following sections, I discuss how I expanded my research aims and was able to focus my subjects and research design through the pilot study. As argued above, the initial findings of my pilot study helped to clarify the research aims, modify the research design, and provide a useful demonstration of the research methodologies themselves.

3.2.2 The rationale of the research aims

The ultimate goal of the research is to investigate how creative education policy is shaped, delivered, and practiced within the context of Taiwan; particularly from political, social, and cultural perspectives. Four research aims were clarified through the pilot study, which enabled me to justify my study, and to demonstrate how my study would address an important need and unanswered questions. In this section, I clarify how and why the aims were expanded and confirmed through data which emerged during the pilot study. The core of the research focuses on the teachers and the students, and then interconnects with parents and policy-makers. The first priority of my research aims was to identify teachers' dilemmas around creative teaching:

1. To explore **teachers' dilemmas** around teaching creatively and following routinized school settings, and to survey **teachers' perceptions of creativity**.

An understanding of this issue emerged from School C, as its activity subject was social study which was one of the core subjects in Taiwan. The teacher, Miss Yang, had to follow the school's prescribed pace for the curriculum and for tests, and so her freedom to expand the curriculum itself was very limited. In the semi-structured interview which was carried out, Miss Yang admitted that the pace of her teaching was lagging behind the school's requested pace for the curriculum, due to this activity. She therefore needed to rush through the teaching of other sections in the textbook. This suggests that it is necessary to investigate the stresses on the teachers, particularly with regard to the tight pace of the curriculum and the regular school tests.

On the other hand, in relation to teachers' perceptions of creativity, there was a interesting fact which emerged from School B (handbag design activty), where the teacher's efforts did not seem to be matched in the teaching outcomes. The teacher, Mrs Yu, took the students to visit four different fabric shops, in order to encourage them to learn about the various types and functions of fabrics, and to find a starting point for their own attempt to design a handbag. After these explorations, she gave the students the standard "materials package" for making a

handbag. As a result, the students all made similar handbags, and these did not reflect their original design ideas (see Photos 1–5, and the data from a student's Creativity Diary). This finding prompted me to embark on a survey of the teachers' perceptions of creativity and creative education.

| 1. S1 (Boy) | 2. S2 (Boy) | 3. S3 (Girl) | 4. S4 (Girl) | 5. S5 (Girl) |

2. To design a diary for **recording students' creativity**, to support students in reflecting on their own experiences of being able to view their creative progress, and to investigate the relations between the **students' perceptions of creativity, their family background, and school culture**.

The second concern of my research aims focused on students' capacity for creativity. During my interviews and visits, some of the teachers implied that their creative practices were not always validated by parents due to a lack of methods available for recording students' creative performances. Parents consequently thought that creative activities were not a serious aspect of teaching. As I previously mentioned (in Chapter One), research in Taiwan on creative teaching and the learning process is very limited, and so there are no proper methods of recording and analyzing student creativity. Fortunately, a very high percentage of these pilot students demonstrated a positive response to the pilot Creativity Diary, and saw it as having an impact on their study. At the end of the Diary, I designed two questions related to its usefulness for their study. The three most popular things which the students stated that that they found the Diary to be helpful for

were: first, for recording their reflections and learning processes; second, for sharing ideas with peers; and third, for being more engaged with their study.

There were also some positive responses from parents. For example, some School C (investment activity) parents who were themselves investment advisors gave comments on their children's diary, and the parents were able to see their children's learning process through the diary. One girl's (C-26) mother wrote a very practical suggestion in response to her daughter's investment plans: "the risk in every stock is too high; you should increase the percentage of savings in foreign currencies". Another girl's (C-21) uncle advised her that the interest rate of a savings account was too low and that this was an inefficient investment. Therefore, it is both crucial and worthwhile to design a process diary for students, in which they can record their creative learning processes, communicate with others, such as peers, teachers, and parents, and show their capacity for creativity.

On the other hand, factors relating to students' family backgrounds and school culture were reflected in the students' performances and perceptions of creativity, and differences could be observed between the three schools. School A1 is famous for its liberal school culture, and the majority of the parents are highly educated. Therefore, the characteristics of the students are very different from those of students at the other two schools. School A1 students were relatively independent and confident with regard to the control of their own learning. School C is located in a deprived catchment area, and the majority of the parents work as labourers or street vendors. Compared to School A1, School C students enjoy fewer resources and less flexibility in terms of learning. Moreover, some School C students who came from single parent families lagged behind and were not able to engage with the activity. School B students were in a gifted and talented group, and from affluent families, but their learning was firmly controlled by the teacher. This could be ascertained from the way in which the students' handbag design project turned out. In addition, School B students told me that their parents did not like it if they were given a task which was not related to their studies. Moving on from these findings, which related to the characteristics of the students, family context, and different learning attitudes, I started to consider

wider socio-cultural factors. Some current UK research on creativity in education, such as that of Craft (1997, 2000, 2001b, 2005a, 2005b), Jeffrey and Woods (1996, 2009), and Cropley (2004), is less concerned with the impact of students' family background and school culture on students' creative performance. I therefore also used a socio-cultural perspective to scrutinize the development of students' creative performance within their learning activities.

3.   To survey the relation between **parents' socio-cultural background and their perspectives of creativity**

The third concern of my research was to explore the role of parents. The role of the parents is crucial, as a scholar (SC2: LDW) stressed in an interview: "two factors which inhibit the development of creative education in Taiwan are parents' attitude and the entrance examinations." Numerous teachers told me that parents cared more about their children's achievements than about creativity. As I argue above, in the three pilot cases the parents' socio-cultural backgrounds were reflected in their children's attitudes to learning and in the schools' cultures. It is therefore important to look at parents' attitudes toward creativity. It is often a hidden constraint on teachers and on children in relation to creative practice.

4.   To investigate **policy-makers' intentions around developing creative education**.

The fourth concern of my research was to explore the delivery of the creative education policy. Criticisms of creative education policy delivery were made by the same scholar (SC2: LDW) as cited above: "the current implementation of creative education is like a gust of wind which is not sustainable; and holding festivals is not real creativity." There were also various criticisms from interviewees in the pilot study regarding policy implementation. Therefore, it is necessary to understand policy-makers' explanations regarding the development of creative education, and then I decided to interview policy-makers responsible for the *Creative Education* White Paper.

5.   To suggest the **multiple methodologies** that would encourage an accessible approach to researching on creative education.

A further research aim was to design research methods capable of exploring barriers and enabling factors in creative education. As I explained in Section 1.5.1, in Taiwan the majority of creativity research is focused on designing pragmatic programmes and toolkits for teaching, and on designing the various indicators for assessing creativity. Therefore, as a scholar (SC11: HJC) emphasized in an interview, there is a growing demand for proper research methods for investigating the process of creative teaching and learning: "it is difficult to evaluate the process of creative teaching and learning, largely due to the shortage of appropriate instruments and framework in Taiwan". Therefore, I will suggest multiple methodologies that may provide an accessible approach to research on creative education. In the next section, I introduce my research framework in relation to sampling, access to schools, and also to ethical issues.

3.3 Research framework

In this section, I introduce the ethical strategy I used in gaining access to schools and interviewees. I discuss issues such as informed consent, and also the research relationships developed following the lessons learned from my pilot study. I go on to explain the advantages of using a case study approach as my main research strategy. Finally, I demonstrate the sampling strategies I used and discuss the process whereby I selected the three case studies.

3.3.1 Ethical issues and gaining access

Ethical issues, as Cohen *et al*. (2007, p. 51) note, "may stem from the kinds of problems investigated by social scientists and the methods they use to obtain valid and reliable data", so that each stage in the research sequence raises different ethical issues. My research involved four key subjects, including teachers, students, parents, and policy-makers. The main sites of my fieldwork were in various classrooms. This also involved participant observation, for which I needed to get permission from the teachers, students, and parents. Two interesting pilot interviewee transcriptions convey the difficulties and complexity in getting access to these sites and conducting interviews. One professor had been running innumerable educational research projects, but he pointed out that it was still not easy for him to find a stable class for a case study:

It is difficult to find a case study for my current project, due to the need for classroom observation. The reason that I can get into this class is because the teacher was my previous Master's student […] However, we had to change our focus in the class once, because the teacher received some opposition from the head-teacher and parents. (Interviewee, SC2: LDW)

Another example came from the teacher in School C. She pointed out four possible reasons why the majority of teachers are less likely to accept researchers whose research involves participant observation:

First, the teacher does not like to be stared at; second, the observation disturbs the students and might interrupt their attention; third, the students might say they like researcher more than they like their teacher; fourth, the teaching would become a performance due to observation. (Interviewee, T3: CYH)

Through the lessons gained from the pilot study, I developed a three-step ethical strategy for finding new possible case studies for further empirical study. The first step was to get the teacher's permission, and so I prepared an introduction file for the teachers, outlining the purposes, contents, methodologies, and schedule of my fieldwork. This was to help the teachers to understand the nature of my research. I also enclosed my school letter and a reference letter from my supervisor that further helped to establish my credentials. I also stated in the introduction file the participant's right to withdraw. As Cohen *et al.* (2007) suggest, the principle of informed consent arises from "the subject's right to freedom and self-determination", which protects and respects a participant's right to refuse to take part in or to withdraw from the research.

It was important to attract a teacher's interest at the meeting stage. I therefore explained my research approach, demonstrated its uniqueness, and highlighted the benefits that might derive from it. I was like a professional trader making a pitch for my research. As Cohen *et al.* (2007, p. 55) have articulated, the best chance for a researcher to gain access and acceptance is for him or her to

"present their credentials as serious investigators and establish their own ethical position with respect to their proposed research". I tried to gain permission early on in my discussions with the teachers, enabling smoother communication and ensuring awareness of possible risks, negative outcomes, and opposition. However, there were also two instances in which teachers decided to withdraw from the research. The first teacher withdrew before the start of activity. The main reason given was because he had been promoted to a new position and so he did not need to teach. He then asked me to pay a fee to observe his teaching if he were to take part in my fieldwork. This violated the "voluntarism" (Cohen *et al.*, 2007, p. 52) aspect of my research and I therefore decided not to use him for a case study. The second teacher withdrew in the middle of activity, because he complained that the method of students using diaries created extra work for them. He asked me to use his learning sheets instead of my diary to record the students' learning process. This conflicted with the validity of my research, and so I discontinued my observation and wrote off the associated data. The tension between the teachers and myself, as Kimmel (1988) describes in his own research, meant that, whatever my ethical stance, there may always be unknown, unforeseen problems and difficulties lying in wait (as cited in Cohen *et al.*, 2007, p. 62).

The second step of my ethical strategy was to get students' permission and cooperation after I was introduced to them by the teacher in the classroom. I always entered the classroom once or twice before the start of the activity, in order to let the students get used to me sitting in the classroom with them and so that the students might see me as a friendly and non-threatening researcher rather than as a stranger or an inspector. I also explained my methodologies to the students and encouraged them to devote attention to the activity. The third step of my strategy was to get parents' permission through the teacher. I wrote a brief letter which outlined my research and my background, and the teacher then attached my letter to the family contact booklet to inform the parents.

Another fieldwork site was interviews with policy-makers. The majority of the policy-makers were also well-known university scholars; hence, it was often very difficult to make contact with them. However, my experiences from the pilot study

prompted me to get in contact with the director of the policy-making committee first. When I had the opportunity to interview the director, I asked him to be my referee and to recommend two other policy-makers for me. Therefore, the other two policy-makers would hopefully respect the director's recommendation, and then accept my interview request. I then used the same strategies to get further interview opportunities.

My research participants are all anonymous, and no details were included in the study that might allow for personal identification. I also made a promise of confidentiality to all the participants. As Cohen *et al.* (2007, p. 65) stress, "investigators keep faith with participants who have helped them." Finally, I made an agreement with my participants that the data would be used and published for research purposes only.

Research relationships, as Maxwell (2005) describes them, are relationships that allow the researcher ethically to gain the information that can answer her or his research questions. The importance of such relationships with the participants means, as Buchanan *et al.* (1988) suggest, that they can "get on" with each other. This is fundamental to the quantity and quality of data collected. My research relationships included teachers, students, parents, and policy-makers, and so I recognized that I was a crucial "instrument" in communicating with each participant. As Maxwell (2005, p. 83) suggests, "in qualitative studies, the researcher is the instrument of the research, and the research relationships are the means by which the research gets done."

Both in my pilot and empirical study, I always tried to spend more time with the teacher and the students in order to establish good relationships. For example, sometimes I stayed in the classroom during lunch-time to chat with the teachers and the students informally; this follows the advice of Buchanan *et al.* (1988), to establish "common ground" through casual conversation about mutual friends and interests, and to achieve this in a natural manner. I also liked to use the morning study time (8:00–8:40am) to talk with individual students about their diary. In addition, "interpersonal sensitivity" (ibid) was deployed in my interviews with parents and policy-makers, as they were relatively more sensitive and cautious about my questions. The effect of good relationships with the participants is

important, as Maxwell (2005) stresses, since these relationships have an effect not only on the participants in the study, but on the researcher.

Finally, because each participant's characteristics were different, it was not possible to please every participant, especially in classroom observation of students. My strategy was similar to Maxwell's (2005) idea of "design decisions", where I needed to reflect upon and review the particular decisions I made about my relationships with participants and the effects these could have on my research. I was keen to ensure that the students who had devoted attention to their diary and had understood the diary's sub-tasks. In order to optimize the reliability and validity of the data, it could be argued that I tried to play a neutral role here. For example, I made a lot of effort to encourage the students to take an interest in their diary, and to give them a sense of ownership over it rather than to regard it as my research instrument or as homework. I also tried to remember most of the students' work in the classroom. Once the students knew that I was taking notice of their work, it really enhanced their motivation and involvement. I adopted Stables' (2006, p. 143) "intelligent approach", which "accepted and acknowledged the reality of the research situation." I was aware that my presence and intervention would have a risky effect on the students being observed, and so I did my utmost to minimize this while gathering accurate data. I then tried to interact with students in an "entirely non-directive manner" (ibid).

3.3.2 Case study as a research strategy

This research project is a programme evaluation, with the aim of evaluating the design and practice of the *Pilot Plan of Developing Creative Education* (PPDCE). The purpose of programme evaluation, as Robson (2002, p. 202) suggests, is to assess the effects, effectiveness, worth, and value of something: "typically some innovation, intervention, policy, or practice". Robson also suggests that programme evaluations can be made by using experimental, survey, or case-study research strategies or some appropriate hybrid or combined strategy. I chose the case study approach as my own research strategy, following Yin's (2003a, p. 2) argument that a need for case studies "arises out of the desire to understand complex social phenomena". Robson (2002) also argues that:

Case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence. (Robson, 2002, p. 52)

There are four main reasons why I employed case studies as my primary research strategy. Firstly, one of the research aims is to undertake an "empirical investigation" into the tendency toward developing creative education within the Taiwanese "real life" context, by exploring complex social relations between teachers, students, parents, and policy-makers. Secondly, the case study approach enabled me to investigate the dynamic interactions in the practice of creative education. As Cohen *et al.* (2000) point out, case studies investigate and reveal the "complex dynamics" and "unfolding interactions" of human relationships in a unique situation. The case study approach also encourages a strong sense of realism and provides an in-depth account of events, relationships, experiences, or processes occurring in that particular moment in time and space (Denscombe, 2003; Wellington, 2000). One research aim, therefore, is to attempt to capture this sense of realism and to "portray as closely as possible what it is like" to be in a classroom, allowing the teaching and learning situations to "speak for themselves rather than to be largely interpreted, evaluated or judged by researcher" *(*Cohen *et al.*, 2000, p. 254). It could be argued that the presentation of my case study data from the classroom is akin to a "television documentary" (ibid).

Thirdly, the research aimed at capturing the dynamics of policy conflicts, teachers' dilemmas, parents' beliefs about education, and the creativity of students' performances. One of the main strengths of case study research, as Cohen *et al.* (2000) note, is that it establishes "cause and effect" in real contexts, and recognizes that context is a powerful determinant of both causes and effects. Therefore, it was hoped that case studies would enable me to interpret the practice of creative education in schools in an integrated way, rather than lose connections between research variables.

Fourthly, case study research relies on multiple sources of evidence, necessitating the involvement of a wide range of methodologies according to the

circumstances and specific needs of the situation; this is particularly important for understanding how things happen and why (Denscombe, 2003; Wellington, 2000; Yin, 2003a). As I previously mentioned, in Chapter Two, the creative process is often ambiguous and "wicked", and I could not rely on a single research method in order to understand creativity as a concept. Gillham (2000) suggests the use of multiple sources of evidence as a "key characteristic of case study research" because all evidence is of some use to the case study researcher: nothing is overlooked. Therefore, multiple sources of evidence enabled me to build up a picture of the different layers of evidence and then to piece together the whole story, and to recreate "the context and sequence of evidence in a way that enables the reader to see and understand the meaning of what is recounted" (Gillham, 2000, p. 22).

The most popular criticism of case study research concerns the applicability of generalizations which might be inferred from findings, although, as Wellington (2000, p. 91) argues, "the problem of generalization will of course depend on the nature of the case study itself and the choice of units." In contrast, Cohen *et al.* (2000, p. 185) suggest that "case studies, in not having to seek frequencies of occurrences, can replace quantity with quality and intensity, separating the *significant few* from the *significant many* instances of behaviour." Overall, therefore, the aim of my case study strategy was to illuminate "significance rather than frequency", which offered me "an insight into real dynamics of situations and people" (ibid). In the next section, I therefore demonstrate how I selected the samples in my case study.

3.3.3 Sampling strategy

In this section, I consider my sampling strategy process. My fieldwork included two phases: phase one revolved around the pilot study, which took place from September to December 2007; phase two comprised the empirical study from March to May 2008. The sites for both the pilot study and the empirical study were for the most part in Taipei City. The choice of Taipei City was not only because of its geographic accessibility, but also because of the variety of cases available. The Ministry of Education published the *Creative Education* White Paper in early 2002,

and mid-2005 it continued with a new project, named the "Local Creative Education Project", to encourage every local education authority to develop creative education with local characteristics. In early 2006, the Taipei City Government therefore announced that that year would be the "Creative Education Year", based on a vision of "Refined Taipei, Creative New City", and it then embarked upon a sub-programme titled "Refining Creativity in Teaching and Learning". There was a total of 29 primary schools which participated in this programme. These developments all enabled me to construct a sampling strategy, and they played an important role in how I identified the most significant cases from these 29 primary schools.

My sampling strategy was based on Flyvbjerg's idea of "critical and paradigmatic cases". Flyvbjerg (2001, p. 74) comments that it is still "incorrect to conclude that one cannot generalize from a single case", because this really "depends upon the case one is speaking of, and how it is chosen." He also suggests (2001, p. 77) that one useful strategy for choosing the "appropriate" case study is through defining a critical and/or paradigmatic case that allows for the generation of "information which permits logical deduction of the type" and/or helps "develop a metaphor or establish a school for the domain which the case concerns."

The first step of my sampling strategy was to target the primary schools that not only had participated in the "Refining Creativity in Teaching and Learning" programme, but had also engaged in actual long-term practices of creative teaching and learning in the classroom. Based on these two criteria, I excluded 13 schools that had simply run short-term creative science competitions, festivals, or had refurbished school space creatively. Eventually, the list of possible cases was cut down to 16 primary schools.

The second step of my sampling strategy was to handpick a range schools from these 16 possibilities through discussions with my interviewees, particularly the officials and policy-makers. They then identified five schools which they thought would be suitable for my research aims. These five schools therefore became the "critical cases", following Flyvbjerg's (2001, p. 79) criteria that "if this is (not) valid for this case, then it applies to all (no) cases". Also, as "paradigmatic

cases", they set the standard for the models of creative teaching published in the Taipei City official document. Through a number of meetings and negotiations with teachers from these five schools, I finally gained permission to conduct my empirical study in three of them. There were problems with the other two schools over the ethical issues which I previously mentioned in Section 3.3.1, and so I withdrew from studying them. Also, a sample size of three schools was appropriate due to constraints in terms of time and stress, and the limitations of research being carried out by a single person. Table 3-2 shows the details of the three schools which comprised my empirical study.

Table 3-2: The three schools which comprised the empirical study

	School A2	School D	School E
Status	experimental school	state school	experimental school
Catchment	advantaged area	advantaged area	advantaged area
Teacher	Mrs Wu	Mr Lee	Mr Lin
Length of service	27 years	4 years	20 years
Number of students	34	33	34
Year	6 (11–12 years old)	5 (10–11 years old)	6 (11–12 years old)
Class	ordinary class	ordinary class	ordinary class
Curriculum	Arts	ICT	Science
Project	Ceramic mug design	Personal website design	Simple mechanics
Duration of project	3 weeks 3 section (1 section = 40 mins)	7 weeks 7 section	9 weeks 9 section

Schools A2 and A1 (pilot study) were the same school, but the School A2 teacher, Mrs Wu, was chosen this time as she was recognized as a model Creative Teacher of arts and she had been an advisor for the "Creative Teacher Action Plan", which was one of the six action plans in the *Creative Education* White Paper. School D is the key school for ICT education in Taipei City, and the teacher, Mr Lee, was in charge of the establishment of Taipei City's creative education on-line resources website. This was directly funded from the "Creativity

On-line Data Base" action plan. The School E teacher, Mr Lin, was well known for his creative practices in science education and as a member of the Taipei City science education-counselling group, although he did not directly participate in the government action plans.

As regards the students' ages, the Creativity Diary was developed primarily for the older students to record their learning processes. In the pilot study, I found that the quality and validity of the students' diaries depended on their level of literacy, because the paper-based Creativity Diary requests the students to write down their thoughts and plans. For example, the professional vocabulary of business, as used for the spread tables and currency rates etc. in the investment activity in the pilot School C, meant that students needed to understand those terms in order to be able to write about them in their diaries. I also found that School A1 students showed stronger literacy skills in their diaries, because the expertise of their class teacher was in Chinese and creative writing. Based on the pilot study experiences, I focused on students aged 10 to 12 years, or between years 5 and 6 in primary school in Taiwan. The focus classes were randomly selected by the three specialist subject teachers, and I then needed to negotiate with the three classes' class teachers and the students. In terms of the case studies' duration, I was attempting to discern the dynamic interactions and the progress of creative teaching and learning, and so the case studies lasted for a minimum of 3 weeks. Regarding the validity and reliability of the three cases, I attempted to look out for the most significant scenarios for creative practice. However, I also acknowledged that the three cases were not representative for the whole of Taiwan, and that they show only how creativity works in these three critical and paradigmatic cases.

The interviewee list, which formed part of the empirical research, was itself defined by three key interviewees. The first key interviewee was an officer who was responsible for the administration of the *Creative Education* White Paper in the Ministry of Education. The second key interviewee was a director of the Advisory Office in the Ministry of Education. The third key interviewee was a scholar and a policy-maker who had been involved in the *Pilot Plan of Developing Creative Education* (PPDCE). These three key interviewees not only

recommended the related key actors who had been involved in the implementation of the *Creative Education* White Paper, but also became critical to my research as good referees introducing me to the other interviewees. The next section explains the development of the multiple methodologies I used both in my pilot and empirical studies.

3.4 Selection of data collection methods and instruments

In this section, I discuss my research methods and demonstrate the evolution of the research instruments which were used, including: (1) the semi-structured interview questionnaires for the policy-makers, the head-teachers, and the teachers; (2) the participant observation template; (3) the "attitude toward creativity" questionnaires for the teachers, the parents, and the students; (4) the students' Creativity Diary. I will here highlight several changes which occurred as a result of the findings of the pilot study.

Research Themes	Instruments
1. Policy Practice	1. Policy-makers semi-structured interview questionnaire 2. Head-teacher semi-structured interview questionnaire
2. Teachers' Dilemma	1. Teacher semi-structured interview questionnaire 2. Observation template 3. Teachers' and parents' attitudes to creativity questionnaire
3. Students' Creativity	1. Students' attitudes to creativity questionnaire 2. Observation template 3. Students' Creativity Diary

Figure 3-1: The outline of the research methods and instruments

3.4.1 Semi-structured interview

The value of using the semi-structured interview method in this part of the research was that it would, in the words of May (2001, p. 120), enable me to "yield

rich insights into people's biographies, experiences, opinions, values, aspirations, attitudes, and feelings". It was hoped, therefore, that semi-structured interviews would enable me to understand informants' thoughts on the development of creative education. As Cohen *et al.* (2000) note, the purposes of the interview as a research method are to gather data in "experimental situations", "to sample respondents' opinions", and then to test or develop hypotheses. Another advantage of using interviews as a method of data collection was that I could gather first-hand information based on emotions, experiences, and feeling.

In this way, I used interviews rather than questionnaires with officials, policy-makers, and with the teachers and head-teachers in the schools used for the three case studies, specifically because my research questions were focused on the individual's personal and emotional perspectives. Therefore, I preferred to have direct interactions with key informants to capture their unique experiences, values, and opinions. As Cohen *et al.* (2007, p. 352) reflect, interviews "are better than questionnaires for handling more difficult and open-ended questions", but, on the other hand, the varied degrees of structure in an interview will reflect the purpose of the interview itself. Cohen *et al.* (2000) suggest that

> *The more one wishes to gain comparable data, the more standardized and quantitative one's interview tends to become; the more one wishes to acquire unique, personalized information about how individuals view the world, the more one veers towards qualitative, open-end, unstructured interview.* (Cohen *et al.*, 2000, p. 270).

In this case, I attempted to gain an in-depth understanding of the key informants' various emotional and personal opinions, attitudes, and experiences, rather than gather data in a way that would encourage formulaic and standardized answers. Denscombe (2003) has observed on these kinds of benefits from the semi-structured interview:

> *The interviewer is prepared to be flexible in terms of the order in which the topics are considered and let the interviewee develop*

ideas and speak more widely on the issues raised by the researcher. The answers are open-ended and there is more emphasis on the interviewee elaborating point of interest. (Denscombe, 2003, p. 167)*.*

Semi-structured interviews also have the benefit of allowing the interviewee a certain amount of freedom in what they talk about, but within a structure that permits some comparability in responses for the researcher. May (2001, p. 123) indicates that a semi-structured interview "enables the interviewer to have more latitude to *probe* beyond the answers and thus enter into a dialogue with the interviewee".

These semi-structured interview schedules were designed to answer two of my research questions, concerning policy delivery and teachers' dilemmas (see Figure 3-1). The first drafts of the interview questionnaire had been tested on my pilot teachers and scholars, and these interviews became crucial for gaining effective access to the multi-layered nature of the responses. These initial interviewees reiterated some of the conflicts between the current education setting, parents' beliefs about education, and the creative education agenda. I then expanded my research questions to incorporate the policy level. Finally, I designed three parallel semi-structured interview questionnaires for officials and policy-makers, and for the three head-teachers and teachers from the case studies.

My interview questionnaires contained a series of open-ended questions, in order to probe interviewees' opinions in a deeper and flexible way, and to make a truer exploration of what the respondents really believe. The final interview questionnaire schedule for the officials, policy-makers, and head-teachers contained four major sections, while the final schedule of the teachers' interview questionnaire contained six sections. I interviewed the three teachers twice; the first interview was conducted before they had started the creative projects, and second was after the completion of the creative activity.

The first section (see Appendices 1-3) is related to each informant's personal background and his or her expertise and experiences. From the outset, I took, what May (2001, p. 131) has called, "the form of grand tour", such as asking

informants to give an account of their career history, life, and their workload, whether in the school or elsewhere. The atmosphere which I established was informal and conversational. This flexibility enabled me to explore the informant's personal interests and life experiences in greater depth, and to establish a good rapport in preparation for the following questions.

The second section (see Appendices 1-3) was designed to explore each informant's understanding of creativity, and whether they thought that creativity was important for schools, teachers, and students. In particular, I attempted to look at how s/he interpreted creativity and creative education. I also used a list of prompts, as Cohen *et al.* (2007) suggest is useful, for pressing for clarity and elucidation where necessary and for confirmation, particularly where issues were complex or vague. These prompts not only allowed respondents to identify with alternative opinions, but also served to clarify my questions.

The third section (see Appendices 1-3) was designed to explore issues around the development and implementation of the *Creative Education* White Paper. In respect of the implementation of creative education into schools, I asked the teacher/head-teacher whether s/he knew about or was involved in government initiatives; whether s/he got support from the government; and how s/he understood and promoted creative education. In respect of the development of creative education, I asked officials/policy-makers how they had shaped the *Creative Education* White Paper, how they had interpreted creativity and creative education in the White Paper, and how they enabled local actors to understand the meaning of creative education as outlined in the White Paper.

The fourth section (see Appendix 1) was for the teacher and aimed at the *creation* of a creative project by which s/he aimed to instil creativity into teaching and learning. Before the activity, I interviewed the teacher on issues relating to the plan and the idea of the activity, the pedagogy, and the measurement of outcome. The fifth section (see Appendix 1) concerned the teacher's own reflections on the creative project. I interviewed the teacher in question *after* the completion of the activity. It was hoped that these questions would enable the teacher to evaluate his or her performance, and also enable me to see whether the teacher had recognized the students' reaction and had noticed critical incidents related to the

creative process.

The sixth section (see Appendices 1-3) is about the *outcomes* of the creative projects and policy delivery. It focused on factors enabling or inhibiting creative practice in primary schools; conflicts between the current educational settings, parents' attitudes and beliefs concerning education, and the strengths and limitations of developing creative education in Taiwan. Finally, I asked officials/policy-makers whether, with the benefit of hindsight, they would do anything differently if they were given the opportunity to implement the policy again. For the complete questionnaires for the teachers, head-teachers, and officials and policy-makers, see Appendices 1–3.

3.4.2 Participant observation

Observation was a central method of my data collection strategy, due to my particular interest in classroom interaction. Zeisel (1984, p. 116) states that observing behavior is both empathetic and direct, deals with a dynamic subject, and allows observers to be variably intrusive. As I have already argued, creative education comprises the dynamic interactions between all participants. Therefore, by employing observation, my research encouraged an emphasis on "live" projects in varied classroom settings rather than an emphasis on what descriptions from interviewees or documental analysis would have delivered. Cohen *et al.* (2000) have highlighted the significance of observation as a useful methodological tool for trying to capture a more "realist" research approach:

> *Observational data are attractive as they afford the researcher the opportunity to gather "live" data from "live" situation. […] This enables researchers to understand the context of programmes, to be open-ended and inductive, to see things that might otherwise be unconsciously missed, to discover things that participants might not freely talk about in interview situations, to move beyond perception-based data, and to access personal knowledge.* (Cohen *et al.*, 2000, p. 305)

Observation enabled me to gather data directly; as Denscombe (2003)

observes, direct eyewitness evidence of events is distinct from accounts of what people say they do, or what they think. It became apparent through the literature research and the pilot study that creative teaching and learning constitute an on-going event, and so I felt it necessary to take part in the activities in order to gather first-hand information, rather than to rely on second-hand sources from informants' descriptions. Regarding the exploration of on-going behaviour, Bailey (1978, as cited in Cohen *et al.*, 2000, p. 188) has suggested that "in observation studies, investigators are able to discern on-going behaviour as it occurs and are able to make appropriate notes about its salient features"

As regards my role in the observation process, I acted as what May (2001, p. 155) describes as "the participant as observer" who "adopts an overt role and makes their presence and intentions known to the group". My participant observation in each creative project lasted approximately from one to 1.5 months, and as I was an observer I did not immerse myself totally in the activity. Cohen *et al.* (2007, p. 404) suggest that participant observation may be particularly useful in "studying small groups, or for events and processes", and "for researchers who wish to reach inside a situation". In my classroom observation, therefore, I attempted to act as a friendly "insider", in order to get as close as I could to the teacher and the students. Therefore, I had more conversations with them and interacted with the students in order to get insights into the culture of the classroom and into participants' relationships. Regarding my relationships with the teachers and the students, I always, as mentioned in the previous section, used the lunch and morning study times to utilize more time for getting along with my participants on a social level. Thus, this time enabled me to build relationships of trust with the teachers and the students, and then to facilitate access and hopefully to reduce reactivity. At the same time, I acknowledged that it possibly had an unforeseen effect on the teachers and the students.

In terms of my perception of my own observational role, I designed an observation schedule (template) which was a semi-structured observation template, in order to monitor "items" and make a record of them as occurred during activities. The function of my observation template was similar that suggested by Denscombe (2003, p. 194), in whose view an observation schedule

will "possibly eliminate the variations that will arise from data based on individual perceptions of events and situations", and it enabled me to "record data systematically and thoroughly". However, Denscombe stresses that "the value of findings from the use of an observation schedule will depend on how appropriate the items contained in the observation schedule are for particular situations" (ibid, p. 195), and how carefully the items are selected. This must therefore be a carefully monitored and "reflexive" part of the research process. I also acknowledge Seale's (2004, p. 306) criticism regarding the limitation of coding schemes, which "can be narrow, artificial devices that hinder thought, or they can contain the seeds of creative new insights".

My observations in this part of the research focused particularly on the practice of a creative project in the classroom. I mainly considered how the teacher carries out a creative project and instils creativity into a lesson, and what the students' reactions are. I then drew on the observation framework for "Understanding Technological Approaches" (UTA) (Table 3-3) created by Kimbell and Stables (2007). The UTA observation framework is designed to help in observing "learners in action, across the full length of projects derived from the teachers' regular way of working" (ibid, p. 142). In each project, the trained observers observe the selected four learners for literally every minute of the learner project and record what happens in five-minute time blocks (ibid).

Table 3-3: The UTA observation framework (Kimbell & Stables, 2007, p. 144)

name				narrative	Intentions	Manifestation	making
					generating	discussing	-cut
S	P	M	time		mod exploring	thinking aloud	-join
dir	sup				developing	looking	-fit
T	C	M			modify	drawing	-mould
					detailing	reading	-mix
					constructing	writing	-finish
					planning	listening	-base
					organising	waiting	-add
					investigating	arranging	preparing
					receiving	selecting	testing
					evaluating	measuring	cleaning up
					reviewing	making out	off task
					recording		
Observation forms- definitions					explaining		
Level of engagement	Teacher intervention		Issues child is dealing with		presenting		
S = Ststionary	dir = direction		T = Task issues		seeking help		
P = Podding	sup = support		C = Communication issues		intentionless		
M = Motoring			M = Making issues				

While the UTA observation framework focuses on the students, I adapted it for the purposes of my research focus, shifting the target from the students to the

teacher. The frequency of the observation depends on the teacher's teaching episodes, which may last 10 to 15 minutes. The beginning table (as below) of my observation template records general information about the activity, including the project's name, curriculum, participants, year group, and venue.

Project Name		Participants	Students /Teacher /Parents / Teaching Assistant	
Curriculum		Year Group		
Venue		Date		Sheet No

The following coding table for my observation template was designed to focus on the teacher's teaching process. The right side tick-box is drawn from the UTA coding framework (Kimbell & Stables, 2007). The first row of the right side tick box is about the level of learner engagement – the definition of the learner's behavior:

- **Stationary** – *going nowhere/off-task*
- **Poddling** – *in tick-over mode*
- **Motoring** – *fully engaged, making real dynamic progress*

(Kimbell & Stables, 2007, p. 295)

Time			
S	P	M	Teaching Process
W	G	I	1. setting a goal 2. stimulation 3. iterative practice & thinking 4. transition 5. completion
sin	inter	col	
dir	sup	n/a	

1. Level of learner engagement
   S = stationary
   P = podding
   M = motoring

2. Class arrangement
   W = whole class work
   G = group work
   I = individualised work

3. Teaching style
   sin = single way teaching
   inter = interactive teaching
   col = working collaboratively

4. Teacher intervention
   dir = direction
   sup = support

The second row on the right side tick-box is about students' forms of class organization, including (W) whole class work, (G) group work, and (I) individualized work. The third row of the right side tick-box is related to the teacher's teaching style and is designed for the teachers' approaches to interacting with students in the classroom. I identified three types of teaching style, as shown below.

- **Single way teaching** is a teaching style utilized where the teachers mainly used a whole-class approach, and worked using a very demanding or instructing style.

- **Interactive teaching** is a style utilized where the teachers employed diverse techniques or asked different questions in order to interact closely with students and to lead them in tasks.

- **Working collaboratively** signifies the teacher working together with either a group of students or with individuals, depending on the task, and where a teacher engages in certain types of exchanges with students.

The fourth row on the right side tick-box is about the style of teacher intervention and whether the teacher directed or supported the students' learning. In relation to the coding of the teaching process (the left side), I developed five phases:

- **Setting a goal**: The teacher introduced the goals and procedures of the activity at the start of the lesson. Sometimes the teacher set a goal or goals for the next lesson at the end of the current lesson.

- **Stimulation**: Stimulation refers to the extent to which a classroom atmosphere has "animation" and that students have enthusiasm for learning.

- **Iterative practice and thinking**: Kimbell *et al.* (1991, p. 17) see design and technology as a study that is essentially procedural and which uses knowledge and skills as a resource for action (I have discussed this in Section 2.5.4). I used iterative practice and thinking theory to code episodes where the teacher provided a period of time for the students to develop and shape their ideas and thinking.

- **Transition**: Transition relates to the short period of time it took to change one teaching episode into the next one.

- **Completion**: Completion signifies the end of the lesson.

In my observational studies, I also attempted to see what kind of teaching techniques the teacher would employ to stimulate the students' thinking and to enhance their creative learning. In the UTA observation framework (right side), the design "intentions" of learners are related directly to dimensions of the design process, and the "manifestations" of learners' intentions are related to what they

are doing (Stables, 2006). The UTA's focus is on learners' actions, but my interest is in manifestations of teachers' teaching practices. I then developed another tick box (as below), which contained various techniques to record the teacher's teaching pedagogies.

Techniques		storytelling	award	music
questioning	challenge	competition	dance	visits
metaphor	analogy	presentation	practice	drawing
experiment	observation	imagination	modelling	n/a
role play	drama	brainstorming	other	

The bottom space of my observation template was used for descriptive commentary. The importance of a narrative free text, as Stables (2006) notes, is that the UTA's categories and pre-coding framework make it both easy and quick to gather a considerable amount of quantitative data, and the narrative and qualitative data which contextualized the coding allow researchers to cross moderate the coding. For instance, I was able to note down extra resources which the teacher used in the lesson and any unpredictable critical incident during the lesson. I also noted the unusual or non-routine incidents, as Cohen *et al.* (2007, p. 404) stress that these "offer the researcher an insight that would not be available by routine observation".

Time				Techniques		storytelling	award	music
S	P	M	Teaching Process	questioning	challenge	competition	dance	visits
W	G	I	1. setting a goal 2. stimulation	metaphor	analogy	presentation	practice	drawing
sin	inter	col	3. iterative practice & thinking 4. transition	experiment	observation	imagination	modelling	n/a
dir	sup	n/a	5. completion	role play	drama	brainstorming	other	
Resource				**Critical incident**				

Regarding issues of reliability, I was a single observer during this research, and so there were no problems relating to differing interpretations by individual researchers. The pre-coded framework provides a clear target in relation to what should be noted down, but even so, I also filmed every lesson, which enabled me to watch every section repeatedly and to catch subtle interactions which I might not have noticed originally. I will discuss how I analyze the observation data, including pre-coding categories and films, in a later section. For the complete observation template, see Appendix 4.

3.4.3 Three respondents' attitudes to the creativity questionnaire

One of my research aims was to investigate the teachers', the students', and the parents' *perception* of creativity. It was therefore considered that a questionnaire was the most appropriate method to use, in conjunction with large numbers of respondents in various locations. It was necessary to consider the amount of time that would be consumed and the limited costs which would be involved. Denscombe (2003, p. 159) has observed that "questionnaires are economical, in the sense that they can supply a considerable amount of research data for a relatively low cost". More importantly for my own research, a questionnaire was deemed to be the most appropriate method for collecting data about a respondent's opinions. As Denscombe (2003) stresses:

> *Opinions, attitudes, views, beliefs, preferences etc. can be investigated using questionnaires. […] Respondents are required to reveal information about feelings, to express values, and to weigh up alternatives in a way that calls for a judgement about things rather than the mere reporting of facts.* (Denscombe, 2003, p. 146)

The questionnaire design drew upon a similar methodology which was first developed in the Pupils' Attitudes Towards Technology (PATT) research project (Raat *et al.*1987); this project contained a set of statements about creativity. The questionnaire developed for my own research provided four possible responses to a given statement: "strongly agree", "agree", "disagree", and "strongly disagree", and respondents could indicate their preference on this scale by putting a tick on

that description which is closest to what he/she feels. The advantages of using rating scales in research have been highlighted by Cohen *et al.* (2000):

> *Rating scales […] combine the opportunity for a flexible response with the ability to determine frequencies, correlations and other forms of quantitative analysis. They afford the researcher the freedom to fuse measurement with opinion, quantity and quality.* (Cohen *et al.*, 2000, p. 253)

The wording of the questionnaires is of paramount importance as regards effectiveness, and the "pretesting" is therefore crucial to the questionnaires' success (Cohen *et al.*, 2000). My questionnaire was first designed in English; I then translated it into Chinese and had it pretested in my pilot schools. My pilot study enabled me to test the clarity of the questionnaire items and layout; to avoid ambiguities or difficulties in wording; and to gain feedback from respondents. For example, it was discovered that a more visual layout with elements such as colors, pictures, or cartoons was more effective in attracting the pilot students' interest and attention to the questionnaire.

The main body of the questionnaire that I used with the three respondents included eight clusters or themes: "what does creativity mean to you?"; "what are creative people good at?"; "who can be creative?"; "are girls and boys equally creative?"; "what it is like being creative?"; "what is the relationship between creativity, achievement, and employment?'; and, "what is creativity in teaching?" Some of these themes were designed to contrast with each other, and they were presented in a random order.

The first cluster (as below) included three questions designed to see how the respondents understood the term "creativity" and "what school subject they think is the most/less potential for developing creativity".

1. What does creativity mean to you? Please tick the three best descriptions	2. Which two school subjects do you think offer the most potential for developing creativity? List in order
Imagination ☐ Design ☐ Creation ☐ Crazy Idea ☐ Taking risks ☐ Unusual idea ☐ Problem finding ☐ Breaking rules ☐	(1) (2) 3. Which two school subjects do you think offer the least potential for developing creativity? List in order (1) (2)

The second cluster (as below) was designed to see if the respondents thought that creative people are mainly good at a few specific areas. I used the fairy tale of "Snow White" to describe the varied characteristics of the Seven Dwarfs, who were each good in different skill areas. However, an entirely word-based approach might have been off-putting for many respondents, particularly children (Cohen *et al.*, 2000). This had been apparent from my pilot study, where numerous students' questionnaires had not been completed. For my empirical study, therefore, I designed a PowerPoint (photos 6–7) presentation for the students, in order to attract their attention to the questionnaire. I also explained the questions to them, rather than just asking them to fill in the questionnaire. Cohen *et al.* (2000) suggest that "non word-based techniques" such as visual information or projective pictures/diagrams are not only a matter of being appealing to respondents, but also a matter of making a questionnaire reliable and valid by being accessible to the respondents. The PowerPoint pictures significantly enhanced the students' interests in the questionnaire, and promoted better response rates.

Cluster 2: What are creative people good at?

Seven dwarfs, please tick **THREE** you think they are most creative
☐ 1st Dwarf is very clever and has high IQ
☐ 2nd Dwarf is good at drawing and always gets championship.
☐ 3rd Dwarf likes playing music and can make some lovely songs.
☐ 4th Dwarf is good at study and always gets full marks
☐ 5th Dwarf is good at math and can try different ways to solve the math questions.
☐ 6th Dwarfs likes playing baseball and can throw various unpredictable 'breaking pitch'.
☐ 7th Dwarfs likes playing computer games and can try different ways to win the games.
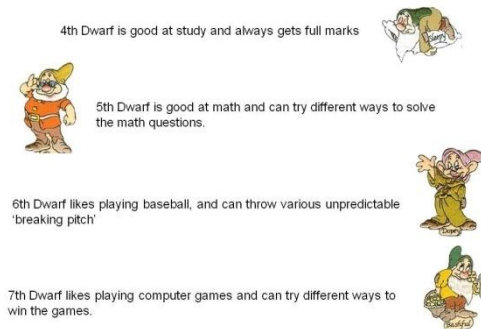
Photo 6   Photo 7

The third cluster (as below) was designed to see if the respondents connected creativity with a high IQ or with people who were born creative. The fourth cluster (as below) is designed to see if the respondents think girls and boys are equally creative, particularly with regard to their capacity for imagination and taking risks.

	Strong Agree	Agree	Disagree	Strong Disagree
Cluster 3: Who can be creative?				
3.1 Everyone can be creative in their own way.	☐	☐	☐	☐
3.2 The high IQ students are more creative than ordinary students.	☐	☐	☐	☐
3.3 Some people are just born creative.	☐	☐	☐	☐
Cluster 4: Girls and boys?				
4.1 Boys and girls are equally creative.	☐	☐	☐	☐
4.2 Boys are more active than girls in taking risks.	☐	☐	☐	☐
4.3 Girls use their imagination more than boys.	☐	☐	☐	☐

The fifth cluster (as below) was designed to see what the respondents thought about being creative. I particularly wanted to explore how the respondents regarded creative students' behavior (Question 5.1-5.3). In my pilot study, one interviewee who was a father and also a publisher of child's books suggested that the stereotype of the creative child is always related in Taiwan to mischievous and undisciplined behaviour. Interestingly, "rule-breaking" is a key element of being creative, an issue which I discussed earlier in Chapter Two. However, the translation of "rule-breaking" in Chinese is a less positive term, which means more precisely "not following formal regulations". With this in mind, I then rephrased the term as "breaking original rules". The first three questions enabled me to assess the respondents' tolerance of discipline. The rest of the questions concerned what

being creative means for a person, whether a person or his or her children can be creative, and how creative ideas are generated.

	Strong Agree	Agree	Disagree	Strong Disagree
Cluster 5: What is it like being creative?				
5.1 Creative students are mischievous and high spirited	☐	☐	☐	☐
5.2 Creative students don't like following school disciplinary codes.	☐	☐	☐	☐
5.3 Being creative are breaking original rule.	☐	☐	☐	☐
5.4 Being creative is a performance of self-actualization and confidence.	☐	☐	☐	☐
5.5 Being creative is difficult for my child/students (me).	☐	☐	☐	☐
5.6 Creative ideas just happen dramatically.	☐	☐	☐	☐
5.7 Creative ideas need to be fermented continuously long time.	☐	☐	☐	☐

The sixth and seventh cluster (as below) was designed to see if the respondents thought that creativity is good for achievement and future employment. One teacher said in one of the pilot interviews that "the government should emphasize that creative education can help students to get high marks and to have competitive advantages, so that the parents would support creative education." His comments implied that creative education has a pragmatic and utilitarian value. These questions enabled me to see how the respondents "valued" creativity.

	Strong Agree	Agree	Disagree	Strong Disagree
Cluster 6: Creativity and achievement				
6.1 My child/students (I) can get high marks without being creative.	☐	☐	☐	☐
6.2 Creative children/students always get high marks.	☐	☐	☐	☐
6.3 Creative children/students have more competitive advantages.	☐	☐	☐	☐
Cluster 7: Creativity and employment				
7.1 Creative people can find a good job in the future.	☐	☐	☐	☐
7.2 The more creative you are, the higher you gat paid at work.	☐	☐	☐	☐

The eighth cluster (as below) was designed to see what the respondents thought about creative teaching. Questions 8.2 and 8.7 were designed to reveal the relationships between the teachers and the students; whether the students thought that the teachers had a preference for the disciplined students, and whether the teachers notice their creative performances. Question 8.8 was inspired by my pilot study, where some students said to me that their parents would scold them if they did something aside from the study of their core subjects. So it was felt important to see whether the parents encouraged their child to be creative in a broader sense and then to compare the extent to which parents' responses matched students' responses.

Cluster 8: Creativity and teaching	Strong Agree	Agree	Disagree	Strong Disagree
8.1 In the current education system, my children/students (I) can become more creative in school.	☐	☐	☐	☐
8.2 I (teachers) like disciplined students more than creative students.	☐	☐	☐	☐
8.3 My children/students (I) can be more creative outside of school.	☐	☐	☐	☐
8.4 In the current educational system, school hinders (my) children's/students' creativity	☐	☐	☐	☐
8.5 Developing creativity is wasting time.	☐	☐	☐	☐
8.6 Creative teaching can raise (my) students' learning interests.	☐	☐	☐	☐
8.7 I (my teachers) can see (my) students' creative work.	☐	☐	☐	☐
8.8 I (my parents) always encourage my child (me) to be creative.	☐	☐	☐	☐

There was one particular section in the parents' attitude to creativity questionnaire which included questions related to the parents' socioeconomic background; these were related to issues such as age, educational status, occupation, and the child's educational budget. This section was designed to show the relations between the parents' perception of creativity and their socioeconomic background. This section also contained two questions about whether the parents had heard about the Creative Education White Paper and whether they knew how this initiative had come about. For the completed parents' attitude to creativity questionnaire, see Appendix 5. The dispatch of the parents' questionnaires was attached to the family contact booklet, and the class teacher helped me to remind the students that returning the questionnaire was very important to my research. This substantially increased the level of return.

The questionnaire on teachers' attitudes to creativity contained an extra section which was designed to explore their general background and to consider factors such as age, educational status, and seniority of service. This section also contained questions to see whether they had heard about the *Creative Education* White Paper; whether they had received support or resources from government; and whether they understand the idea of creative education if they have not received any support from government. For the completed teachers' attitudes to creativity questionnaire see Appendix 6.

The dispatch of the teachers' questionnaires was comparatively difficult. My three case study schools are renowned in Taipei City, so they always receive a variety of postal questionnaires from everywhere. Teachers are therefore very often unwilling to fill in questionnaires. In this situation, one of the teachers in my pilot research suggested that I should give away a ballpoint pen for each

completed questionnaire as an incentive to the teachers. As Cohen *et al.* (2000) note, the use of incentives can help to reduce the non-response rate. This seemed a reasonable suggestion to me and the price was affordable.

Overall, it was very important for me to get the head-teachers' support. For example, the head-teachers at Schools A2 and D helped me to introduce and deliver my questionnaire to the teachers in a school meeting. So, the head-teachers were my referees, rather than the subject teachers. Whilst I tried to avoid relying on these relationships too much, sometimes it was unavoidable. In School E, for instance, I had to rely on the case study teacher (Mr. Lin) to deliver my questionnaire. This meant that Mr Lin used his personal relationships to ask teachers who he knew to fill in the questionnaire; this meant that he then owed them a favour. While I found this situation difficult, this is one example how a researcher can avoid causing too much trouble for the subject teacher.

In the questionnaire on students' attitudes to creativity, I designed a section with which to explore their learning attitudes, particularly in relation to their dispositions towards problem solving and solutions. From my three pilot cases, I found that the majority of students in School A1 (class uniform design) were learning independently where they liked; for instance, they could practice T-shirt printing on their own, rather than relying on help from the adults (arts teacher and parents) (see Photos 8–9). In contrast, the students in School B (handbag design) were highly dependent on the teacher's help (see Photos 10–11). The students in School C (investment) tended to work cooperatively (see Photos 12–13). These interesting findings inspired me to investigate students' attitudes towards learning and to see whether they liked to work independently, cooperatively, or to rely on adults' help or textbooks.

Photo 8   Photo 9   Photo 10

Photo 11

Photo 12

Photo 13

I then drew on an episode from the story of *Harry Potter*, where Professor Slughorn asks the students to make a "surprising magic potion". The three questions were based on an imaginary situation where students are asked to visualize themselves in a magic potion class. Students needed to follow my PowerPoint presentation (Photo 14-17) in order to imagine that they were going to make their own "surprising magic potion". The first question asked the students how they would start to produce their own magic potions, and they needed to choose one from six options (Photo 15). In the first question, I particularly wanted to find out whether students were able to try something different or whether they depended on textbooks or a formula. It may be that for cultural reasons Taiwanese students rely on textbooks and rarely pass beyond the boundaries set by a textbook. Therefore, the first question attempts to find out students' attitudes to taking risks.

Photo 14

Photo 15

The second question asked students how they would solve unanticipated problems during the experiment process. They needed to anticipate that some unexpected mistakes would happen during the process, and they were asked how they would deal with those problems, by choosing two options from a choice of six

(Photo 16). With the second question, I particularly wanted to see whether students were better able to cope with challenges independently, or whether they preferred to rely on help from the teachers. The third question revolved around asking students how they would deal with unsuccessful outcomes. They needed to anticipate how, if their magic potions did not work, they would deal with that situation. They were again asked to choose two options from a choice of six (Photo 17). In the third question, I particularly wanted to explore whether students had the enthusiasm to persist after experiencing failure.

Photo 16   Photo 17

In Taiwan, it is common in schools that the majority of students attend cram schools or have private tutors after school. These extra lessons normally focus on core subjects such as maths, English, and science (the popularity of cram school will be further discussed in Chapter Four). This trend occupies a great deal of the students' time. Some of the students in the pilot study told me that they barely had time to write their Creativity Diary (a methodology that I will introduce in next section), because they had to attend various cram schools almost every day, even at the weekend. I realized that this trend has put pressure on primary school students, so I added an open-ended question at the bottom of the questionnaire to ask students to write down how many cram schools and private tutors they attend or have, along with the subjects, times, and dates. This question was also linked to a question in the parents' questionnaire relating to a child's educational budget. Both questions enabled me to consider the parents' economic status, and to scrutinize which subject parents were most prepared to invest in for their children.

In relation to the delivery of the students' questionnaire, I asked the class teacher to give me a complete period of time, such as a free lesson or lunchtime,

so that the students were able to pay attention to filling in their questionnaires. It was also important to be around the students during these times, as I could then explain the questions to them or answer their problems immediately. Finally, I checked every student's questionnaire to check for missing responses and unclear words. For the complete questionnaire for students' attitudes to creativity, see Appendix 7.

3.4.4 The students' Creativity Diary

A significant contribution to my study was the development of the Creativity Diary for recording the students' capacity for creativity. As mentioned earlier, in Taiwan, there are no clear criteria for teachers to recognize and record students' capacity for creativity. I was particularly interested in the subtle processes of how learners developed creative ideas, rather than just the students' products at the end of their activity. The format of my Creativity Diary was drawn from Kimbell *et al.*'s (2004) methodology, in which they designed a folding booklet to record the students' design processes and to assess their creativity and capacity for innovation within design and technology. As Stables and Kimbell (2006, p. 317) stress, the response booklet helps learners in both generating and collecting evidence.

The concept of my Creativity Diary was similar to Rogers's and Clare's (1994) Process Diary, which is a reflection tool for students working in D&T within Key Stage 2 and 3 in the England. Their intention was to develop a semi-formal tool which would promote the development of reflective practice among students and which supported teachers in assessing their students' experiences and understanding. Rogers and Clare suggested two significant roles for the Process Diary. Firstly, they pointed out that the Process Diary could "help teachers in reviewing and assessing students' capability as demonstrated by those activities, as well as informing summative assessment" [7] (ibid, p. 22). Secondly, the Process Diary can be used as a "reflective medium" which supports "a pupil in reflecting on her/his own experiences, and through that reflection moving on to future activities more effectively and appropriately" (ibid). The role of my Creativity

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[7] Summative assessment, as Pollard (1996) defines it, is the same as assessment procedures, often at the end of a programme of teaching and of a consistent or standardized type, used to assess learning outcomes.

Diary is also for use as a reflection tool of benefit both to teachers and to students in reviewing their performances and work. The advantages of the Process Diary have also been pointed out by Rogers and Clare (1994):

> *By using a Process Diary a record of reflections can be built up representing evidence of the journey taken by a pupil. This informs the assessment of a pupil's performance, crediting the processes undertaken or explored, evidencing reflective practice and demonstrating the understanding of the procedures followed in designing, making and evaluation.* (Rogers & Clare, 1994, p. 23)

Rogers and Clare "see this as making the conflict between product and process redundant as far as both formative[8] and summative assessments are concerned" (ibid, p. 23). In their initial findings, they indicate that the Process Diary is a "motivator" and an "aid" to mediating learning and directing thinking. They suggest that evidence is emerging that "children are better able to articulate the problems they encounter through keeping the diary" (ibid, p. 26). My own Creativity Diary contains a series of sub-questions which are intended to act as catalysts for students to review their ideas through the process. In order to let students have a sense of ownership of the creativity diary, Rogers and Clare stress the "Process Diary must allow pupils to externalize their personal understanding and communicate with themselves" (ibid). With this in mind, I then left some spaces for learners to design according to their personal style and I encouraged them to see the Creativity Diary as their portfolio of creative products.

Rogers and Clare (1994, p. 27) have noted that "the communications between the teacher and the pupils were more effective using the diary." In primary school, for example, it is hard for one teacher to take care of about 30 to 35 students at the same time in an activity, so my Creativity Diary provides a potential platform of communication between teacher and students. Teachers are potentially able to scrutinize every learner's Creativity Diary in order to see individual needs, progress, and barriers. The format of my Creativity Diary was

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8 Formative assessment, as Pollard (1996) defines it, is continuous assessment, often in diverse, non-standardized forms, made for the purpose of informing ongoing teaching.

constructed in the format of four to five semi-formal sheets of A4 pages. The following sections explain the process of using the Creativity Diary in more detail.

My role as observer started at the beginning of the creative projects. I prepared the first page of the Creativity Diary for each student. I did not give the complete Creativity Diary to the students, in case I might have to adjust the content of the diary, depending on feedback from the teacher and students. At the head of the first page (as below), it required students to write down their personal details. There was also space for them to draw a picture of themselves.

My Diary
(Students Self- reflection diary)

My School is

My Class is

I am in Year

My name is

This is me
(Draw or Stick a picture of yourself here)

Steps 1 to 3 prompt the students to record the initial thoughts of their work, when the teaching is in the "stimulation stage". The phrase of each step, as Kimbell *et al.* (2004, p. 16) note, "standardizes the focus of the response", but "never to specify the form of the response". Following their suggestions, I translated the words for "record" as "put down", and avoided using the words "write" or "draw", encouraging the students to "use whatever form of response seems most appropriate to them" (ibid) so long as it is understandable. If there was not enough space for someone, I prepared extra sticky notes for them to use if needed. As for the descriptions of the steps, these depended on the topic of each creative project. For example, for the mug design project (School A2), the first step is 'jotting down notes on your thoughts about what your dream mug is like'; the second step is 'giving a theme/name to your mug'; and the third step enables the students to draft their ideas.

1	Jot down notes on your thoughts about what ST is like
2	Put down your first idea here
3	Use this space to jot down all your ideas, notes and sketches

Step 4 (as below) prompts the students to shape their initial ideas into practical form in the teaching stage, through iterative thinking and practice. The students can complete this question either in the lesson or at home. Steps 5 to 7 (as below) are the "photo story-line", which, as Kimbell *et al.* (2004, p. 62) stress, "had a motivating developmental power". They stress the power of photographs for this kind of research:

- *Regular snap-shots of work in progress operate as a very powerful motivator for students, who can see the progress that they are making.*

- *If students have a solid photographic record of a model they are working on, they are more willing subsequently to take it apart and develop it into a further stage. They have not "lost" the original, but rather have gained by making another step forward.*

- *Teachers and examiners can subsequently more easily reconstruct the process that students have been through based on the "story-line" of images.*

(Kimbell *et al.*, 2004, pp. 62-63)

I took photos of every student's work approximately every 10 to 15 minutes throughout the activity. Due to technical limitations, I printed these photos out at home, and, for the next section, I then gave them to the students to paste down the spines of their diaries. These photos enabled the students to reflect on the progress they were making and encouraged the development of their ideas. Kimbell *et al.* (2004) stress that the photo story-line was started as a recording device for assessment purposes, but grew into a "motivational aid" with developmental value. Steps 8 to 9 (as below) are about self-review and peer review at the end of the first half of the activity. The aim of peer review is "to support and enrich the *individual* work of the team members" (Kimbell *et al.*, 2004, p. 17). Although there was only one space for peer review, I asked the students to find at least two peers to comment on their work in the diary.

5 Stick your first photo here

4 How will you assemble and disassemble your module

6 Stick your second photo here

7 Stick your third photo here

8 What do you think of your ideas so far?

9 What does your partner think of your ideas so far?

Step 10 prompted the students to reflect on the strengths and weakness of their evolving work at the beginning of the second half of the activity. This can be useful in enabling the students to notice the possible problems in their work and to envisage possible solutions. The photo story-line continued from Step 11 to 13. Step 14 enabled the students to defend their work and to write down the advantages of their work at the completion phase of the activity. Step 15 invited "students to fast-forward in their minds to a point at which their ideas and their solutions where fully complete and installed in context" (Kimbell *et al.*, 2004, p. 19). This was an opportunity for the students to "stand back from the prototypes on which they had been working, to think about refinements" and to give the teacher and me "a fully worked out description of a final version" (ibid).

When the creative project was finished, in order to evaluate project success it was crucial to look at the students' reflections on their activities. On the final page, which included Steps 16 to 21, I particularly wanted to see students' feedback and critical comments about their work and associated activity. The final

two questions were designed to get feedback about the Creativity Diary and what students saw as the most/least helpful thing for them. The format and sub-questions I used in each case was different, for the detail see Appendices 9-11.

I also encouraged the students to use differently colored pens to write their new reflections on the diary during the course of the activity. As Kimbell *et al.* (2004, p. 18) have stressed: "reflective / evaluative thinking is not something that only happens at the end of the project but is essential throughout the development process." I felt that using distinctly colored pens was helpful in enabling both the teacher and me to see the students' deeper comments on the development process and their further efforts to formulate ideas.

16 About this activity

17 About my work

18 What new things you have learned from this activity?

19 In your opinion, who's work is the most creative? Why?

20 Three most helpful things to me
About this diary

21 Three least helpful things to me
About this diary

3.5 Data analysis framework

In this section, I introduce the numbers involved in the qualitative and quantitative data collection and discuss the coding system used for processing and presenting my observation data. I also explain the format of my observation chronology. Finally, I introduce the strategy I used with which to visualize the quantitative data.

3.5.1 Qualitative data

My qualitative data included a total of 36 interview transcriptions (7 officials, 11 scholars, 3 head-teachers, 5 parents, and 10 teachers), three activity observations, and 97 students' Creativity Diaries (for details see Appendix 8).

I began by transcribing every interview from the audio recording, although Cohen *et al.* (2000) stress that transcriptions are "decontextualized" and abstracted from the social, interactive, dynamic, and fluid dimensions of their data. The design of my interview questionnaire was "pre-coded"; that is, each response could be directly categorized into my "tree nodes" through NVivo software (Figure 3-2). The content of my tree nodes was derived from my research questions and emerged in patterns from my transcriptions. Such nodes, in Cohen *et al.*'s (2000) words, are "the ascription of a category", and this enabled me "systematically to go through the data". However, there was a practical problem regarding my tree nodes, because the interview transcriptions were in Chinese. I first sought out the nodes and patterns in Chinese, and I then translated those transcriptions into English. This might have limitations, in that the tree nodes were based on my interpretations and judgments. However, my tree nodes were structured and some key nodes were illuminated by interviewees. This minimized the limitations presented by the practical problem and ensured that my data was faithfully represented and appropriately used.

Figure 3-2: Tree nodes for interviewee transcriptions

The next stage in the analysis was to deal with a large amount of observation videos and student Creativity Diaries, in order, as in LeCompte and Schensul's (1999, p. 3) description, to "turn big piles of data into smaller piles of crunched data." The challenge was to transform video data, field notes, transcripts, and the observation template into a readable and comprehensible level. Miles and Huberman (1994) suggest that qualitative data analysis consists of three fundamental activities: data reduction, data display, and interpretation and verification. In relation to data reduction, I used my research questions as a filter to reduce the data. This is a process that has been noted by Miles and Huberman (1994, p. 10), who suggest that data reduction refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data.

I then developed a coding framework which was derived from my observation template, from videos, and from the literature review. Dewalt and Dewalt (2002, p. 167) note that coding is "tied to the development of new theoretical propositions or patterns and ideas that emerge in the process of data analysis". The process of developing my coding framework from the observation

stage was to watch the videos repeatedly and to try to identify some patterns as they emerged out of data. The observation template which I designed before fieldwork began was not efficient, because I had to take care of too many things during the process. During the lesson, I needed both to check the students' diaries and to take photos of the students' work, so it was not possible for me to note down the details of teaching practice. Therefore, the analysis of my observation largely relied on the videos which I recorded in every lesson. The data from the videos prompted me to divide the mapping of observation of teaching and learning into six categories, which are outlined below:

The teacher's actions

1. Procedure of lesson (mentioned above in Section 3.4.2)

2. The role of the teacher

The literature reviewed in Chapter Two discusses the importance of the teacher's role in creative practice. Pollard (1996, p. 73) suggests that "the optimal learning model must build on all that adults and children have to offer", and "there must be activity on both side". He suggests that the role of the adult is to support, excite, instruct, scaffold, and extend children's thinking. Figure 3-3 is Pollard's (1996) social constructivist model of a teaching and learning process:
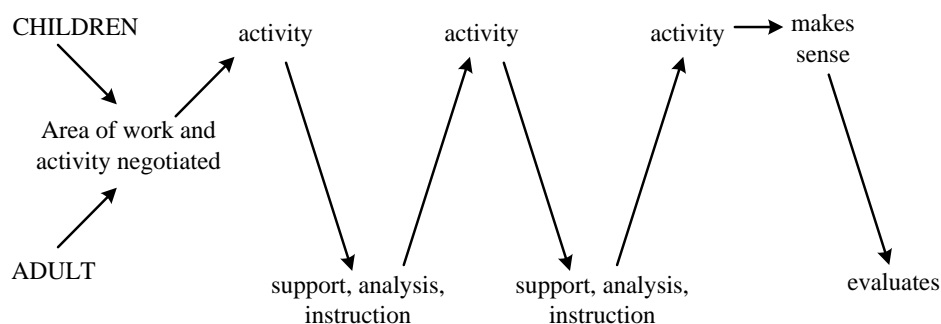
Figure 3-3: Pollard's social constructivist model (1996, p. 74)

Using Pollard's (1996) model as a starting point, and the patterns which emerged from my fieldwork, I then defined four roles for the teacher: instructor, supporter, catalyst, and reviewer.

- **Instructor**: the teacher's role is to "provide some instructions or initial

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guidance at that point" (ibid, p. 74).

- **Supporter**: the teacher's role "draws back a little". The teacher "can offer questions, information, recourses and suggest new strategies or provide other forms of instruction" (ibid, p. 74).
- **Catalyst**: the teacher's role is to encourage student enthusiasm, confidence, and motivation.
- **Reviewer**: the teacher and the students "join together to discuss and review what has been achieved" (ibid, p. 74).

3. Teaching techniques

I designed a box with which to code the teaching techniques in my observation template (see Section 3.4.2), and it turned out that the teaching techniques were not as diverse as I expected. The coding of the teaching techniques depended on what techniques the respective teacher used in the lesson, such as talking, questioning, discussing, or handling collection etc.

4. Teaching status

Understanding the teaching status means to look closely at the teachers' interactions with the students during the lesson. I have discussed three types of teaching style in Section 3.4.2, but here I add "one-to-one teaching" as observed during this part of the research:

- **Single way teaching**
- **One to one teaching** is based on individual assignments, where the teachers focus on individuals' needs or problems.
- **Interactive teaching**
- **Working collaboratively**

The students' actions

5. Students' learning status

Pollard (1996) suggests that there are three significant forms of psychology of learning: listening, doing, and discussing. Each plays an important part in enabling a child to develop his or her knowledge, skills, concepts, and attitudes. I

drew on his category to code the students' actions during the lesson:

- **Listening**: "children learn by listening carefully to get the correct stimulus and through the repeated reinforcement of correct responses" (ibid, p. 10).
- **Doing**: "children learn through interaction with their environment and both accommodate to it and assimilate what is to be learned from it" (ibid, p. 11).
- **Discussing**: children learn through "interaction between people […] engagement with other people – be they children or adults. […] With an appropriate question, intervention or suggestions, the child's understanding can be extended far beyond the point which they could have reached alone" (ibid, p. 11).

6. Forms of student class organization

I based this on Pollard's (1996) categorization of four forms of student class organization, to describe the class environment during the lesson:

- **Whole-class work**: a form of organization in which a whole class is taught together or works on similar tasks or activities together (ibid, p. 164).
- **Group work**: a form of class organization in which individual pupils work in a group on tasks or activities which are similar (ibid).
- **Co-operative group work**: a form of class organization in which individual pupils work in a group and contribute to a shared task or activity which has been set for the group as a whole (ibid).
- **Individualized work**: a form of class organization in which each individual pupil is set particular tasks or activities (ibid).

Finally, I designed a map of the coding of the teaching and learning. The aim of my mapping and coding strategy is to create a graphic and time-ordered display of the flow observation data. This has enabled me not only to sort out the data, but also to communicate with readers with specific photos. The significance of the graphic presentation of data, as Stables and Kimbell (2006, p. 318) suggest, is "to make pictures from the data to help us explore emerging patterns […] the patterns in turn lead to the creation of pictures that allowed readers to illustrate the patterns to others". Figure 3-4 is an example from School A2:
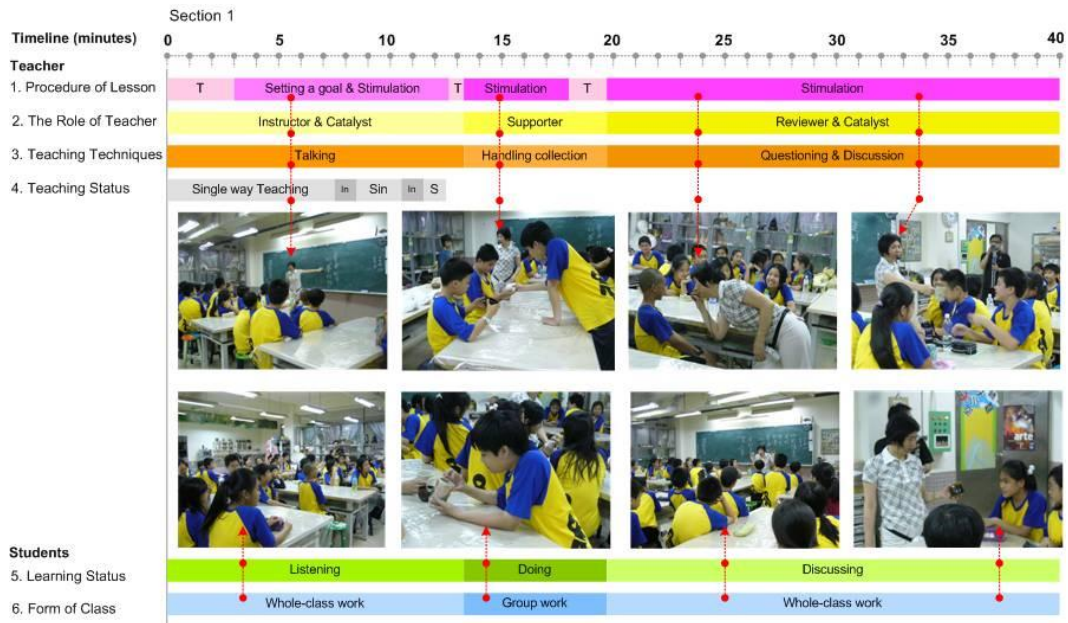
Figure 3-4: An example of mapping and coding of teaching and learning

Table 3-4: Coding framework of teaching and learning

1. Procedure of lesson	S = Setting a goal
	Sti = Stimulation
	IPT = Iterative practice & thinking
	T = Transition
	C = Completion
2. The role of teacher	Instr = Instructor
	Sup = Supporter
	Cat = Catalyst
	Re = Reviewer
3. Students' learning status	Li= Listening
	Do= Doing
	Di= Discussing
4. Teaching Status	Sin = Single way teaching
	Inter = Interactive teaching
	Col = Working collaboratively
	One = One-to-one teaching
5. Forms of class organization of students	W = Whole-class work
	G = Group work
	Co= Co-operative group work,
	In = Individualized work

I transcribed the teachers talking in every lesson, and translated the students' Creativity Diaries. Therefore, my observation data consists of three chunks: the mapping of teaching and learning, transcriptions of the teachers' talking, and the students' diaries. I then had the problem of how to present this data visually – the point of which is signposted by Dewalt and Dewalt (2002):

Organizing and presenting data visually in an effective format allows the analyst to review a large amount of data efficiently, make comparisons, summarize patterns, draw conclusions, and present an effective argument. (Dewalt & Dewalt, 2002)

My observation data comes from what Cohen *et al.* (2000, p. 305) describe as a "live situation". I felt that it is important to visualize the on-going episodes rather than to use word-based narratives. LeCompte and Schensul (1999, p. 181) suggest that vignettes are "snapshots" of events or people that evoke the overall picture, and are "stories that can be told quickly and that mark and make memorable the fieldwork experience". Visual vignettes enabled me to reconstruct the "dramatic" form of teaching and learning in classroom. I decided to design the observation chronology in this way (Figure 3-5): I placed the mapping of the teaching and learning into the middle, the transcriptions of the teacher's talking at the head of the mapping, and the students' diaries at the bottom of the mapping. The complete format of the chronology enabled me to reconstruct the connections between the teacher's talking and the students' reaction; the interactions between the teacher and the students; and finally the outcomes of the students' diaries. This also enables the readers to see at a glance the whole picture of the activity and to observe any differences between cases. For the complete observation chronology for each case, see Appendices 9–11 on the attached CD.

The transcriptions of
the teacher's talking

The mapping of
teaching and learning

The students' diary

Figure 3-5: Observation chronology

3.5.2 Quantitative data

My quantitative data included questionnaires on attitudes to creativity from 127 teachers, 88 parents, and 101 students. I used SPSS software to manage this statistical data, and in order to display it I used the color chart (Table 3-5) to show the actual response percentages. This visualized color chart enabled me to compare quickly differences in responses and different degrees of response between the three respondents.

Table 3-5: An example of visualizing quantitative data

| ■ strongly agree; | ■ agree; | ■ disagree; | ■ strongly disagree |

A2: School A2, E: School E, D: School D

who can be creative

1. The high IQ students are more creative than ordinary students
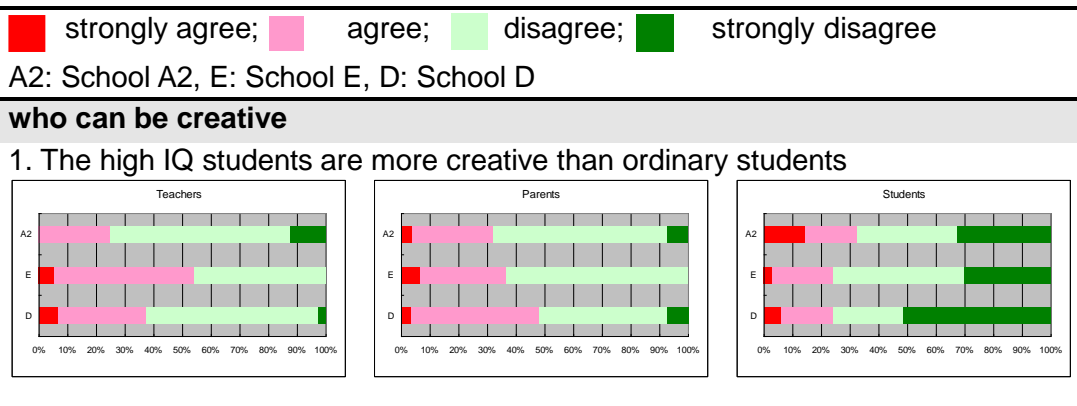
This qualitative and quantitative data provide multiple lines of evidence and angles in response to my research questions, but the problem of generalization remains, as I am reminded by Bassey (2001):

> *The educational researcher, […] has the problem that there are many variables and usually little data. In consequence scientific generalisations cannot be made, nor usually probabilistic generalisations. […] they cannot identify, define and measure all of the variables that affect the events that they study.* (Bassey, 2001, pp. 6-7)

Bassey suggests that it is therefore possible to formulate the outcomes of empirical research as *fuzzy* generalizations or predictions that provide a powerful and user-friendly summary and which can serve as a guide to professional action. He notes that "the scientific generalisation is expressed in the form: *particular events do lead to particular consequences*; while the fuzzy generalisations is expressed in the form: *particular events may lead to particular consequences* (ibid, pp. 5-6). In the following empirical chapters, I will therefore use these multiple layers of evidence, collected from various subjects through various methods, to place the likelihood of particular arguments on a scale; Bassey (2001) stresses that the credibility of fuzzy predictions depends on the trustworthiness and careful justification of the research findings. In this way, the various arguments and predictions which I will put forward will accord with Bassey's suggestion that teachers are likely to be interested in what has happened in other classrooms insofar as it is predicative of what may happen in their own classrooms/situation.

3.6 Conclusion

In this chapter, I have discussed the rationale of my research design and methods. I began by outlining the necessity of using a pilot study due to the dynamics and complications of creative practice and classroom interaction. I also outlined the usefulness of using a pilot study for clarifying and expanding my research aims. In relation to discussing my research framework, I have also outlined the ethical, research, and sampling strategies which were employed in my fieldwork. Ethical

issues around informed consent, participants' right of withdrawal, anonymity, and research relationships among teachers, students, parents and policy-makers, have been discussed in full within the context of my fieldwork settings. In terms of the complicated ethical issue of classroom observation, I have developed a three-step strategy to get access to the subjects, such as preparing an introduction file for teachers, spending extra time with students in informal situations, and using the teacher's recommendation to get access to parents.

The use of case studies as my main research strategy has been explained: for understanding my research aims as a complex social phenomenon; for generating an in-depth account of activity; for seeing causes and effects in real contexts; and because they provide multiple sources of evidence. My case study strategy attempted to reveal significance rather than frequency, and my sampling strategy of selecting three case studies has been explained as based on Flyvbjerg's (2001) idea of critical and paradigmatic cases.

In relation to my data collection methods and instruments, I have discussed my rationale for using the four types of method which I employed; outlined the contents and conceptual framework of my research instruments; and explained how the development of my four research instruments derived from the initial findings of my pilot study. Finally, I have outlined my data analysis framework, which included NVivo tree nodes for coding interview transcriptions; observation chronology for visualizing teaching and learning and the students' Creative Diaries; and color charts for visualizing statistical data.

In the next chapter, I begin my focus on empirical analyses of conflicts between the implementation of the *Creative Education* White Paper, the current educational settings, and socio-cultural beliefs about education.

Chapter 4

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The Institutional and Socio-cultural Limits to Creative Education and the Dilemmas for the Actors

4.1 Introduction

In this chapter, I examine the deep-rooted institutional and socio-cultural constraints on the implementation of the *Creative Education* White Paper; the dilemmas for the Taipei City Government and local educators in putting *Creative Education* into practice; and the criticisms of this national pilot plan. From the outset, I explore the three previous crucial educational mechanisms which have been used to centralize, specify, and standardize the curriculum and textbooks, teacher training, and entrance examination procedures. I make the argument that these three crucial mechanisms help to encourage an obedient and standardized educational climate which forms an obstacle to creative education. I then consider the influence of the three new educational reform initiatives, including: the Grade 1–9 Curriculum; the new Teacher Education Law; and the Multiple Entrance Programme. I compare these three new initiatives with the previous mechanisms, in order to seek out the opposing factors and constraints on the development of a more liberal and creative educational environment in Taiwan.

In the following section, I discuss the socio-cultural limitations on creative education, considering, in particular: the influence of parental beliefs about education; cultural attitudes about examinations and how they relate to progress; and students' utilitarian attitudes to their studies. Here, I highlight the difficulties for teachers and students in relation to developing creativity in teaching and learning. Finally, I consider the strategies that have been implemented in putting the *Creative Education* White Paper into practice, the unevenness of the educational themes promoted by the Taipei City Government each year, and the criticisms that have been made of the *Pilot Plan of Developing Creative Education*. I also highlight the difficulties for educators as regards understanding policy texts, work overload, and inefficient application of funding.

4.2 Conceptual framework of this chapter

My starting point for examining policy originates from Ball's (2006) conceptual framework of "policy as text and policy as discourse". Ball describes policy discourses as a regulated practice that accounts for statements and produces frameworks of sense and obviousness within which policy is thought, talked, and written about (p. 44). He also suggests that "policy texts are set within frameworks which constrain but never determine all of the possibilities for action" (ibid). In Taiwan, the *Creative Education* White Paper is interesting in that it illustrates the importance of creative education for the new generation and economy, and simultaneously indicates the limitations of current educational settings in promoting creativity in education; particularly, in relation to curriculum, leadership, regulations, and systems. As discussed in previous chapters, the government has also drawn up ambitious plans through which they have pledged to transform Taiwan into a "Republic of Creativity". These discourses are based on a macro view focused on national prosperity. As I discussed in Chapter One, the *Pilot Plan of Developing Creative Education* is driven primarily by pragmatic and economic-led objectives in response to the rise of the knowledge economy and the need for continuing education reform. Moreover, it can be argued that these policy-makers invariably guide and constrain the way we think about creative education through their use of language; as Ball suggests:

> *Policies do not normally tell you what to do, they create circumstances in which the range of options available in deciding what to do are narrowed or changed or particular goals or outcomes are set. A response must still be put together, constructed in context, off-set against other expectations. All of this involves creative social action not robotic reactivity.* (Ball, 2006, p. 46)

Policy-makers in Taiwan, in accordance with this, have outlined "five visions and ten principles" (as I discussed in Chapter One) as guidance for local government and educators to put policy into practice. It can be argued that policy-makers might request that local actors, particularly local government and

educators, decode this simplistic "five visions and ten principles" into practical application, and that this is a challenge that needs, as Ball (2006) described, "creative action and response". It may also be the case that the text of *Creative Education* is not necessarily clear and complete. As Ball (1994, p. 10) suggests, a combination of all these different factors can lead, not only to "the wild profusion of local practice", but can also "spread confusion and allow for play in and the playing-off of meanings." In short, local government and educators (head-teachers and teachers) need to interpret and practice policy messages on the ground within the context of their own perceptions of creativity.

In relation to the power of actors such as local government and teachers in influencing the policy process, Trowler (1998, p. 76) notes that the policy "can be thought of as having a 'career', which begins at the point of formulation and progresses through various stages of reception and implementation by actors involved at different locations on the implementation staircase". It can also be argued that the role of local actors in the process of implementing *Creative Education* would be, as in Trowler's description of policy-making (1998, p. 77) "actually part of the policy-making process itself, rather than being merely a second stage of putting it into practice." Therefore, it is necessary to see how the Taipei City Government and front-line educators put their own interpretation on *Creative Education* and tailor the original idea of creative education to their particular, localized policy practices. As Ball (2006) reiterates, policies shift and change their meaning in the areas of politics, and policy delivery is influenced by a variety of different actors and their interests.

In relation to this, it is also crucial to look how socio-cultural and institutional contexts such as parental beliefs about education, and the educational system itself, influence the implementation of the *Creative Education*. Policy can never be put into practice straight away; "policy as practice is created in a trialectic of dominance, resistance and chaos/freedom" (Ball, 1994, p. 11). In Taiwan, standardized curricula and examinations and centralized teacher-training have all previously played a role in undermining creativity in education and instead shaping a regimented and utilitarian school culture (I discuss this further in the following section). Therefore, as argued above, the *Creative Education* White

Paper has been proposed as a way of encouraging a more liberal and creative educational environment, in a way similar to Ball's (2006, p. 26) statement that policy discourse is "intended to bring about an idealized solution to diagnosed problems".

In the next section, I consider the role of the three crucial political mechanisms of education, and discuss how and why these were influential in establishing a social value which meant that teachers, students, and parents came to rely on standardized curricula, textbooks, and examinations. I examine in particular how these factors have been instrumental in hindering both teachers' and students' levels of creativity.

4.3 The three crucial mechanisms

In order to understand the educational system in Taiwan, it is important to be aware of Taiwan's history. It is located next to southeast China and close to southern Japan, and when the Portuguese became aware of it in the 16th century they named it "Iiha Formosa", meaning beautiful island. Taiwan has a complex and hybrid cultural and political status due to its significant strategic location in Southeast Asia. From 1624 to 1662, Taiwan was occupied by the Dutch and the Spanish. During the next two centuries, it was incorporated into the Chinese empire; Chinese culture has therefore been rooted in Taiwan since the 17th century. After this, Taiwan experienced Japanese colonial rule from 1895 to 1945, followed by re-incorporation into the Republic of China (ROC), which was under the rule of Chiang Kai-shek and the Kuomintang Party (KMT). However, when the communists took over mainland China in 1949 the KMT government retreated to Taiwan, and since then the U.S.A has been like a political "big brother", defending Taiwan from serious military threats from the Chinese Communist Party. From 1951 to 1965, the American government also supplied economic aid to Taiwan through USAID. The U.S. government has therefore strongly influenced Taiwan in terms of military, politics, economics, and education (Fu, 2006; Jacoby, 1966). Due to these many influences, as regards politics, culture, and society Taiwan is like a hybrid of China, Japan, and America.

The modern education system was introduced to Taiwan by the Japanese

colonial government in late 1890. The aim of education was to foster Taiwanese loyalty to the Japanese Emperor through a strategy of "assimilation-ism" (Headquarters of Taiwan, 1919). The Japanese colonial government held the view that successful political socialization through schooling required careful planning of school time, including curriculum and textbooks, and the inclusion of a ceremonial reading of the Imperial Rescript on Education and obeisance before a photograph of the Emperor (Hsu, 2001; Lin, 2000; Tsurumi, 1977). The Japanese colonial government was far from eager to educate the Taiwanese; the aim was rather to establish the supremacy of Japanism, and to maintain desirable Confucian and civic virtues of obedience and loyalty (Takeshi & Mangan, 1997). Therefore, the ideas and practices of colonial education focused primarily on transmitting ideological and socio-cultural obedience. The Japanese left as a legacy to the Taiwanese people an educational system which was based on discipline and social order, with centralized and standardized curricula, textbooks, and teacher training. This was inherited by the KMT government and strongly influenced education policy over the following fifty years.

Following the transition to the KMT government in 1945, Taiwan became a culturally and educationally immigrant society incorporated into mainland China. This then meant that educational ideology shifted rapidly from Japan-ism to KMT-ism. From the 1950s, schools in Taiwan were seen as a crucial site for embedding a Sino-centric national identity and associated Chinese cultural values, in order, on ideological grounds, to secure the KMT leadership as the sole legitimate government of China (Chen, 2002). For instance, educational initiatives related to political and citizenship education emphasized "resistance to communism and opposition to Russia; regaining control of mainland China from the Communist Party; and protecting Chinese traditional culture against culture revolution in mainland China" (MOE, 1961). It was not until the late 1970s that there was a shift away from this emphasis, and the quality of the curriculum, pedagogy, school environment, and equipment were gradually given consideration through the Compulsory Education Plan, which was put into place between 1976 to 1993 (Xu, 1996). However, during the previous fifty years the Taiwanese people had been educated to be very tolerant and obedient to the idea of radical discipline and to the KMT-centralized educational regime. Furthermore,

the KMT government had promoted a political paternalism, and it overwhelmingly controlled the education systems through administration, legislation, curriculum and textbooks, teacher training, assessment, and inspection.

During five decades of KMT government control, there were three crucial mechanisms through which influence over the educational system was exerted. These were the National Curricular Standards, the National Unified Entrance Exams, and the Teacher Education Law. Next, I discuss in more depth the limitations of this politically-driven education system, particularly in relation to the formation of a centralized and standardized educational environment, and the harmful effects these limitations have had on the creativity of teachers and students, and on parents' understanding of education.

4.3.1 The National Curricular Standards and textbooks

In the period from the late 1940s and the late 1990s, primary and secondary education in Taiwan had to follow the National Curricular Standards; this was a system in which the MOE authoritatively prescribed the subjects, syllabus, pedagogy, assessment, and teaching pace (Mao & Chang, 2004). In 1956, the National Institute for Compilation and Translation (NICT) was established under the authority of the MOE as an institutional agency in charge of writing, screening, and publishing standardized textbooks and instructional guidebooks. Subject textbooks were also overseen by panels which were appointed by the NICT and which typically comprised one professor from the national colleges of education as the chair, with three other professors as associated editors (Tsai, 2002). Within this arrangement, school teachers were seen as being at the bottom of the hierarchy and there was very little freedom for them to develop personalized practice or materials for teaching. Each core subject had its own standardized textbook, so that school teachers followed the same instructional guidebook for teaching and students used same textbook for learning. The system was therefore based on a system of "one subject, one standardized textbook". Tsai (2002) highlights the constraints which the standardized curriculum and textbooks imposed on teachers:

Teachers were prohibited from having their own thinking on teaching. They were neither encouraged to interpret the meaning of textbooks, nor allowed to criticize them. The standardized textbook as a form of teacher-proof material was a powerful device to obtain a high degree of loyalty from teachers to the nationalistic curriculum. (Tsai, 2002, p. 241)

The fact that this statutory National Curricular Standards framework had nothing to say about creativity in teaching and learning had two serious disadvantages. Firstly, it limited the teacher's role so that they merely obediently delivered a singularized curriculum to students who were also passive recipients of knowledge. From the very beginning, the emphasis was on achievement, tests, and progress according to a pre-defined set of aims. Students' individual interests and needs were regarded as secondary. Secondly, this system isolated the class teacher from other teachers, because the vast majority of teachers mainly used a whole-class approach to teaching. As Hu (2005) has pointed out, teachers were like the "king or queen" of a class, and both teachers and students always stayed in their "classroom kingdom" with very little communication with other people in the school. It can be argued that the standardized curriculum and textbooks were influential in creating this culture of isolation, influencing teachers' thoughts about their teaching practices and limiting interactions between teachers and students. Evidence suggests that this has also limited the thinking of teachers and students and stifled creativity.

4.3.2 Teacher training

From 1945, only a few national colleges and universities of education were authorized to provide initial teacher training and professional development. Their training greatly emphasized the importance of moral, ideological, and nationalistic values rather than teachers' own professional development. As Tsai (2002) notes, teachers believed that their duty was to adhere to the curriculum development developed by the NICT, rather than what they themselves might feel. This situation constrained teachers from developing their own creative practices, due to political and ideological control.

Teachers have also been regarded has having a *moral* role in Confucian-centric Taiwanese society, with the duty of preaching, teaching, and leading students away from confusion. Fwu and Wang (2002) suggest that teachers have traditionally been respected for their morally and intellectually superior image as "a role model for learned intelligentsia". Teachers have traditionally garnered huge levels of expectation and respect from society, meaning that the relationship between teachers and students in a classroom is often very paternalistic. This authoritative role given to the teacher distanced them from students. As Kimbell (1997) explains:

> *It would be very unusual for a pupil to present discipline problems for a teacher, partly because of the learning ethic that pervades the whole society and partly because of the respect that is automatically bestowed on a teacher. […] The whole atmosphere is highly conformist.* (Kimbell, 1997, p. 167)

In addition to the social advantages of being a teacher, the Teacher Education Law 1979 also provided salary and employment advantages in order to recruit talented young people to national colleges of education. Government funding for teachers, initially incorporating funding for 4–5 years of study, guarantees steady employment, a good salary, and pension schemes. Thus, a system developed whereby the KMT Government provided teachers with the "carrots" of generous pay and life-long employment while encouraging them to act as "the guardians of national solidarity" (Fwu & Wang, 2002). This meant that they were often proactive in inculcating citizens' loyalty to the national identity (ibid).

Therefore, the status of being a teacher means being in a situation of "high satisfaction and low stress" (Fwu & Wang, 2002, p. 213). This implies that there is little incentive for teachers to develop innovative teaching ideas and creative practices. There are two issues to consider here; firstly, it was not necessary for teachers to progress in continuing professional development, since there was a lack of competition and monitoring was inefficient. Many did no more than to obey faithfully official instructions, so that a glossary of graphic labels became applied to school teachers, such as "out-of-date time-servers". Further, dilemmas around

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contradictions between the social expectations of the profession and teachers' moral role have put huge pressure on teachers, as one professor said in interview:

> *'A limitation of the teacher's role in Taiwanese society is that teachers are expected not only to be a moral model, to preach knowledge, […] but also to help students to make progress to the next level and to teach students to be disciplined and well-behaved. These demands have to a great extent placed huge pressure on front-line teachers.'* (Interviewee, SC3: WJJ)

The relationship between this moral obligation and social demands has limited teachers' teaching possibilities and their ability to be flexible and liberal in their role. A teacher was unlikely to try something different from his or her colleagues; moreover, the school climate had been extremely formulaic and teachers had tended to follow routine work patterns with clear and narrowly-defined instructions and responsibilities. Teachers' moral role and the school climate of obedience seriously limited teachers' creativity.

4.3.3 The National Unified Entrance Exams

In this section, I discuss the conventional entrance examination system and explore how its ineradicable effects on teachers, students, and parents have played a key role in limiting creative education. The National Unified Entrance Exams (NUEE) for senior high school and colleges at ages 15 and 18 were previously the major determinants of successful entry into prestigious senior high schools and colleges/universities. It was a tribulation for the majority of teachers, students, and parents in Taiwan from the late 1960 to the early 2000s. In order to progress, all students had to sit for the NUEE and their performance in the standardized examinations then became the major measure of how they were streamed into different senior high schools and colleges/universities.

Taiwanese people believed that nothing could be fairer than a unified standardized exam as a reliable indicator of a student's accomplishment and also as a measure of the effectiveness of a school. Therefore, the NUEE focused only on students' intellectual performance, which arguably neglected other talents and

skills which they might possess. The structure of the NUEE gave rise to a large measure of anxiety amongst teachers and parents, in case their children had not done as well in their exams as their peers. Kimbell (1997) suggests that in Taiwan, parents place high expectations on their children to succeed, and many pupils therefore compete quite openly against their classmates. Teaching effectiveness was defined primarily in terms of students' performances on routine, standardized testing on the core subjects of Chinese, English, Mathematics, Science, and Social Studies. Teaching quality and students' achievements were highly correlated with league tables and intellectual tests. This meant that students had to spend all of their time on assignments, alongside general intelligence tests. In Taiwan, there is also a service known as "cram schools" (*bu-xi*), which are private courses and schools focusing on extra aid for these standardized and summative exams for students. As Hsu (2001) summarizes:

> *The national unified entrance exams forced young people to put their entire endeavor into passing a two-day exam, which would determine their future destiny. They did not have freedom to choose. Moreover, it shaped the phenomenon of the* bu-xi *(cram school) culture, which was concerned with training students to cope with routine texts and entrance exams.* (Hsu, 2001, p. 12)

Attending cram schools also tended to increase students' study-load and the educational expenses of parents (I will discuss these problems later). The NUEE itself was also more about highlighting students' failures than about encouraging success. As argued above, it also shaped an emphasis on relentless competition, not just between students, but between teachers, schools, and even families. There is a good argument to suggest that the NUEE distorted students' values in relation to their learning and that teachers also tailored their teaching to match examination results. The unified exams showed only *absolute* levels of student achievement, but indicated nothing about students' creativity and interests.

Overall, these three crucial mechanisms intertwined to create a complex process which fostered an obedient and dutiful attitude (on the part of teachers and students), and which provided a narrow basis for judging the value of

education. This ethos was reflected in teachers', students', and parents' beliefs about the role of education and, as I suggest below, it has had a negative impact on the potential for developing a more creative education. These factors have been an inevitable challenge for Taiwan in developing creative education.

4.3.4 The Education Reform Act 1998

Whilst from the mid 1940s to the late 1980s the Taiwanese people lived under an authoritarian regime, from the mid 1980s demands gradually emerged from opposition parties for greater political liberty. This took the form of large numbers of street movements and strikes calling on people to fight the power and influence of the KMT regime. Eventually, the KMT government liberalized several statutory programmes, which included lifting Martial Law in 1987 and removing the bans restricting freedom of news, media, assembly, and association in 1988. In the late 1990s, the KMT government also faced pressures to embark on educational reform, including recognition of the challenges of economic and political transformation at the global level. Educational reform therefore became a top priority, as a way through which to satisfy people's demands and also to cope with increasing economic challenges.

In terms of calls for educational emancipation, the "410 Educational Reform Movement" – an alliance formed between scholars, school teachers, and parents – strongly demanded on 10 April 1994 that the KMT government should decentralize and loosen their hegemonic grip on education. They raised four points which they believed were critical to this reform, including: slimming down the size of schools and classes; increasing the provision of senior high schools and colleges; improving educational modernization; and establishing the Education Basic Constitution. This period shaped a huge wave of educational reform, which forced the KMT government to set up the Advisory Committee on Education Reform (ACER) in September 1994. The ACER then embarked upon an intensive review of Taiwan's educational system, ending with a published final *Consultation Report on Education Reform* in 1996. The committee addressed five crucial suggestions for education reform, including: (1) loosening "inappropriate" controls on education; (2) attending to the needs of individuals; (3) broadening the

ways into higher education; (4) raising education quality; and (5) establishing a lifelong learning society (ACER, 1996).

Based on this Consultation Report, the ACER transferred its duties to the Education Reform Action Group (ERAC) between 1996 and 2004. In 1998, the ERAC continued to address what became known as the "Twelve Education Reform Mandates", armed with a special budget of NT 15 billion (about GBP 250 million) for five years (ERAC, 1998). Among the twelve mandates, seven mandates were focused on primary and secondary education levels. Three significant new initiatives set up by the ERAC were the Grade 1–9 curriculum; the new Teacher Education Law; and the Multiple Entrance Programme. In the next section, I analyze these three new initiatives, in order to ascertain any impacts they may have had on the educational environment and whether they have had any effect on improving the quality of teaching and learning.

4.4 Institutional limitations in creative education

In this section, I compare the three new initiatives – the Grade 1–9 curriculum, the new Teacher Education Law, and the Multiple Entrance Programme – with the previous crucial mechanisms of the KMT: the National Curricular Standard, teacher recruitment and retention, and National Unified Entrances Exams. I will also highlight possible contradictions between the three new initiatives, and limitations in the *Creative Education* White Paper.

4.4.1 The Grade 1–9 Curriculum and texbooks

The education reform programme began with the constitution of the Grade 1–9 Curriculum in late 1997. The leader of the ACER, Professor Yuan-Tseh Lee (1996), stressed at the time that there was an indisputable need for curricular reform for the new era and generation. He argued that, without curricular reform, there would be no education reform.

In 2001, therefore, the centralized National Curricular Standards were succeeded by the liberalized so-called Curricular Guideline of the Grade 1–9 Curriculum. This curriculum was designed for primary and junior high schools, and is similar to the UK's Key Stage 1 to 3 (Year 1–9). It identified "seven learning

areas": Language (Mandarin and English); Health and Physical Education; Social Studies; Arts and Humanities; Science and Technology; Mathematics; and Integrative Activities (MOE, 2002a). It revised pedagogy and assessment by transforming the previous academic, content-based curriculum into a subjects-integrated system. Schools were also asked to develop their school-based curricula with special regard to their local cultural context.

Since 2001, the Grade 1–9 Curriculum has had some significant impacts on teachers, students, and even parents. Mao and Chang (2004) have argued that the implementation of the curriculum did not simply change the content of the curricula, but that it sought to transform the "mentality" of education system, particularly in terms of cultural constitution, the empowerment of teachers, developing students' potential, and democratic leadership. However, a report on the Grade 1–9 Curriculum, *Policy and Implementation* (MOE, 2002b), highlights some contradictions and limitations in what the curriculum actually led to in terms of encouraging greater creativity in teaching and learning.

Firstly, the MOE optimistically claimed that the Grade 1–9 Curriculum could enrich teaching and learning. The curriculum encourages teachers to integrate several learning areas: cross-curricular planning, curricular integration, collaboration to improve teaching performance, and learning from colleagues. In this way, teachers are supposed to make use of innovative and creative teaching practices. However, there is a sense that the majority of teachers are still working on an individual basis. Hu (2005) argues that, after the implementation of the Grade 1–9 Curriculum, although a collaborative culture *seemed* to emerge, the reality was far less encouraging. Hu concludes that a collaborative culture between teachers remains underdeveloped and is restricted to "low-value exchanges". Hu suggests that teachers are likely to concentrate only on short-term tasks for special repertories. This was also evident in my six case studies, where the six teachers were busy pursuing the pace of the curriculum and school tests, rather than bothering with the MOE's expectations in term of cross-curricular planning and working more collaboratively.

Second, the aim of the Grade 1–9 Curriculum is to transform study from being subject-directed to being area-directed, and from "knowing that" to "knowing

how" (MOE, 2004). It pledges to expand the boundaries of students' knowledge, and the emphasis is therefore on the importance of forging a connection between study in school and students' daily experiences, which it is hoped might broaden and expand students' learning experiences. Unfortunately, this vision has yet to be achieved and has actually caused a very serious problem in the curricular coherence between primary, junior high, and senior high school. Area-directed study actually demands the use of more materials in less time, so that teachers face a stricter timescale than before. This now encourages anxiety and puts pressure on teachers, students, and parents. One interviewee, who is a primary school teacher with 15 years of experience, described this situation:

> *'The new curriculum simply outlines its curricular syllabus, which complicates the contents of subjects but is not integrated coherently. It creates fear, so that teachers struggle to include the extra information in their teaching as well as to keep to the schedule. Students and parents are in a panic about whether they or their children have learned enough for the exams. In consequence, the majority of students have to go to the cram schools (*bu-xi*) for extra study after school.'* (Interviewee T1:PKI)

Attending cram schools has become even more popular and has become even more necessary for many students since the curricular reform. In Taiwan, according to the survey by an MP named Lee (2003), the number of cram schools has been steadily increasing, from 1,865 schools in 1994 (before the education reform) to 10,883 schools in 2003 (after the education reform) – representing an increase of 5.8 times as many – and nearly 70 per cent of students now attend cram schools for more than 9 hours per week. According to Taipei City Government statistics, the proportion of primary school students who attend cram schools has increased from 68.38 per cent in 2002 to 74.1 per cent in 2003. Moreover, in 2004, approximately 44.4 per cent of families spent over 6000 dollars (GBP 120) per month (72,000 dollars, GBP 1440 per year) for their high school child to attend cram schools in Taipei City and County (as cited in Chang, 2004).

In the students' and parents' questionnaires used in this study, I surveyed

how much money parents spend annually on their children in relation to extra educational activities, and what *kind* of cram schools students attended. Figure 4-1 displays data showing how much money parents spend annually on a child's extra education-related expenses, such cram schools and private tuition. Nearly half of the parents in School D generously pay over 150,000 dollars (GBP 3000) per year for their children to have extra educational support. This contrasts with School E and School A2, where the majority of parents' budgets are under 150,000 (GBP 3000) per year. The large educational budget characteristic of my three case studies is therefore higher than that of an average family in Taipei City. In the three cases I studied, parents used their wealth and income to provide the best educational opportunities for their children in order to give them the best chances of success; this reflected parents' large-scale expectations, and their anxiety about their children's progress. This echoes Devine's (2004) suggestions that economic resources are a key asset for middle-class parents, who use their economic means to buy the best education for their children in order to increase their chances of academic success.
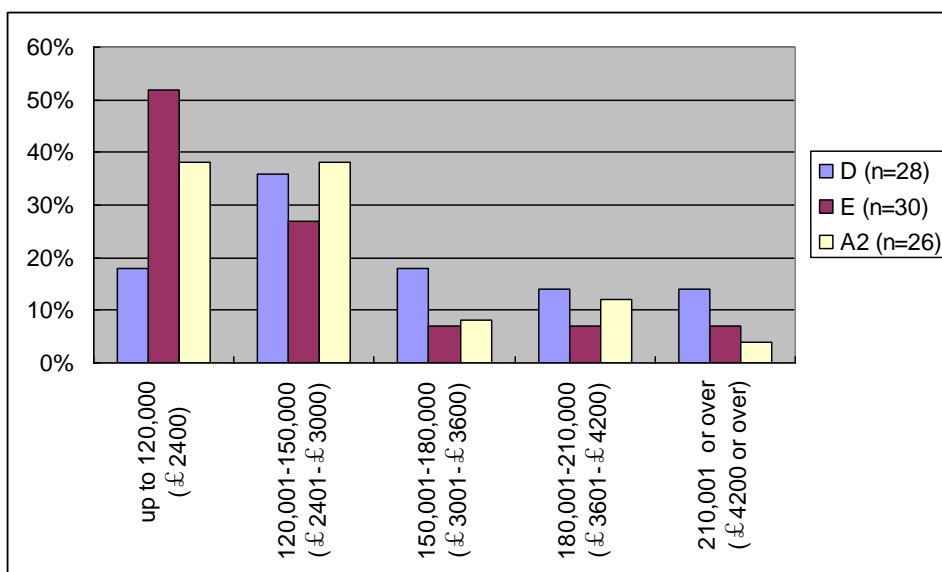
Figure 4-1: Annual educational budget for a child

Figure 4-2 shows that over 80 per cent of students in the three cases that I studied suffer from a heavy workload due to cram schools, and this figure is slightly higher than that in the Taipei City Government's own survey (74.1 per cent). The average amount of time spent attending a cram school per week for the

case study schools was as follows: 9.8 hours at School D; 7.2 hours at School E; and 5.4 hours at School A2. Figure 4-3 shows the five most popular subjects for which students at these schools attended cram school. Unsurprisingly, the most popular subject was English, and, taking the three case studies as a whole, 78 per cent of the students attended extra English courses outside of their normal school routine. The second-most popular subject in Schools D and E was Maths, which was third in School A2. Music, surprisingly, took second place in School A2 and was also the third-most popular subject in Music in D and E, and Maths was also third in A2. The evidence suggests that although extra support for core subjects was seen as necessary, the variety of cram school subjects means that parents may be somewhat open-minded about their children's learning.

I also chatted informally with the students who were in my three case-study schools about what they did after school, and whether they were able to spend much time on their Creativity Diaries (my research instrument). Significantly, most of these students told me that their time had been fully occupied with attending cram schools and with school homework, and they always went home very late every day. They confessed that they had only had very limited time to think about their diaries. One boy in School A2 told me that he had stayed up late the night before in order to write his diary. This situation was put into perspective by a senior teacher who was interviewed, who argued that: 'we do not give time for students to 'think' and students' energy is burned out by study overload' (T1: PKI).
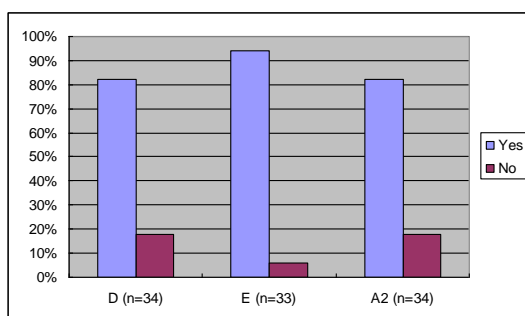
Figure 4-2: The proportion of students attending cram school
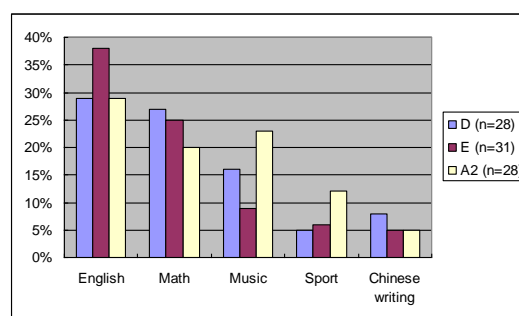
Figure 4-3: The five most popular cram school subjects

According to a 2003 survey of primary school students who attended cram schools in Taipei City (Lu, 2003), the most popular subject is Foreign Language (53.93 per cent), followed by the core-subjects as a group (29.79 per cent), and

then Music and Dance (24.16 per cent). Fourth-most popular are miscellaneous subjects such as Drawing or Chess (6.24 per cent), fifth-most is Sport (5.20 per cent), and the sixth-most popular subject is ICT (2.19 per cent) (ibid). Cram schools have flourished in the last ten years and have benefited from the curricular incoherence since educational reform. The director of the biggest cram school in Taipei City, for instance, argued that "we can fill the gaps in the curricular mismatch" (as cited in Lee, 2008).

There is therefore an argument to suggest that many parents rely on cram schools in order to help their children cope with the incoherency of the new curriculum. It became obvious during my case study research that the pressures and stresses involved in studying are often immense. The middle-class parents in my case studies made huge efforts to secure the best education for their children; this involved not only finding a good school where their children would be able to enjoy top-quality teachers and extensive facilities, but paying for extra tuition outside school hours that would equip them with even more skills. It was interesting, however, to see that parents, both in my three case studies and in general, were more likely to pay for extra tuition in the core examination subjects. Extra support for nurturing skills in other areas, such as in Music, Dancing, and Sports classes, depended not only on parents' economic resources, but also on their attitudes towards educational diversity. For example, the cram schools which School A2 students attended taught a greater variety of subject areas than the other two schools; this meant that School A2 parents were potentially more open to differences and variety in their children's learning areas. Therefore, it can be argued that parents' attitudes toward educational diversity are influential on the range and diversity of children's learning. The danger in this, as a former Minister of Education argued in interview with me, was that parents' attitudes towards learning can be 'an obstacle to the development of creative education, and that parents to some degree prohibit their children doing something not related to school study' (O1:TDC). I will discuss parents' attitudes toward creativity in the next chapter.

Thirdly, it is also significant that the government has opened the Grade 1–9 curriculum market to private publishers, so that textbooks are no longer

monopolized by the National Institute for Compilation and Translation. Based on the principles of the 410 Education Reform Alliance, parents, teachers, and students have a right to select teaching materials and textbooks. The MOE (2002b) has confidently announced that teaching materials for the new curricula are multidimensional, diverse, and multi-optional. The MOE has also pointed out that they include on-line resources developed by central government, local county government, schools, and teachers. This claim gives the impression that teachers do not depend any more on standard textbooks, and that the new system will now enable them to develop their own individualized teaching approaches.

However, the reality is that a school will invariably select its textbook for each core subject from a different publisher, meaning that the teachers might still follow a standard textbook for teaching and assessment. It does not follow, therefore, that the idea of "multi-optional" teaching materials as advocated by the MOE will change teachers' reliance on standard textbooks. Also, a textbook for a particular subject might be published by different publishers in different versions with content variations, meaning that the level of difficulty might vary. There may be further complexity if schools select textbooks from different publishers in different years; a private publisher may potentially monopolize the selection of textbooks that are available to a school. As one teacher argued in interview: 'the publishers hold hostage teachers, students, and parents' (T1: PKI). Two parents also complained to me in an informal chat that 'there are too many versions of a textbook, so that my child does not know how to prepare for the exams' (P1: HSG). Another parent complained that 'the different versions of textbooks contain diverging approaches, which really confuses me about how to teach my child' (P2: WWF). It can be argued that, in order to encourage coherent teaching, learning, and assessment, schools need to choose same version of textbooks from one publisher.

The Grade 1–9 Curriculum structure has led to such a mass of complaints that the Taipei City Government has taken the lead on returning to the past "one subject, one textbook" style rather than the new "one subject, various textbooks" approach. Starting from 2008, all primary and junior high schools in Taipei City have had to use the same textbooks selected by the Educational Authority of the

Taipei City Government. All the same, this has revealed some contradictions, notably: does the new curriculum extend the students' learning boundary? Are teachers capable of designing teaching materials and working collaboratively for the new curriculum? Is this new curriculum more flexible than past the National Curricular Standards? It is also important to consider whether parents' beliefs about the aims of education have become more open-minded.

4.4.2 The new Teacher Education Law

In 1994, the Teacher Education Law was amended by the MOE to develop new channels for teacher-training programmes. It enables all national and private universities with teacher training centres, rather than just the National College of Education, to provide training or continuing professional development for school teachers. It is hoped that that a greater diversity of teacher-training programmes in different colleges can introduce greater energy into schools and, more importantly, improve the quality of teachers. In interview, a former Deputy Minister of Education elucidated on these aims:

> *'Nowadays, many schools prefer to recruit new teachers from those general colleges/universities, rather than from the national colleges/universities of education. […] In 2007, there emerged a significant warning that less than 30 per cent of the graduates from the national colleges/universities of education will be able to enter school-teaching. They suffer a very cruel pressure of competition.'* (Interviewee O2: CET)

In the light of the above issues, the older teacher-retention policy has been retained, so that teachers can still enjoy a higher remuneration and benefit package compared with that of other employees with similar qualifications. Fwu and Wang (2002) have observed that, in 1999, a new teacher with a Bachelor's degree earned a salary which was 25 per cent per higher than other that of entrants to other careers with the same degree. In many ways, it can be seen that teachers enjoy many privileges over other occupations, including a two-month summer and one-month winter vacation, and with tax free bonuses for primary

school teachers. All of these benefits are supposed to be able to guarantee the quality of teaching. However, the new Teacher Education Law does not set a framework for inspecting teachers' performance. There is currently no law for inspecting teaching or for dismissing those teachers who might be underperforming. Hence, neither government nor head-teachers have a set of rules which might encourage teachers to improve their teaching, once they are officially employed by schools. This has become a problem, as the former Deputy Minister of Education suggested in interview:

> *'In Taiwan, school teachers are protected by the Teacher Education Law with outstandingly generous benefits. […] The extent to which the new law protects teachers' privileges is unreasonable: there are no counter-balancing inspections of school teachers' performance in primary and high schools.'* (Interviewee O2: CET)

In order to address this problem, since 2005 the MOE has introduced a trial project entitled *The Primary and High School Teacher Professional Development Evaluation* (MOE, 2005). The emphasis of this initiative is on the encouragement of self-evaluation exercises, alongside the enhancement of continued professional development. However, due to the absence of factors encouraging teachers to participate in this trial exercise, the number of participant schools has not reached an adequate level (from 160 schools in 2006 to 299 schools in 2008) to be effective (MOE, 2008a). This remains a tough challenge for the MOE, as the former Deputy Minister of Education disappointedly admitted:

> *'The Ministry of Education tries to encourage teachers to evaluate their own schools and invites teachers to participate by free will. This self-evaluation project has to be agreed on by more than half the teachers, in a school administrative meeting. Unfortunately, it is not possible to get the measure passed. Only a minority of teachers are willing to do it, while the majority of teachers tend to resist it.'* (Interviewee O2: CET)

This has become a complex and difficult problem for the government. Whilst it is apparent that the government does understand the important role that teachers have in the process of educational reform, the absence of regulation to persuade teachers to change their pedagogy and of approaches to the new curriculum has resulted in a series of contradictions that remain difficult to resolve. As one head-teacher (H3: CYQ) argued in interview: 'there is no standard for evaluating the quality of teaching, and no system for ranking teachers' teaching experiences, so teaching often becomes mediocre'. This means that for teachers, it is not necessary for them to improve their teaching, because 'those teachers who are in favour of reform will be oppressed by other colleagues' added by a head-teacher (H3: CYQ).

This problem has been seen as a particular challenge to the implementation of the Creative Teacher action plan. As a professor who was responsible for the Creative Teacher action plan suggested, regarding the difficult status of teachers in schools who are more creative, 'there are some creative teachers in various schools, but they are relatively isolated' (SC5: CCY). A School A2 teacher echoed this observation in interview: 'to some degree, I am very lonely in school, because other colleagues see me as a dissenter who does not follow the routine' (T9: CLH). An interesting strategy was employed to overcome some of these obstacles to implementing the Creative Teacher action plan, as a professor explained:

> *'At the outset, if a school has a third of its teachers willing to participate, one-third of teachers watching, and one-third of teachers resisting, it is worth running a creative teacher action plan. […] This is worthwhile because if that first third of teachers are successful (in their creative practices), then, at the second stage, the third of teachers who are watching will also take part. If those two-thirds of the teachers are successful, it will shape the pressure of public opinion so that the final third of teachers will gradually take part in the plan.'* (Interviewee, SC5: CCY)

It is highly likely that moral persuasion might be the only realistic route to convince the teachers to try different approaches to teaching within the current

structures that are in place. The three head-teachers involved in my three case studies collectively agreed that moral persuasion might constitute an effective way through which to encourage teachers to embed greater levels of creativity in their practices. One head-teacher (H1: CKH), for instance, explained in interview why he used moral persuasion instead of administrative direction:

'In an organization, there are always some people behind. I cannot press them. I always lead them to follow step-by-step. […] If some teachers start to do something, then others will feel pressure to follow. […] I just encourage those teachers in the front, and then, in my experience, those teachers who feel left behind will follow and move on a bit. […] It is about the issue of pride rather than ability.'
(Interviewee, H1: CKH)

However, it is also important to consider teachers' dilemmas which arise between creative teaching and issues such as keeping in step with the pace of curricula and tests, maintaining student achievements, and satisfying parents' ambitions for their children. Due to these influences, creative teaching is possibly too idealistic to be practiced in a *pure* form. As a professor (SC7: CLA) with expertise in creativity research argued: 'creative education has been neglected and most teachers do not think that is important and do not know how to do it.' In the teachers' questionnaire I employed to explore this issue, I asked the teachers whether they received any support, such as guidelines or training-related activities in creative education from the government. On the whole, only 26 per cent (33/126) of the teachers said that they had received support from government. They explained that the top three supportive resources were seminars (38 per cent), on-line resources (22 per cent) and booklets (16 per cent). I also asked the same teachers how, if they did not receive any support from the government, they understood creative education themselves. In response, 23 per cent of the teachers said they gained insights from their teaching experiences; 19 per said they gained insights from their past teacher training; 18 per cent said they gained knowledge from outside school via extra courses; 16 per cent said they gained expertise from on-line resources; 15 per cent said they gained insights from

newspapers and magazines; and 9 per cent said they gained insights from making mistakes. This would suggest that the government is currently misguided in relying on moral persuasion as an effective tool through which to implement creative education, without an awareness of the need for other institutional methods. It suggests that teachers are expected to be proactive in engaging with the *Creative Education* White Paper. The moral persuasion argument also neglects to consider that teachers are currently overloaded with too many expectations in regard to their teaching role, meaning that the space to explore creativity is very limited.

4.4.3 The Multiple Entrance Programme

In 2002, the traditional National Unified Entrance Exams (NUEE) for senior high schools and colleges/universities ended; it was replaced by the Multiple Entrance Programme (MEP) for senior high schools and colleges/universities. In this restructuring process, the government has attempted to separate examination entry requirements from the recruitment of new students. The MOE (2008b) has tried to change the emphasis on the design of exams, giving professional institutions responsibility over the appropriateness of exam questions in order to balance assessment, teaching, and learning. In this way, the MOE has sought to diversify approaches to the recruitment of new students, including admission via exam and registration, as well as recommendation and screening. Primarily, the MEP aims to solve the main problems that came with the unitary examination process: that one exam encourages one pathway in life, and the pressure of limited places in higher education. The MOE claims that the MEP provides multiple opportunities for students to articulate their special talents and encourages varied and more flexible ways for gaining access to the next level of education.

However, the MEP still remains tied to a unified examination procedure for students. The Basic Competence Test (BCT) for junior high school students and the Subject Competence Test (SCT) for senior high school students still focus on the achievements attained in core subjects. In relation to access to colleges/universities, although 40 per cent of students can gain admission via

recommendation and screening (MOE, 2008c) (those students still need to take the BCT and SCT), more than 60 per cent have to gain access via exams results (BCT and SCT). This would suggest that the MEP does little to release teachers, students, and parents from the constraints imposed by unified exams and league tables at all.

As regards the "star schools" that exist in Taiwan, it is inculcated into Taiwanese people as an article of faith that entering these schools guarantees the best degree and most secure future. In Taipei City, for instance, students from the top two senior high schools are more likely to get into the National Taiwan University (equivalent to Oxbridge status in the UK). In 2008, nearly one-third of students from the top two senior high schools gained entry to the National Taiwan University (MOE, 2008d). Competition amongst students to enter star schools or the best universities is becoming even more intense and relentless. Admissions via recommendation and screening in MEP may encourage social inequity, as its criteria now includes students' other special talents and abilities. The MEP has come to be called "the multiple capital entrance programme", highly related to parents' socio-economic background. These inequalities were explained by a professor in interview:

> *'Admission via recommendation and screening in the Multiple Entrance Programme is not only decided by paper and pencil tests; the examiners will look at students' experiences, such whether s/he has participated in school societies' activities, and in talent competitions such as Science or drawing competitions. However, it really costs money to participate in those events and nurture children's special talents. […] It reflects another kind of inequality and the selection criteria reflects the gaps between different social classes. So it is very disadvantageous for those children from rural areas or deprived families.'* (Interviewee SC1: WWD)

There is therefore an argument to suggest that the MEP may expand the gaps between different social classes and retard social mobility through its selection criteria; this may happen whether admissions are through exams or by

recommendation. It can be argued that this brings even more anxiety to teachers and students. The extra expenses incurred through extra tuition in subjects such as Science, Arts, or Music in cram schools becomes a heavy burden for parents. Due primarily to these issues, there have been increasing demands from parents who wish to return to the unified exams of the past. It has become an issue of debate whether parents believe in multi-value education or the "star schools/universities" system. The argument that the examination system is the biggest obstacle to developing creative education is reiterated by the interviewees in this study. Every interviewee, in fact, blamed examinations for having harmful effects on creative education. Their responses included: 'examinations are a killer of creative education' (H1: CKH); 'examinations are the biggest enemy of creativity' (SC1: WWD); and 'the main structural obstacle to creative education is the examination system' (SC8: CWW). The problem would seem to be, however, that examinations have been part of a deep-rooted cultural phenomenon. As one scholar said: 'we have to learn to coexist with examinations' (SC1: WWD). I will discuss the more direct effects of examinations on both teachers and students in the next section.

In this section, I have discussed the new crises which have emerged from the three new educational initiatives in Taiwan, including the incoherency of the Grade 1–9 curriculum, the absence of mandated inspections in the new Teacher Education Law, and the retaining of a unity examination system in the Multiple Entrance Programme. However, I developed an argument to suggest that these new crises are a legacy of the previous education mechanisms. This process echoes Jones and Thomson's (2008, p. 719) observation that a linear policy development, in which one arrangement collapses and is succeeded by another, means that "questions of continuity, assimilation, and translation tend not be posed".

The consequences of this have included the possibility that teachers, students, and parents might still prefer a standardized curriculum and textbook; that improvements to teachers' performances remain minimal; and that the Multiple Entrance Programme does little to relieve pressure on teachers, students, or parents regarding the need to get into 'star schools'. The complexities of this

debate reflect that a continuing top-down approach to policy implementation has neglected to address some of the entrenched socio-cultural values about education and the dilemmas involved in changing these. The situation echoes Sabatier's (1997) criticism of top-down models, which is that they are likely to ignore or underestimate the strategies used by "street-level" bureaucrats and target groups to get around policy. In the next section, I focus on the socio-cultural limitations on developing a more creative educational environment in Taiwan.

4.5 Sociocultural limits on developing creative education

From the literature, and from my own empirical research, it can be argued that there are three main socio-cultural limits on creative education in Taiwan. These include parental beliefs about education; an obsession with examinations and continued progress; and the students' utilitarian attitude to studying. These different elements exist as a chain, with each element tightly relating to and informing the other. To gain a proper picture of the socio-cultural limits on developing creative education, it is necessary to see the interdependent connections and to observe how they affect teachers, students, and parents.

4.5.1 Parental beliefs about education

Education has been highly valued in Chinese society since classical times. Traditional Chinese philosophy emphasizes the so-called "literati" (well-educated people) as having greater societal value than those in other vocations. According to Fwu and Wang's survey (2002), the top five occupational vocations in order of prestige in Taiwan are: university professor; government minister; judge; physician; and lawyer. These positions reflect the traditional values of the well-educated literati. Most Taiwanese parents try to supply the best learning environment possible, in order to allow their children to have more time to study and to prepare for exams. Many then place their hopes on the educational success of their children and the ability to access more prestigious vocations. Parents believe that a good degree will lead to a good future, and their children are appreciably inculcated into this value system. The parental belief that educational achievements are more important than other things has been deeply embedded into the majority of children's beliefs and attitudes, and is invariably reflected in

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their behaviour (as I discuss in later section). This belief often manifests itself as non-verbal oppression and subtle pressure on teachers. A few interviewees remarked that parents cautiously kept an eye on their children's grades and achievements in league tables, to see how good a job they felt teachers were doing. In terms of parents' reactions to their children's grades, one head-teacher had this to say:

'Children's grades are common language in East Asia, from Japan, Korea, Singapore, Hong Kong. […] Every family takes its children's grades very seriously, and if their children's grades are disappointing, parents appear very upset as well.' (Interviewee, H2: CSH)

Another interviewee, who is a professor well-known for his research on creative education and as a chief consultant to the MOE, explained this cultural trend in relation to achievements and grades as an ineradicable social value in Taiwanese society:

'People routinely believe that achievements and grades are the most reliable way of seeing what students have learned. […] This belief is increasingly embedded through support from teachers, head-teachers, parents, media, and even society as a whole. Therefore, everyone uses this as a common language to judge the efficiency of teaching and learning.' (Interviewee, SC3: WJJ)

Consequently, all Taiwanese children have to face these kinds of pressures as they struggle to manage homework, cram schools, and competing to be one of the lucky elite students who can gain access to 'star' high schools and prestigious universities. The situation is particularly bad in Taipei City; hence many children and young people here dedicate many of their waking hours to studying. As a former Deputy Minister of Education pointed out in interview:

'Taipei City is the strangest area in Taiwan. In Taipei City, most parents are middle class and members of the intelligentsia, with very competitive personalities, so that there is an intensely serious

atmosphere of competition, progress-ism and cram schools. It is very limited to be able do something diverse. […] However, in other counties, particularly in southern Taiwan, the parents belong to various social classes, and they have diverse beliefs about the value of education. So, the educational climate means less competitive pressure than in Taipei City.' (Interviewee, O2: CET)

These parental beliefs about education are firmly connected to and influential on the predominant obsession with examination and progress. This puts the greatest pressures on teachers and students in the classroom situation. In particular, teachers' performances are measured in terms of the BCT and SCT league tables, and through these parents can indirectly intervene in teachers' pedagogical practice in the classroom. A scholar (SC8: CWW) who was one of the policy-makers of the *Creative Education* White Paper explained that 'we have not made deep changes in social values or in relation to social obstacles, such as with parents encouraging their children to choose their own road'. He also observed that, in a wider sense, 'our social values emphasize comparison, and our self identity is built on others' judgement. Most of us do not have the courage to pursue what we want to do. The whole of society strongly emphasizes hierarchy.' (SC8: CWW). Parents' narrow beliefs about education are therefore often one of the most embedded and influential socio-cultural limitations on fostering a more creative educational environment.

4.5.2 Cultural influences on examinations and keeping progress

The standardized examination system has dominated teaching and learning in Taiwan for over fifty years. In fact, one interviewee, who is a professor doing research on educating gifted students and creativity, observed that 'this examination-ism does not exist only in Taiwan; it is also strongly influential on greater Confucian society, such as in China, Hong Kong, Singapore, Japan, and Korea' (SC1: WWD). In Taiwan, students face regular tests at school and their grades are carefully charted so that they, their parents, and the teachers know exactly when there is a dip in their performance. This is employed as what is argued to be the "fairest" method through which to stream students by grade and

league table. Foucault (1977) has argued that examinations establish over individuals a "visibility" through which one is able to differentiate and judge them. According to this argument, students' abilities are judged and seen by their results which, in turn, make an individual visible, valuable, and understandable.

In terms of Taiwan's standardized examination format, exams are characterized as summative paper and pencil tests consisting of short questions which primarily test memory skills and rote learning, rather than encouraging critical thinking or learning. Half of the short questions in the exam paper have only one standardized correct answer, which discourages negotiation or flexibility. The effect of this, as a former Minister of Education stressed in interview:

> *'Examinations are a very harmful limitation on our children's creativity, although they are very effective for rote learning in order to produce standardized answers. This is linked to teaching style and parental expectations. To some degree, they inhibit students from doing other activities except school homework.'* (Interviewee, O1: TDC)

Galton (1995) argues that, therefore, such tests only really tell you whether a student can *recognize* the right answers, not whether they *understand* the context. Therefore, it can be argued that the aggregate mark on a league table cannot truly represent the extent of a student's abilities or his or her individual learning progress, as it does not take account of intrinsic differences between students.

In terms of exam schedules, teachers often struggle to match the strict pace of a curriculum with school test schedules; this creates a situation which arguably leads to a narrowing of both the curriculum and of pedagogy, in which the vast majority of teaching and learning is driven by formulaic whole-class listening, note-taking, and textbook reading in order to meet the strict examination timeline. Furthermore, the parental beliefs about education discussed above encourage a situation wherein there is great anxiety relating to progress felt both by students and by teachers. As argued earlier, students are generally expected by parents and teachers to keep progressing to higher educational levels. According to the MOE (2002d) survey:

73.26 per cent of primary students, 84.21 per cent of junior high students, 93.45 per cent of academic senior high students, 87.56 per cent of comprehensive senior high students, and 75.67 per cent of vocational senior high students identify study and progressing further in schools/colleges as their main problem in life. (MOE, 2002d, p. 2)

The influence of progress-led study provides a rational reason for the heavy weighting towards regular testing and examination procedures. Although many teachers and parents *do* understand the pressures of relentless competition on students, and on the nature of education, responses remain limited in many ways. In interview, a former Minister of Education claimed that:

'We all notice that teachers are under heavy pressure with regard to the rate of students passing exams and going on to the next degree. However, it is difficult to find a way to break through this in order to solve this problem'. (Interviewee, O1: TDC)

'Examinations and keeping records of progress are our customs', as a professor (SC1: WWD) who was one of the key policy-makers suggested. He argued in interview that 'we have to learn about, to understand, and to make friends with examinations, and then to turn an enemy into a friend.' He has himself proposed the concept of "creative assessment" to the government, which he recommends should be added to the assessment criteria used in entrance examinations and taken into account in school recommendations and the screening process. His argument is that this might prompt people to consider that education should be about more than achievement, competitive examinations, and a narrowly defined idea of progress. However, if creativity becomes a criterion of the entrance examinations, cram schools focusing on fostering children's creativity may start to appear.

4.5.3 Utilitarian attitudes to student learning

One of the consequences of core subject-led examinations and qualification-ism is to narrow students' perceptions of their study obligations. There are five

significant issues which have arisen out of students' predominant beliefs regarding their studies. Firstly, many students are utilitarian in that that they are more concerned with the core subjects, in order to be successful in exams and to ensure future progress. The former Premier of the Executive Office of State, Chao-shiuan Liu (1990) pointed out this educational imbalance:

In Taiwan, an abnormal pressure to progress to the next degree distorts teaching and learning, which leads our culture to being rootless. Our young people are only learning how to pass examinations in school, while other essential nutrition from cultural education is seriously omitted. Therefore, the superficial value of utilitarianism has been embedded in our nation's habitus. (Liu, 1990)

Second, many students are simply very good at taking tests for their own sake. Hsu (2001, p. 2) has observed that students become "machines for taking exams", where the most important skill has become the getting grade itself. As argued earlier, national entrance examinations and routine tests do not measure a student's learning processes. Therefore, an ethos of utilitarianism is fostered, rather than a focus on students' interests. Students have become trained in cramming knowledge from standardized textbooks, rather than in thinking or critically evaluating knowledge, in order to get high marks. As a senior teacher argued in interview:

'The examination system encourages students to think that all they need to do is to get a high mark. Naturally, students in being utilitarian will ignore non-exam related matters.' (Interviewee, T1: PKI)

Thirdly, national entrance examination results are influential in shaping students' futures and in shaping a utilitarian competitiveness between them, echoing the sentiments expressed in the Chinese proverb "one exam fixes a whole life". Many students therefore compete against each other, due to the league table. Foucault (1977) has commented on the relentless pressure of

league tables in education, arguing that:

> *The school became a sort of apparatus of uninterrupted examination that duplicated along its entire length the operation of teaching. It became less and less a question of jousts in which pupils pitched their forces against one another and increasingly a perpetual comparison of each and all that made it possible both to measure and to judge.* (Foucault, 1977, p. 186)

The fourth issue to emerge is that a competitive and comparison-driven atmosphere in school can have negative effects on students' personality development. It has been suggested, for instance, that some students lack teamwork and communication skills. This atmosphere also affects relationships between teachers. A professor who was one of the policy-makers involved in writing the White Paper indicated as much in interview:

> *'A sharing relationship between teachers is not popular. Because we all grow up through intensive competition in exams, we never have the experience of increasing knowledge or of interactive learning via sharing.'* (Interviewee, SC3: WJJ)

This tendency towards utilitarianism and qualification-ism shapes an influential belief system in which results and grades are more important than an individual's intrinsic capability. A leader of the ACER, Professor Lee (1996), argues that "qualification-ism" is not the fault of the education system itself, but is rather due to the fact that the social system misunderstands the nature of qualifications.

So far, I have discussed both the institutional and socio-cultural influences which work to limit creativity in education. In the final section of this chapter, it is important to see how policy-makers put *Creative Education* into practice within these limitations and challenges. I will illustrate some of the dilemmas for the Taipei City Government and for primary teachers in terms of the *Creative Education* implementation process.

4.6 The dilemmas for actors in the implementation process

The Advisory Office in the MOE was in charge of the policy-making process behind the *Creative Education* White Paper*, which I looked at in Chapter One. The role of the Advisory Office in the MOE is primarily as a think tank in which consultants who are also scholars from various universities are responsible for providing advice on pilot policies, rather than actively involved in policy implementation. There are only about six members of staff in the Advisory Office itself. However, whilst the demand for creative education was originally derived from academia, it has been pointed out that, 'the Advisory Office is not capable of putting *Creative Education* into practice' (Interviewee, O5: YHS). As a professor – a first-generation creativity researcher in Taiwan – argued in interview:

> *'The concept and rationale of the Creative Education agenda was originally incubated in academia. And then we inspired the Ministry of Education to launch itself into this agenda. It is a remarkable model of policy-making that was initially originated by academia, and ultimately led by academia, too. The Advisor Office just comes to help to carry out this agenda.'* (Interviewee, SC1: WWD)

At the outset of the policy trial in 2002, the Advisory Office took charge of implementation, rather than turning the responsibility for it over to other executive sectors such as the Primary or Secondary Education sectors. Consequently, these consultants were asked to oversee the process; this situation has arguably led to a serious problem with policy implementation. The limited administrative experience and legitimacy, which are both needed in policy delivery, have led to communication problems with local actors. This situation echoes the observation made in Chapter One: that policy-makers encourage teachers to cross a river by groping the stones underfoot, meaning that teachers should learn by grappling with difficulties during the teaching process. In this section, I discuss how the Taipei City Government and educators have coped with uneven policy implementation strategies overseen by these consultants from the Advisory Office, and I also discuss criticisms which have been made.

4.6.1 Dilemmas for the Taipei City Government and educators

In order to encourage local government and educators to participate in *Creative Education's* Action Plans, the Advisory Office announced to every local education authority a call for proposals, and then held two so-called "experiential workshops" around creativity for those head-teachers and teachers who were regarded as ambassadors for their respective counties. The idea of the "call for proposal" was intended to encapsulate an "empowerment of teachers" strategy, as one of the directors of the Creative Teacher Action Plan explained in this interview:

> *'In the traditional administrative structure, the teachers were passively and obediently accepting of policies. […] Recently, there have been too many new policies and slogans, because the Minister has been changed so frequently. Everybody is weary with this slippery education reform. […] We have attempted to revise the traditional model, so we have designed an invitation plan with which we have called for proposals from the schools and teachers. We have invited them to take part in our action plan voluntarily. The key to this has been to encourage a spirit of invitation and freedom.'* (Interviewee, SC4: CBL)

This strategy of encouraging a call for proposals appears to have been an attempt to engage with the schools' needs and the teachers' interests, and also to encourage greater motivation. By contrast, the aim of the experiential creativity workshops in particular has been viewed as an attempt to stimulate the teachers' intrinsic creativity, as one professor (SC3: WJJ) emphasized in this interview:

> *'A vital element of the teachers' practice is that they must have their own experiences of creativity. […] There are always problems in fostering teachers' creativity. In my opinion, in order to foster this creativity, they need to experience it directly so that they can understand the creative process. They are then able to understand creativity fully when they supervise their students.'* (Interviewee, SC3: WJJ)

The above two strategies seem to have a very clear set of aims and objectives. However, dilemmas for local authorities in relation to how to understand these aims and objectives and how to put the original intentions of *Creative Education* into practice were conveyed by a Taipei City Government officer (O4: WMN) in interview, who said that:

'We went to the second workshop, and we listened to scholars' presentations about their research findings concerning creative practice in schools, such as paradigmatic case studies. Afterwards, they asked us to go back to thinking about our own counties' strategies for promoting creative education and then to write our own White Paper. […] Nevertheless, those scholars' research projects were not as same as the counties' plans. No one understands how to do it. Are they teaching me how to write research reports? If so, they should tell me how to use the research report in practice. For (me), a local education authority's policy should be planned at the policy level, rather than at the research project level.' (Interviewee, O4: WMN)

Evidence suggests that the communication between the Advisory Office scholars and the local authorities was inefficient, and it might neglect the local actors' difficulties in terms of understanding creativity. It can be argued that this particular policy process fails to acknowledge that, in Saunders' (1986) words, "different participants […] exist in a matrix of differential […] their 'production' of policy reflects priority, pressure and interests characterising their location on an implementation staircase" (as cited in Trowler, 2003, p. 129). The evidence also implies that policy-makers may lack methods with which to carry out their strategies, as these scholars' presentations in the workshop did not help participants to experience what creativity is. Next, I discuss how the Taipei City Government itself responded to the demands in *Creative Education*.

In recent years, the Taipei City education authority has set out different key themes for each year, and employed a different slogan to highlight each aim. For example, 2006 was the year of "creativity", and 2007 was the year of

"professionalism". It has been suggested that these different key themes have often blurred the overall focus and confused teachers, who have been uncertain as to what would be coming next. As an officer (O4: WMN) admitted in interview: 'too many key themes has meant losing the main focus of education'. Moreover, teachers' workloads may also mean that they did not have time to acquaint themselves with the report. In Taipei City, teachers' workloads are higher than in other counties. As the same officer argued:

> *'The teachers' schedule is very tight and compact. As well as their teaching loads, they might need to check the students' homework, and to do the year group's research on teaching and so on. In some schools, the teachers need to present their action research annually. So it is really hard to increase the teachers' workload. We only ask the teachers to adapt their current plan to the different theme of each year.'* (Interviewee, O4: WMN)

There is a danger that teachers' levels of energy and enthusiasm are affected by the workloads that they have to take on. Chan (2001) has argued that the workload duties on teachers have had an impact on the amount of time available for professional development, and there is often only limited time for thinking in terms of creativity. This issue emerged frequently from the empirical findings in this research and was echoed by a number of teachers during my fieldwork.

Finally, the funding procedure from the MOE was very slow and inefficient. Teachers normally submitted their proposal for a project at the beginning of the year; however, the funding was only granted in September or October. This meant that teachers had to run a one-year project in two to three months. The problems for teachers in this situation meant, as a professor argued in interview, that:

> *The teachers or schools are not able to do anything before the grant is agreed. If they run the project early, they have to advance their own money. Also, they worry that their project might be rejected and not funded up to the end. […] When they receive funding at the end*

of the year, they have to use the funding quickly. If they do not
efficiently manage the budget for the project, and let examiners see
the outcomes, they will not get funding the following year. If they do
not use all the funds, the examiners will think they don't need such
an amount of money, and then will cut their next year's budget.'
(Interviewee, SC5: CCY)

These dilemmas for actors all relate to the limited experience displayed by Advisory Office scholars in formulating strategies for policy implementation; the uneven educational themes promoted by the Taipei City government each year; heavy workload duties on teachers; and the inefficient budget allocation, all illustrate the problematic nature of the policy implementation procedure and the associated political naivety. In the next section, I discuss criticisms of the *Pilot Plan of Developing Creative Education* made by examiners from the National Science Council.

4.6.2 Criticisms of the *Pilot Plan of Developing Creative Education*

The *Pilot Plan of Developing Creative Education* lasted from 2002 to 2009, and the average budget for each year was about 91 million dollars (GBP 1.8 million). The *Pilot Plan* was operated and funded by the Advisory Office in the MOE, although its outcomes were evaluated annually by the National Science Council. An interviewee (O7: CYJ) who was one of the reviewers of this *Pilot Plan* in National Science Council showed me some confidential evaluation reports which shed some interesting light on the plan's effectiveness. Three criticisms of the *Pilot Plan* emerged from these confidential comments.

Firstly, the government had invested a huge amount of money on this *Pilot Plan*. However, the reports judged that its effectiveness had been "poor" and that the plan "should be withdrawn immediately" (Confidential reviewer's comment, 2003). The 2003 report commented that:

The aims of this Pilot Plan are very abstract and ambiguous, and
there is a lack of integration and explanation in its contents and aims.
[…] Its products and outcomes are not concrete and its effectiveness

is poor. […] This plan is really style without substance. The structures of the Six Action Plans are meaningless. (Confidential reviewer's comment, 2003)

Secondly, as I have discussed above, the Advisory Office in the MOE is responsible for all the national pilot plans. However, far from being pioneering, enterprising, and based on research and development, "the contents of this *Pilot Plan* did not match the Advisory Office's requests" (Confidential reviewer's comment, 2005). For instance, it was pointed out that:

Some of its action plans, such as the dissemination of creative education and the promotion of creativity's outcomes, does not belong to the Advisory Office. Those responsibilities should be returned to the Primary Education Sector, the Secondary Education Sector, the Social Education Sector, or other related sectors, and be implemented through their current plans rather than through the pilot plan from the Advisory Office. (Confidential reviewer's comment, 2005)

Thirdly, most of the outcomes derived from each action plan were based upon running activities or festivals. This, in particular, had led to widespread criticism of the plan's effectiveness, particularly around what was felt to be a misunderstanding of creative education. One reviewer of the *Pilot Plan*, for instance, argued that "the majority of the outcomes are 'activities'; they (policy-makers) thus need to explain the progress of other aims, such as the development of the criteria informing the curricula and teaching, the criteria of the creative schools and so on" (2006 reports). In relation to criticism of the activity-led outcomes, an officer (O3: CJY) in the Advisory Office admitted this problem and explained the dilemma which she was facing:

'We have repeatedly told these local authorities, schools, and teachers that they should instill creativity into their daily teaching and not put too much emphasis on activity in their projects. However,

there is always a fault in communication. […] I am always unsatisfied at this point and think that we should change the funding application criteria, so that the applicants would have to use half of the funding on their teaching and learning. Unfortunately, my suggestion has not been taken up by those scholars (i.e. the policy-makers).' (Interviewee, O3: CJY)

The above criticisms reflect the reality that academics are not necessarily capable of taking charge of such a national educational pilot plan without the cooperation of other sectors. Further criticisms are that while their strategies for policy implementation are idealistic, they are also problematic and show the academics' limited practical experience. One professor (SC5: CCY) who was a policy-maker admitted: 'we have done so many things, but although we have not shaken free from the critical constraints on creative education, we have loosened the educational climate.'

4.7 Conclusion

So far, I have tried to sketch out a broad picture of the difficulties of developing creative education in Taiwan. I have argued that it is problematic because of the complexities of institutional and socio-cultural effects on the local actors. It is also problematic because policy implementation is influenced by an interaction of all of these factors. As Ghaill (1991) has argued:

Policy initiatives are not unproblematically translated into school practice. Rather they must be mediated through a pre-existing institutional infrastructure, composed of groups and individuals, inscribed within each school's political culture. (Ghaill, 1991, p. 311)

In relation to institutional limits on this process, I have highlighted the harmful effects of three previous educational mechanisms on the educational environment and the social values associated with education: mediocre-quality teaching, dutiful students, and an obsession with examination results and relentless competition. I have also discussed contradictions and constraints in the

three new initiatives on promoting creativity in schools, particularly with regard to the problems with the incoherent design of the new curriculum, the popularity of cram schools, the inefficiency of the new Teacher Education Law in relation to the improvement of teaching quality, and the uneven process of the Multiple Entrances Examination in terms of releasing teachers, students, and parents from the constraints imposed by the unitary exam system and an obsession with "star schools" and league tables.

As regards socio-cultural effects on creative education, the influence of particular narrow beliefs of parents about how education should be undertaken has led to intensive competition over students' achievements and hindered the possibility of more diverse styles of teaching and learning. Also, social obsessions with examinations and progress have encouraged both rote learning and "robotic" teaching. All of the above problems have encouraged student attitudes to learning that are more utilitarian, meaning that teaching has become more examination- and results-led rather than focused on the creative learning process itself.

Finally, I have discussed the policy implementation process in terms of dilemmas faced by the Taipei City Government and by top-level educators. These include strategies based on limited practical experience and a shortage of proper methods for policy implementation; the slippery educational themes set by the Taipei City Government each year; overloaded work schedules on teachers; and an inefficient budget allocation. These all serve to demonstrate the problems which are inherent in policy implementation in education. Therefore, it is perhaps unsurprising that widespread criticisms have been focused on these deficiencies, which are seen as barriers to putting creative education into practice.

In the next chapter, I move on to explore the three schools which formed the basis of my research, looking in particular at the relations between the culture in each school, the socio-cultural and institutional limitations above, and the teachers', students', and parents' perceptions of creativity.

Chapter 5

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Mapping Teachers', Parents' and Students' Perceptions of Creativity

5.1 Introduction

In this chapter I attempt to answer two main questions. Firstly, I explore the three respondent groups' (teachers, parents and students) perceptions of creativity and how they value creativity. Secondly, I consider what variables affect their valuations and perceptions of creativity, in particular with regard to the influence of social, economic, and cultural contexts. Through this exploration, I suggest that the relationship between perceptions of creativity amongst the three sets of respondents essentially reflects the influence of school culture, institutional constraints, and also parents' socioeconomic backgrounds.

I begin the analysis with an overview of the three schools that were used in the study, and considering the particular economic and cultural resources that each school enjoys. I then highlight the key characteristics of each school's catchment area, in relation to location, cultural resources, housing price, and parental educational and occupational background. Finally, I consider each school's cultural characteristics with reference particularly to the "expressive and instrumental order" (Bernstein, 1975). I look at the links which can be observed between the ethos of the teachers and some of the particular characteristics of students.

In the next part of the chapter, I explore how the three groups of respondents see and value creativity. This exploration will consider questions in relation to the three best descriptions of creativity; which two school subjects have the most/least potential to develop creativity; what creative people are good at; and student attitudes toward problem solving. I also explore how respondents value creativity in regard to who can be creative; whether girls and boys are equally creative; what it is like being creative; the relationship between creativity, achievement, and future careers; and creativity in teaching. Finally, I highlight

some of the common and distinct opinions among the respondents, and how these might be connected both with particular school cultures and parents' socioeconomic backgrounds.

5.2 An overview of the three schools

This section gives an overview of the three schools, particularly with regard to their financial and cultural resources, the characteristics of their catchment areas, and their school culture.

5.2.1 The schools

In this section, I introduce a profile of each school, noting elements such as size, the ratio of teachers to students, extra funding sources, and the teachers' backgrounds. In relation to school size (Table 5-1), Schools D and E are Taipei City state primary schools and are much bigger than School A2. The pupil catchment in School A2 is dependent on a reputable national university, and its students are primarily recruited from the university's staff, tutors' or diplomats' children. There are only two classes in each year group; hence School A2 contains 12 classes in total. However, Schools D and E are invariably obliged to increase their number of classes each year, due to their reputation for high achievement and good quality of teaching. Many parents are eager to find a place for their children here, because these parents believe that getting their children into the right kind of primary school is a crucial starting point in encouraging future educational success. Significantly, School A2 is attached to a national university, and is directly governed by the MOE, unlike D and E which are governed by the Department of Education of the Taipei City Government. Consequently, School A2 has relatively less administrative control. MOE (2008g) statistics show that the national average teacher-to-student ratio is 16.7, whereas these three case studies have ratios rather better than the national average (Table 5-1).

Table 5-1: The introduction of the three case studies

School	School D	School E	School A2
Governing by	Taipei City Gov.	Taipei City Gov.	Central Gov.
Number of classes	74	63	12

(excluding infants)			
Number of students	2196	2074	385
Number of staff and teachers	141	147	28
Teacher-to-student ratio	15.6	14.1	13.8
Statistical data from the MOE (2009)			

All three schools are well-known in Taipei City, and they receive various extra grants from the government. School D is a flagship institution for ICT education in Taipei City and receives a large amount of extra funding for equipment and for recruiting specialist ICT teachers. School E is a reputable experimental school and has a designated Sector of Research and Development containing four extra researchers. School A2 is one of the nine national experimental primary schools in Taiwan, attracting a yearly extra Development Budget of around 5 million dollars (GBP 100,000) to improve school equipment and infrastructure. The fact that these three schools gain more financial resources than the other schools was confirmed by one A1 teacher:

'Our financial support absolutely is more than that of others. My father is a head-teacher in Pingtung County (southern Taiwan). In his school, the budget for usual expenses is only 80,000 dollars (GBP 1,600) per year in total. So, if he wished to replace an air conditioner, the budget would be nearly exhausted. In contrast to A2, we have at least 150,000 dollars (GBP 3,000) for usual expenses, and we also receive over 100,000 dollars (GBP 2,000) from the university plus some extra support from parents. So, in total we have approximately 400,000 dollars (GBP 8,000) per year.' (Interviewee, T4: KZD)

As regards the teachers' backgrounds, Figure 5-1 shows their ages across the three case studies: the majorities are less than 50 years old, which is the age at which a teacher is regarded as experienced and mature. Referring to MOE (2008e) statistics, the nationwide proportion of primary school teachers aged over 50 was 14.94 per cent in 1999, and this sharply declined to 8.07 per cent in 2008. This was perhaps due to a wave of teacher retirement which happened around

the year 2000 during the educational reform period. It is clear that the teachers in these three case studies are relatively young and therefore ambitious. As regards the educational status of teachers, Figure 5-2 shows that 97 per cent of teachers nationally have at least a Bachelor's degree, while the proportion of primary school teachers who had a Master's degree was 4.1 per cent in 1999, increasing dramatically to 21.3 per cent in 2008 (MOE, 2008f). It is noteworthy that the proportion of teachers in the three case study schools who have a Master's degree is higher than the nationwide average, suggesting that they are well qualified with a corresponding high standard of teaching ability. The statistics also show that the students studying in these schools have highly motivated teachers, which in turn helps the students to move on to the more selective high schools.
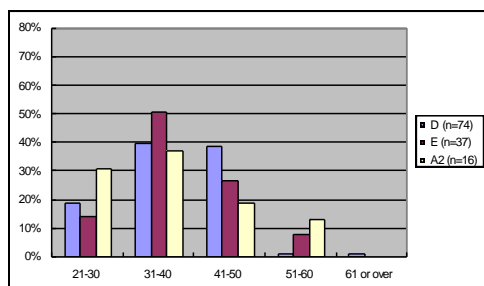
Figure 5-1: Age of teachers
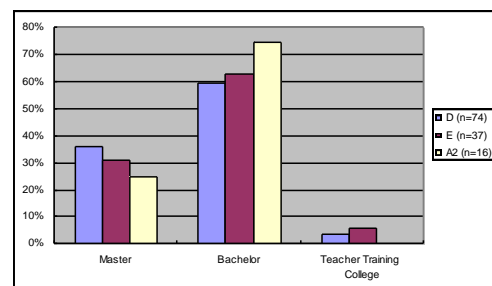
Figure 5-2: Educational status of teachers

(The response rate for the teacher questionnaire was 72 out of 141 (51 per cent) in D, 37 out of 147 (25 per cent) in E, and 16 out of 28 (57 per cent) in A2.)

So far, I have highlighted the advantages these schools seem to have in relation both to extra financial resources and also to cultural resources through their highly qualified and motivated teachers. It can reasonably be suggested that these financial and cultural resources not only maintain the schools' advantages, but also shape its rigorously competitive catchment area. In the next section, I will consider the characteristics of each school catchment area.

5.2.2 The school catchment characteristics

I begin with an introduction to the particular characteristics of the catchment areas of the three schools, in particular with regard to their geographic location, housing prices, and potential for future academic success. I also highlight parental anxiety over transferring their children's residential registration to these catchment areas.

Finally, I discuss the parents' educational backgrounds and their occupations, in order to explore the connections between parents' middle-class backgrounds, their choice of school, and their involvement in schooling.

Schools D and E are located in the heart of Taipei City, which is surrounded by various central government departments and cultural institutes. The significance of this area is similar to that of the City of Westminster in London. The most famous "superstar" junior and senior high schools in Taipei city – which appear regularly in the list of the top five "best schools" as identified in league tables – are clustered in this area. It is also evident that the housing costs in this area are the highest in Taipei City.

School D's geographic location is very close to the central government administrative area, and it is also adjacent to the rich cultural resources of the national theatre and concert hall. As the head-teacher proudly stated, "the whole community environment and the quality of society is quite high in this catchment area" (H2: CSH). Significantly, in relation to housing prices, *Now* news (8 May, 2009) reported that the average second-hand house price in this catchment is 518,000 dollars (GBP 10,000) per 3.3 square metre; this is the highest in Taipei City. This cost is an important factor in determining the economic backgrounds of students at School D.

Significantly, School E is surrounded by a history museum, a botanical garden, and some public sectors. Yet, perhaps the most significant aspect of its location is its proximity to the "first preference" senior high school, where the entry rate into national universities is the highest and a considerable number of students from here go to the top three universities. The second hand house price near to School E is 384,000 dollars (GBP 7,680) per 3.3 square metre (Now news, 2009). School E's catchment area is restricted to five small neighborhoods, although only one-third of the students live around these neighborhoods; the remaining two-thirds commute every day. This situation reflects Butler and Robson's (2003, p. 141) suggestion that "middle-class parents tend to be far less constrained (both spatially and experientially) in their choice of schools". The majority two-thirds of the students are mainly from Taipei County, because the location of School E is close to the border between the city and the wider county.

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The children studying in Schools D and E are supposed to enter "first preference" junior and senior high schools. Again, this is congruent with Butler and Robson's (2003, p. 141) observation that two significant characteristics of middle-class parents when making decisions about schools are that "they tend to be more educationally specific and more longer-term than those made by their working-class counterparts". From 2021, attending senior high school will be compulsory for all children, which means that the recruitment of students into well-known senior high schools will be based on residency in the catchment area rather than on achievement in the Basic Competence Test for Junior High School Students. Consequently, more and more parents are keen to transfer their children's residential registration to the catchment area of Schools D or E, in order to secure a place in these "superstar" schools. One teacher spoke about this parental anxiety:

> *'Student selection in this area is very competitive and strict. If parents want to get their children into the top three junior and senior high schools in this area, their children need to be registered here when they are born. Parents are therefore anxious either to buy a house in this area, or to make great efforts to transfer their children's residence register to this area.'* (Interviewee, T9: LYB)

Consequently, many Schools D and E parents are deeply interested in their children's academic achievements, and both head-teachers that I interviewed confirmed this. This special geographical area promotes what has been called very intense "meritocratic competition" (Devine, 2004), but the catchment areas themselves are privileged.

In contrast, School A2 is located in an old residential area where house prices are much less expensive than in the areas around Schools D and E. Whilst there is a national university campus nearby, the buildings surrounding A2 are generally very old residential apartments with a large number of students, and unlike the other two schools there are no public institutions in the area. However, a boom in academic-related settlement in this catchment area has helped to make house prices exceptionally higher than the average in this district. The

secondhand house price around A2 is on average 300,000 dollars (GBP 6,000) per 3.3 square metre. As argued earlier, school A2 has a strongly middle-class composition due to the large number parents associated with its affiliated university. Significantly, parents have a strong and active voice in the running of the school; one teacher explained in interview that: 'if the current head-teacher wants to manage this school successfully, he needs to have a good relationship with the parents, because the budget is from the university' (T4: KZD). Significantly, there are very few places open to the children in the nearby community, whose parents have to draw lots to gain a place for their children. One community mother told me that her daughter had waited for three years and then finally got a place in 2008. Over half of the parents of children at School A2 work at their affiliated university, and therefore approximately 50 per cent of the children are eligible to enter the affiliated university's junior high school. These students enjoy a more advantageous road to future academic success and a monopolistic advantage in regard to educational opportunity.

There is intensive competition between parents to get their children into these three schools. The children who do get in either live nearby, or, if they are unable to live in these catchment areas, then their parents invariably use social relationships to gain a place for their children. This trend is accords with Butler and Robson's (2003, p. 139) observation that "middle-class groups may skillfully, assiduously and strategically use the sphere of education to their advantage in a process of class formation and maintenance". They add that their children enjoy a comparative advantage in the education system (ibid). In this way, house prices create a clear system of "postcode apartheid" (ibid) in compulsory education, echoing Crompton's (2008) statement that "residential school segregation is occurring". This situation was confirmed by the head-teacher of School E, who explained that: 'in this school, only those parents who are from higher socio-economic backgrounds, and those who pay attention to their children's education, are able to transfer their children's residential registration into this catchment area' (H3: CYQ).

In this section, I discuss parental educational and occupational backgrounds. Figure 5-3 shows the ages of parents in the three case studies that were used in

this research. Notably, 79 per cent of parents in School A2 are under 45 years old, which is younger than those of Schools D and E. Overall, the average parental age is between 36 to 50 years old. Table 5-2 draws a comparison between national and case-specific parental educational status. It shows that the educational status of parents in the three case-study schools is higher than the national average. It is notable that nearly one in five parents (18 per cent) with children in A2 has a doctorate, and 72 per cent have either at Bachelor's or Master's degree (Figure 5-4). For Schools D and E, the number of parents who have a degree are 53 per cent and 37 per cent. It is clear that the parents in all three cases are well-educated.
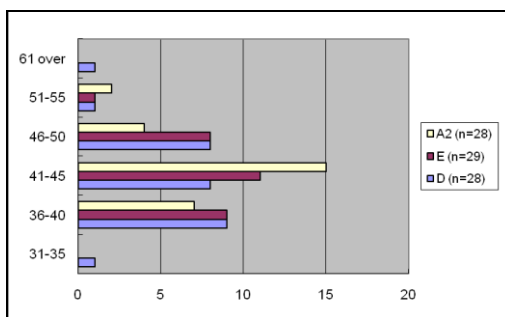
Figure 5-3: Age of parents
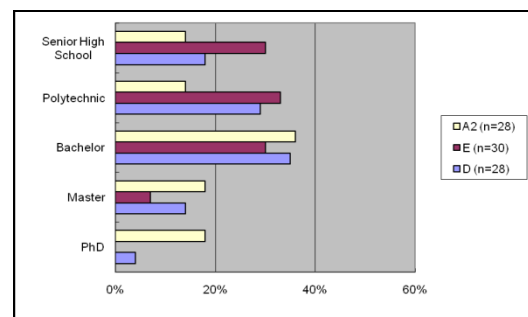
Figure 5-4: Educational status of parents

(The response rate for the parental questionnaire was 28 out of 34 (82 per cent) in D, 30 out of 33 (91 per cent) in E, and 28 out of 34 (82 per cent) in A2.)

Table 5-2: Comparison of parents' educational status

School	Master's or above	Bachelor's	Polytechnic	Senior High School
Nationwide	4.13%	18.35%	12.92%	32.43%
Taipei City	8.37%	27.84%	14.97%	27.39%
School D	18%	35%	29%	18%
School E	7%	30%	33%	30%
School A2	36%	36%	14%	14%
The nationwide data is from the National Statistics (2008) website: http://www.stat.gov.tw/ct.asp?xItem=15408&CtNode=3623 The Taipei City data is from the Taipei City Statistics Department (2009) website; http://www.edunet.taipei.gov.tw/public/pub2_content.asp?SEQ=10870				

In relation to parental occupations (Figure 5-5), approximately half of A2 parents work in public sector occupations such as the civil service, schools, or

universities. In contrast, the majority of the parents in Schools D and E work in the private sector. 50 per cent of the parents at School E run their own small businesses. In School D, a third of the parents are in professional occupations such as medicine, banking, or ICT, and another third run business. It is striking that whilst approximately 80 per cent of the respondents were mothers, very few were housewives. It is likely, therefore, that most families are double-income families. These parental occupations correspond with Crompton's (2008) description of the middle class:

> *Shifts in the occupational structure […] have resulted in an increase in those kinds of occupations which have always been categorized as "middle-class" – particularly administrative, professional and managerial occupations – as well as the expansion of new occupations such as IT experts, call-centre workers and psychotherapists. Thus the term "middle-class" encompasses a wide variety of occupational groupings. It might include relatively low-level service employees […] as well as the new service professionals.* (Crompton, 2008, p. 103)
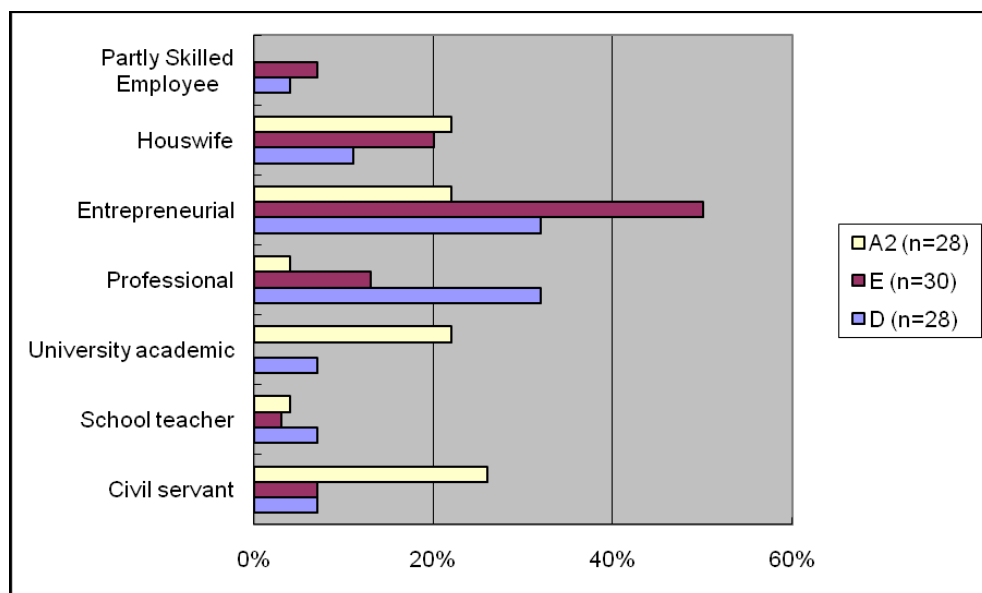
Figure 5-5: Occupational status of parents

Such educational and occupational characteristics suggest that these parents already have stable occupations and incomes, and this confirms their

middle-class status. All the parents in these case studies are able to afford exclusive housing, and have the extra economic resources needed to provide their children with extra support such as cram schools and private tuition (see Chapter Four). This echoes Devine's (2004, p. 19) suggestion that middle-class parents "use their wealth and income to secure the best education for their children, thereby increasing the probability of academic success". Moreover, these parents are very good at seeking out schools with high reputations and performance records, and in getting their children into these 'star schools'. Next, I look at how parents use their cultural resources in school extra-curricular activities.

In all three of the case studies that formed my research study, parents were evidently very keen to participate in school activities. For instance, the majority of parents responded positively to teachers' requests in the family contact booklet for parental involvement. The three classes' teachers informed me that the majority of parents – and especially mothers – check the family contact booklet every day. For example, the proportion of parents who returned questionnaires was high (School E was the highest, with Schools D and A2 joint second), and parents are also active in attending school events and sharing their social networks. For example, parents in School E are very keen to arrange extra school trips for their children. These extra-curricular activities have certain economic costs and are connected with the ability to access particular social networks. As the School E head-teacher emphasized: 'it requires money, resources, and contacts'. There is a strong parental committee in School D which is involved in consultations about textbooks, choice of food at lunchtimes, and so on. Parents in School A2 also like to participate voluntarily in teaching, as I saw in my classroom observations (see Chapter Six). A study by Lareau (1987) has focused on parental activities in schools in two US communities; her study included both working-class and middle-class parents. She suggests that family-school relationships are highly conditioned by cultural capital. She suggests that middle-class parents "saw education as a shared enterprise and scrutinized, monitored and supplemented the school experience of their children" (ibid, p. 81). Her study demonstrates that the level of parental involvement in schooling is invariably linked to the class position of the parents and to the social and cultural resources that come with a

particular social class in American society. Accordingly, Lareau (1987) suggests that middle-class parents

had educational skills and occupational prestige that matched or surpassed that of teachers; they also had the necessary economic resources to manage the child care, transportation, and time required to meet with teachers, to hire tutors, and to become intensely involved in their children's schooling. (Lareau, 1987, p. 81)

These parental attributes are evident in the case studies that formed my research programme, particularly the educational, occupational, economic, and cultural advantages which could be passed on as advantages to their children. These parents' eagerness for their children's academic success and their involvement in schooling are crucial elements shaping each school's individual culture. Thus, the importance of the relationship between catchment area and parental socioeconomic background is not just in terms of privilege, but also relates to the formation of the schools' cultural characteristics and the respondents' attitudes towards creativity. In next section, I briefly outline some of the salient cultural characteristics of the three schools which formed this part of the study.

5.2.3 School cultures

Consideration of the school's culture is important for understanding its environmental characteristics and ethos. Power *et al.* (2003) use Bernstein's (1975) analytical framework of "ritual" in education to discuss school cultures. Bernstein (1975) identified two different orders of relations which control and influence both a school's transmission of particular values and social norms and its response to this process:

An instrumental order controls the transmission of facts, procedures and judgements involved in the acquisition of specific skills, and an expressive order […] controls the transmission of the beliefs and moral system. […] The expressive order can be considered as a

source of the school's shared values and is therefore potentially cohesive in function, whilst the instrumental order […] is potentially divisive." (Bernstein, 1975, p. 55)

Bernstein emphasized that the expressive order functions to assist with the creation of a unique identity for the school, and also facilitates the transmission, reception, and internalization of the value system outside of the school. Power *et al.* (2003, p. 22) characterize the expressive order as "the complex of behaviour and activities to do with conduct, character, and manner". Regarding instrumental orders, Bernstein (1975, p. 63) argued that they are likely to be "transmitted through bureaucratic procedures which affect the curriculum, the transmission of knowledge, and the quality of the pupil-teacher relation". He explained that "the school is a major instrument of the division of labour through its control over the occupational fate of its pupils, and it has taken on a pronounced bureaucratic function" through aspects of school life such as the examination system (ibid).

The three case studies used in this research displayed various strengths and attributes in each order, but with considerable tensions and conflicts between them. Bernstein's two axes provide a useful analytical tool through which to indicate the specific attributes of the instrumental and expressive order within each school's culture.

School D

School D is one of the schools which has limited class numbers while simultaneously over-recruiting and increasing its number of classes. In Taiwan, the phenomenon of a declining birth rate has seriously affected the recruitment and retention of school teachers. If a school does not recruit enough children, the number of classes and teachers will be cut. As a result, teachers who are employed in less-known schools tend to work in a less stable situation. According to the Central News Agency (19 May, 2009), in Taipei City there was a reduction of 135 classes in 2008, with the government estimating a further reduction of 165 classes in 2009; this would make 220 teachers redundant. Nevertheless, School D is always over-recruiting and increasing the number of its classes. As the head-teacher acknowledged: 'School D is always a very good school, so the

teachers never suffer the pressure of a decline in numbers and the risk of reductions in the number of teachers' (H2: CSH). Moreover, he added that 'the teachers are proud that School D is one of the three flagship schools in this area' (H2: CSH). His talk demonstrated a strong sense of superiority.

School D is seen as a flagship for ICT education in Taipei City. As I have already stated, it receives extra funding from the Taipei City Government to pay for an information manager and for specialist ICT teachers so that the school can develop the use of technology and media in teaching and learning. As the present head-teacher explained:

'Expertise in ICT education is our key characteristic, and it has been developed as a key theme for six years. We are a brand and gatekeeper for the development of ICT education in Taipei City; therefore, we can enjoy the best resources and the newest developments in schools.' (Interviewee, H2: CSH)

In school D, every classroom is well equipped, with a computer, internet access, and projector. There are four ICT teachers, including two professional computer system managers. Due to this background, School D was appointed by the Taipei City Government to handle the Creative On-line Learning Database project as part of the six action plans. The teacher with whom I worked was responsible for managing the database.

The head-teacher stressed that 'the school leadership is focused on creativity, and the development of students' capability has expanded in diverse directions' (H2: CSH). It is clear that the head-teacher is trying to position School D as having a cosmopolitan outlook, and that the school not only enjoys a high academic reputation but also contains extensive facilities which provide a creative environment. Therefore, it could be argued that the expressive order in School D is clearly apparent in teachers' ambitiousness and high level of commitment in relation to attending training workshops and joining professional teaching societies. The teachers are keen to enter teaching competitions held by government, and there is an annual review in school where teachers can present

their research or practice. In addition, School D teachers have various opportunities to cooperate with academics, like the Science teacher who participated in a national project concerning the nanotechnology teaching, and the special education teacher who was currently working with psychology professors to deal with autistic children. The head-teacher therefore show-cased these "high-calibre" teachers:

'We have our own mechanisms, such as the teaching support system, teaching visits, and community resources, for encouraging teachers to develop curricula that can gradually nurture teachers' abilities. We enjoy this climate and culture of innovation, so you can see teachers employing various ways of presenting their creativity in active research and Science exhibitions, etc.' (Interviewee, H2: CSH)

Instrumentally, the students' high standard of academic performance is an advantage and also a tradition in School D. As the head-teacher commented: 'School D's examination performance of the Taipei City Trail Basic Competence Test (similar to the SATS in Key Stage 2) is visibly much higher than the average for Taipei City' (H2: CSH). I mentioned above that School D students are supposed to enter the "first preference" Junior High School in order to jostle for a place in the top secondary schools. The students recognize this as their mission and as a result they are quite self-disciplined and well-behaved. This characteristic student disposition suggests at least some degree (although it is difficult to quantify how much) of utilitarianism, and less attention to non-academic subjects. This was apparent during my observation period, and is perhaps related to the fact that, as the head-teacher admitted: 'parents are more concerned with their children's academic achievement rather than subject content' (H2: CSH). It was also apparent that these students are comparatively obedient and organized, but relatively less active and adventurous. This could be discerned from the students' work as seen during my research, in which the majority of the students' websites rigorously followed the ICT teacher's instructions (I will discuss this in next chapter). All these issues echo Power *et al.*'s (2003) suggestion that there is a close connection between the school culture and the characteristics of its

students, as controlled through admission policies and teaching practices. In School D, teaching is very much tied to examination performance and competition.

School E

The head-teacher of School E, who followed the bureaucratic training procedures to be a head-teacher, has worked his way up over 18 years from being a class teacher, group leader, and deputy head, to head-teacher. He was the most senior head-teacher in these three case studies and this is likely due to his previous teaching experience, in which he placed a lot of emphasis on the role of the teacher in relation to creative education. He said:

> *'Teaching is like a kind of art. If teachers want to reach that level,*
> *they need to develop new ideas and approaches to teaching, and*
> *also to change previous practices; for me that is creative.'*
> (Interviewee, H3: CYQ)

School E is renowned for its research and various experimental teaching projects. It also has a purpose-built Section for Research and Development, placing a strong emphasis on research and experimentation in both teaching and curriculum. In addition, it recruits new teachers independently, rather than accepting teachers as allocated by the government. This emphasis on independent recruitment enables School E to seek out high-calibre teachers amongst the various student teachers. As the head-teacher emphasized: 'we enjoy a strong competitive advantage because the quality of teachers and continuing professional development is above standard' (H3: CYQ).

Demonstrating the more expressive side of the debate, the teachers' ethos demonstrates strong identity and obligatory rituals. As Bernstein (1975, p. 55) has pointed out, consensual rituals give the school its specific identity as a distinct and separate institution. Due to its independent recruitment of teachers, only those teachers who identify with the school culture are able to get into this school; those who do not can choose other schools where their jobs will be more relaxed and easier. Peer competition, as the head-teacher commented, meant that:

'In this school, many teachers believe that they have a mission to give distinguished performances or develop innovative teaching, compared with other schools where just a few teachers are willing to try new approaches. So the relations between School E teachers are of mutual encouragement and competition, which means teachers need to show their own unique characteristics.' (Interviewee, H3: CYQ)

The majority of School E teachers were certainly very eager to share their experiences. Some of the senior teachers who are members of the Teaching Counseling Group in Taipei City are invited frequently to many other schools to talk about their practices. Recently, the MOE tried to implement a trial initiative for the inspection of teachers in primary schools (mentioned in Section 4.4.2); however, this required the agreement of one-third of the teachers in a school. In School E over one-third of teachers readily agreed to participate in an inspection of professional development, but in other schools a sufficient number of teachers was not achieved (I discussed the absence of rules to persuade teachers to change their approaches in Section 4.4.2). There is a pronounced expressive emphasis evident here, as described by a junior teacher:

'Before I entered this school, I heard that the teachers are very earnest about teaching. However, when I took part in the first seminar with other teachers, I was very impressed that these teachers are truly earnest and have faith in teaching. The most important thing is that they build a solid foundation for learning. Therefore, you think that you should be earnest like that as well.' (Interviewee, T6: LCZ)

School E displays an active atmosphere where teachers spontaneously develop high personal standards of teaching and continuing professional development. Particularly noteworthy is the fact that there is no inspection of teaching, but that 'teachers have a sense of responsibility' (T6: LCZ). In Bernstein's terms, the expressive order controls the transmission of beliefs and

the moral system (1975, p. 55), as is evident in the way that the moral image of teachers has been highly emphasized in School E.

As regards the instrumental order, there was a less pronounced emphasis on academic achievement and competition in the head-teacher's responses. Unlike School D, which is known for its elite competition, School E is known for its encouragement of self-exploration and liberal learning. The students enjoy comparatively more flexible and individualized learning, accompanied by the innovative practices of high-calibre teachers. The characteristic of students is more ambitious and individualized. During my observations, there was evidence that students were actively encouraged to think differently and critically in discussions, which attracted a flood of fresh ideas. This is perhaps due to extra-curricular activities being well-organized and encouraged by teachers and parents, who allow students to learn *beyond* core-subjects. For example, the Science teacher who was the focus of my fieldwork set up a society called the "Ecological Envoy". He always works with parents to take students to visit various protected ecological areas and to take part in Science competitions. In School E, as the head-teacher explained, 'there are strong supportive working relationships between teachers and parents' (H3: CYQ); this echoes Jeffrey and Woods' (2003) suggestion that "critical others" support for teaching plays a key role in enhancing the charisma of the teacher.

School A2

The head-teacher at School A2 used to be a research deputy head, and he was then was elected to being a head-teacher in 2006. He is the youngest head-teacher out of the three case studies. He is also a Doctor of Public Administration and, as a result, he placed a great emphasis on democratic leadership during his interview. He highlighted the liberalization in A2:

> *'Why this school is so unique is because it does not have a clear hierarchy. The relations between teachers, the head-teacher, and deputy heads are parallel. Many decisions are made through discussions and agreements; hence, individuals enjoy a great sense of ownership. For instance, the class teachers enjoy wide latitude for*

creation and development.' (Interviewee, H1: CKH)

The process for recruiting new teachers in A2 is the same as in E; the school can choose the teachers who best fit the school's needs. Before educational reform, ordinary schools had to accept the allocation of teachers from government, and they had no choice. The procedure for recruiting a teacher in A2 is through the Teacher Governing Committee which comprises a public interview involving two professors, a head-teacher, teachers, and parents. As the head-teacher noted, 'this is a diverse participatory method'.

On the expressive side, regulations are less emphasized in A2. School A2 promotes an environment where the teachers are completely respected and there are very few controls. The teachers are given lots of freedom and flexibility to develop their own practices, which is like an 'individualized challenge'. The head-teacher emphasized this ethos:

> *'When I entered this school, I found the powers controlling me were very few. So, there were no taboos or scruples in my mind. I was able to try different approaches to teaching and to interact in a relaxed way with students. In addition, many parents had studied abroad in America and appreciated the American democratic style. In A2, children have more freedom, unlike in the Chinese tradition.'*
> (Interviewee, H1: CKH)

The school culture and the parents' westernized background seem to provide the greatest support for these diverse practices. Moreover, there is an Excellent Teacher Award given in A2, for which one teacher is selected every year. This has a significant meaning, in that the Excellent Teacher receives his or her award together with professors being awarded in the affiliated national university: 'This is a notable recognition of excellent teaching', as the head-teacher acknowledged. He also emphasized that the teachers who got this award belonged to a creative type with a nimble brain, and that they always designed their own curriculum and teaching materials. It is similar to Jeffrey and Woods' (2003) observation that "an appreciative ethos" of creativity in a school

encourages uniqueness.

In the instrumental order, there is a much less of an emphasis on student discipline and examinations. Firstly, there is no competition over who has the neatest classroom and or the most disciplined class in A2. The teaching style, in terms of management, 'belongs to the Athenian Educational style rather than the Spartan Educational approach and is characterized by a very student-led learning environment', as the head-teacher noted:

'Previously, teachers who were not able to get on with students would leave in three years. They thought that it was too hard for them to teach the students in A2. In contrast, the teachers who are able to stay here for more than five years would love it here and settle down until they retired.' (Interviewee, H1: CKH)

A2 students are unique and comparatively independent in terms of their ways of studying. In my observations, there was evidence that they directed their own plans to some degree and that the teacher acted as a coach. One noticeable characteristic of the students is that they are relatively less obedient and disciplined, but very individualized and uninhibited. Unlike in School D, where there was a lack of cooperation, a significant observation relating to A2 was the amount of team-work and interaction between pupils. There was a strong emphasis on freedom, which might explain why each classroom shows a very different ethos.

Secondly, there is notably less of an emphasis on academic achievement than in the other schools. Although the head-teacher stressed that A2 was not solely focused on the Humanities and Arts, but that it also has a detailed plan for teaching all the core subjects, A2 only holds two regular tests in every term, whereas Schools D and E have three tests every term. Moreover, the homework assigned to A2 students takes on average one hour to complete, while students in ordinary schools may have two to three hours of homework. A2's less instrumental order is perhaps because over half of the students can enjoy the privilege of entering the affiliated university's Junior High School. Consequently, A2 students

and teachers are less constrained by the need to follow the pathway of the current educational system.

5.2.4 Discussion

From the above discussion, I have highlighted some of the key differences which characterize the three schools. Table 5-3 illustrates this comparison between the three schools' chief characteristics.

School D is an achievement- and progress-led school, situated in a very affluent, meritocratic, competitive catchment area. The area's house prices, parents' socioeconomic resources, and their budget for cram schools, are noticeably higher than the other two schools. On the expressive side, teachers are ambitious and competitive when it comes to continuing professional development (CPD), which may be related to the school's reputation as high-performing and as having a competitive school culture. On the instrumental side, students' learning is progress-led and utilitarian, which matches parents' high expectations concerning progress and meritocratic competition.

School E is something of a research pioneer school in a very restricted catchment area. Largely affluent parents use their social networks to transfer their children's residential registration to this school's catchment area. As regards the expressive order, the teachers are obligated to develop innovative practices which permeate through mutual encouragement and competition between teachers. In the instrumental order, students' learning tends to be relatively more flexible and self-exploratory, linked with well-organized extra-curricular activities arranged by teachers and parents.

School A2 is a relatively liberal and democratic school, very different from the more conventional Schools D and E. The parents are affluent intellectuals, working either in the university or public sectors, and they enjoy a privileged position in that their children are guaranteed a place in school A2. In the expressive order, the teachers enjoy more freedom to develop a more individualized practice. In the instrumental order, the students have more control over their learning and there is respect for their personal interests. The

individualized performance of both teachers and students is highly related to the school's appreciative ethos and a parental 'westernized' attitude toward education.

Overall, the three schools enjoy varied financial and cultural resources, such as extra funds, high-calibre teachers, and access to nearby cultural facilities. Their middle-class parents also show a great deal of involvement in schooling and distinctive attitudes to their children's learning. These factors may be reflected in the attitudes of teachers, students, and parents towards creativity, and also in the teaching and learning that take place in the classroom, which I will discuss in Chapter Six.

Table 5-3: Overview of the three cases

	School D	School E	School A2
School	State school	Experimental school	Experimental school
Extra funding	ICT education fund	Research and development fund	Development Budget
Housing price (per 3.3 square metre)	£10,000	£7,680	£ 6,000
Parents' background	Affluent professionals	Affluent businessmen	Affluent intellectuals
Expressive order (Teachers)	Ambitious CPD	Obligated CPD	Individualized CPD
Instrumental order (Students)	competitive learning	flexible learning	liberal learning
School culture	progress-led school	research pioneer school	liberal school

5.3 Respondents' perceptions of creativity

In this section, I focus on analyses of the data derived from the attitude to creativity questionnaires completed by the teachers, students, and parents (see Appendices 5–7). It starts with a comparison of respondent opinions at each school, before considering the schools as a whole in order to explore the

differences between them. The aim is not only to capture different aspects of respondent views on creativity, but also to explore which variables *affect* their perceptions of creativity. Comparing the three schools, there are differences between teachers as regards teaching ethos, between parental socio-economic backgrounds, and between the characteristics of students. I explore whether these diverse school cultures influence the perceptions of creativity of the three kinds of respondent (teachers, students, and parents).

5.3.1 The three best descriptions of creativity

From the outset, I asked respondents to identify the three best descriptions of creativity from a choice of eight: imagination, design, creation, crazy ideas, taking risk, unusual ideas, problem finding, and breaking rules.

Table 5-4 shows the three school responses to the three best descriptions of creativity. Unsurprisingly, descriptions relating to imagination are placed at the top by respondents in all the three schools. The adults apparently tended to choose modest and safe descriptions, such as 'unusual idea', 'design', and 'creation', rather than those arguable descriptions, such as 'crazy idea', 'taking risk' and 'breaking rules'. There is a significant difference between parents from the three schools. Thirteen parents in School D and sixteen parents in School A2 placed problem finding as the second best description of creativity, however, relatively few School E parents (8) agreed with this. Interestingly, 81 per cent (30/37) of the parents who chose "problem-finding" have a polytechnic degree or above. It is also noticeable that the majority of School E parents who chose 'problem-finding' run their own small business.

Significantly, the descriptions of 'taking risks' and 'breaking rules' were consistently ranked at the bottom. This could be a cultural issue, in that the school culture would not appreciate risky and rule-breaking behaviour, and also that the respondents tended to see the two terms as negative and wicked. However, it is interesting to note that A2 informants (particularly parents, at 11 per cent) are more able to agree with the description 'breaking rules'. A total of 19 parents overall chose 'breaking rules', and these all had a polytechnic degree or above; six were School D parents, and they were all professionals: a physician, a banker,

and IT expert, and a university tutor. Parents' responses to the descriptions 'problem finding' and 'breaking rules' imply that well-educated parents may have better creativity literacy, and that their understanding of creativity may be related to the requirements of their jobs.

Finally, the evidence showed that students' responses tended to focus on creative production and performance, such as 'unusual ideas', 'design' and 'creation', rather than the creative process, such as 'problem finding', 'breaking rules' and 'taking risks'.

Table 5-4: The three schools responses to the three best descriptions of creativity

School D

School E

School A2

Comparison of problem finding

Comparison of breaking rules

Comparison of taking risk
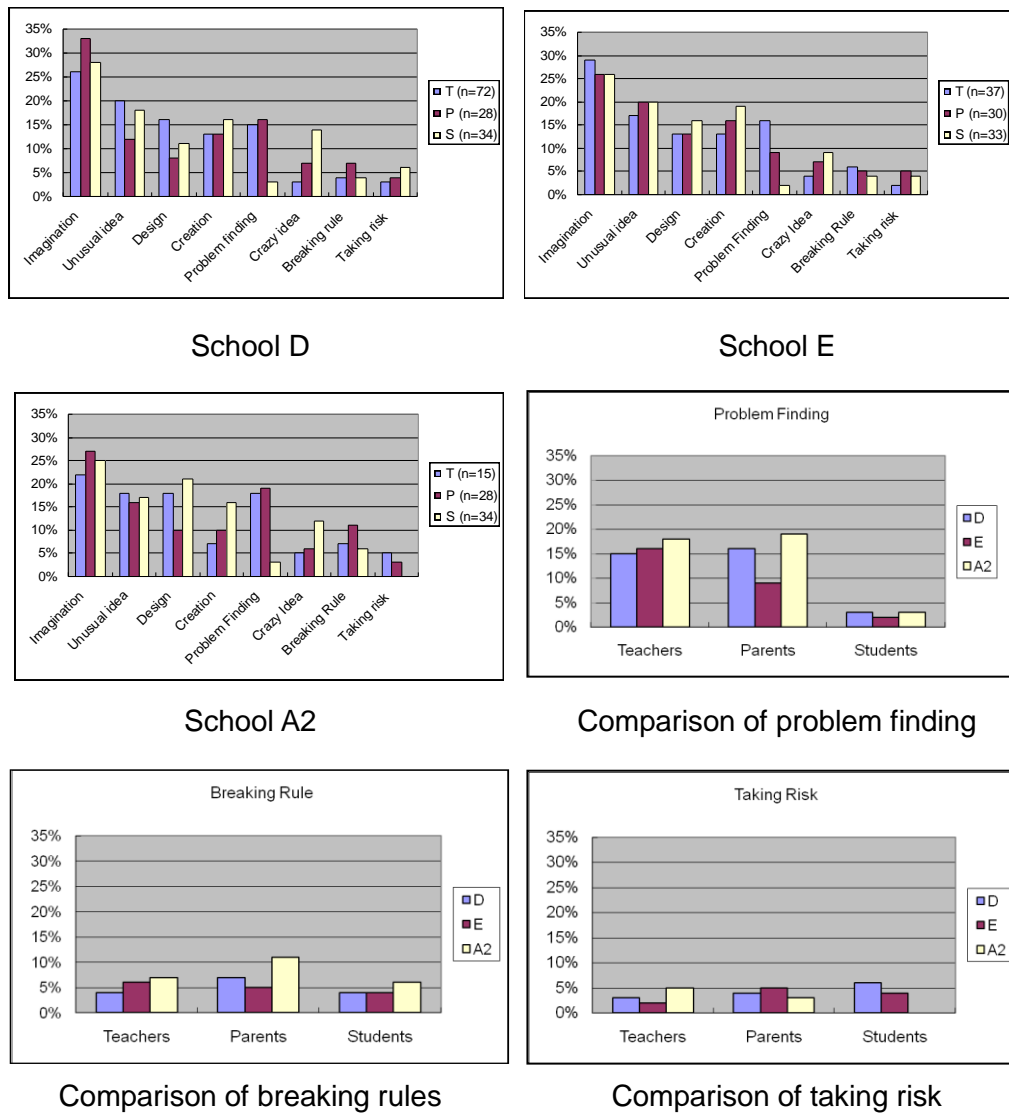
5.3.2 The creative subject versus the less creative subject

In this section, I consider how respondents evaluated the possibility of developing creativity in the current curriculum. In particular, I look at any tendency to favour either creative subjects or less creative subjects. The question asked respondents to choose their top two and bottom two school subjects in relation to their potential for developing creativity in the classroom. A key objective in this section is to investigate whether ideas about creativity are narrowly focused on specific curriculum or non-core subjects, or whether they are more diverse.

Table 5-5 shows rankings from School D respondents. In relation to the creative subjects, there is a dramatic difference between respondents. Parents placed Science (40 per cent), Arts (21 per cent), and Maths (21 per cent) all in the top three, showing that they were focused on both artistic and scientific spheres, and on both core and non-core subjects. By contrast, the teachers' top two were Arts (28 per cent) and Group Activity (18 per cent), while the students' top two were Arts (35 per cent) and ICT (15 per cent) – in both cases, focusing mainly on either the artistic sphere or non-core subjects.

Regarding the less creative subjects, a high proportion of parents and students ranked Chinese and Social Studies, which mainly focus on humanities and core subjects, as the bottom two subjects. However, the teachers ranked Maths (28 per cent) and Social Studies (19 per cent) in the bottom two, with Chinese (12 per cent) third from bottom, which implies that the teachers mainly focus on core subjects. Finally, it should be noted that Music was ranked neither as a creative subject nor as a less creative subject.

Table 5-5: School D respondents' opinions of the most/least creative subjects
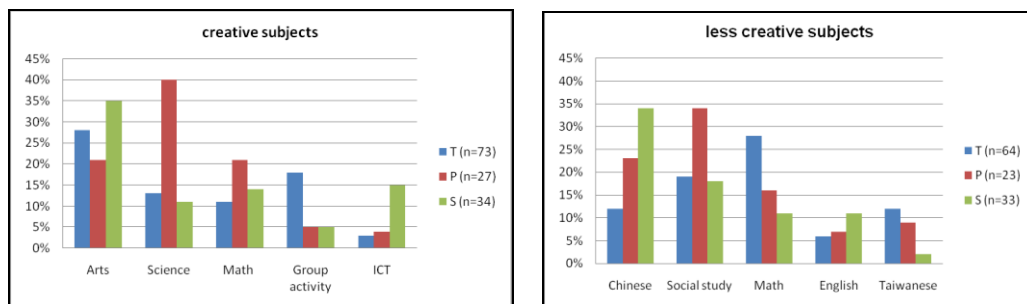
Table 5-6 shows ranks from School E respondents for the two most and two least creative subjects. In relation to the more creative subjects, the three categories of respondents showed distinct opinions. The parents ranked Science (34 per cent) and Maths (24 per cent) as the top two, thus mainly focusing on scientific subjects. By contrast, teachers showed a more comprehensive viewpoint in which Arts (33 per cent) and Science (33 per cent) were identified as the top two subjects. The students' view was the same as for School D students, in that Arts (33 per cent) and ICT (15 per cent) were the top two subjects; thus they mainly focused on the artistic sphere and on non-core subjects.

Regarding the less creative subjects, a high proportion of parents ranked Social Studies (39 per cent) and Chinese (23 per cent) as the bottom two, mainly focusing on humanities and core subjects. Similar to School D teachers, School E teachers raked Social Studies (31 per cent) and Maths (23 per cent) as least creative, with Chinese (12 per cent) in third place; this shows a focus on core subjects, especially in terms of humanities. Finally, students' views were varied, but they tended to focus on the core subjects, including Maths (23 per cent), Chinese (22 per cent), and Social Studies (17 per cent). It should be noted that 16 per cent of students thought of Science as a less creative subject, while none of the adults took this view.

Table 5-6: School E respondents' opinions of the most/least creative subjects
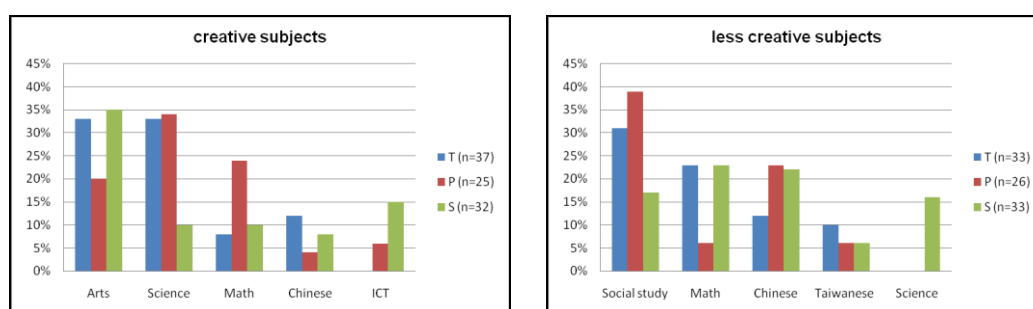
Table 5-7 ranks the responses of school A2 for the two most and two least creative subjects. As the most creative subjects, a relatively high proportion of teachers (40 per cent) and students (49 per cent) placed Arts at the top, with Science in second place. By contrast, the parents also placed Science (33 per cent) and Arts (30 per cent) in the top two. The evidence shows that their responses included not only artistic and scientific subjects, but also core and

non-core subjects, as creative subjects. It is noticeable that some adults placed Music in the creative subject list.

With regard to the two less creative subjects, the three categories of respondents showed very different views. A high proportion of students ranked Maths (55 per cent) as the least creative subject with Chinese (24 per cent) in second place, which shows that they mainly focused on the core subjects. Interestingly, and similar to the parents at the other two schools, School A2 parents also chose humanities including Social Studies (35 per cent) and Chinese (26 per cent) as the two least creative subjects. Finally, the teachers placed Taiwanese (27 per cent) as the least creative subject, which was very different from the choice of other respondents.

Table 5-7: School A2 respondents' opinions of the most/least creative subjects
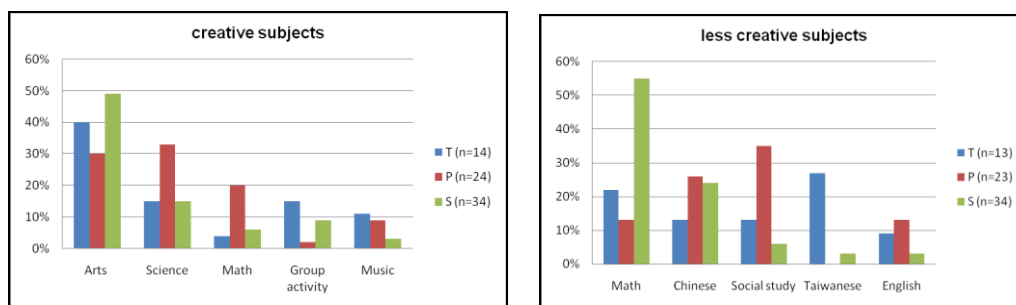
Overall, parents showed similar views on the most and least creative subjects. The parents included Science, Maths, and Arts as the most creative subjects, thus covering artistic and scientific spheres, and core and non-core subjects. Regarding the least creative subject, the parents agreed by choosing the humanities subjects of Social Studies and Chinese. This might suggest the existence of Taiwanese social prejudices which regard artistic and scientific spheres as requiring more creativity than humanities.

Regarding teachers' opinions, teachers from Schools E and A2 viewed Arts and Sciences as the top two most creative subjects, thus including both artistic and scientific spheres, and core and non-core subjects. A high proportion of the School A2 teachers ranked Arts as the most creative subject, which matched the school's emphasis on this area. By contrast, School D teachers mainly focused on non-core subjects (Arts and Group Activity), which might be related to its

progressive school culture in which only non-core subjects tend to be given room for creative practice. Regarding the least creative subjects, the teachers' views were varied, but they mainly focused on Maths, Social Studies and Chinese, which might be related to the school's intensive tests and very limited pedagogy for teaching these subjects.

In terms of students' opinions, students from Schools D and E mainly view non-core subjects such as Arts and ICT as the two most creative subjects, which imply that they may experience more freedom and room to express their creativity in non-core subjects. By contrast, School A2 students had a wider view of the most creative subjects, which included Arts, Science, and Group Activity as the top three; their teachers gave the same answer, which may accord with the liberal school culture at School A2, where the teachers and students enjoy more opportunities for creative practice in either core or none-core subjects. The students identified Maths, Social Studies and Chinese as the three least creative subjects, which was similar to the teachers' views.

However, it should be noted that students' perceptions of what makes a subject creative or less creative are likely to be dependent on the subject teacher. A number of students told me that the Social Studies lesson is very boring, rather than creative, because the teacher sometimes just reads the textbook – thus it is not the subject *per se* but its pedagogy that is the issue. Perceptions might also be related to students' assessment results in a subject. For example, some students explained to me that Maths is a less creative subject, because they cannot get a high mark. There is a reasonable argument to suggest that these two factors – pedagogy and assessment – are perhaps likely to influence teachers' and students' views on the most and least creative subjects.

Finally, it is interesting that rankings for Arts and Music varied noticeably (Table 5-8). It may be that many respondents' ranking of Arts subjects suggests a prejudice that creativity is found only in the field of Arts, or that, because Art is not a core subject, it allows more freedom to develop creativity. However, this poses the question of why they did not choose Music. In terms of students attending cram schools, 16 per cent of students have extra Music lessons outside school, even private Music tutors, but only 4 per cent of students take a drawing course. It

is possible that Music is ranked lower because respondents believe their opportunity to develop creativity in school is limited due to equipment and teacher shortages, requiring extra supply from outside schools.

Table 5-8: Comparison between Arts and Music
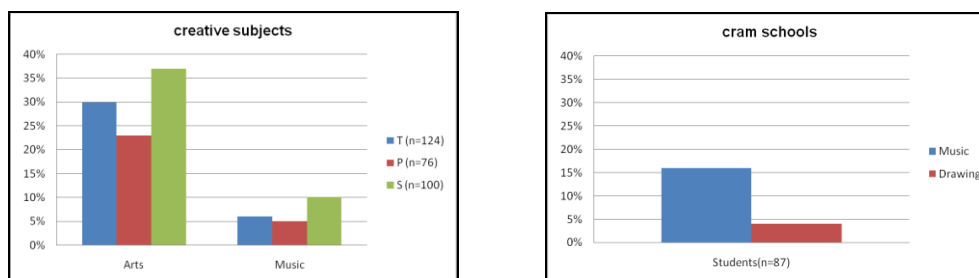
5.3.3 Seven dwarfs: what are creative people good at?

This section explores what respondents consider that creative people are good at; in particular, whether there is a focus on specific talents and skills. The question asked respondents to identify three creative dwarfs from seven dwarfs: the first dwarf, Yu, is very clever and has a high IQ; the second dwarf, Hua, is good at drawing and always wins competitions; the third dwarf, Lun, likes playing music and writing songs; the fourth dwarf, Fu, is good at studying and always gets full marks; the fifth dwarf, Nu, is good at maths and can solve mathematical questions in different ways; the sixth dwarf, Ming, likes playing baseball and can pitch the ball in a number of ways; the seventh dwarf, Lon, likes playing computer games and is good at experimenting with different ways to win the games.

Table 5-9 shows the opinions of respondents at the three schools about what creative people are good at. The adults consistently placed the fifth dwarf (good at maths) and the third dwarf (good at music) as the top two creative people. It is interesting that the teachers in the three schools and the School A2 parents placed the seventh dwarf (good at computer games) and the sixth dwarf (good at baseball) at the third and fourth places, rather than the second dwarf (good at drawing) and the first dwarf (high IQ). This suggests that these adults may have diverse views of what constitutes creativity and creative performances. It also suggests that the media and contemporary youth culture may influence some adults' perceptions of creative people. For example, I used a Taiwanese pop star's

name (Lun) to suggest that the second dwarf could write touching songs such as those of the singer Lun, and used a famous Taiwanese baseball pitcher's name (Ming, who currently plays for the Washington Nationals in Major League Baseball) to hint that the sixth dwarf could throw a varied assortment of pitches. Interestingly, the computer game industries have more recently been promoted by both government and media. News about young people who have won international computer game competitions, such as the "Intel Extreme Masters" and the "Taiwan Amusement Exhibition", are trumpeted by various media in Taiwan. These well-known music, baseball, and computer game stars may form a new wave of creative people. Therefore, it is reasonable to suggest that media, government economic strategies, and youth culture may be gradually reflected how adults associated with the three schools perceive creative people.

On the other hand, a relatively high proportion of students, particularly at Schools D and E, still connect creative people's expertise with artistic skills, such as music and drawing. It also should be noted that approximately one-third of the students overall still linked creative people with having a high IQ. Furthermore, a relatively low proportion of students chose the fifth dwarf (good at maths), which might be related to their view of Maths as a less creative subject. Finally, the evidence suggests that adults may have a broader outlook on the expression of creative people than children.

Table 5-9: The three schools response to what are creative people good at
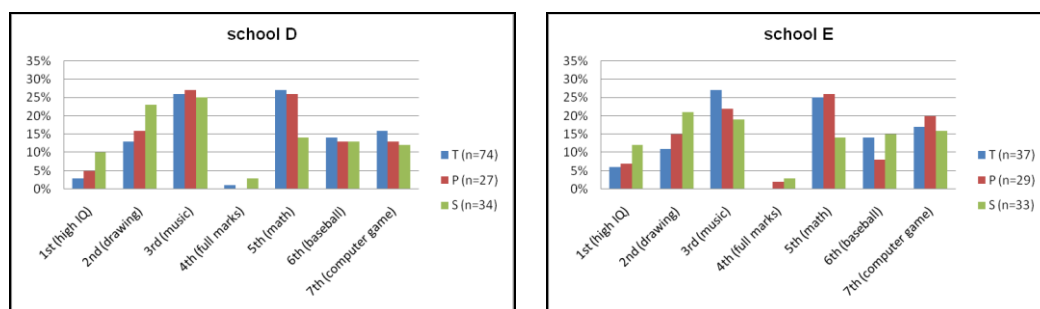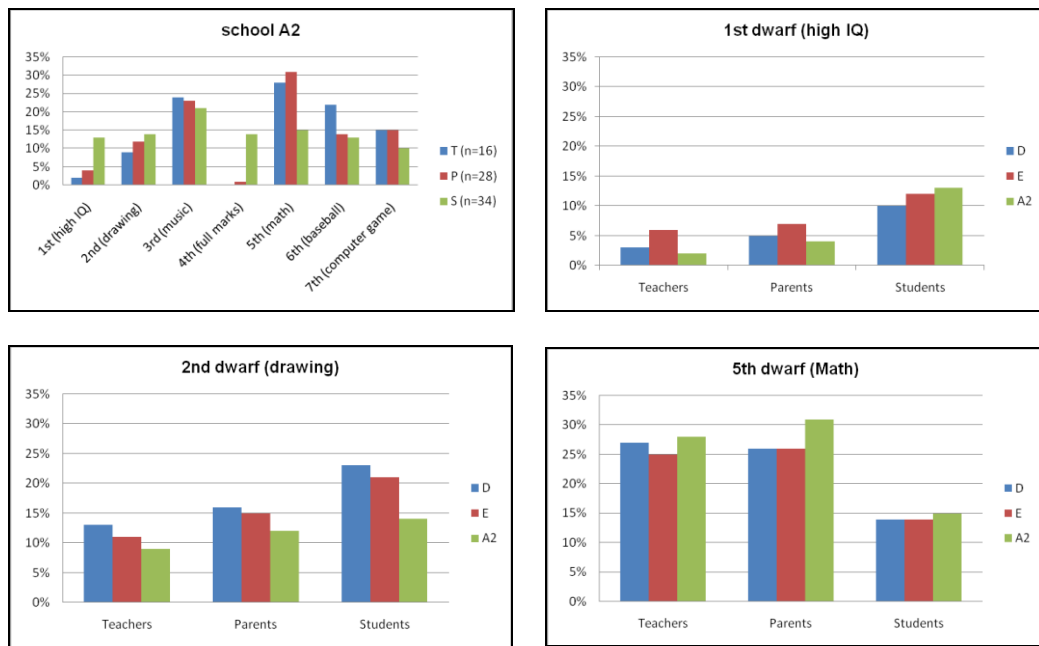
5.3.4 Student attitudes towards problem solving

In this section, I explore students' attitudes to problem-finding and solving. I gave a series of questions based on an imaginary situation where students are in a 'magic potion class'. Students were asked to imagine that they were going to make a 'surprising magic potion'. The first question asked students how they would start to produce their own magic potions, and they had to choose one option from six.

Table 5-10 ranks students' responses. The second option was the most popular choice and showed that a relatively high proportion of students from Schools D and E wished to try out original or fresh ideas. On the other hand, students who chose either option 5 or 6 demonstrated a willingness to experiment and take risks within textbook boundaries. A comparatively high proportion of School E students belonged to this type. Option 1 was for students who might try to play at the edge of a safe task; however, no School E students and only a low proportion of students from Schools D and A2 chose this. Finally, a very low proportion of students chose option 3 or 4, which would have involved working within very limited endeavour and without trying something different. Students from Schools D and E demonstrated a more ambitious attitude than those of School A2. Over half of the School A2 students preferred to work within textbook

boundaries and this was reflected in the students' ceramic mug designs. Although the Arts teacher (Ms Wu) said that each student's mug design was different and unique, their designs did not go beyond the boundaries of my instruction (more discussion is in the next chapter).

Table 5-10: The students' responses about producing a magic potion in a potion class

Option	D (n=33)	E (n=33)	A2 (n=33)
2) Create a new magic potion by yourself, and then try to test it out.	64%	52%	37%
6) Search in the textbook, find an interesting magic potion which you've never tried, and then break some rules to produce it.	12%	33%	21%
5) Search in the textbook, find an interesting magic potion which you've never tried, and then modify a few rules to produce your own magic potion.	12%	12%	12%
1) Search in the textbook, find an interesting magic potion which you've never tried, and then follow the steps in the textbook to produce it.	12%	0%	18%
4) Follow others' ideas, and then make the same magic potion.	0%	0%	9%
3). Make the same magic potion as you have made before.	0%	3%	3%

The second question asked students how they would solve unanticipated problems during the experimentation process. They were asked to envisage unexpected problems in the process, and how they would deal with those problems. They were asked to choose two out of six options (Table 5-11).

Table 5-11 shows student attitudes toward problem-solving in relation to this task. About one-third of the students from Schools D and E chose option 2, meaning that these students felt they were more likely to cope with "critical incidents" (Tripp, 1993) and to bring ideas together independently towards a solution. In relation to other methods of finding a solution, a very high proportion of School A2 students liked to discuss the problem with their classmates (26 per cent)

rather than their teachers (12 per cent). This is perhaps due to School A2's collaborative classroom atmosphere. Surprisingly, no students from School E liked to discuss a problem with a teacher, and only a low proportion would do so with fellow students. There was one interesting trend in that 18 per cent of School D and School E students seemed to prefer finding solutions from textbooks rather than discussing them with classmates or teachers. Options 3 and 6 were provided to see how many students might tend to ignore a problem, or possibly be unable to deal with critical incidents. Students from Schools D and E showed great ambition in response to the first question, but, by contrast, a high proportion chose options 3, 4, or 6. This suggests that a high proportion these students would deal with problems either passively or assertively, rather than by learning collaboratively with peers or teachers.

Table 5-11: Students' attitudes to problem-solving in the process of the experiment

Option	D (n=34)	E (n=33)	A2 (n=33)
2) Review the steps of the experiment and quality of materials, and then find and solve the problems by yourself.	32%	31%	22%
5) Discuss with classmates how to find the solution.	10%	10%	26%
1) Ask Professor Slughorn how to deal with it.	9%	0%	12%
4) Open your textbook to find the answers.	18%	18%	15%
6) Throw away your magic potion, and then make a new one	17%	20%	8%
3) Ignore the problems and carry on your experiment.	14%	21%	17%

The third question asked students how they would deal with an unsuccessful outcome. They had to imagine what they would do if their magic potion were not working, and how they would deal with this outcome. Again, they were able to choose two out of six options (Table 5-12).

Table 5-12 illustrates student responses for dealing with an unsuccessful outcome. Options 1, 3, and 6 were designed to show how many students were likely to explore their learning independently and positively, and to reflect critically. In all three schools, a high proportion of students showed a positive attitude to an

unsuccessful outcome. Choosing options 4 or 5 implied possible awareness of the need to check things out and to ask for help. Some School D and School A2 students liked to find the solution to a problem by discussing it with their teacher or with peers. A relatively low proportion of School E students chose to ask for help from teachers and classmates, congruent with the response to the second question. Option 2 was for students who did not see the need for reflection, or perhaps were unconcerned about others' opinions. A small proportion of School E and School A2 students would passively accept an unsuccessful outcome.

Table 5-12: The students' responses to dealing with an unsuccessful outcome at the end of experiment

Option	D (n=34)	E (n=33)	A2 (n=33)
3) Go to the library to consult some books.	30%	24%	17%
1) Review your experiment, and think about solutions by yourself.	19%	22%	19%
6) Test it again at another time.	15%	24%	14%
4). Discuss with Professor Slughorn about how to improve it.	16%	6%	12%
5) Discuss with classmates about how to improve it.	11%	5%	15%
2) Let it go, and do nothing else.	9%	19%	23%

In all three case studies, the student responses to these three questions suggest that their attitude to learning is initially enthusiastic, but that some students tend to ignore problems that arise during the learning the process. The evidence also suggests that the majority of School E students tended to solve problems by themselves rather than through discussion with their teacher or peers. The student questionnaire responses from School E were collected prior to the creative activity. According to my observations in the classroom, at the beginning of an activity there were few collaborations between peers, whereas afterwards interactions and discussions between teacher and students were more apparent (I will discuss this in more depth in the next chapter).

School A2 students showed a collaborative attitude to learning, as there is a more collaborative learning culture here, with a fairly high proportion of students willing to discuss problems with the teacher and peers, this was also noted in the

observations which will be discussed in more detail in the next chapter. It implies that School D students' attitude to problem-solving is more results-focused rather than focused on dealing with problems in the process itself. Although their response to the second question is a bit passive (a high proportion of them prefer to throw away the potion or ignore problems), they turn out to be positive at the end (a very low proportion of them prefer to accept failure).

5.4 How do teachers, students, and parents value creativity?

In this section, I explore how teachers, parents, and students value creativity, by asking them to express their level of agreement (from strongly agree to strongly disagree) with 26 different statements about creativity. These questions are divided into six clusters. The first cluster is related to who can be creative, considering both ordinary and extraordinary people; the second cluster is related to whether girls and boys are equally creative; the third cluster is about what it is like being creative; the fourth and fifth cluster is focused on how respondents see the connection between creativity, achievement, and a future career; and finally, the sixth cluster is related to creativity in teaching (for the full version of the questionnaires see Appendices 5–7)

From the outset, I address the three case studies as a whole in order to discuss similar opinions among the three groups of respondents; I define these as 'common values of creativity'. I then go on to highlight differences of opinions – which I define as 'distinctive values of creativity' – as expressed between the three types of respondents among the three schools. Finally, I discuss matches and mismatches between the school's cultures and the respondents' perceptions of creativity.

5.4.1 Common values of creativity

There was some degree of difference between responses given by adults (teachers and parents) and by students, but primarily in the strength of opinions expressed by the students. More than half of the answers given by the three kinds of respondents across the three schools were in agreement, and can be therefore characterized as what I call 'common values of creativity'. These were translated into 16 common opinions (see the color charts below).

Regarding who can be creative (Q1-3), the respondents believed that everyone can be creative. The general opinion (aside from that of School E teachers) was that students with a high IQ are not more creative than ordinary students, but that some people are just born creative. This suggests that respondents recognize that there are various types of creative people and that being creative is not just bound up with having a high IQ. However, they still struggled with the conventional notion of creative people, in that creativity was seen as a natural talent of some people. This echoes my argument in Chapter Two, that in Taiwan there is a mystical view of creativity rooted in people's perceptions.

■ strongly agree;	■ agree;	■ disagree;	■ strongly disagree

School D: Teachers (n=74); Parents(n=27); Students (n=34)

School E: Teachers (n=37); Parents(n=30); Students (n=33)

School A2: Teachers (n=16); Parents(n=28); Students (n=34)

The first cluster: who can be creative?

1. Everyone can be creative in their own way.

2. High-IQ students are more creative than ordinary students (School E teachers excluded from results).

3. Some people are just born creative.

Respondents also expressed the view that boys and girls (Q4) are *equally* creative. However, most respondents (with the exception of School D students) thought that boys and girls can be distinguished in terms of likelihood of taking risks (Q5). Moreover, respondents also indicated that girls are not more imaginative than boys (Q6). This suggests that there is a gender stereotype associated with taking risks, and that males are supposed to be braver or more eager to take risks.

The second cluster: boys and girls
4. Boys and girls are equally creative.
5. Boys are more active than girls in taking risks (results exclude School D students).
6. Girls are more imaginative than boys.

Data from the respondents suggested that being creative is seen as a kind of self-actualization (Q7), and there was a belief that it is not difficult for students to be creative (Q8); this was strongly emphasized by students themselves and echoes their previously-examined "democratic" view that everyone can be creative in their own way. Regarding, how a creative idea occurs, respondents indicated that creativity turns up both unexpectedly or after gestating over a long

time (Q9–10). This suggests that respondents, especially students, still associate creative ideas with a mystical and unexpected source which might appear like a light going on or divine inspiration.

The third cluster: what is it like being creative?
7. Being creative is a performance of self-actualization
8. Being creative is difficult for my students/children/me.
9. Creative ideas just happen dramatically.
10. Creative ideas need to be fermented continuously over a long time.
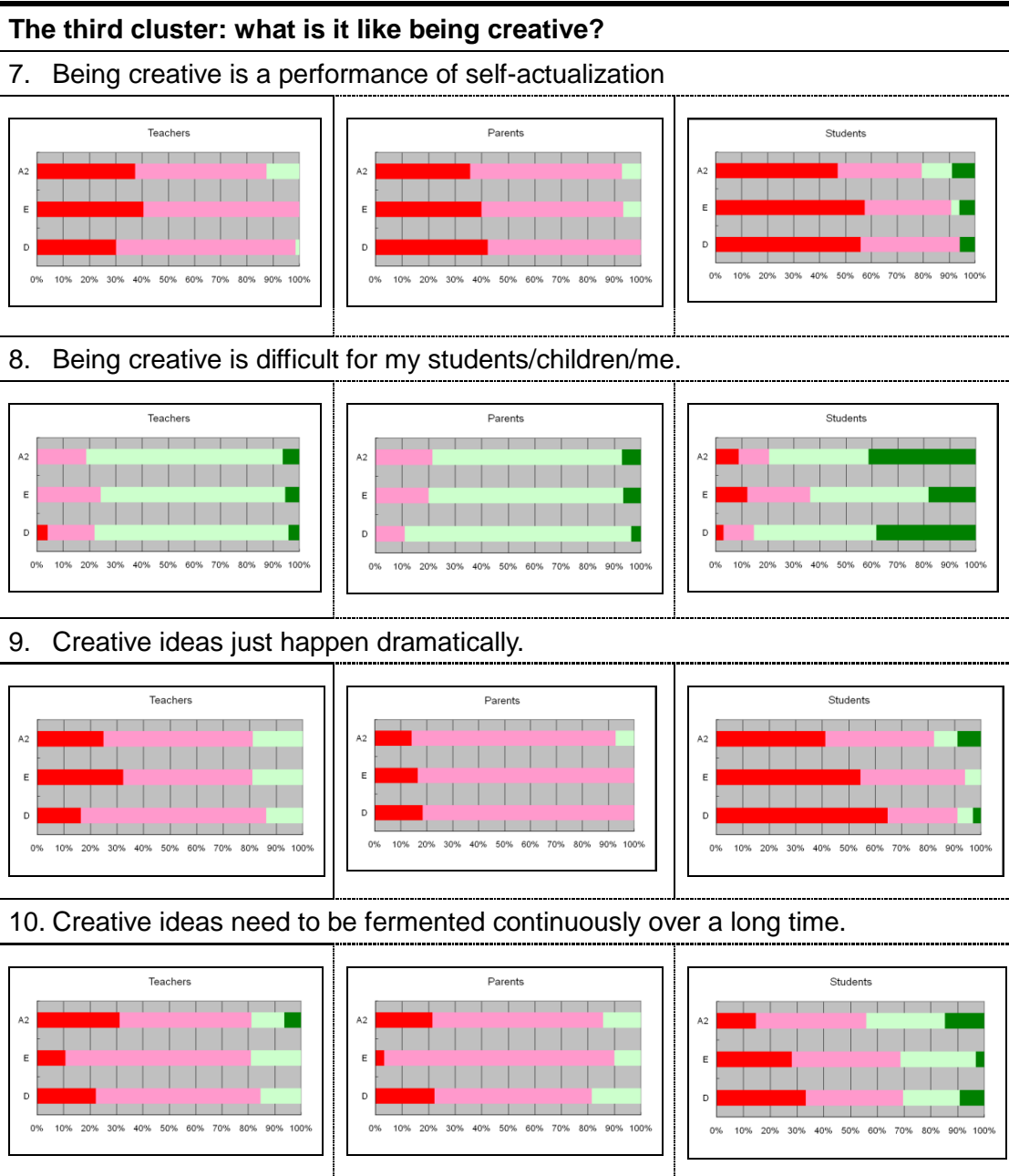
Indeed, the respondents, especially adults, placed a high economic value on creative people, who are seen to have more competitive advantages and to be able to find good jobs but who are not guaranteed to get high grades (Q11–13). This suggests that the respondents, particularly students, recognize that students' ability to be creative does not equate with school grades, and that creative

performances by students may not be counted as achievements by the school.

The fourth and fifth cluster: creativity, achievement and employment
11. Creative students do always get high marks.
12. Creative students have more competitive advantage (results exclude School D students).
13. Creative people can find a good job in the future (results exclude School A2 students).
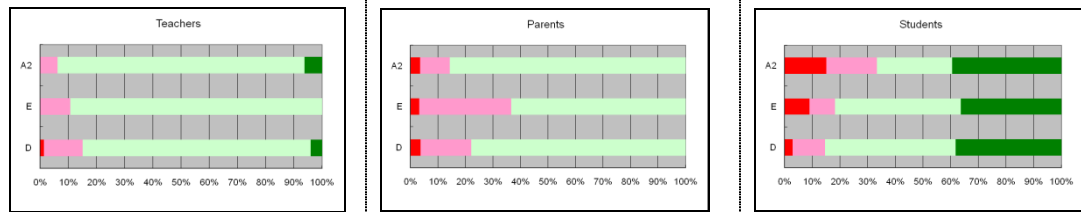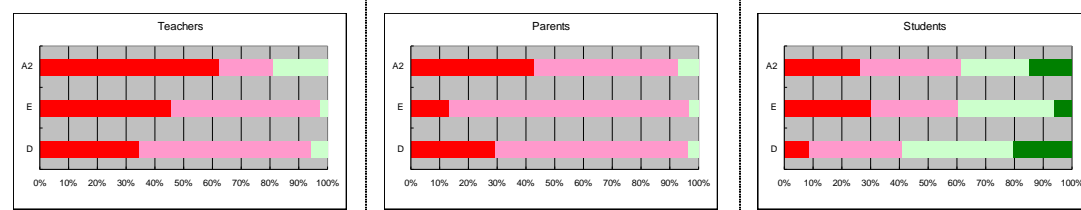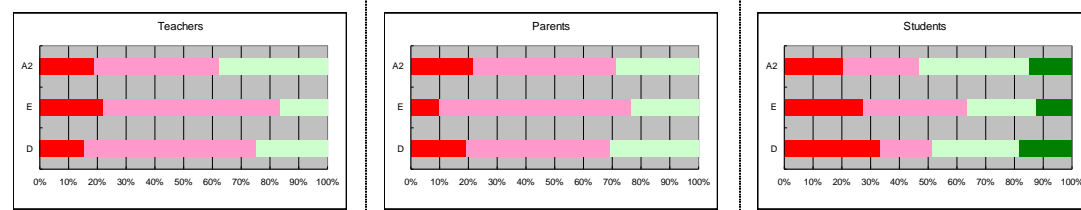
The respondents accordingly showed a very positive attitude to developing creativity in education, and also in regard to the benefits of this for student learning (Q14–15). Finally, parents' and students' responses to whether parents always encourage their children to be creative were also positive (Q16).

The sixth cluster: creativity and teaching
14. Developing creativity is a waste of time
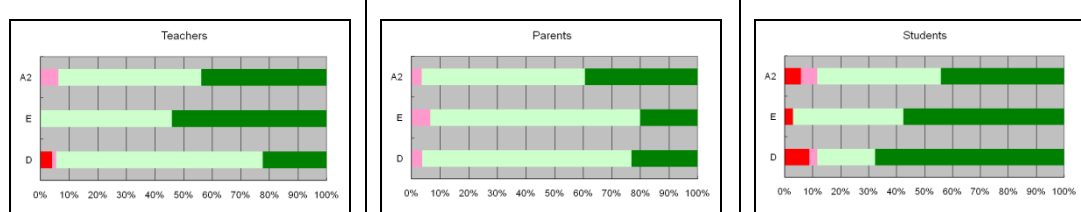
15. Creative teaching can raise students' learning interests.
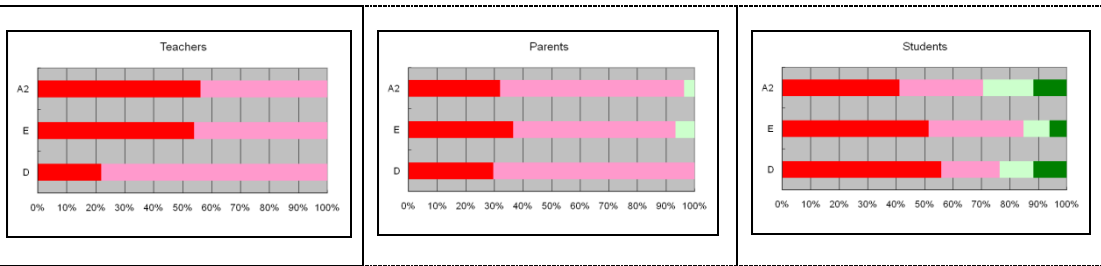
16. Parents can encourage their children to be creative.
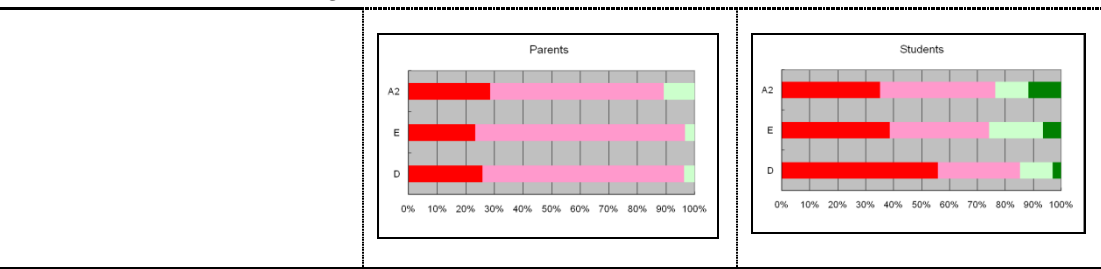
5.4.2 Distinctive values of creativity

Differences between teachers, parents, and students over creativity were reflected in ten opinions that I here call 'distinctive values of creativity'. These opinions were allocated according to the color charts below. Firstly, regarding "prejudiced" impressions of creative students' behaviour and attitudes to rule-breaking (Q1–3), the majority of adults positioned creative students' behaviour as positive and also they also encouraged rule-breaking. By contrast, students' viewpoints were uneven and they were less positive about challenging rules; this was seen their responses to the three best descriptions of creativity. This would suggest that students may be more cautious with discipline and rules than adults. This cultural influence may reflect children's obedient attitudes, as a School D mother (D-P29) commented: 'children's creativity is hindered by our school climate. For example, teachers think active students are mischievous, less well-behaved, and then punish them for their behaviour.' Therefore, students are nurtured to be obedient to discipline and to be well-behaved, rather than to challenge rules and take risks in school.

The third cluster: what is it like being creative?
1. Creative students are mischievous and high spirited.
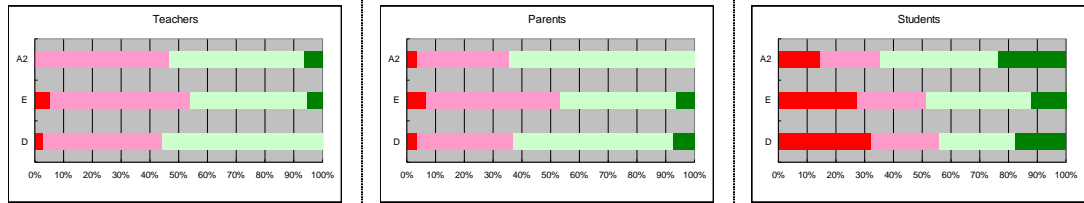
2. Creative students don't like following school discipline.
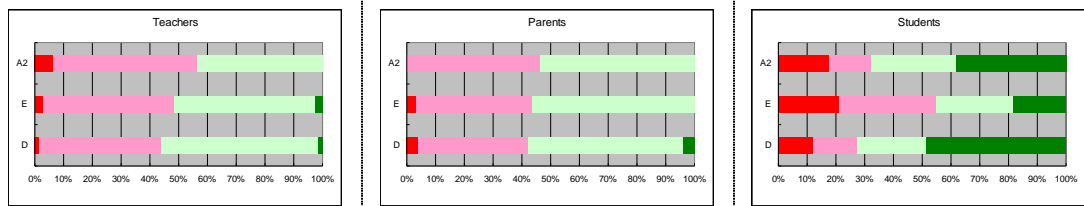
3. Being creative is challenging original rules.
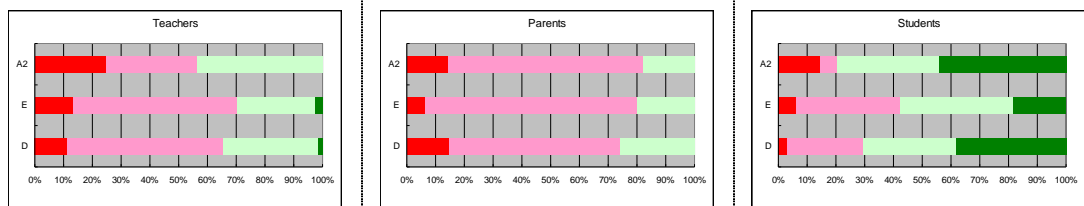
Secondly, in terms of the relationship between creativity, achievement, and employment (Q4–5), the response was uneven. It is interesting that the adults associated with Schools A2 and D gave opposing responses as to whether children can get high marks without being creative. This matches with the chief characteristics of the respective school cultures. School A2 is famous for its liberalized and individualized teaching and learning, so that assessment may place more emphases on students' creativity. By contrast, School D is a progress-led school in which assessment may focus on intellectual knowledge instead of creativity *per se*. Moreover, the evidence also suggests that the respondents (except for School A2 teachers and School E parents) think creative people are not guaranteed to get high levels of pay, which contradicts their previous statement that creative people have a more competitive advantage and can find good jobs in the future.

The fourth and fifth cluster: creativity, achievement and employment
4. I (my child/student) can get high marks without being creative.
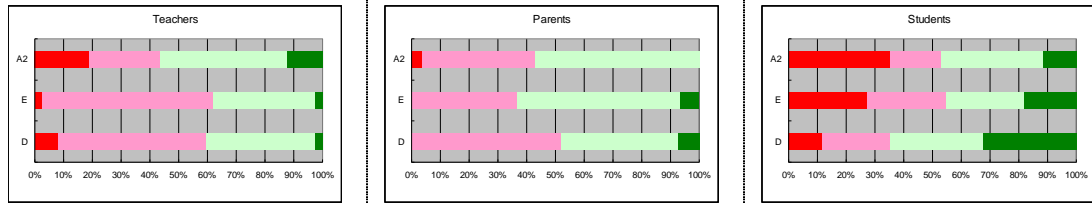
5. The more creative you are, the more you get paid at work.
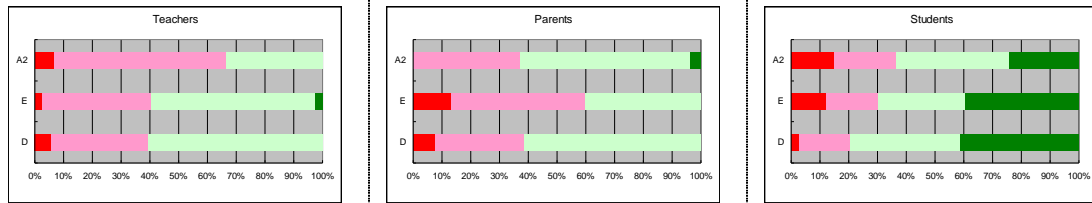
Regarding the relations between creativity and education, in Chapter Four, I highlighted the fact that teachers and parents do not necessarily trust the new educational settings, particularly with regard to curriculum development and textbooks. Therefore, a high proportion of teachers and parents are not satisfied with the current educational system; this is particularly the case for parents, with 80 per cent suggesting that school hinders their children's ability to be creative (Q6–7). This contrasts with students' viewpoints, where over 70 per cent were optimistic that they could become more creative in school. Even so, though, half of them agreed that school hinders their ability to be creative. Therefore, a high proportion of parents and students agreed that students can be more creative outside of school (Q8). Finally, there was a mismatch between teachers and students over opinions on teachers' preference for disciplined students and their appreciation of students' creative work (Q9–10). Again this shows a contradiction between adults' and students' responses to the issues around discipline.

The sixth cluster: creativity and teaching

6. In the current education system, I (my child/student) can become more creative in school.
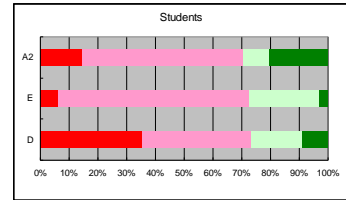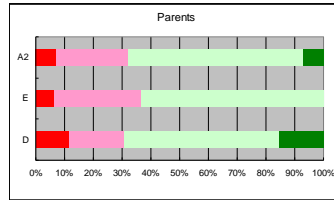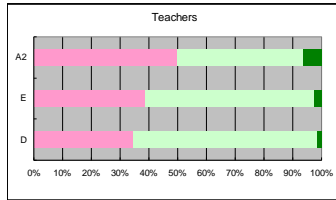
7. In the current education system, school hinders my (child/students') creative capability.
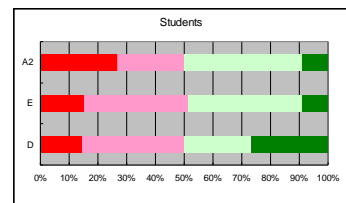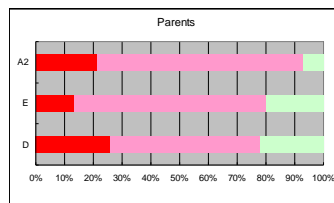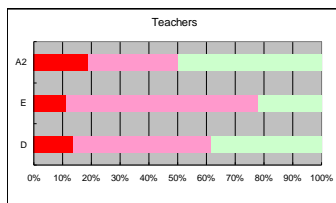
8. I (my child/students) can be more creative outside of school.
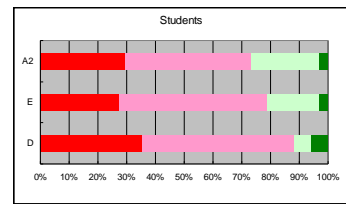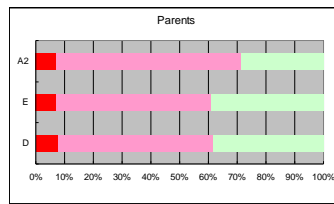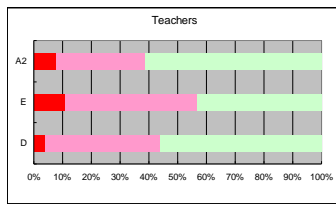
9. I (teachers) like disciplined students more than creative students.
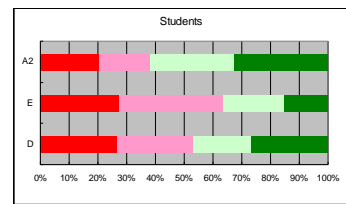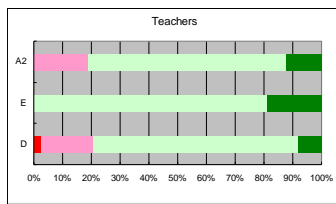
10. I (teachers) can see my students' (my) creative work.
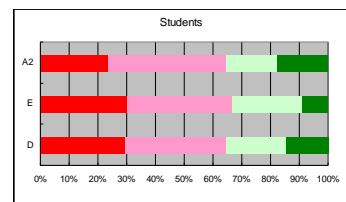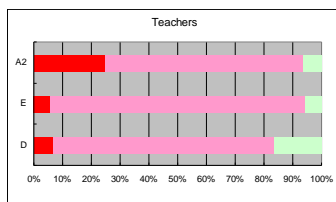
5.4.3 The relations between school cultures and the three respondents' perceptions of creativity

In this section, I seek out the matches and mismatches between the respondents' responses, their school cultures, and the parents' socioeconomic backgrounds.

Looking closely at the responses in each of the three schools, three particularly interesting points emerge in relation to the mismatches between the respective school cultures, parents' educational backgrounds, and adults' responses. First, the parents at Schools A2 and D, who have a higher educational background, did not show significant differences from School E parents, especially in relation to questions about who can be creative, and about creativity in boys and girls. Nearly 50 per cent of School D parents associated creativity with a high IQ, while 70 per cent of School D and 60 per cent of School A2 parents believe that boys like taking risks more than girls. Secondly, School A2's liberal school culture does not appear to be reflected in teachers' and parents' responses to students' creative behaviour. Nearly half of the teachers and one-third of the parents thought that creative students are mischievous and undisciplined, which does not suggest more liberal attitudes to discipline.

Thirdly, School E is known for research on teaching and learning, therefore teachers may have greater knowledge of new theories of creative education (specifically those around more democratic notions of creativity rather than creativity related to "genius" students). However, this is not reflected in School E teachers' understandings of creativity: over 50 per cent of the teachers still relate creativity to a high IQ; over 70 per cent believe boys are more likely to take risks than girls; and around 50 per cent agree that creative students are mischievous and undisciplined. These mismatches suggest that the variety in parents' higher educational backgrounds, and the school's culture, may not significantly improve some adults' understanding of creativity. This can be seen in the ways in which some of them still associate creativity with a high IQ, natural talent, and with mischievous and undisciplined behaviour, and believe that there is a gender difference in likelihood of taking risks.

On the other hand, there were four matches between school culture and

students' and parents' responses. Firstly, as mentioned previously, the response of adults at Schools D and A2 as to whether children can get high marks without being creative matches School D progressive culture and School A2 individualized culture. Secondly, a relatively high proportion of School A2 students had an impartial view of creative students' behaviour, which matches its liberal school culture (mentioned above). Third, at least 60 per cent of School E parents place a high economic value on creativity, which they relate to competitive advantage, getting a good job, and a high salary. This may be related to School E parents' occupation, as 50 per cent of parents work as entrepreneurs and run small businesses. It is reasonable to suggest that they may place a high economic value on being creative. Fourthly, 88 per cent of School D students thought that they could be more creative outside of school, which is likely to be the result of a school culture which is very focused on academic achievement and assessment.

Finally, I would like to discuss some of these issues in relation to the new notion of "democratic creativity" introduced in the *Creative Education* White Paper (discussed in Chapter One). The research found that less than 5 per cent of parents had heard of the *Creative Education* document. In contrast, 25 per cent of teachers in School A2, 32 per cent of teachers in School E, and 22 per cent of teachers in School D had participated in the *Creative Education*'s programme. Although very few parents and not many teachers had heard of the White Paper, discussions on the importance of pursuing creativity have expanded beyond education-policy documents and into other public arenas, including varied media.

My research suggests that the new notion of creativity introduced in *Creative Education* may have had some influence on the views of teachers, parents, and students. For example, most respondents agreed that everyone can be creative, which is different from the traditional stereotype suggesting that creativity is limited to a few geniuses. Moreover, the media also plays a powerful role in terms of trumpeting the importance of creative education across the country (although this is more related to economic concerns). As I have already discussed in relation to the "seven dwarfs" (what creative are people good at), the evidence suggests that adults' perception of creative ability has also been influenced by media and youth culture.

However, their responses also illustrate some contradictions in their views of creativity, for example around discipline and creative students' behaviour, and the creativity of boys and girls. Their perceptions of creativity imply a struggle between the new notion of creativity as democratic and the property of everyone, and the more traditional and conventional understandings which situate creativity as the unique gift of a talented few. The new policy rhetoric of democratic creativity is not simply transmitted, either by the White Paper or by the media, but rather interacts in a complex way with the socio-cultural context of respondents, including parental occupation and education and school cultures, which then inform how creativity in education is understood.

5.5 Conclusion

In this chapter, I have explored the relationship between the three schools' cultures and perceptions of creativity amongst teachers, students, and parents. The three schools enjoy relatively more financial and cultural resources, in terms of extra funding, a better teacher-to-student ratio, and a higher caliber of teachers than in other schools. The privileged characteristics of the three catchment areas are shaped by middle-aged and well-educated middle-class parents, who invariably use their stable economic situation and rich socio-cultural resources to gain an educational advantage for their children. The catchment areas of Schools D and E demand higher economic resources from parents, as housing price is the highest in Taipei City. By contrast, higher levels of cultural and social resources are required at School A2, as many parents have to either work at or have strong links with the associated university. Moreover, each school also draws various cultural elements linked to its geographic location: Schools D and E are close to the various cultural institutes; School A2 is close to an affiliated national university. Therefore, each school presents itself as having a unique culture: School D is known for its meritocratic competition and progressive school culture; School E is known for its pioneering research and self-exploratory school culture; and School A2 is known for its liberal and individualized school culture.

The school culture and parents' socio-cultural background are reflected in the three respondents' views of the following questions: firstly, regarding the three best descriptions of creativity, my research suggests that adults tended to choose

more modest descriptions. However, well-educated parents may have better creativity literacy, and their responses may relate to their job content; particularly, in terms of the descriptions of problem finding and breaking rules. Students' responses tended to focus on creative products and performances rather than the creative process. Secondly, in regard to the most/least creative subject, my research suggests that parents' views remain locked into conventional social prejudices, in which the artistic and scientific spheres are regarded as the most creative subjects, and humanities are the least creative subjects. By contrast, teachers' and students' views are likely to be influenced by pedagogical and assessment limitations. Thirdly, regarding the findings from the "seven dwarfs" part of the study, the research suggests that adults can understand a greater diversity of activities as being creative than children, because media, government, economic strategies, and youth culture may have influenced the adults' perceptions of creative people. Fourthly, regarding students' attitudes towards problem-solving, the evidence shows that School E students tend to solve problems by themselves, rather than by discussing them with their teacher or peers, which matched the school's self-exploratory learning culture; School A2 students like to solve problems by discussing them with their teacher and peers, which matched the school's collaborative working atmosphere; and School D students' attitude to problem-solving is results-focused, which matches the school's achievement-led school culture.

Finally, I summarized a list from the main survey findings of "common values of creativity". The evidence suggested that over half of the respondents in all three categories demonstrate a democratic and impartial view of the questions of who can be creative, and of the creativity of boys and girls; they also place a high economic value on creative people, showing that they recognize the benefits of creative education. By contrast, evidence regarding the finding of "distinctive values of creativity" suggested that students are possibly more cautious about discipline and rule-breaking than adults; adults also show a more utilitarian view of creative abilities, and a more dissatisfied view of the current education system than students.

I also highlighted the matches and mismatches between the respective

school culture and the three types of respondents' perceptions of creativity. The evidence suggests that the influence which comes from parents' higher educational background and from the school culture may not significantly improve some adults' and students' understandings of creativity. The responses of all respondents particularly illustrate the struggles between conventional understandings of creativity and the new notion of creativity introduced in the *Creative Education* White Paper and by the media.

In the next chapter, I explore creative teaching and learning in the classroom, and examine whether school cultures and students' and teachers' perceptions of creativity are reflected in the teaching and learning that take place.

Chapter 6

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Creativity in Practice

6.1 Introduction

In this chapter, I explore the practice of creativity in teaching and learning, drawing on empirical observation data from the three case studies. In doing so, I attempt to answer two main questions. Firstly, how do teachers practice creative education in the classroom? For example, what plans, pedagogy, techniques, and resources do they use? In addition, what tensions do teachers experience between creative practice, pedagogy, and student engagement? Secondly, how do students respond to the creative practice of teachers? In particular, where is student creativity?

The conceptual and analytical framework of this chapter, which enables me to deconstruct the complexity of the fluid and diverse observation data, includes three main parts: people, process, and domains; these are drawn from Craft's (2000) "little c creativity" framework. In relation to people and process, this framework focuses on the teacher's performance, classroom strategies, and use of tone and language, as well as on students' responses, critical incidents, and the classroom climate. With regard to the domains, these observations encompass three case study subjects: Art, Science, and ICT.

Each case study scenario is based on the analytical framework outlined above, as well as an exploration of each teacher's background and characteristics. Each scenario is divided into three stages, "having ideas, growing ideas and proving ideas" (Kimbell et al., 2004), and the narrative in each section constantly foregrounds the interactions between teacher and students. Finally, each case study concludes with a comprehensive discussion in which I draw on Rowland's (1987) analytical framework – the interpretive, didactic, and exploratory model of teaching and learning – to discuss the distinctive interactions between the three cases. Each case study's scenario is coupled with a visualized chronology (see

Appendices 9–11) which attempts to enable readers to "see" the ongoing movements in the classroom and to gain a more holistic picture of classroom activity.

6.2 Conceptual framework of this chapter

Creative teaching and learning are constructed through a complex series of different factors. Creativity involves being in a relationship or in dynamic interaction with all constituencies involved in fostering creative action, such as other colleagues, learners, and parents (Craft, 2000; Craft & Lyons, 1997). Craft (2000) proposes a "little c creativity" framework encompassing people, processes, and domains, which has some ideas in common with Feldman, Csikszentmihalyi, and Gardner's (1994) "big C creativity" framework. However, Craft finds Gardner's approach lacking "holism" in two ways: firstly, Craft argues that his description of intelligence seems to "lack a notion of the person-as-a-whole", and that this is a "very intellectualist approach to capability"; secondly, Gardner's framework "omits some core processes" (ibid, p. 18). Somewhat differently, Craft's framework is based on observations of educators at work with children, and in turn the analysis of my observations is based on Craft's three dimensions.

In relation to **people**, one of Craft's (2000) main foci is the educator-learner relationships, which she proposes the "teacher-centred but learner-focused" approach in which "the teacher remains in control but the focus is on the learner" (ibid, p. 24). I draw from this in order to look at the relationships and interactions between teacher and student in the teaching and learning process. Firstly, this flags the importance of teacher motivation and personal characteristics, because, as Hargreaves (1994) highlights, desire is at the heart of good teaching:

> *Desire is imbued with 'creative unpredictability' and 'flows of energy'. […] In desire is to be found the creativity and spontaneity that connects teachers emotionally and sensually to their children, their colleagues and their work.* (Hargreaves, 1994, p. 12)

As I discussed in Chapter Two, teachers who artfully develop pupils' learning experiences are at the heart of the creative process (Jeffrey, 1997). A number of

my interviewees echoed this point, and as exemplified by one well-known professor it is also a priority of policy practice:

'The teacher's attitude and his or her strong desire for creative education are the most important factor. Teachers don't feel that (practicing creative education) is an extra load and a source of stress, but they do feel that it is very important for them. It doesn't harm the students' achievement, but does help them to solve their learning difficulties. If teachers feel that practicing creative education is very easy and that it makes them happy, their attitude and mood will tend to be open. […] Thus, implementing creative education is not about the problem of money, but is related to teachers' duties and desires.'
(Interviewee, SC7: CLA)

In order to record the teachers' motivation, I have designed six coding rows (outlined in Chapter Four) regarding the teacher's strategies and his or her students' reactions (see the three observation chronologies in Appendices 9–11). In addition I also drew on two analytical frameworks: Pollard's four types of classroom strategies, and Jeffrey and Woods' three musical metaphors for the teacher's tone. Pollard (1985) argues that classroom strategies are essentially ways of accomplishing interaction in particular situations so that self-interests are protected or enhanced. He notes that "in most cases the strategies of teacher and pupils develop together and become legitimated as the working consensus is negotiated during the process of establishment" (ibid, p. 184). As a result, Pollard proposed four types of classroom strategy: open negotiation, routinisation, manipulation, and domination. I use this typology to see how each teacher managed the class and got along with the students. Next, regarding the teacher's tone, Jeffrey and Woods (1996) refer to the sound quality and levels, rhythm, pace, and tempo of classroom life, and they categorize lessons into three moods: *andante*, *legato*, and *spiritoso*:

Andante (to be performed in moderately slow time). In the andante mood the teachers usually have the children close to them […] to

establish seriousness, and to create tension […] (and) establish […] a settled atmosphere. […] Individuals are brought into the teachers' space. (ibid, p. 162)

Legato (smoothly and connectedly, no gaps or breaks). This tone was adopted as the general working atmosphere of the classroom. […] Pupils also had more personal space and time, […] being given more control of their activities and working in small groups or as individuals. (ibid, p. 164)

Spiritoso mood (with spirit) […] involving animation, vigour, and liveliness generates excitement, joy, interest and enthusiasm. […] There is often a quicker pace, more noise and more variation in pitch. (ibid, p. 165)

In addition, there are two patterns of teacher language which emerged from the classroom transcriptions, which I define as "stick" and "carrot" language – punishment and reward (comfort), respectively. The "stick" language refers to assessment-related comments, which the teacher uses to enhance student performance either in a positive way by adding points or in a negative way by threatening to deduct points. The "carrot" language is more encouragement-related consolatory dialogue, for example where the teacher tries to raise student confidence and generate a positive atmosphere.

In relation to teacher performance and its impact on student enthusiasm, Jeffrey and Woods (2009, p. 16) note that "interpretations of language and gestures determine response". Therefore, the ways learners are treated by their teacher determines their reaction to learning itself and to any engagement with teachers in the learning process. As a result, students' enthusiasm and engagement with an activity is partly influenced by the teacher but is also related to the social context and to other relationships, as Mrs Wu, an Arts teacher in one my case studies, indicated:

'Enthusiasm and engagement are influenced by lots of varied factors, such as the student's cumulative habits from childhood, and the

impacts of other teachers and of parents. If a student does not have enough enthusiasm and engagement, we are likely to see that his/her original design will not match the final product, even though s/he understands how to be creative.' (Interviewee, T10: CLH).

Accordingly, my design attempts to explore whether the school culture and the students' perceptions of creativity as given in the questionnaire are reflected in how students experience the creativity agenda in the classroom.

With regard to **process**, Craft (2001b, p. 55) states that "little c creativity" involves "using one's imagination; not being satisfied with what already exists, but considering other possibilities which may include ones we do not yet known about". In order to analyze the progress of creative teaching and learning, I divided each case study into three stages; having ideas, growing ideas, and proving ideas; this classification was developed by Kimbell *et al.* (2004):

> ***Having ideas*** *is seen as 'sparkiness', rewarding learners for the quality and quantity of the raw material of ideas that they throw into the melting pot. These ideas may arise at the start of the activity or in the middle of development, or towards the ends of the activity.* (ibid, p. 26)

> ***Growing ideas*** *[…] emerged in two forms; […]* ***through modeling*** *(e.g. notes/sketches/3D/photos). […] is seen as a kind of horse-power driving the development process forward. […]* ***through optimizing*** *[…] is a more subtle aspect of growth, and concerns learners' ability to see (and control) the complexity in their ideas, so as to keep the project on the road.* (ibid, p. 27)

> ***Proving ideas*** *is about criticality and thoughtfulness.* (ibid, p. 28)

Moreover, I also looked out for any "critical incidents" (Tripp, 1993) and the classroom atmosphere in the teaching process. Sometimes, teaching processes gain a routine or formality, but Tripp (1993, p. 28) suggests, "critical incidents should question the way things normally operate". Tripp notes that everything that

happens is a potential critical incident; but we have to analyze an incident critically to make it one:

> *The vast majority of critical incidents are not at all dramatic or obvious: they are mostly straightforward accounts of very commonplace events that occur in routine professional practice which are critical in the rather different sense that they are indicative of underlying trends, motives and structures.* (Tripp, 1993, p. 25)

The potential of critical events, as Woods (1993) says, stimulates the production of adrenalin, sharpens the sense of awareness, marshals energies and abilities, and even summons new energy. Woods (1990, p. 77) characterizes the creative learning process as "a moving set of relationships within different groups and individuals [that] are constantly in negotiation, and expressed largely in symbolic form, notably in language, appearance and behaviour". Moreover, Creemers and Reezigt (1999, p. 34) suggest that "the classroom climate will influence outcomes directly and indirectly, mediated by the students' motivation". However, I would suggest that the classroom climate is mediated both by student and teacher motivation: the teacher and students, whatever their origins and beliefs, co-construct the climate of how to work together within the classroom. The crucial factor is the classroom climate, as Mr Lin, a Science teacher from the case studies, pointed out:

> *'The reason I choose this class is its good classroom climate. Most of them are gentle and thoughtful. Their brains might not activate quickly, but I feel they can take a challenge.'* (Interviewee, T7: YCH)

With regard to the classroom atmosphere, Jeffrey and Woods (1996) propose four characteristics: anticipation and expectation, relevance, achievement and success, and satisfaction.

> *Anticipation and expectation, these teachers are skilled in the construction of situations […] they herald something new, which was a constant feature.* (ibid, p. 156)

Relevance […] They (teachers) used children's personal experiences and interests as part of the curriculum.[…] in relating the curriculum to the pupils". (ibid, p. 157)

Achievement and success: […] There is a sense of high teacher expectations, and confidence in children's abilities to meet them. […] Public expressions of achievement were often developed by the teacher into a supportive dialogue between members of the class as to the possibility of further enhancing the quality and rigour of work. (ibid, p. 158)

Satisfaction: […] The sense of a job well done. […] A great deal of satisfaction is derived from public display of children's work. (ibid, p. 160)

Craft (2000, p. 34) defines a domain as "a body of organized knowledge about a specific topic", and notes that creativity looks different in each domain due to its different core concepts and behaviours. My case studies include three subjects – Science, ICT and Arts – which I divide into three narratives to outline specific practices and approaches. This creativity framework, as Craft (2000) says, is as an interpretive prism allowing the researcher to see different reflections and refractions of reality.

The following narratives of each case study are based on the framework as outlined and divided into three sections, including the teacher's background and characteristics, the process of teaching and learning, and discussion. In relation to the analysis of observations, I have coded and presented my findings in the three chronologies in Appendices 9–11. These are drawn from videos, transcriptions from every lesson, and student diaries. It is intended that these appendices be read alongside the narratives here.

Table 6-1: Conceptual and analytical framework of this chapter

People and Process	Domains
Teacher's Desire	**1. Science**
1. Chronology coding system (appendix)	**2. Art**
- Procedure of lesson	**3. ICT**
- The role of teacher	
- Teaching techniques	
- Learning status	
- Forms of class organization of students	
2. Classroom strategies	
- Open negotiation	
- Routinisation	
- Manipulation	
- Domination	
3. Three musical metaphor of teacher's tone	
- Andante	
- Legato	
- Spiritoso	
4. Two patterns of language	
- Stick	
- Carrot	
Students' Responses	
1. Three stages	
- Having ideas	
- Growing ideas	
- Proving ideas	
2. Critical incidents	
3. Classroom climate	
- anticipation and expectation	
- relevance	
- achievement and success	
- satisfaction	

6.3 School E: Science subject

This case study focused on the subject of Science in Year Six (11–12 years old); the topic being taught was "Simple Mechanics", which was one of the sections in the textbook. The Science teacher (Mr Lin) mainly taught 11 classes of Year Six students, and the focus of the class was chosen by him. The participants included the Science teacher and 33 students (comprising 18 boys and 15 girls).

The topic was divided into nine sections and was taught over 350 minutes in total. In Taiwan, Science is a core subject comprising three lessons a week across the school and regular testing of every year group. The Science teacher was only able to allot one 40-minute lesson to each section, with the exception of the last section, which was 80 minutes because the students had finished their graduate examinations. The narratives are based on data presented in Appendix 9.

6.3.1 Characteristics of the Science teacher, Mr Lin

Mr Lin gained his teaching certificate in his early twenties. He is now middle aged, and has good experience in terms of involvement, ambition, and self-confidence. He is a well-known Science teacher, with other teachers recommending him to me as a case study. As a counsellor in the Science Education Counselling Group in Taipei City, every Thursday he has a half day off to visit other schools. Moreover, he is a keen participant in a number of environmental protection societies, such as the Butterfly Protection Society, the Wild Protection Union, and the Taipei City Wild Bird Alliance. In the school, he has established and been responsible for the Ecological Youth Pioneer Society since 2001. A core aspect of Mr Lin's perspective could be described as being enterprising and innovative in the classroom. As he explained to me, a teacher should try varied new approaches to teaching, rather than follow the same textbooks. When I first met him, he was accommodating and showed a great interest in my research, which was very different from the attitude of many other teachers.

In relation to his continuing professional development, Mr Lin derives his experiences from his front-line experiments and practices. Firstly, Mr Lin has been involved in various policy initiatives, due to School E being an experimental primary school and a pioneer of policy practice, such as team-teaching and the development of the Grade 1–9 curriculum. Secondly, there is a strong array of Science teachers in School E, one of whom is doing a PhD in Science teaching. These Science teachers regularly meet and work together to plan new pedagogies and activities. Mr Lin noted the importance of this contact with others, stating that, 'if you see that other teachers are very serious, you would change yourself gradually.' Finally, Mr Lin is very eager to explore and use new resources or materials from science-related organizations. For example, he takes students to visit the Taipei City Reuse Incineration Centre in order to promote environmental protection issues. He also borrows nanotechnology-related toolkits from the Industrial Technology Research Institute in order to help students to understand Nanocomposites.

6.3.2 Outline of teaching and learning

Mr Lin constantly placed great emphasis on allowing time for the incubation of ideas. As Edmonds (2004) notes, we often have creative thoughts, but we lose them in a mass of other information being processed by our brains. Effective and creative Science education takes time for children to explore, and it involves giving encouragement and a supportive environment to nurture their learning behavior (Edmonds, 2004; Johnston, 2005). Mr Lin highlighted the importance of time, noting that the students rarely have this kind of training because of the current tightness of the curriculum schedule. As a result, this topic was taught over an exceptional six weeks.

The analytic part of this activity was divided into three stages. In the first stage, of having ideas, Mr Lin used four lessons over three weeks to gradually lead the generation of students' ideas, and he attempted little by little to warm them up and to help them to find a starting point. In the second stage, of growing ideas, Mr Lin provided three lessons over two weeks for the students to develop their creations through intensive discussions. In the third stage of proving ideas, Mr Lin used two lessons over one week for the students to review and then present their creations.

Mr Lin's classroom strategy was similar to the "open negotiation" described by Pollard (1985, p. 185), where "each party seeks to recognize and respect the interests and concerns of the other in addition to their own". Pollard adds that it implies an extremely "good relationship" and a type of respectful "friendliness" between the teacher and students. This was emphasized by Mr Lin:

> *'I always encourage the students to discuss their ideas with me, whatever thoughts they have. They will spontaneously come to talk with me. I can see their limitations, but I will provide a direction for thought and point out the possible difficulties for them to think about further and more deeply.'* (Interviewee, T7: YCH)

In addition, Mr Lin knew the students' names and most of their personalities, which really enhanced the interaction and trust between him and the students.

Sections 1–4: Having ideas (see Appendix 9: Sections 1–4)

Before the students embarked on the development of their projects, Mr Lin thought that a procedure was required to lead them into the activity. He designed two learning sheets (see Appendix 9), from simple to complicated, in order to prompt the students to observe and evaluate everyday things around them and then to find a starting point for their further creation. This echoes Craft's (2000, p. 83) suggestion that all Science starts with the observation of phenomena, or properties, of a living being, a process or an inanimate object". In the first sheet, the students had to evaluate an object in terms of its function, weaknesses, and possibilities by considering "what if…?" This is just one example from a boy's review (see SB-03.1):

Stuff: Air conditioner
Function: to cool down the room's temperature.
Weaknesses: But it doesn't save energy.
What if: If it can adjust its temperature by feeling the human's active and still movements.

The second sheet moved to the next step, where the students not only had to find out the object's weaknesses, but also had to think about how to employ one of four "creative bulbs" to improve and solve any problems. The following is one example of a straw from a girl's review (see SG-30):

Stuff	**Creative Bulb**	**Life will be convenient**
When you have a drink, the straw is always disappeared or lost.	Addition	Sticking the straw on the drink's package.

The two learning sheets also aimed to help students reflect on their everyday experiences, and Mr Lin held a series of discussions for the students to share their experiences and ideas. This echoes Edmonds's (2004) suggestion that we need to set up discussions where the class and the teacher explore currently-held ideas in Science in a practical exploratory manner. Mr Lin explained his intentions during his interview:

'In these learning sheets, I use a number of examples from daily life, and then I let the students think. […] I have discussions with the students in order to awaken their experiences in relation to what kind of everyday stuff they feel is convenient. Then we can go further to consider whether there is any possible way to improve the item's inconvenient points. The students can use the existing stuff to think about its improvement, and then to start to develop their own creation.' (Interviewee, T7: YCH)

In this stage, Mr Lin mainly used two teaching techniques: talking and discussion. From the outset, he liked talking at the front of the classroom, and he repeatedly emphasized this as something important. He continually reminded the students of the time-consuming nature of generating a creative idea, in order to persuade them to persevere with their creations. He also employed both group and whole-class discussion to encourage the students to "think aloud" (Harlen & Qualter, 2009). This involves both "communication and reflection"; as Harlen and Qualter (2009) note, the reflective aspect of this is to organize the students' ideas, while the communicative part is to share with peers, involving listening, presenting, and being understandable by others. The role of the teacher was constantly changing, rather than just being a solo instructor. Sometimes Mr Lin took on a supportive role, looking around the group work, and sometimes he was as a catalyst leading whole-class discussion. He frequently asked the students various open questions in order to interact closely with them, situating the students' learning status as involved, listening, and discussing. Overall, the teaching was firm but liberal, and the motivation of the class evidently increased and flourished. In particular, Mr Lin noted how this strategy was necessary for the development of

less able students:

> *'At the beginning, I have to dedicate time and strength to staying with students. You perhaps cannot see anything, but I tell myself to be patient. […] If I rush to push them, I don't expect that the students will produce good ideas. The performances of strong students are possibly still good, but it is difficult to raise up middle- and low-achieving students.'* (Interviewee, T7: YCH)

- The use of language

Both at the beginning and at the end of the lessons, Mr Lin often generated an *andante* mood to get the students' attention, and also to set up a learning attitude; this attitude is the willingness to make an effort that learning often requires. He liked repeatedly to highlight the substance of earnest learning: giving a good performance and paying full attention to establish a good attitude to learning. He used a slower manner of speaking and made spoke seriously to encourage students to take the activity seriously. As a result, the students were primed to embark on the new task. Mr Lin also employed both stick and carrot language to induce the students to devote attention to the activity. Firstly, he repeatedly used a moral term – attitude (T1, T12, T18, T22) – to embed this value of learning in the students:

T1: *'Learning is an issue about your attitude, not your ability. […] Your learning attitude and habits are fundamental.'*

T22: *'If you do not exercise your brain, the two learning sheets which I have designed will be useless. The most fundamental element is your attitude.'*

Secondly, in the first stage he constantly reiterated to the students two key points which he coupled with attitude. The first was that students should develop the habit of observing everyday products carefully, and the second was they should have the determination to work persistently (T4, T5, T10, T17, T19).

T4: *'Being a good observer needs training. […] This is not possible to finish at once,*

you just write a little by little every day.'

T19: 'Those award-winning students have been working on their research for eight
months, so the formation of your design takes some time.'

Thirdly, in order to encourage a good attitude and participation in the lesson
he frequently used stick language related to assessments, with points used to
reward and praise a good attitude and concentration (see the blue-coloured texts
at the start of Appendix 9). He explained to the students that the reason why he
liked to award points was to encourage them. As Harlen and Qualter (2009) note,
in order to encourage the students' intrinsic motivation, the occasional "bribe or
threat" relating to privileges will do no harm. Mr Lin skillfully used this soft bribery
method rather than a stricter and authoritarian approach:

T3: 'The forthcoming invention activity will be part of your assessment. If you got a
high mark on the previous test and you also pay attention to the learning
sheets, you might get full marks.'

T18: 'Today, if you can devote your attention to the lesson, you will gain a
maximum of five points. […] On the other hand, if you do not pay attention,
then you will need to cram your test sheet. This is really down to your learning
attitude and discipline.'

During the whole-class discussion, Mr Lin employed a number of open
questions and everyday examples to lead the students to see problems (T8, T14,
T16). His strategy was similar to Craft's (2002) concept of possibility thinking,
which encourages the capacity of individuals to find their way through "life
experiences". Mr Lin posed various questions derived from everyday objects such
as a window lock or a pen lid, using this to develop a "continuum of thinking
strategy" (Craft, 2002, p. 113) from the question "what if" to "how can you improve
it"? This also echoes Edmonds's (2004) suggestion that teacher questioning styles
can have a huge effect on students' thinking in Science classrooms rather than
"subject-centred" questions allow children to express their own ideas:

T8: 'Everyone in the group needs to discuss the question: whose ideas are good?

Why and where? We are going to discuss, not criticize. […] You should talk specifically and use examples.'

Overall, in the having ideas stage the proportion of teacher talk was higher than the student talk. Mr Lin directed the lessons and led the whole-class discussion. He liked to reiterate the importance of the learning attitude, the habit of observing everyday products, and perseverance. He also prompted the students to find a starting point for their ideas through the observation of everyday products and discussion. These echo Harlen and Qualter's (2009) approaches to the development of "scientific attitudes". They note that a key action that teachers can take to develop the right attitude is to demonstrate the behaviour in practice. This involves "showing attitudes in what teachers do, not just what they say" (ibid). Mr Lin explained how he attempted to do this by talking about his personal life experiences and habits:

> *'I have to show some examples of my own and collect new things for the students. I talk about how I disassemble and fix the TV and fan, and discuss new ideas. Let them know that it's not so complex.'*
> (Interviewee, T7: YCH)

Moreover, Harlen and Qualter (2009) also suggest that it is important to reinforce positive student attitudes by expressing approval of the right behaviour. Mr Lin explained how he encouraged the students to embark on their projects through encouragement and recognition of their development:

> *'Some students' problems are not about not wanting to think, but being unable to think. They don't know how to think. […] They might not perform well at the beginning, but I will not rebuke or judge them. Once I see they participate in group discussion and make a little progress in the learning sheets, I will publicly encourage and comment on their learning attitude.'* (Interviewee, T7: YCH)

As a result, a positive learning attitude has become part of the class ethos, and the students followed Mr Lin's lesson structures and the two learning sheets to

gradually get a sense of their own creation.

- The critical incidents and interactions

There was a very impressive critical incident in Section 3, where a boy (David, SB-09) had been discussing his ideas with Mr Lin for a while. Mr Lin then encouraged David to present his initial ideas at the front of the classroom (T13). The first interesting point was that David tried to draw his first design (a scissor lid) on the chalkboard before the presentation (see Appendix 9, the green pattern below Section 3). His drawing was very helpful for the following discussion, and also provided a good template for other students to produce ideas. After David finished his presentation, a few students started to ask some questions about his design. Mr Lin stood back and encouraged other students to ask more questions. Mr Lin became a facilitator to promote more interaction between students. Only when the students finished their discussion did Mr Lin explain the principle of capillarity, as it related to David's second design (a nanometer pen). Mr Lin's strategy exhibited the key features of "open negotiation", described as "explaining and reasoning" (Pollard, 1985, p. 186). When some students criticized David's first design, Mr Lin was carefully listening to the reasons which the students gave for their views and actions, so that afterwards he was able to explain the problems (T16). At this stage, although the interaction was merely between David and a few students, it can be seen that they were confident and felt sufficiently independent to talk about their opinions.

The second interesting point was that when Jo (SG-28) tried to make her suggestions, because it might be difficult to explain them verbally, she went to the front of the classroom to draw her suggestions on the chalkboard. Jo was influenced by David's drawing, and tried to use drawing to communicate her suggestions to the others. Jo's actions suggest that the students did not simply ask questions, but gradually tried to work cooperatively to find possible solutions. The third interesting point was that Mr Lin also wanted to see whether the other students had got a sense of the discussion, and so he asked Fu (SB-04) to explain his understanding of David's second design to the whole class. Mr Lin controlled the timing precisely, to check the other students' reactions.

This critical incident really activated the whole-class discussion, and the other students became quite animated. Once David had ignited the discussion as the first person to present his creation, the other students gradually got involved and also led the discussion. Whilst these three students were gifted and high-performing students in this class, this was perhaps part of Mr Lin's purpose, in that he hoped that the high-performing students could be role models that other students could learn from.

- The classroom atmosphere

In the first stage, three aspects of the classroom atmosphere can be seen. Firstly, the lessons progressed at a slow pace, which was part of Mr Lin's plan to give the students more time to think. However, the students sometimes were a bit tired with constant discussions, and some students did not take part in either the group or whole-class discussion. The classroom atmosphere was sometimes drowsy and less energetic. As I mentioned above, Mr Lin devoted a lot of effort to shaping a cooperative and positive atmosphere through patience and continuing to encourage the students to discuss and learn from each other. This is exemplified in his conversations with students:

S: 'In our group, our ideas are very bad and are not creative.'
T: 'Listening to other classmates will help you to develop thinking. There are no so-called bad ideas, but only less innovative or less-creative ideas.'

Moreover, Mr Lin sometimes used humour or teasing to get low performing students' attention, rather than rebukes. For example, Helen (SG-32) hardly paid attention to her studies. In Section 3, when Mr Lin was explaining cost-value, Helen was chatting and not listening to the lesson. Mr Lin teased her: "Helen! You are talking all the time, so you must be thirsty. It is increasing the cost of your study." There was also an interesting conversation between Mr Lin and Helen in section 2:

Mr Lin	*I hope my pen cap would not get lost so easily.*
Helen	*Teacher! You have a problem with forgetfulness.*
Mr Lin	*Haha..Who else always loses their pen cap like me? Put up your hands.*

Over haft of the students put up their hands.

Mr Lin   *Oh, you see! It's not just me who has a problem with forgetfulness. This is a common problem, not just my personal problem. So it is necessary to solve it, since everyone has the same problem. Helen! Can you think how to improve it (the cap), as everyone has a same problem?*

This instance exemplifies the second key feature of "open negotiation" – "having a laugh and maintaining interest" (Pollard, 1985, p. 186). Mr Lin's humour not only created a diversion to get Helen to see the point, but also transferred this conversation to engage the whole class. He let himself be the butt of the joke to activate the discussion. Finally, Mr Lin tried to foster a mood of "relevance" (Jeffrey & Woods, 1996) linking the activity and the students' daily experiences, which again showed his commitment to engaging the interests of learners. As I stated previously, he used various mundane products as examples to help the students to make sense of the activity. All these strategies were attempts to attract the students' emotions.

Overall, the classroom atmosphere can be characterized as a slow but progressive tempo. Jeffrey and Woods (2009, p. 19) suggest that "primary pupils are concerned with how to create and maintain feelings of confidence in the class, and they recognize many ways in which these teachers managed to do this". The students appreciated Mr Lin's efforts, as can be gauged through their enhanced involvement with the discussion and the way personal interests became relevant. These signs of enterprise are also present in the next stage.

Sections 5 – 7: Growing ideas (see Appendix 9: Sections 5–7)

Through being progressively incubated in the first four sections, the students' ideas started to blossom and to bear fruit in the final stages. Mr Lin provided more and more time for whole-class discussions. Mr Lin's role transformed from that of an intermediate catalyst and supporter into that of a neutral reviewer. The teaching was very fluid and effective, and the class's motivation was generally enterprising and vigorous. The students gradually took control of their learning and led the

whole-class discussion. More and more students started to get involved in the discussions, and there were therefore relatively more interactions between students. This echoes Pollard *et al.*'s (2000) assertion that if pupils are encouraged to contribute, they will see their learning as an "open and challenging experience"; if not, they will see learning as based on an increasingly "dependent relationship with teachers". Through a continuous discussion and questioning process, the students were brought to a state of iterative thinking and practice. "Open questions" can help children to develop confidence in their own ideas (Craft, 2000), and, congruently, the majority of the students had developed their own ideas by the end of this stage. This matched the teacher's expectation, as Mr Lin noted: 'it just needs time, sooner or later the students' ideas will gradually come out, and they will be definitely able to make it.'

- The use of language

In this stage, Mr Lin generated both "*legato* and *spiritoso* moods" (Jeffrey & Woods, 1996) during the whole-class discussions. The tone of the language he used was more advisory and suggestive, unlike the pressing and pushing approach used in earlier stages. He used relatively less stick language, but more open questions and suggestive dialogues. There were two key themes that Mr Lin repeatedly emphasized in class. Firstly, he started to highlight the importance of developing the students' own ideas (T23, T28, T30):

T23: 'Today we are going to discuss the Diary, I will ask you to develop your own ideas, so everyone's idea should be different.'

T30: 'Your target is not to simply write this Diary, but to develop your own ideas.'

Secondly, Mr Lin emphasized the value of peer suggestions and opinions, and then constantly reminded the students, coupled with stick language, to note down those discussions in their Diary or notebook (T34-37, T41-42). His strategy for enhancing peer collaborative relations echoes Jeffery and Woods (2009) view that the joy of working together helps students to have a feeling of relevance.

T35: 'When your peers give you suggestions, these are similar to customers' opinions. […] You should write down the problems which peers suggest to

you. […] You can try to propose a possible solution. Therefore, the end result of your Diary will be better.'

Overall, in this stage Mr Lin talked relatively less than in the previous stage and provided more space for the students to discuss and work cooperatively. During the discussion he only occasionally prompted some possibilities or raised some problems, in order to keep the rhythm and smooth pace going. The "mood of *spiritoso*" (Jeffrey & Woods, 1996) was activated by the students' interactions, and was particularly ignited by two critical incidents which are outlined in the next section.

- The critical incident and interaction

In the first stage, those students who ignited the effective whole-class discussions were the high-performing students. In the second stage, by contrast, the whole-class discussions were enlivened by two critical incidents which were led by two low-performing students. The first critical incident was in Section 6, when Tom (SB-06) presented his product. This was a chalkboard dust hoover, and it quickly evoked many ardent responses from peers. Meanwhile, Mr Lin saw that Helen (SG-32) was expressing her opinions to Anna (SG-25), who was sitting next to her. Mr Lin tried to encourage Helen to contribute her opinions at the front of the classroom. Helen was too shy to come to talk in front of the whole class, so Mr Lin encouraged Helen to come together with Anna. The two girls were pushing each other to the front of the classroom, and then they were whispering while drawing something on the chalkboard. At the same time, more and more students put up their hands to ask Tom questions. The discussion ran vigorously and led to a number of dramatic interactions between peers which shaped a mood of "*spiritoso*". After a while, Anna started to illustrate some suggestions for Tom's design, and Helen also chipped in a few words. Although Helen did not directly talk to the whole class, her participation had made a huge impression. At the end of the lesson, Mr Lin highly commended her input:

T38: 'Helen, how many times did you talk today? […] I'd like to give you an extra 24 points, because you were so excellent today. You were so inattentive in class before. But today you are really earnest and participated in the

discussion. That is excellent, and better than anyone else.'
The other students made cheered sounds …and applauded her.

This shows the teacher's awareness of each child's progress and, and his reaction to the activity enhances confidence and engagement. Mr Lin not only praised Helen but also emphasized her positive learning attitude in front of the whole class, which enabled the students to understand why it is desirable. Helen's change was largely due to trust in the relationship and interactions with the teacher. Mr Lin described how she had changed:

'Previously I talked to Helen. She told me her inner thoughts, she felt that people look down on her and think she doesn't have ability or talent. I then encouraged her: "you can do it, it only depends if you like to or not." […] The teachers have to take part of the responsibility if peers show negative reactions to lower-achieving peers. […] I frequently praised Helen during the class, I said: "you are doing great or really progressing.' (Interviewee, T7: YCH)

The second critical incident was in Section 7 at the start of the lesson, when Mr Lin asked if any student was willing to volunteer to share his or her design at the front of the classroom. Four students put up their hands, including Mark (SB-12). Mark was a quiet student who had not talked in previous discussions, and who had not received a good mark on the test for Simple Mechanics, and so his presentation was quite unexpected. Mark was the last person to present his very original design, called "the food-making robot" (later called "the waffle-maker for beginners"). He had a bit of stage fright at the beginning, and his voice sounded quiet but gradually improved. When he had finished his presentation, the whole class was laughing and interested in his design. Successive peers tried to point out some problems with his design, which made him modify his design. Mr Lin did not intervene in these student interactions, but let Mark answer the questions himself (T44). By the end, Mark had accepted all the suggestions which his peers had given to him, and his design then became less practical and workable. Mr Lin tried to help Mark to clarify his original functions and possible users of the design (T45),

even the class-teacher, Ms Ye, stood up to defend Mark's ideas:

Mr Lin: 'I'd like to say that Mark's product has original functions and an appropriate target audience. But you all felt that it was not good, and then added more and more functions to it. Finally, this machine became bigger and bigger, so you criticized it because it wastes too much energy, no one wants to buy it […] you have all helped to obscure its function and target audience.'

Ms Ye: 'Yesterday afternoon Mark came to discuss his design with me. He identified his design as a waffle maker. But he changed it today. I think that his original idea is better and clearer. His design is good enough to apply for a patent.'

Mr Lin: 'Mark's original design is very good and convenient for cooking beginners. […] You can think about how to improve your product afterwards.'

Surprisingly, Mark was able to present his design in front of the whole class, and he also received lots of responses from peers and the teachers' praise. His presentation also showed a positive relationship, which echoed Craft's (2000) description, in that it involved sharing the outcomes of creative ideas with other peers by talking about it and demonstrating it. This had a deep impact on Mark's learning in the following stage.

- The classroom atmosphere

During the whole-class discussion, Mr Lin tried to generate a mood of "achievement and success" by constantly encouraging the students to share ideas and by praising their work. As I mentioned above, in previous stages some students were possibly inattentive; nevertheless, at this stage, student responses to the discussion became increasingly vigorous and cooperative, producing a chain-reaction between peers. The students were keen to develop complexity in the open discussions and questions, echoing Craft's (2000, p. 83) words that this allows them to "voice their own ideas" and "get involved in the process of investigation." This also helped Mr Lin to understand what the students had noticed and which way they were going.

Each student's opinion was like an active chemical element in an experiment.

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As Barnes *et al.* (2008, p. 126) suggest, "creative learning may be a product of casual experimentation and play where sensitivities, strengths, and potentials are explored". Two instances of this can be seen. Firstly, in the first stage mainly high-performing students were involved in the discussion. However, in the second stage, there were not only other students presenting their designs, but also lower-performing students (photos 1–4) taking part in the discussion. The students were attracted by the interesting and unusual ideas of others and this reflects the observation that "creative learning can be enhanced by the sociability of the context" (Jeffrey & Woods, 2009, p. 47).

| 1 | 2 | 3 | 4 |

Secondly, communication between peers was becoming deeper and more solid. This situation accords with Jeffrey and Woods' (2009, p. 46) concept of collective participation, involving "the whole class acting together to construct something or learners contributing to a whole-class situation involving the attention and engagement of the whole class". This also shaped a supportive climate, and facilitated critical thinking in the discussion. In Section 6, there was an impressive exchange when some students discussed Tom's chalk hoover design II (SB-06b):

Anna	*The shape of your hoover is not suited to put on the chalk trough.*
Fu	*Tom can design an additional storage box for the hoover near the chalkboard.*
Jo	*When you hold the hoover, your hand would touch the wire netting on the top of the hoover. It would hurt!*
Bob	*You can add a button on the hoover's handle, it might stop your hands rubbing against the wire netting.*
David	*The fan is too close to the dust-absorbing surface, which would reduce the efficiency of its suction.*

These students were discussing among themselves possible solutions, exemplifying the way that "a possibility thinker will answer a question with further questions – leading them into new ways of thinking about the world around them" (Craft, 2000, p. 6). There was another example of this in Section 7, when Fu (SB-04a) presented his design for an automatic flag-raising pole.

Jo   *Your design would lose the meaning of respect inherent in raising a flag.*

Mr Lin   *Jo suggests that a flag-raising ceremony has a symbolic meaning, which would be lost if the flag was automatically raised. […] Some things are not replaceable, like a teacher cannot be replaced by a robot. Can you communicate with a robot? […] Some things done by humans have very special meanings. In terms of its functional aspect, Fu's idea is good, but in terms of meaning, he needs to consider it more.*

These exciting exchanges shaped a very enterprising, cooperative and liberal atmosphere full of laughter and chatter. This was possibly the pay-off from the long-term incubation in the previous stage. The students led the discussion entirely, and eventually the majority of the students developed their own design. The students incorporated their life experiences into the activity, which let them control a process which valued them and their knowledge. This echoes Jeffrey and Woods' (2009) assertion :

These situations provided assurance that manifestations of their selves as individual and unique learners were valued and safe in that personal perspectives […]. In this way they felt free to be creative. They felt able to act independently. (Jeffrey & Woods, 2009, p. 53)

The modes of communication between each participant matched the key features of the "open negotiation": "avoidance of confrontation, and friendliness and respect" (Pollard, 1985, p. 186). In the discussion process, they echoed Pollard's words that "a type of warmth becomes apparent in the way that teacher

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and children relate to each other, and a type of respectful friendliness exists" (ibid). The students' ideas were never totally rejected or slighted by either the teacher or by peers.

Sections 8–9: Proving ideas **(see Appendix 9: Sections 8–9)**

The two main activities in the third stage were peer review and the students' final presentations. This was the time to test the students' progress and results. The students were still immersed in and carrying on the previous vigorous discussions so they worked cooperatively either in groups or as a whole class. The students' learning was mainly directed to writing their diary and discussing their peers' design. Again Mr Lin was a neutral supporter and reviewer on the sidelines, leaving the students to the process of iterative thinking and practice. The final stage of the project was also connected to positive emotions of fun, achievement and the students' new knowledge in this topic.

- The use of language

The proportion of teacher talk to student was relatively low in this stage. Mr Lin completely handed the direction of the discussion over to the students. It was a mood of *legato* within which Mr Lin just occasionally reminded the students to give concrete suggestions and to note down the comments of peers (T46, T50):

T50: *'Everyone gives you suggestions and points out your design's weaknesses which you need to write down. […] You cannot just let it go after discussion. You should write down your design's weaknesses and the ways to improve them.'*

In contrast, Mr Lin used stick language once more to focus the students' attention on presentations (T48-49, T51):

T48: *'Today, I will complete everyone's grade for this term. This is also an opportunity to gain extra points, if you perform your presentation faithfully. […] You need to be serious in your presentation. Take this opportunity, this is the last chance that you have to gain more points.'*

The rhythm of the teacher's talking was relatively relaxed and open, and the students had been building up increasingly interesting dialogues with each other. Mr Lin and the students had established a good relationship and a working consensus.

- The critical incidents and interactions

There were two critical incidents in Section 9. Firstly, Mark (SB-13) was extremely engaged in the discussions and put up his hand to contribute his suggestions many times (Photos 5–8). His questions and opinions had generated more actions relating to problem-finding and -solving in the class, and also facilitated various interactions between him and others. His talking became more obviously confident and constructive, and this in turn enhanced the progress of iterative thinking and practice in the class. At the end of the lesson, Mr Lin praised him:

T51: 'Today I see that Mark is very keen to take part in the discussion. It is extremely well done. He has shown a great ability of expression.'

5   6   7   8

The noticeable difference in Mark's involvement was largely related to his first presentation in Section 7, where he had received a number of positive comments and gained invaluable confidence in himself. Whilst his early test mark for Simple Mechanics was 66 (out of 100), he got 19 (out of 20) for his waffle-maker, which was the highest in the class. Mr Lin was very impressed by his earnest attention and his ability to develop his own thinking.

The second critical incident was that 85 per cent of the students developed different products and presented their own ideas, even the bottom five students (such as: SG-21, 32, 35). This was an unanticipated outcome, contrasting with the student reaction at Stage 1. For example, when Mr Lin talked about the Science

Competition (T19), it was comparatively less interesting and there was less response from the students. In fact, Tom's chalkboard dust hoover (SB-06) and another girl's chalkboard sweeper (SG-23) were inspired by a product in the Science Competition. Moreover, Mr Lin frequently used the pen as an example, analyzing its shortcomings, and this also provided a starting point for some students (SB-09, SB-16, SG-22) to develop their own design. It was instructive that Mr Lin's repetitive talk was working, and that the students' reactions appeared later on.

- The classroom atmosphere

At the end of the activity, the classroom atmosphere was full of "satisfaction"; as Jeffrey and Woods (1996, p. 160) note, "achievement leads to feelings of satisfaction and the sense of a job well done." A great deal of satisfaction and confidence was derived from the presentation and from the Q&A of the students' designs. The students were able to see the worth of achievement; as Jeffrey and Woods (2009, p. 56) stress, "learners liked to achieve themselves and creative learning gave them the opportunity to internalize the ownership of their labour and give them the confidence of being a competent individual". This also can be seen from the students' faces and interactions (Photos 9–12) and in Mr Lin's commendation:

> *'The most worthwhile achievement is to see the communication between the students, in which they see the strengths and weaknesses of each other's designs and provide suggestions for each other. They thus gain opportunities for self-reflection. […] I also see whether students develop their own ideas.'* (Interviewee, T7: YCH)

| 9 | 10 | 11 | 12 |

6.3.3 Discussion

Mr Lin explained the valuable outcomes of this project: 'it is worthwhile to do this activity, because I can see student creativity being raised and manifested through this teaching exercise'. His classroom strategy is one of open negotiation involving explaining, questioning, and discussing within the framework of a good relationship, a positive learning attitude, and respectful atmosphere of friendliness. The interactions between Mr Lin and the students are similar to Rowland's "interpretive model of teaching and learning" (1987, p. 131) (Figure 6-1). Cooperative interaction between teacher and learners, as Rowland notes, suggests that, "once the activity is under way, the teacher's role is then to act as a reflective agent, aiming to help the child identify concerns and needs, and also to provide positive yet critical feedback to the students; the child, in turn critically respond to the teacher's contributions" (ibid). Both Mr Lin and the students were engaged in multi-way expressions of what they were thinking through questions and discussions. Mr Lin did not strongly intervene in the discussions and the students' designs, but provided some essential instructions. Rowland suggests that once the learners recognize the need for skill and knowledge, "their control of the activity can be temporarily handed over to the teacher, or indeed to another child, for a period of instruction" (ibid). Mr Lin's instructions did not simply develop the learners' knowledge, but served to "empower the learners to meet the goals and enable them to control activity rather than as a mechanism for concentrating the teacher's control" (Rowland, 1987).

CHILD   Stimulus ⟶ Responds   Invention -- Need   Application to need

TEACHER   Stimulus   Reflective Agent   Instruction
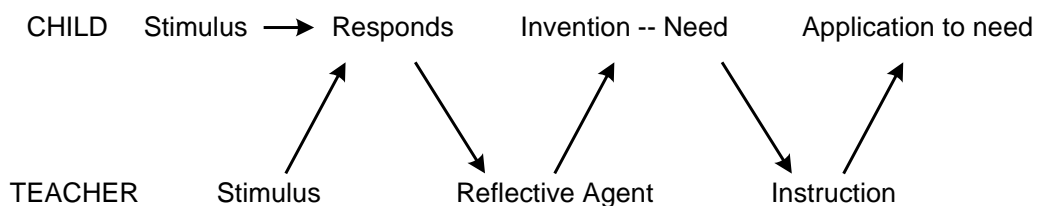
Figure 6-1: The interpretive model (Rowland, 1987, p. 131)

However, there were two difficulties with doing this activity, which Mr Lin mentioned in his final interview with me. Firstly, the students did not have sufficient life experience to understand the workings of a simple mechanical invention. He

also noted that he couldn't provide any new life experience to the students, such as the disassembly of everyday mechanical objects which would help them to see their components. The only thing he could do was to raise awareness of the students' existing experiences. This difficulty can be seen from the end products created, which are more related to dynamics than to mechanics. Mr Lin suggested that the reason student experience was limited might be due to parents who generally did not encourage their children to disassemble everyday objects (such as TVs or toy fans). However, Mr Lin was satisfied with the overall outcome, as he explained: 'although some students' products were not really what could be called simple mechanics, it did achieve some goals because I inspired students to think and to be curious about creating.'

The second difficulty was the limited time available due to the specified pace of teaching sections and of the regular school tests. As I mentioned above, Mr Lin allotted barely one lesson per week to do this activity, which meant he had to rush through the other teaching sections. He explained his dilemma: 'I taught all the sections in the textbook, but it was a bit rushed, and I only taught the key points. It would be very serious if parents knew that some sections were not taught'. Another problem of such limited time with students is that it didn't provide enough time for them to think. As Mr Lin argued:

'In the current education system, teachers are conventionally asked to teach some part of the curriculum. Time is squeezed, so the students don't have enough time for thinking. I think that our children gain knowledge through such teaching, but in terms of creativity, it is restricting and stifling.' (Interviewee, T7: YCH)

Despite the fact that the results of the exercise were mixed, Mr Lin and the students managed to squeeze the limited time available and found their own way to develop their creativity. Whilst institutional difficulties might be part of the challenges of the teaching, the most important factor is the quality of human interactions and relationships. With these, it is still possible for teachers and students to create space to practice creativity in the classroom.

6.4 School D –ICT subject

The subject of this second case study is an ICT class in Year Five (10–11 years old), and the topic concerns the part of the curriculum dealing with personal website-design. In Taiwan, the subject of ICT is usually given one lesson per week, therefore, the ICT teacher needed to teach Year Five and Year Four for more than 20 classes. The decision to focus on this class was taken through discussion with the class teacher. The topic was taught in seven sections over seven weeks and lasted a total of 320 minutes. With the exception of the final Section 7, each section lasted 40 minutes.

The group comprised one teacher and 34 students (19 boys and 15 girls). These narratives are based on data presented in Appendix 10 and drawn from observations of videos, field notes, and some comments from discussions with the students and teacher.

6.4.1 Characteristics of the ICT teacher, Mr Lee

Mr Lee is what is known as a key "public funding" training teacher for Science Technology Education, and has been allocated to School D by the government. This is a privilege for Mr Lee because, as I mentioned in Chapter Five, the phenomenon of the declining birth rate has seriously affected the recruitment of primary teachers; in Taiwan, there are estimated to be over forty-thousand "tramp teachers" who cannot find a permanent and secure position. In 2004, Mr Lee graduated from college and immediately got a permanent position in School D. He is a young junior teacher, but he has been appointed as chairman of the teachers' union in School D, as is often the case with junior teachers who are conventionally asked to take charge of extra administrative duties. Three other duties that Mr Lee also has are: acting as a coach for the table-tennis society, managing three websites, and maintaining twenty classes' computers.

Accordingly, Mr Lee already has a heavy workload; however, at the time of the research he was also undertaking an MA degree (finished in 2009) investigating children's critical thinking and problem-solving abilities. The pressure of this workload and the study-load is, as Mr Lee noted, like burning the candle at both ends:

'The ex-head teacher used to hire two temporary ICT technicians to manage the websites. However, there was no funding to hire these two technicians after he retired. The two technicians' duties were distributed among the ICT teachers, so I got most of the duties.'

'I did over 100 pages of PowerPoint for this year's Taipei City middle term evaluation of creative education, which took me one week. […] I went almost insane during that period of time, where I had to deal with the project of creative education, and also had to attend many seminars in my department (MA). I did not have my own time even at the weekends.' (Interviewee, T8: CMY)

Mr Lee's experience is likely to be a fairly typical portrayal of the junior teacher, with the school taking advantage of young teachers and burdening them with extra duties.

6.4.2 Outline of classroom interaction

When I began observing this class, the activity had already been running for eight weeks and Mr Lee had already taught basic instructions for making websites. The students had already decided the topics of their websites and had built their website structure. I hence only observed two lessons in the "having ideas" stage. From Sections 3 to 6, Mr Lee started to assess the students' progress, which I demarcated as the stage of "growing ideas". The final lesson was for the students to upload their website files and undertake peer reviews, which I demarcated as the stage of "proving ideas".

Mr Lee's overall classroom strategy was similar to the 'routinisation' described by Pollard (1985, p. 186), because "it provides a straightforward way of giving children practice at learning activities", and also "provides a highly dependable way of coping with the complexity of classroom life" (ibid, p. 187). The physical space, the social relations between Mr Lee and the students, and the main activities remained much the same from week to week, and exhibited a ritualized and cyclical quality. Pollard notes that such an approach "appeals to tradition and precedent when controlling children, and entails a degree of

distancing in the relationships" (ibid). This is evidenced in Mr Lee's use of the seat charts to address each student by their ID number. Regarding the establishment of teaching identity, Sikes (1985) notes that some young teachers have been advised that it is a good plan to be very "strict, firm, and even distant" for the first half term in order to establish one's identity as a teacher. Mr Lee received a similar suggestion when he began teaching as he noted: 'I am used to be very strict at beginning of the lesson, but if I see the students making progress, I then will touch their head to comfort them.' The form of each lesson was highly regular and routine, a strategy that Mr Lee explained:

> *'I mainly provide the methods and software, and also give instructions on the techniques for making web pages. […] I won't talk too much, unless there is a big problem, instead I will ask the students to look at the textbook. […] I only teach for around ten minutes, focusing on those key points in every lesson; the students then have to complete something appropriately.'* (Interviewee, T8: CMY)

Loveless and Wegerif (2004) argue that computers are essentially "rule-following machines"; however, ICT capability is more than just competence in a set of skills and techniques, because it entails such skills being used in a meaningful way. Outlining the goals for this activity, Mr Lee explained that 'the computer is a tool for assisting learning, employed as a medium for students to integrate their interests in their website'. However, Mr Lee's routinisation strategy appeared to be at odds with this goal, as I detail below:

Section 1–2: Having ideas (see Appendix 10: Sections 1–2)

At this stage, Mr Lee continued to give instructions on how to make web pages. Due to the technical setting, for at least one third of the lessons Mr Lee had to sit at the front of the classroom and use the teacher's computer to demonstrate and talk about the instructions (Photo 13). The students were sitting quietly in their seats, gazing steadily at the computer screen and listening passively to the teacher (Photos 14 and 15). There was rarely interaction between Mr Lee and the students during the whole class. After ten minutes of instruction, Mr Lee let the students

practice their new skills and work individually, and he moved around as a supporter to assist anyone who put up their hand (Photo 16). Loveless (2003) notes that ICT teaching does not mean simply enabling children to copy and manipulate text, images, or sounds, but that its importance lies in the presentation of children's ideas. However, Mr Lee's teaching plan seemed to focus on ICT skills rather than developing creative expression. This can be seen from his use of language and the classroom atmosphere in the following analyses.

13   14   15   16

- The use of language

There was not a clear division between Mr Lee's tone of voice for giving instruction or for stimulating the students. He maintained a steady *legato* rhythm throughout the lesson, but it was quite authoritarian and less encouraging (T1, T3, T5). For example, when he introduced the website navigation system, his words and tone seemed to imply that the students should not follow this approach, although he did not say directly that making more layers would be too complex or difficult. However, he implied that students should just follow the simple and safe format he gave in his instructions, rather than taking a shot at a new design. In the class, he noted that the most popular style is the vertical style, and he also added:

T3: 'If you think that your brain is pretty nimble, you can challenge yourself to make two or four layers. In other classes, some students are trying to do so.'

Mr Lee might have been attempting to use a terse style as strategy to establish a dutiful working consensus among the numerous students he was teaching. In interview, he emphasized the challenge of classroom management, particularly keeping the boys' attention on the work: 'the boys like to make trouble, though this is unusual if there are 4–5 boys doing well and so I only check whether they are completing their work.'. Moreover, he highlighted that it is risky to allow the

students to search for data on-line and use multimedia. He said: 'it causes me much trouble. Also, the students might easily get lost and lose sight of their original intention while they watch videos or idle away time on the internet.' His strategy, to follow Pollard's (1985, p. 187) description of this approach, is "regularity in the organisation of work tasks and activities, the setting of occupational work rather than work which is more challenging". In Mr Lee's class, the level of practice largely relied on standardized formality. This was reflected in students' use of similar navigation systems and layouts, as one boy explained to me:

S: 'The arrangement and layout of the website is standardized by Mr Lee, because he says that other designs would confuse us.'

As a result, the students tended to use the model that Mr Lee had suggested, in order to please him and because they did not want to get a Fail grade. Pollard (1985, p. 187) notes that routinisation is not only defined "behaviourally by the routine, but the level of work set is generally attainable": the students simply have to finish a task. Mr Lee's instructions were possibly limiting in two ways. Firstly, they restricted students' opportunities for taking risks, especially in the case of those students who were very quiet and obedient. Secondly, they did not provide a balanced perspective, because he only emphasized the downside of too many transition effects, rather than the advantages of having various dynamic transition effects in web pages. Loveless and Wegerif (2004) suggest web-design software, combined with ICT ability, has the potential of allowing students to express creativity, particularly in relation to experiments with different juxtapositions of text, image, and sound. However, Mr Lee appeared to place less emphasis on "experimentation" and "challenges".

- Critical incidents and interactions

Mr Lee established a highly-ordered routine in his class which the students strictly followed. The only chance to see a close interaction between Mr Lee and the students was during one-to-one teaching, which occurred when someone put up their hand to ask for Mr Lee's help. There were two critical incidents observed in this stage. In the first, Mr Lee was busy dealing with the students' questions and

the average time he spent with a student was around one minute. In Section 1, one particular boy put up his hand every ten minutes. In the meantime, Mr Lee helped the girls behind the boy (Photos 17–20).
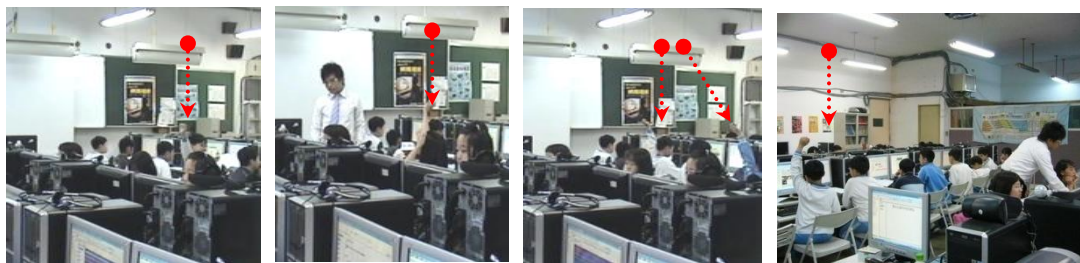
17 (19:59)　　　　18(24:45)　　　　19 (26:09)　　　　20 (26:39)

Secondly, Mr Lee took control of the computer while he tried to help a girl during Section 2. The girl (SG-32) had asked Mr Lee some questions in relation to transition effects (Photo 21). After a while, Mr Lee asked the girl to stand up, and he then sat down in her place to take control of the computer (Photos 22 and 23). This action attracted the attention of another girl, who wanted to see what was happening (Photo 24). Finally, he helped this girl to sort out her problems (Photo 25). As Mr Lee noted in interview, if the students used too many complex elements (multimedia, sound, or photos), he would be too busy to help them. As a result he preferred the students to follow basic instructions from the textbook, rather than attempt more challenging tasks. In terms of teachers' beliefs about subject knowledge, Loveless *et al.* (2001, p. 73) note that "teachers need to have an understanding not only of the ways in which information sources can be accessed and used but of the teaching strategies which frame different learning experiences with these sources". Mr Lee's pedagogies appear less diverse because of his pragmatic and skill-focused approaches.

21 (30:48)　　　22 (31:56)　　　23 (33:20)　　　24 (33:20)　　　25 (34:30)

Mr Lee recognized learner differences, noting the challenge of dealing with

the variations in the students' ICT capability: 'some students are very familiar with the computer and learn quickly, but some who are restricted by their parents might rarely practice at home'. However, the ways in which Mr Lee helped the students to deal with problems appears very technique-directed, and less concerned with students' creative abilities within the ICT medium. Mr Lee commented as much when talking about his strategies for dealing with students' repetitive questions:

'I like to ask the students to look at their textbook if they constantly ask me similar questions. I tell them to look at whichever pages are relevant. […] The role of the teacher is to solve the students' problems. If they meet problems, I will tell them how to solve them in relation to some basic concepts and skills. The students can only practice by themselves, and then they are able to build their own experiences. There is not much the teacher can do.' (Interviewee, T8: CMY)

Loveless and Wegerif (2004, p. 95) suggest that capability in ICT is "involving understanding, informed choice, critical evaluation and being open or susceptible, to development". Mr Lee's strategies did little to resolve these issues; rather, they seemed to neglect the varied abilities and emotions of students.

- The classroom atmosphere

Each lesson was divided into two parts. The first part consisted of instruction and was controlled by Mr Lee; the students simply followed his directions. In the second, practical, part the students enjoyed more personal time and space; the majority of the students focused on their personal work, and some quite enjoyed working independently. The students rarely helped or talked to each other. The class was always quiet, and there were only a few conversations between Mr Lee and some students. This situation was possibly due to the limited time: Mr Lee had to cover every section in textbook, and the students only got about 25 minutes to make their web pages. Overall, the classroom atmosphere was like a military office: Mr Lee was the boss checking student progress, and every student was rushing and anxious about their deadline.

However, from Mr Lee's point of view the relevance of the activity was strongly linked to the personal interests and desires of the students, which provided them with a clear target. Mr Lee's explanation for the silent atmosphere was that the students were very well behaved in his class because they were all concentrated on the task in hand. However, a quiet classroom atmosphere with students reacting to a strategy of routinisation echoes Pollard's (1985, p. 187) suggestion that with "an acceptance of the working consensus and of the normality of teacher expectations, there could even be an element of ritual built into some of the routine".

Sections 3–6: Growing ideas (see Appendix 10: Sections 3–6)

In this second stage, the tempo of each section was very much the same as at the previous stage. Each section was still divided into two parts, instruction and individual computer practice. In these four lessons, Mr Lee instructed students how to use an on-line data-base, and how to download and put music and video into web pages. As the students had been embarked on their website design for ten weeks, Mr Lee also began to assess students' progress, starting with the boys and then turning to the girls. The students hurriedly caught up with their work and spent a lot of time staring at their computer screens.

- The use of language

The way Mr Lee assessed students' work was skill- and grade-led, as he emphasized: 'School D is a very grade-led catchment area, so parents think achieving high marks is a prerequisite'. Such school expectations might help to explain why Mr Lee talked to the students in the way that he did. For example, he made a very less positive comment about the boys' progress (T9-11):

T9: 'I have marked the work of the first row of boys. Most of the marks are bad. Now I will explain their problems and you all need to pay attention and listen.'

His assessment was mainly focused on whether the boys had been able to follow properly the instructions he had given about their web pages. It became apparent that Mr Lee placed more emphasis on the students' computer skills than on their progress in terms of the content of their websites. Another example was

that when Mr Lee tried to emphasize something, the tone was strict and authoritarian (T16-20):

T18: 'The video and music in your website can last only twenty seconds. It saves everybody's time and your time. I have said that video and music are not necessary. If you haven't done your hyperlink, it is a waste time to do so.'

T19: 'If I see that you are playing music, in the first instance, I will warn you and deduct your mark; but in second instance, I will tell your parents that you are doing something not related to our lesson.'

Loveless (2002) suggests that teachers play an important role in supporting a "critical approach" to helping children to understand how to exploit the ICT capability and range of the technologies. However, Mr Lee's standardized instructions mainly demonstrated his authority rather than giving support to students to present their creative ideas via ICT. His results-led attitude was also embedded in his teaching, as evidenced when he talked about how he encouraged the students to take risks:

> *'Normally students are afraid to take risks because they think the task is already risky enough. [...] I will tell them: if you only reach this level and lack something, the marks I give to you will just reflect that level. If you are satisfied with this grade, you can keep it. If not, you can possibly improve it in this way. I do not attempt to change their original plan; however, I do let them know if it needs to be expanded.'*
> (Interviewee, T8: CMY)

Beetham (2007, p. 32) emphasizes that "learners cannot be treated as a bundle of disparate needs: they are actors, not factors in a learning situation". However, Mr Lee's approach seemed to neglect the individual differences and preferences of students in the use of ICT.

- The critical incidents and interactions

As I mentioned previously, Mr Lee held several positions in the school and as a result sometimes needed to deal with unexpected tasks. He explained to me:

"School D is the key school for funding-support in ICT education, so we always receive extra work from the Taipei City Government'. This perhaps explains the following critical incident which occurred in Section 4. When he was looking over one girl's work, his mobile phone suddenly rang (Photo 26). He then picked up his phone and talked at the front of the classroom (Photos 27–29). After two minutes, he finished talking and went back to continue the assessment (photo 30).

26 (22:38)   27 (22:45)   28 (23:54)   29 (24:30)   30 (24:47)
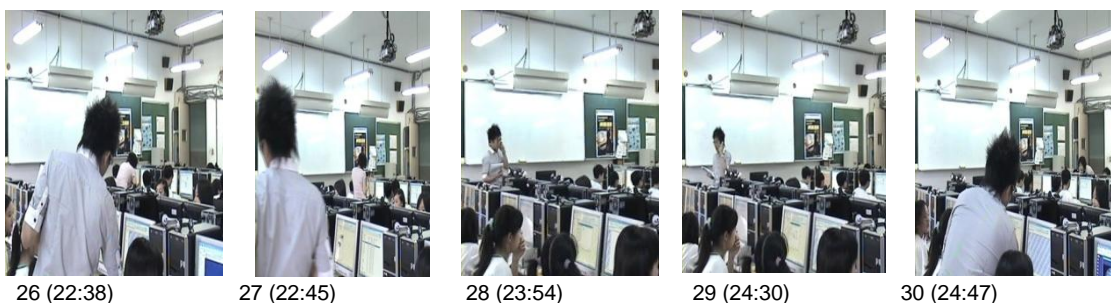
This critical incident prompts me to link two things. Firstly, in Sections 4 and 6, there are some periods of time in the mapping where the teacher's role and teaching status are marked as "n/a". That means that Mr Lee was not in the classroom and had left the students to do their work. Secondly, one time that Mr Lee was busy doing something at his desk, I looked over enquiringly at him. He said: 'I am attending a competition for ICT curriculum design with my MA colleagues, so I have to finish this teaching plan and email it to them today.' From these three incidents, it can be seen that Mr Lee was overloaded with too many duties and was tired of running around. As he described it: 'after class, I am either dealing with administrative work or maintaining websites and computers.'

- The classroom atmosphere

In this stage, the classroom atmosphere was no different from at the previous stage. The class structure was highly routine and repetitive, and there was very little interaction between Mr Lee and the students. This situation reflects Torjussen and Coppard's (2002, p. 162) contention that some teachers see the role of the computer as a "tutor" and "assume that children will be taught *by* it". Moreover, most students were hardly able to finish the tasks in each setting, and so they were very concentrated in their practice. Those who might not have been able to use a computer at home were even more anxious about their progress. As a result, the atmosphere was quiet and less active.

Section 7: Proving ideas (see Appendix 10: Section 7)

The final lesson was divided into two parts. In the first part, the students had to tidy up their websites and upload them to the school server. Mr Lee moved around the class helping the students to solve some technical problems. In the second part, Mr Lee let the students have a look at each other's websites and review them. Perhaps because it was the end of the activity, Mr Lee did not take part in the review (see mapping), but let the students enjoy this rare free time. As Mr Lee did not talk too much and was not involved in the review, the topic of language use is not relevant here. At last, I could observe interactions between students.

- The critical incidents and interaction

There were two critical incidents in this stage. Firstly, Mr Lee did not participate in the peer review, but instead went out to his office. When he was in the classroom, he sat in front of his computer. Surprisingly, Mr Lee may have thought that the review was part of my data collection that he had handed the class over to me. He apparently did not take notice of the students' feedback.

Secondly, the students were obsessed with their grades when they looked at others' work. When I suggested that the students should note down their opinions about someone's work, the majority of them suddenly asked 'what mark shall I give my peers?' I replied that a mark was not necessary, instead they needed to note concrete suggestions, rather than simply note 'good or bad'. This conversation reminded me of a situation I observed when the students did a similar activity with their class teacher (Mr Wang). Once, Mr Wang also asked the students to review their peers; however, the students only had one minute to look at and mark their peers' work. The whole class seemed very happy and active, but only those quantitative marks remained at the end of the activity. It was not possible to see any thought process or reasoning. Two things emerged from this situation: firstly, faith in marks is deeply ingrained in the students, who appear (as I noted in Chapter Four) quite utilitarian. Secondly, the value placed on results restricts and limits student thinking. Fortunately, after my comments, some of the students took note (see right bottom of Appendix 10); the boys (SB-08.5, SB-09.5, SB-19.5) wrote only a few concrete opinions, but the girls (SG-38.5, SG-40.5) clearly

explained their opinions.

- The classroom atmosphere

During the process of peer review, the classroom atmosphere became dramatically cheerful and interactive. The students walked freely around the classroom and talked to each other, either in pairs or in small groups (Photos 31–34), and they naturally generated a climate of "satisfaction". For example, some students confidently discussed the features of their websites, and how much effort they had made to overcome technical difficulties. There was lots of callings out, 'come here and look at this website', accompanied with appreciative comments and discussion. The classroom was filled by mood of "*spiritoso*" that can be seen in students' smiles and heard in the noise. After a quick review of all their peers' work, the students' feelings of pride and achievement in what they had done increased.

31   32   33   34

Afterwards, the students started to nominate which was their favourite website. Most of them were excited about this vote, whispering to each other, and one girl even put up her hand to nominate herself. Eventually, the students showed their enthusiasm and commitment to their study and the enjoyment of interacting with each other. Mr Lee was perhaps infected by this climate of enjoyment and the students' enthusiasm, when he said in the final interview:

'It is not possible to do much peer reviewing, such as with the presentation of the student websites. Letting them talk to their peers about the content of their websites, this is what I want to do, but there is no time to do so. If one student takes three minutes, then 35 students will take three lessons. […] One term is very short, and only has one lesson per week for ICT. Time is really short.' (Interviewee, T8: CMY)

6.4.3 Discussion

The teaching in this case study demonstrated less variety in its classroom tasks and it covered a narrow range of skills. It was a teacher-centred classroom where Mr Lee controlled the dimension of knowledge. Mr Lee defended this, saying that 'one term is very short, and ICT only gets one lesson per week; also, the transition time between classes takes over five minutes, and this does not leave much time.' His resulting classroom strategy is routinisation, in which he gives a solo performance instructing students to practice at their computers individually, in a distant and controlling relationship, obedient learning attitudes and an authoritarian atmosphere. This echoes Dakich's (2008, p. 21) criticism that "one of the barriers to successful technology integration seems to be teachers' lack of pedagogical understanding in harnessing the potential of new technologies".

The interaction observed between Mr Lee and the students is similar to Rowland's "didactic model of teaching and learning" (1987, p. 129) (Figure 6-2). Rowland notes that the procedure for this model involves the teacher "imparting instructions", the learner responding, the teacher then marking, followed by further instructions. The role of Mr Lee was an instructor rather than a facilitator, and the students were not in control of the learning process.
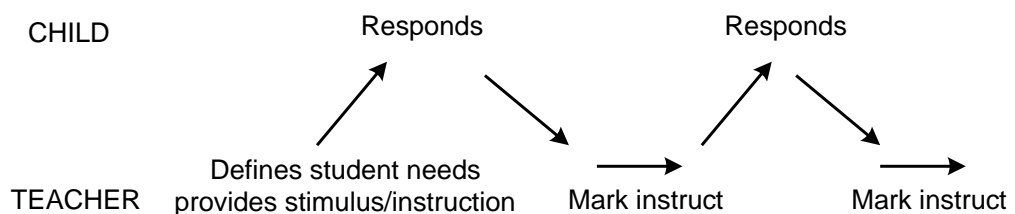
Figure 6-2: The Didactic Model (Rowland, 1987, p. 129)

Mr Lee's teaching strategy was very skill-led and standardized and it largely followed the textbook. It illustrates Rowland's argument that teachers instill certain "prespecified skills or knowledge" into learners, and that all the instructions and stimuli are defined by the teacher (ibid). Moreover, in class the students were always busy and concentrating on their task, which implies that student learning behaviour was highly controlled and directed by Mr Lee. As Rowland contends:

The way of working keeps children busy, but such busyness is in

response to the teacher's initiatives. It is the teacher who is really active, keeping control of the children's behavior and the substance of their learning. (Rowland, 1987, p. 129)

Accordingly, it was rare to see any conversation between Mr Lee and the students, and the classroom climate was one of obedient utilitarianism. Regarding the rarity of interactions between students, this was also likely due to the limitations of the arrangement of desks, which clearly divided male and female students. That computer desks were fixed also limited the students' movement.

Two difficulties emerge from this case. Firstly, based in a narrow understanding of ICT subject knowledge and ICT capability, Mr Lee's teaching and assessment methods are seen to be focused on skills and techniques. His teaching strategies also lacked interaction and communication with the students. School D acts as a pioneer for ICT education, but its focus is on investment in hardware and practicing skills, rather than the professional development of teachers to ensure that they can learn how to incorporate computers into an interactive teaching and learning process. This is problematic, and Hedberg (2008) suggests that teachers might more effectively think about new technologies as not just something added into the mix of pedagogies, but as something that enables and "underpins social relationships". Secondly, a high proportion of the students exhibited a passive and dependent learning attitude in the process. Mr Lee commented that this was the parents' fault in many cases:

'Some parents spoil their children, asking them to study by rote. So you will find some children don't have their own thoughts. […] The students are not used to using their brains, and they cram the material before the exam due to parental pressure.' (Interviewee, T8: CMY)

As a result, the learning attitude of some students was careless and aimless, especially in the case of the boys. Their passive attitude can further be explained by Mr Lee's didactic instructions, even though he himself stated that 'It is pathetic that these students only do things because they follow orders'. It can be argued

that the learning attitude of these students might be a form of resistance to high parental expectations, skill-led study, and Mr Lee's didactic teaching style. Finally, student inventions were still limited by their ICT literacy, and in their diaries they certainly gave various ideas for websites which were not evident in their final products.

6.5 School A2 –art subject

The subject of this case study was Arts in Year Six (11–12 years old), with the specific project of making a ceramic mug. The project was selected through discussion between the Arts teacher and the class teacher. The participants were varied: in Sections 1 and 2, there was one teacher, two junior teachers, four voluntary parents, and 34 students (16 boys and 18 girls). The two junior teachers and the four parents came to help the students' modeling.

This activity consisted of three sections over three weeks, with each section lasting 80 minutes and taking place in an equipped ceramics classroom. These narratives are based on data presented in Appendix 11 drawn from video observations, field notes, and comments from discussions with the teacher after class.

6.5.1 Characteristics of the Arts teacher, Mrs Wu

Mrs Wu is a long-serving teacher with over 27 years of experience. She is well respected for her creative teaching and for her energy and enthusiasm for the Arts, as demonstrated by various awards for excellence in teaching. In interview she noted her involvement in various roles; for example, she is a committee member for Public TV children's programming, a textbook examiner for the Arts and Humanities, and she has been an invited speaker for teacher-training workshops. She is also a columnist for several newspapers on children's affairs. These roles stem from her spirited and adventurous personality. As she said in interview, she doesn't like routine work, but she likes those jobs (as above) that are challenging and fresh.

In relation to her continuing professional development, she derives her practical views on creative teaching and learning from varied activities, research

projects, and cooperation. Firstly, she has considerable life experience, regularly travelling around the world on summer and winter vacations and previously spending nearly GBP 200 per month on magazine and periodical subscriptions in order to get up-to-date information. Secondly, she has a very good relationship with university academics and parents. She frequently takes part in the university's educational research projects and works as a research subject. She gave me one example:

> *'Some years ago, a former head-teacher (a tutor from the university) tried to promote an initiative for a teaching action research plan in a school meeting. But no one responded to his plan, and the whole situation became quiet and embarrassing. I was the first person to raising my hand to support his plan. Afterwards, there were a few teachers who gradually came around to the plan.'* (Interviewee, T10: CLH)

Mrs Wu's friendship with the parents is also very close, and as a result she can easily ask for extra help from parents as volunteers in activities. For example, she asked four parents to come to show students basic ceramics techniques for this mug-making activity. Thirdly, she likes to work with other professionals from outside school. For example, a few years ago she worked with a photographer to develop the children's photography education. She said that she feels quite isolated at school, because other teachers see creative education as too much effort and are not willing to do it. It is because of this that she often finds like-minded helpers from outside school.

6.5.2 Outline of classroom interaction

Mrs Wu has masterfully run this activity many times, and it can be clearly divided into three stages. In the first stage, of "having ideas", she used Section 1 to lead the students to get a sense of how to make a ceramic mug and to generate their ideas. In the second stage, of "growing ideas", she encouraged the students to think iteratively and practice modeling. In the third stage, of "proving ideas", she led a discussion about the students' creations.

Mrs Wu's classroom strategy is similar to the "manipulation" described by Pollard (1985, p. 187), where the teacher seeks "to motivate children to act in ways which will satisfy the teacher's goals". Mrs Wu was very skilled at getting the students to participate willingly; as Pollard (1985, p. 188) suggests, "the response of children is likely to be to comply with the goals set and to begin to accept the value of the tasks and activities presented". This class appeared to run very smoothly, yet was quite sophisticated, as I explain in more detail below.

Section 1: Having ideas (see Appendix 11: Section 1)

The first section comprised two lessons; Mrs Wu used the first lesson for the students to get a sense of the activity, and the second lesson for students to concrete their ideas. The aim of *lesson one* was to help students to incubate their ideas for their mug designs, and Mrs Wu led the students to understand ceramic mugs through two techniques. The first was by using a handling collection. Here she divided students into five groups, to touch and evaluate different mugs' strengths and weaknesses. The second was a whole-class discussion with questions. Here, Mrs Wu asked students two person-centred questions: "why do you like this mug", and "why don't you like this mug", concentrating particularly on aspects such as function, colour, shape, and creativity, in order to help them to identify problems and their own preferences.

In doing so, she made a lot of effort to encourage students to talk about their thoughts and to compare their opinions with those of others. She created a strong sense of "relevance", which Jeffrey and Woods (2009, p. 16) define as involving "teaching that is relevant to pupils' interests and concerns". It also has "an emotional component, reflected in the natural of the pupils' engagement with teaching" (ibid). The students did not just passively listen to Mrs Wu, but rather engaged in activity through touching various mugs, identifying problems, and discussion. Moreover, Mrs Wu controlled the procedure of each lesson, the form of the class, and the pace. During the activity, she took on multiple roles, not simply acting as a dominant instructor, but also as a catalyst, supporter, and reviewer. She frequently moved around the classroom, making many dramatic actions in order to draw out more interactions with the students. Her efforts, as Cox *et al.* (2007, p. 14) note, demonstrate a "well-balanced" teaching approach which "enables children to

find a means of personal expression and identity through engaging with Art and Design materials and processes".

- The use of language

Mrs Wu frequently used very enthusiastic language to fire up the students' ambition and interest. At the beginning of the first lesson, she spent nearly ten minutes building student confidence and enthusiasm (T1-2). She attempted to evoke a sense of pride, as a result of which the students' energy was stimulated and their attention was given fully. This created a *spiritoso* mood, with faces that were for the most part smiling and with eyes that showed concentration. This echoes Woods and Jeffrey's (1996) argument that if teachers see children as emotional beings, this enhances individual involvement and enables them to take control of their learning.

T1: 'The students in school A2 are super excellent. What is the meaning of "super excellent"? It means full attention for the whole lesson and a clever brain. A clever brain is not the same thing as getting top marks, but means someone who is good at problem-solving and identifying problems, and willing to present ideas, break rules, and innovate. […] This is why we should show our capability and our spirit.'

During the process of asking questions and having discussions, the teacher constantly used various open questions to push students to think critically and also to talk with students closely (T4-T9). As Liptai (2004) suggests, discussing children's interpretations in the Arts offers them a "creative forum" for exploring themselves in relation to various aspects of the arts, including their tastes, habits, and preferences. Mrs Wu showed sophistication by posing person-related questions for the students to find a starting point from their own explanations and choices:

T7: 'Tell me why you like this one? Why you didn't select this mug, can you tell me why? Point out the reasons.'
T8: 'Can you tell me this mug's weakness and how to improve it?'

The tempo of Mrs Wu's tone corresponds with Jeffrey and Woods' (1996, p. 165) description of "*spiritoso*": "a quicker pace, more noise, and more variation in pitch." A very interesting point was that Mrs Wu also used various dramatic motions to accompany her tone and to be close to the students (Photos 35–38). The reciprocal interactions between Mrs Wu and the students were positive, and showed that she was aware of and responsive to what different students were doing and thinking.

35   **36**   **37**   **38**

- The classroom atmosphere

Mrs Wu created a mood of "anticipation and expectation" at the beginning of each lesson. She employed the exercise of handling a collection of mugs to "herald something new" and unique. She also used "new people" including voluntary parents and junior teachers to assist and enliven her activity. These two features, to follow Jeffrey and Woods' (1996, p. 157) terminology, "brought a charismatic quality" to the activity. Moreover, Mrs Wu identified a strong "relevance" between the students' experiences and the activity. She constantly emphasized the meaning of the personalized mug: 'you do what you want to and you don't need to care about what other people think of it.' She attempted to highlight the personal interests and original ideas of students as part of her approach, and also to help students feel a strong sense of involvement.

Mrs Wu had appropriately combined enthusiastic language and interactive teaching to create an anticipative and relevant atmosphere. She also had a sensitive radar, quickly noticing whether the students were engaged in the lesson, and quickly attracting students' attention. The students were supported in developing their personal tastes and their imagination was ready to be put to work.

In *lesson two*, Mrs Wu asked students to materialize their idea for a mug through three techniques: writing a diary, peer review, and question and discussion.

Mrs Wu gave students about 15 minutes to work individually and to note down their initial ideas on the first page of their Creative Diary (see the bottom of Appendix 11). Mrs Wu acted as a supporter, walking around to see each student's progress, and responding to individual questions. She also occasionally re-emphasized the importance of developing original ideas. In the following ten minutes, Mrs Wu asked the students to work in groups, and then to exchange their diaries in order to have others review their ideas. During the process of peer review, interactions between students were animated, as they were moving around, talking and discussing with each other. The students were given more personal space and time for iterative thinking and practice to form their own ideas, rather than being under the teacher's direction. The rest of the time, Mrs Wu acted as a reviewer and stimulated whole-class questioning and discussion by asking students to give presentations about the designs recorded in their diaries. Mrs Wu attempted to elicit further discussion from students, but most of them simply listened rather than contributed to a reciprocal discussion. In the second lesson, the majority of the students noted down the initial design for their mug in the diary.

- The use of language

Mrs Wu was adopted a *Legato* tone as the general working atmosphere of the classroom. She left students to work on their designs, and from time to time reminded them of the importance of developing their own unique design. (T10-12)

T10: 'You have to pay attention to writing this diary, which is like your brand. Also, I don't care whether your drawing is good or not, but I do care about you having your own thoughts'.

During the discussion, the students were quite reluctant to talk about their initial ideas, therefore Mrs Wu attempted to push the students to present their designs through the use of "stick language" (T13-16).

T14: 'Now I'd like to invite someone who can come here to present his/her diary. I will give ten points to him/her'.
T15: 'Oh! This is very good feedback, I'd like to give five points to your partner. You can note that down in your diary.'

Mrs Wu noted that the purpose of using stick language was one part of her diverse assessment technique, which she would use to assess the learning process of students. As she explained in interview:

> *'I continually reminded and encouraged the students to be active in trying to gain extra points, with the aim of stimulating their internal learning motivation. This is very important, but many teachers neglect this. Many teachers only assess the end product, which goes against creativity. Creativity is about igniting students' passion for learning. […] A student who is active in making his or her thoughts known will gain points, which is my best strategy. […] If a student is willing to present ideas, think, and participate in problem-solving throughout the whole process, I will not give him or her a low mark.'* (Interviewee, T10: CLH)

The degree of interaction between Mrs. Wu and the students was energetic in the first half. There were many conversations and dialogues, not only between Mrs Wu and the students, but also between students. However, in the second half, there was less interaction, possibly because the discussion was only between Mrs Wu and a student who was giving a presentation. The rest of the students did not take part in the discussion, and as a result Mrs Wu tried to use "stick" language to make students talk or present ideas.

- The classroom atmosphere

Mrs Wu attempted to create a mood of "achievement" in the second lesson. While she walked around class looking at the diaries, she constantly praised some students publicly. Her "manipulation" strategy echoes Pollard's (1985, p. 188) suggestion that teachers "are able to use praise, example, flattery and appeal are all factors which will influence their degree of success in using this type of strategy". Mrs Wu was careful to praise every student and very good at using constant encouragement to increase student motivation. Jeffrey and Wood (1996) suggest that public expressions of praise for achievement are often developed by the teacher into a "supportive dialogue" between all participants in classroom,

because of the possibility this brings for further enhancing the quality and rigour of student work. On the other hand, during the peer review the students were excited to talk with each other and they walked around the classroom. The atmosphere was collaborative and harmonious, with lots of laughing. The students were encouraged to express their own preferences, and to share their ideas with others in the context of deeper understanding.

Section 2: Growing ideas (see Appendix 11: Section 2)

The aim of Section 2 was for students to create their mugs, and Mrs Wu invited extra assistants including two junior teachers and four volunteer parents to help the students. At the start of the lesson, Mrs Wu introduced the techniques of hand-building ceramic mugs, including the slab, coil, pinch, and mix methods. The students were divided into different groups according to the method that they were going to use to make their mugs. Each group contained no more than five students and was assisted by a teacher or parent.

In the first half of Section 2, the students worked in groups and were directed by adults. Most of the students had no previous experience of ceramics, so at the start the teachers and parents acted as instructors to familiarize them with basic techniques, through modeling practice. The students were fully concentrated on their modeling and fully involved in the procedure of iterative thinking and practice. As Kimbell and Stables (2007, p. 74) note, this exemplifies the idea of design and technology as the interaction of mind and hand, inside and outside the head. Although this was a D&T activity, the form it took was hugely influenced by both conceptual and externalized modeling. In the second half, the students worked either individually or in pairs, and they had more control over their modeling progress. The adults acted as supporters, assisting those who needed one-to-one support. However, the adults showed techniques only, and tried not to direct the students' designs. Mrs Wu walked around the classroom looking over the students' work, and she prompted them to identify problems. Some of the students discussed their thoughts with the teachers, and teachers and students then worked together to find possible solutions.

- The use of language

At the start of the lesson, Mrs Wu used stick language, emphasizing her assessment criteria in order to focus the students' attention on their modeling (T18):

T18: 'I will assess every step of your learning, not just the final summary assessment. In my class, I assess whether you pay attention and get involved in the activity, the number of your presentations, and I consider your diaries and productions. […] You are participators and in charge of your own assessment.'

During the modeling process, Mrs Wu used stick language once to re-emphasize that anyone working very hard would gain extra points. She spoke relatively little in class and gave the students more personal time. There was less interaction between Mrs Wu and the students because the students enjoyed working individually or in groups instead of depending on adult assistance. The classroom was a hive of activity and in the last minutes was like a workshop full of the noise of working, humorous comments, and laughter. As the activity was relaxed and enjoyable, the students were talking and they discussed their feelings with each other. It was the "*spiritoso*" mode, because the students were excited at the modeling, and they all seemed to be full of adrenalin.

- The classroom atmosphere

In this stage, the students were led by a mood of collaboration and achievement, and the atmosphere was naturally positive with students showing delight. Small friendship groups were apparent in the class, gathered around one particular desk or in a corner. Some students seemed very comfortable with working with friends, and this was a form of collaboration that reinforced their motivation. Most of the students were confident about making their mugs, even though they hadn't had previous experience. This echoes Kimbell and Stables' (2007, p. 221) views about the power of modeling which can be seen as a "progressive representation of ideas", and as "a natural part of the designing process". Mrs Wu also encouraged and praised the students every so often. Overall, the classroom atmosphere was

full of "achievement and success", which enabled the majority of the students to engage with their work in an enjoyable way.

Section 3: Proving ideas (see Appendix 11: Section 3)

The aim of the final section was to review the mugs and to finish the diaries. The participants included Mrs Wu and the students. The pace of this section was nearly equally divided into three parts. In the first part, Mrs Wu acted as a reviewer to stimulate the students to identify problems with their mugs. She asked them questions: 'are you satisfied with your product? If yes, can you explain why? If not, can you identify the problems?' This was a whole-class discussion, and in order to encourage more interaction Mrs Wu moved around to ask different students to share their opinions. However, the discussion was still mainly between Mrs Wu and the student who was giving a presentation; the rest of the students were passively listening rather than joining in with the dialogue. This was possibly because the presenting student's voice was quite quiet.

In the second part, Mrs Wu asked the students to write down their reflections and those of their peers in their diaries. She left the students to work individually or in groups, and she acted as a supporter observing their progress. Most of the students were quite involved in discussions and in writing their diaries. In the last part, Mrs Wu acted as a reviewer and attempted to elicit further reflections and feedback from the students through presentations and discussion. However, only a few students were willing to present their reflections, and the whole-class discussion was a little lacking and less enthusiastic. Overall, in the last section, Mrs Wu made a lot of efforts to inspire the students, but their reaction did not reciprocate Mrs Wu's efforts.

- The use of language

At the beginning, Mrs Wu created an *andante* mood to bring the class to order and to establish a settled atmosphere (T21-22). She also tried to comfort some students whose products had broken. She also attempted to generate a conversation, following a procedure also suggested by Key (2005, p. 131), by generating "a relationship of reciprocity between students, teacher, ideas and materials":

T21: 'This is your first time doing this, and I am very happy, because I see your
works are all different. Because this is your first time, there are many
problems. Now, I would like to ask you: where are the problems?'

T22: 'It doesn't matter if your mug is broken. But I'd like to know the reason for it.
Why do we have to know the reason? Can anyone tell me? […] Yes, if we
know the reasons, we can avoid making the same mistakes next time.'

During the discussion process, the stick language had been Mrs Wu's key strategy to push the students to talk and to present. She repeatedly stressed in the class that she would give points to those who worked hard (T24-29):

T24: 'Attention! The people who are dutiful in writing their diary can get twenty
points. But those who just write roughly and without taking care will not be
considered for this. […] Oh! I find this group and that group have a lot of
concentration. […] They can get 10 points. […] Also, the person who gave a
presentation previously can have ten points.'

- The classroom atmosphere

In relation to the classroom atmosphere, Mrs Wu tried to create a mood of satisfaction.. However, the students were in a state of weariness and did not fully take part in the class. The presentations were not that effective, and the majority of the students did not listen to others. As a result, Mrs Wu had repeatedly to remind the students that 'if you listen to others, you can get extra points'. By the end, Mrs Wu seemed a bit exhausted with this situation. Overall, the classroom atmosphere was less enthusiastic and responsive. The situation recalls Pollard's (1985, p. 188) suggestion that if the teacher's manipulation strategy is too extreme, "children will see through the 'façade' presented and, having interpreted the work more negatively, will seek to evade it".

6.5.3 Discussion

The value of the impact of this case study on the students was, as Mrs Wu observed, that, 'they took ownership of their own study, they developed their own ideas rather than just listening to the teacher'. Her classroom strategy of

manipulation involved skillful control, sensitive responses, and acting ability, all within a context of willing participation, a positive atmosphere, and good communication and relationships with students. As a result, there was no significant critical incident, due to Mrs Wu's manipulation and precise control of the pace of activity.

The interactions between Mrs Wu and the students is similar to Rowland's "exploratory model of teaching and learning" (1987, p. 130) (Figure 6-3). In this model, the learners are relatively, "more active, providing their own interpretation of their work as it proceeds, making their own judgments, and developing their own strategies" (ibid). In this case, the students enjoyed freedom and open-end activity in the modeling process, and Mrs Wu did not interfere with their work. As Rowland notes, "once the work is under way, the teacher takes a back seat, only to come forward again when it is time to evaluate the work done" (ibid).

CHILD

Responds → Responds → Responds

Stimulus negotiated

Evaluates

TEACHER
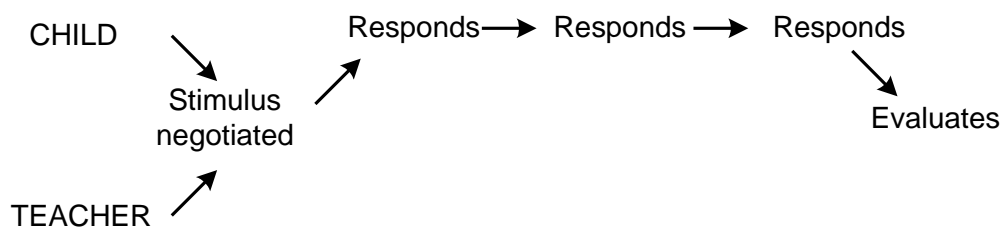
Figure 6-3: The exploratory model (Rowland, 1987, p. 130)

This model seems to be suited to the liberal climate of School A2, where the students have a lot of control over activities and learning. However, Rowland argues that if left on their own during an activity, "learners may rely only on knowledge and strategies with which they are familiar" (ibid). This was witnessed in one group of boys who all put the same feature – their name – on their mugs (SB-10, SB-12, SB-16). Mrs Wu facilitated the whole-class discussion and the peer review, but some students did not engage in the discussion. Accordingly, their learning might lack a critical awareness due to their limited interaction with both teacher and peers. The danger of this approach, as Rowland suggests, is while it is intended to "be a radical alternative which empowers the learners with great autonomy, may actually have the opposite effect by protecting the learners from the challenge of social interaction (p. 131). "Confidence may be gained, but the

opportunity for growth lost" (ibid).

The discussion period, which was less interactive than it should have been, was the main difficulty, as Mrs Wu pointed out in her final interview with me. She was not satisfied with the students' presentations or with whole-class discussion. She found that some students did not pay attention to listen to or participate in the discussion due to the placement of the microphone. Another cause may have been the classroom setting, with the students sitting in groups. When someone presented his/her work to the class, it was hard for others to see and hear the presenter's work. The students seemed to prefer to work in pairs or in groups rather than as a whole class.

6.6 Conclusion

In this chapter, the teaching and learning performances in the three cases have been presented to highlight the incubation and verification of creativity amongst teachers and their students. The characteristics of Mr Lin and Mrs Wu reflect Woods and Jeffrey's (1996) suggestions about the "common characteristics" of the creative teacher, which include independent, firm control, and a strong emotional investment. The two teachers' performances show how some aspects of teacher-student dynamics can enhance the nurturing of creativity among all participants in the classroom: the relevance of the subject matter, the diverse roles of the teacher, the positive use of language and tone, and an active classroom climate. The evidence suggests that students develop understanding through taking ownership of learning and through cooperative working, and that group discussion motivates and engages them in an activity. The time and space the teachers gave to the students shaped their flexibility and autonomy, and provided reflective opportunities for both the teacher and the students. As Steers (2010, p. 33) stresses, "creativity cannot be rushed or reduced to a formula: there is often a long incubation period before creative ideas may, once in a while, gel in that elusive 'Eureka!' moment". I believe that creative teaching and learning never follows a script; rather, its quality is dependent on the learning context and is largely influenced by the teachers and students, who together shape the classroom atmosphere.

The teacher in the School E example – Mr Lin – exhibited the "interpretive model" of teaching and learning in which creativity was incubated by iterative, mutual, and co-operative working among teacher and students. Rowland's (1987) interpretive model mainly shows the dynamic interactions between teacher and students, but it is not capable of showing which interactions among students are influential. Interactions in creative teaching and learning are not simply two-way, but multi-way between all its participants. It is also impressive that the critical incidents, especially some initiated by low-achieving students, became the catalysts for developing peer creativity and enhanced involvement, and that Mr Lin was able to judge the right moment to prompt, support, and instruct the students. This echoes Steers' (2010, p. 33) suggestion that "serendipity often plays a key role in developing creative outcomes." The evidence also suggests that it is not necessary to have a dramatic pedagogy; even when using conventional speaking and discussion Mr Lin was able to encourage student motivation and creativity. The time-consuming nature and strict pace of the curriculum were the main challenges for Mr Lin. Nevertheless, Mr Lin and his students found their own ways to develop creativity in the classroom.

The teacher in the School D example – Mr Lee – exhibited the "didactic model" of teaching and learning in which creativity was stifled and constrained through a routinized, skill-led, and standardized mode of teaching. Rowland's didactic mode is characterized by paternalistic interactions between teacher and students, but it neglects children's passive attitude and their resistance to teaching. It also should be noted that Mr Lee, as a junior teacher, was overloaded with too many other duties including administrative works and study for his MA study, and that the critical incidents showed he had less regard for individual differences and control of the students' learning direction. The final products of the students suggest that they tried to follow Mr Lee's request of stay within a safe boundary. Some high-achieving students with good ICT literacy were capable of showing more creativity in their website design. Overall, this ICT activity remained bounded within skill-led teaching and learning, rather than utilizing technology to enhance human interaction and communication between teacher and students.

The teacher in the School A2 example – Mrs Wu – exhibited the "exploratory

model" of teaching and learning, in which creativity was mainly derived from the students' independent and self-directed learning. Mrs Wu carefully kept the balance between remaining in control of learning and allowing freedom of exploration. Rowland's exploratory model is appropriate to describe School A2's liberal and personalized learning process, but it does not reflect the interaction that occurs among peers. The evidence suggests that co-operative group discussion and working was relatively effective at motivating School A2 students to develop creative ideas. Mrs Wu's dynamic teaching effectively attracted the students to engage with the activity, and to find a starting point for their own designs. Due perhaps to School A2's highly liberal school culture, the students confidently showed creative ideas and interest, and the teacher acted as a facilitator, supporter, and catalyst, rather than as an instructor.

Chapter 7

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Conclusions and Reflections

7.1 Introduction

At the end of this research, my two supervisors reminded me to think about the question "so what?" in relation to the various arguments I raise in each chapter. As they note, "'doing a so-what' is a nice shorthand way of probing into the questions that lie beneath the surface" (Kimbell & Stables, 2007, p. 305). I like to use this question as a prompt to review the evolution of this research.

At the early stage of this research, I explored the global "creativity movement" and looked at how both the UK and Taiwan governments deployed different strategies to pursue creativity. I argued that creativity is seen as a new model of cultural, human, and knowledge capital and a response to the requirements of the knowledge economy and of global competition. In the UK, creativity and innovation were constantly emphasized in the New Labour Government's educational policy discourse, and the role of creativity was redefined as a crucial talent for young people to cope with the new globalizing age. This global epidemic of creative education was also apparent in the Taiwanese _Creative Education_ White Paper, in which creativity was seen as a alchemical process for transforming Taiwan into a "Republic of Creativity". This was what first prompted for me to think about the question "so what?"; since these official British and Taiwanese documents asserted the significance of this great new value given to creativity in education, I asked "so what actually is creativity in education? And how do the British and Taiwanese governments deliver and practice this new notion of creativity in schools?"

I then embarked on an exploration of the literature related to creativity and creative education, particularly in relation to questions regarding the locus of creativity, and how to encourage creativity into teaching and learning. I then focused specifically on psychological and educational approaches to the study of

creativity. I found that psychological approaches have defined creativity well in the mode of "the 4P's of creativity", and have been used to develop diverse methods and models for measuring and researching creativity; I also noted the distinction in system models of creativity between Csikszentmihalyi's (1996) "big C creativity" and Craft's (2001b) "little c creativity". This has also provided a conceptual framework to recognize extraordinary and ordinary creativity. This was a second prompt for me to think about "so what?". I started to consider whether these various English theories can be fully applied to Taiwan's context. On the other hand, educational creativity research provides robust interpretations of the differences between creative teaching, teaching for creativity, and creative learning. Nevertheless, I was curious as to whether those lists of criteria would be transferable for teachers and students in the classroom.

Meanwhile, I also embarked on a trial exploration of the New Labour initiative "Creative Partnerships"[9] based in East London in early 2007. The Creative Partnerships (CP) was seen as a new mechanism for putting New Labour's creative education policy into practice. In doing so I visited one primary school, observed three classes in different year groups, interviewed teachers and creative practitioners (musicians, visual artists, actors, and storytellers), and participated in their evaluation meetings. In this case, I found that these partnerships working between teachers, students, and varied creative practitioners had presented dynamic classroom interactions and dramatic performances of creativity among all participants. As a result I gained an insight into the complexity inherent in delivering policy, and in the development of creativity in classroom within London. This was a third prompt for me to think about "so what?" I wondered whether the England experiences could be applied in Taiwan, as the CP's experience was seen as an important model that the Taiwanese government could learn from.

Due to these initial reflections regarding the delivery of the *Creative Education* White Paper, and on the practice of creativity in the classroom within

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[9] Creative Partnerships (CP) was established in 2002, originally funded by the UK's Department of Education and Skills and Department of Culture, Media and Sport, but was based in Art Council England. CP aims to bring creative workers into schools to work with teachers to inspire young people and help them learn. It is England's flagship creative learning programme, designed to develop the skills of children and young people across England, raising their aspirations, achievement and life chances. (http://www.creative-partnerships.com/about/)

the Taiwanese context, at the mid stage of this research I embarked on empirical exploration in Taiwan. In this final stage of this research, I bring together my research findings and reflections, and try to answer this challenging question: "so what?". At the outset, I argue the limitations and effects of the Creative Education White Paper; and I then propose three recommendations for the further development of creative education in Taiwan and discuss the possible limitations of this research. Finally, I highlight the key contributions of this study and conclude with recommendations for future research.

7.2 The Creative Education White Paper's limitations and effects

In this section, I draw together my findings regarding the effects and limitations arising from the implementation of the *Creative Education* White Paper. I focus on four issues: Firstly, I make an argument regarding the short-sightedness of the policy-making process and the inability of policy delivery strategies. Secondly, I review the conflicts between the parents' belief in education, institutional settings and the implemetation of *Creative Education*. Thirdly, I discuss the influences of respective school culture, and institutional and socio-cultural constraints on the three respondents' perceptions of creativity. Fourthly, I illuminate the difficulties for teachers and students in developing creativity in the classroom. Finally, I provide a reflection on the question "so what?" and I highlight the significance of these research findings.

7.2.1 The limitations of policy-making and policy delivery

As I have shown, the development of the creative education agenda was represented by the Taiwanese government as part of a pragmatic and economic-led project. I have identified two critical problems related to the process of policy-making and strategies for policy delivery.

The first point that I want to make is that the process of policy-making was extremely short sighted and lacked deliberation. As I argued in Chapter One, the new government was eager to find a quick solution to national economic and educational issues, however its solution was to import western models. Policy-makers borrowed the fashionable rhetoric of creativity from other

developed countries' policies; simplifying what counted as creativity and importing them into the *Creative Education.* In the rush to do this there was no observation evidence collected in schools and no involvement of teachers, parents, and students in policy formation. The resulting policy lacked full consideration of the socio-cultural and institutional constraints; it had neither a comprehensive literature review, nor did it consider if those new terms were accessible for educational practice. Therefore, the *Creative Education White Paper* had been "encoded" by diverse policy-makers, each of whom brought different countries' experiences and their personal experiences to the same issues. These policy-makers then gave tips on practicing creativity in schools in the form of "five goals and ten principles" for local government and educators. These policy buzzwords were vague and inaccessible, and required local actors to creatively interpret the *Creative Education White Paper* to put it into practice. This carried the danger of creativity being made an omnipotent power by an overemphasis in policy texts on its instrumental value without exploring and defining what creativity in education actually is. This was likely to create a paradox and bias in relation to the understanding of creativity and creative education.

The second point I want to highlight is that the strategies for policy delivery were very uneven and problematic. As I argued in Chapter Four, the policy-makers employed the twin strategies – "call for proposal", and "empowerment" to attract teachers to participate in their pilot action plans, and held "experiential workshops" for teachers themselves to get a sense of creativity. All their strategies required teachers to suddenly become creative and self-explore how to practice creativity in classroom. This strategy neglected teachers' differences and encouraged them to learn by grappling with difficulties in the process. It reflects the government's lack of a workable strategy for delivering creative education, because the whole idea of implementing *Creative Education* was quickly borrowed from other countries without considering how to practice within Taiwanese context.

Moreover, the implementation of the *Creative Education* was also constrained by institutional arrangements. For example, the counselors of the Advisory Office in the Ministry of Education were mainly responsible for making

recommendations on the *Creative Education* rather than delivering it. Indeed they lacked the administrative experience needed for policy delivery. As a result the communication and practical problems were left with local actors who were confused by the purpose of the *Creative Education* and the role of the counselors. Additionally the inefficient funding mechanisms had made the outcome of the creative projects even more uneven and unsatisfactory. For example, on a one year project, the local actors had to wait approximately seven to eight months to receive their funding, and were then required to finish a one year project in four or five months. These bureaucratic limitations emerged from a policy-making and policy practice landscape which exemplified the Taiwanese government's shortsighted plan for developing the *Creative Education*.

These problematic factors above illustrate the chaotic nature of Taiwanese policy-making and practice. As I have argued, the actions of policy-makers and local actors are analogous to blind men who touch the same elephant - the western creativity theories, policy texts and discourse. Through touching different parts of the elephant but with no idea of the whole "elephant" they derived a distorted image of the whole based on what they knew and learned from western countries' experiences and theories. This resulted in a distorted image of creative education which might not only lead to more misunderstandings regarding creative education, but also keep local actors from adopting creative education policies.

Finally, the "*Pilot Plan of Developing Creative Education*" was ended in late 2008 due to lack of funds. The eight year programme had spent 0.7 billion dollars (GBP 14.6 million), and was criticised for its short-term activity-led outcomes, and shortage of evidence for the improvement of the creativity of teachers and students. As I mentioned, one policy-maker defended its impacts on schools stating: 'we have not shaken those critical institutional limitations to creative education, but we have loosened the educational climate'. However, as mentioned, the result might echo one interviewee's criticism: 'the development of the creative education is like a gust of wind which is not sustainable and enduring.'

7.2.2 The social, cultural, and institutional limitations

As I argued in Chapter Four, the *socio-cultural limitations* - parental beliefs in education, obsession with examinations and continued progress, utilitarian attitudes to student learning; and the *institutional limitations* – the incoherency of the curriculum, the inefficient regulations around teacher recruitment and retention, and the unevenness of the entrance examination procedures – are the key entrenched constraints on promoting creativity in education in Taiwan. They act as links in a chain to provide a substantial obstacle to creative education.

The first point that I want to make is regarding the *socio-cultural limitations* relating to the parental obsession with "keeping progress", "league tables", and "exam grades". I argue that these become a form of non-verbal oppression on teachers and students. These social values mainly reward high achievement and qualification rather than creativity. This emphasis on a singular measure of education outcomes has narrowed both children's learning possibilities and teachers' teaching approaches. As a result it becomes relatively less possible for teachers and students to do something other than pursue the standardized pace of the curriculum and regular tests. The room for embedding creativity in the classroom becomes very limited. Moreover this has created a system of apartheid between the star catchment areas and common catchment areas, and led to extreme meritocratic competition especially in my three case study schools. It has also distorted student perceptions of study obligations toward utilitarianism. Many students are encouraged to compete quite openly with their classmates, and therefore many student relationships are based on mutual competition rather than team work. Thus the potential for student creativity is partly stifled by their utilitarian and competitive attitude to study.

Secondly, regarding the *institutional limitations,* the three new initiatives including the Grade 1-9 curriculum, the new Teacher Education Law, and the Multiple Entrance Programme did little to encourage a more liberal and creative educational environment. The conventional constitutions have endured and the reforms appear as little more than the emperor's new clothes. As I have argued, the incoherence of curricular content between each stage has given rise to a

custom of attending cram school; increasing teacher workloads and student study-loads, and compounding the financial burden on parents. In addition, it has also increased the possibility that textbook publishers can potentially monopolize the selection of textbooks that are available to a school. The incoherency of the curriculum does little to help improve teaching approaches to being more creative or diverse, to expand students' learning boundaries, or to broaden the selection of textbooks. All these factors exhaust teacher and student energy and constrain the possibility of creativity in curriculum. The reasons why most action plan outcomes were short-term activities can be traced to the very limited room for instilling creativity in the curriculum, with the result that teachers were mainly able to develop creativity in an activity-based format apart from routine curriculum.

Regarding the new *Teacher Education Law*, the absence of laws and rules to persuade teachers to improve their pedagogy and approach to the new curriculum remains difficult to resolve and brings a danger that teaching stagnates. Indeed it has shaped a climate among teachers where the majority of them are likely to prefer to follow standardized settings rather than try something different from other colleagues. Consequently moral persuasion is suggested as the only realistic route to convince teachers to try different approaches within the current structures. This makes visible the hidden ideology within the strategy – "the call for proposal". Because the government cannot legally require every teacher to develop creativity in classroom, the "call for proposal" strategy attracts only the minority of the teachers who are motivated to pursue creativity and improve their teaching. The presence of these creative teachers was expected to act as a paradigmatic model in their schools morally persuading other colleagues to action. On the other hand, the pressure on teachers to keep up the pace of curricula and tests; maintain student achievements; satisfy parents' ambitions for their children; and conform to the moral role, suggest that as long as they remain overloaded with so much expectation, they will be constrained from exploring creativity. This highlights the government's lack of realism regarding the reform of teaching approaches.

A further problem is the Multiple Entrance Programme, which does little to release teachers, students, and parents from the constraints imposed by unified exams and league table. The Multiple Entrance Programme remains the role of

summative paper and pencil tests which primarily test memory skills and rote learning, rather than encouraging critical thinking and creative learning. Student creativity is marginalized in these results. Moreover, the "multiple choice" format does little to change the social obsession with the star schools/universities, and also does little to broaden the parental attitudes to education. Therefore, I have argued that the Multiple Entrance Programme may increase social inequalities due to its new criteria for selecting students. Selected students are those who can not only get high grades in the entrance exams, but also present other "special" talents, such as science, drawing, ICT, or sport. This implies that parents need to provide extra economic, social, and cultural resources to foster their children's "talents". This situation raises the question whether students with better socio-cultural and economic backgrounds would have more opportunities to develop their creativity and enter those star schools due to the new entrance programme. I will discuss this issue further in the final section of this chapter.

It is evident that the three new initiatives do little to remove the previous KMT's critical mechanisms, or to transform its terrible effects on teachers, students, and parents. The three new initiatives are also incapable of carrying out the changes set out in the *Creative Education White Paper*.

7.2.3 The limitations of the three respondents' perceptions of creativity

In Chapter Five, I discussed teacher, student, and parent perceptions of creativity, particularly in relation to the three best descriptions of creativity, the two most/least creative subjects, what are creative people good at, students' attitude toward problem solving, and how do they value creativity. In this research, I have found six key factors which constrain the three respondents' perception of creativity.

Firstly, I suggested that the concept of "democratic creativity" introduced in the *Creative Education* has had some influence on the three respondents' perceptions of creativity. Although very few parents and not many teachers had heard of the *Creative Education* White Paper, discussions on the importance of pursuing creativity have expanded beyond education policy documents and into other public arenas including various media. However, parent responses imply

possible tensions between their translation of the new notion of democratic creativity and the conventional understandings of creativity which situate creativity as the innate talent of a fortunate few. This is evident in confusion expressed regarding the differences between ordinary, extraordinary, and born creativity. Moreover, the economic-led interpretation of creativity in the *Creative Education* is reflected in adults' utilitarian responses to the relation between creativity, competitive advantage and employment. It can be suggested that the White Paper's lack of a review of new literature and the narrowness of creativity research approaches are problems that may lead to misunderstandings of what creativity is. As I argued in Chapters One and Two, policy-makers did not provide a clear theoretical discussion on the differences between Csikszentmihalyi's (1996) concept of "big C creativity and the NACCCE's (1999) concept of "democratic creativity". Current creativity discourses in Taiwan still concentrate on mystical, pragmatic, and psychometric approaches. These paradoxes and isolated approaches may influence the three respondents' perceptions of creativity.

Secondly, it has been seen that the media and youth culture have broadened the adults' view on creative people's capability particularly in terms of their economic benefit. The adults' response redefined creative people are as not only good at the artistic sphere, but good at sport and computer games as well. However, it also constrains the adults' perceptions of creativity in which they tended to add high economic and productive value on creativity. Thirdly, the socio-cultural limitations are illustrated in responses to issues regarding discipline, breaking rules and taking risks. For example, breaking rules and taking risks are seen as negative behaviour and not encouraged in school or at home, so the students are likely to be more sensitive to these terms. With regard to the behaviour of creative students some adults still had a negative impression and stereotype in their mind.

Fourth, institutional limitations, such as the strict pace of the curriculum, regular tests and limited pedagogies, had some influences on the teacher and the student views on the most/least creative subjects. Many thought that it was mainly in those non-core subjects, particularly arts, where it was more possible to

develop creativity in the curriculum; by contrast, the core humanities' subjects, particular Chinese and Social Study were positioned as less open to the development of creativity. Fifthly, the educational and occupational background of parents had a subtle influence on their view about the three best descriptions of creativity. The evidence implies that well-educated parents may have better creativity literacy, and that their understanding of creativity may be related to the requirements of their own jobs. Despite this, parents from School A2 with higher educational background did not show significant differenceces in contrast to parents from Schools D and E.

Finally, diverse school cultures were not reflected in some adult perceptions of creativity. As I have argued, School A2's liberal school culture does not appear to be reflected in adult responses to questions about the behaviour of creative students. School E's reputation for research was not reflected in teacher understandings of creativity, particularly in relation to questions regarding differences between high IQ and ordinary students. A high proportion of School D adults however, agreed that children can get high grades without being creative, which reflected its achievement-led school culture.

By way of contrast, distinctive school cultures were reflected in student attitudes to problem solving. For example, School A2 students showed a strong degree of collaborative learning preference reflecting its liberal and cooperative working school culture. School E students preferred to solve problems by themselves rather than discussing with teachers or peers which reflects school's culture of self-exploratory learning. Student responses from School D focused on results rather than dealing with problems in the process and this reflects its achievement-led school culture.

From the data, it can be seen that the students more strongly expressed their level of agreement/disagreement than adults did. By contrast, teachers' attitudes to creative students' behaviour are more likely to be positive; however, the evidence showed some differences between students' and teachers' opinions, and there was a particular gap regarding questions about the teachers' preference for well-behaved students.

7.2.4 The dilemmas for teachers and students to develop creativity in the classroom

There was no significant evidence to show that the "five goals and ten principles" in the *Creative Education* White Paper were used in classroom practice in my three case studies. In this research, I have found four influential factors which limit creative teaching and learning in the classroom.

Firstly, I have argued that the role of teacher is at the centre of the creative process. Accordingly the characteristics of teachers give clues to their desire for diverse teaching approaches. In Schools A2 (Mrs Wu) and E (Mr Lin) these teachers shared some similar characteristics, such as a wealth of life experiences, actively sharing their teaching experiences, constantly developing new curriculum and materials for teaching, and having a wide social network outside school. Their enormous passion enhanced the learning appetite of students. By contrast, whilst the School D teacher (Mr Lee) also demonstrated ambitious and confident characteristics, his teaching energy was exhausted by an enormous administrative burden and personal study. The resulting less dynamic and less exciting classroom served to decrease the students' interest in learning.

Secondly, regarding teaching techniques, classroom strategy and models of teaching and learning, this research found that whilst diverse teaching techniques do not automatically lead to more creative responses from students, good classroom strategy and an interpretive model of teaching and learning directly influenced the possibility of creative teaching and learning. For example the School E teacher used the two most conventional techniques – talking and discussion; on the other hand, he led multi-way interaction and an open negotiation forum for collaborative working and whole class discussion in the process. Somewhat unexpectedly, creativity bloomed and was transmitted to every participant in the classroom. In School A2 the teacher skillfully employed varied teaching techniques and manipulated classroom strategy to firmly control the pace of teaching, and provided plenty of time for exploration. However, the results implied that School A2 student creativity became limited by these approaches. For example, the mug designs of students were constrained by their experiences learnt within the exploratory model of teaching and learning. The

discussion at the end of the activity was less active, perhaps because the students tried to evade the teacher's manipulation. It can be argued that the routinisation and didactic approaches evident in School D stifled both teacher and student creativity, and the teaching and learning atmosphere was less energetic and animated.

Thirdly, the institutional limitations and parental values around education hindered a more liberal and creative teaching and learning environment. As I have argued in Chapter Six, the School E Science (core-subject) teacher was dreadfully limited by the school's unified pace of curriculum and tests, and parental concern with their child's achievement. These factors placed enormous stress on both teacher and students. They barely managed one lesson per week to develop their creativity, with the other two lessons being used to pursue the curriculum. By contrast, ICT as a non-core subject supposedly enjoyed more room to engage creative teaching and learning, however, the timescale was still tight and School D parents asked that their children should not spend too much time on their ICT tasks. These factors not only constrain creative practice, but also reproduced a utilitarian learning attitude.

Finally, the broader culture of each school was reflected in its teaching and learning. The liberal culture of School A2 matched the dynamic teacher performances, the students' control of their individualized learning, and the collaborative climate seen in team work. School D's achievement-led school culture matched with the skill-led ICT teaching and a utilitarian learning attitude, and it also influenced the way in which students observed the ICT teacher's instructions and requests. School E's research pioneer school culture matched the Science teacher's experimental approaches and the students' self-exploratory learning attitude. Significantly, the Science teacher's approaches had gradually shaped a collaborative working climate in the classroom which was very different from the students' responses to the question about their attitudes to problem-solving.

As I have reiterated, the three cases studied presented creativity in the classroom as a series of complicated human interactions that never followed a script. The success or failure of the development of creativity in the classroom

does not necessarily rely on physical support, but largely relies on human support from teachers, peers, and parents. It can be seen that School D had a well equipped ICT classroom, yet lacked interaction and collaboration between the teacher and students. Consequently, School D students gained less "creativity assisters" (Cropley, 2004) support to develop their creative idea. By contrast, whilst the School E Science teacher faced more institutional and cultural limitations, his multi-ways interactions with students catalysed creativity and motivation for most participants. In School A2, the interactions between the Arts teacher and students were few, but the interactions between peers were very frequent and this was a critical support in enhancing the student learning appetite. The actors in the three cases are very different, and as a result their classroom interactions were different. As Bassey (2001, p. 7) notes that some un-noted variables of the setting, or the class, or individuals within the class are sufficiently different to affect the outcomes.

Regarding my reflections on the question "so what?", I would like to highlight three significant aspects of my findings which may not be seen in other research. Firstly, the research findings present a mapping of the subtle relations which have influenced the development of creative education within the Taiwanese context. For example, the institutional limitations have constrained the development of a more creative education environment and of creative teaching and learning, as well as teachers' and students' perceptions of the most and least creative subjects. Moreover, parental beliefs about education, for instance, have influenced children's attitudes to learning, as well as the school culture and teachers' approaches to teaching. All of these subtle relations enable me and readers to see the complexity of the development of creativity in education.

Secondly, the research findings have made the practice of creativity among teacher and students visible and understandable. The analyses of each case study's scenarios were based on a similar conceptual framework, in which I highlighted various subtle clues, influential connections, and incidents. So, the classroom interactions and creative practices in the three case studies can be seen as of comparable complexity.

Thirdly, this research finding has provided a top-down analysis, moving from

a macro view of the global epidemic of creative education down to a micro view of creative practice in the classroom through different scales of lens. Finally, for myself, I have gained a great deal of experience in terms of understanding the complexity of the implementation of the *Creative Education*.

7.3 Creativity: how do we pursue it in Taiwan?

This research has made strong critiques of the Taiwanese government's creative education agenda. In light of this tone one might wonder whether or not there is any possibility to pursue creativity in Taiwan? Certainly my intention in making these critiques is as Foucault's (1994) suggests:

> *take care not to dictate how things should be. I try instead to pose problems, to make them active, to display them in such a complexity that they can silence the prophets and lawgivers, all those who speak for others or to other.* (Foucault, 1994, p. 288)

My study does not attempt to refute the significance of the *Creative Education* White Paper, but it is crucial to evaluate its effects and limitations in order to learn lessons for the future development of creative education. Accordingly I would like to propose three possible recommendations which provide alternatives rather than perfect solutions.

Firstly, I would suggest that the theories and methods for researching creativity and creative education should be diversified and expanded. As the head-teacher of School D argued: 'we need new blood to update the new approach to creative education in Taiwan.' This was also pointed out by another interviewee (a professor - SC11: HJC) who noted the narrow use of methods for researching creativity: 'there are three main groups doing creativity research in Taiwan, however, in the main their methodologies are very quantitative and statistical and lacking qualitative analyses.' I have also argued in Chapter One that in Taiwan, research regarding the process of creative teaching and learning is very limited and many utilize pragmatic approaches. Consequently, it is important for academics not only to update the theoretical debate on creativity and creative education, but also to expand methodological approaches. A diversity of methods

can help make creativity more accessible and visible rather than seeing it as a "self-exploration" or an experience of love (proposed by a famous creativity researcher in Taiwan). New theories can help teachers and parents to understand what creativity actually is in education rather than reproducing conflicting understandings evident in the media.

Secondly, in order to for implement creative education it might be workable to establish a mechanism apart from the current bureaucratic system. I have demonstrated that the role of the Advisory Office has been problematic and lacked the experience to deliver the *Creative Education* White Paper. It might be possible to learn from Creative Partnerships (CP). In fact, the policy-makers of the *Creative Education* had visited CP and constantly mentioned its pioneer approaches to creative teaching and learning. In my trial exploration of CP's cases, I observed its partnership working in classrooms which had developed a different approach to promoting creative teaching and learning, and increased the possibility for every participant's creativity to flourish. CP established a network of local creative agencies; and brought varied creative professionals to work with teachers and students, a model which might serve as a new mechanism of policy delivery for the Taiwanese government.

In the UK, New Labour emphasized a partnership approach to coordinate joined up working between schools and different public-private sector providers, which can act not only as an effective and efficient mechanism to deliver educational policies, but can also create as a "win-win" situation of mutual benefit (Blair, 2002; Dickson et al., 2003). CP's partnerships approach may provide an innovative model to overcome the traditional Taiwanese administrative and bureaucratic constraints. It could also provide a more direct influential way to transform teaching, learning, and school culture. As Jones and Thomson (2008, p. 716) have noted one of the factors for the success of CP initiatives has been that they are often initiated from a "practical sense"; "managed and interpreted through regional offices, in response to what are presented as contextualized local needs rather than detailed national specifications". As I observed, those creative professionals with varied backgrounds and skills presented not only their artistic teaching techniques, but also their dynamic, creative, and liberal thinking which

was very different from standard teaching practice. Finally, CP's experience provides an alternative for promoting creative education in Taiwan. Numerous research reports published by Ofsted and a Parliamentary Select Committee have shown that Creative Partnerships have a significant positive impact on every participant including teachers, young people, parents, schools, and creative professionals (CP, 2010). Sounding a word of caution however, Jones and Thomson (2008, p. 725) ask, "whether this territory is fertile ground for building a coalition of actors, experiences, narratives and teleologies capable of producing a new policy settlement'. It needs a further empirical research on the CP's long-term effects on teachers and students, but it might be worthwhile for the Taiwan government to run a pilot scheme to see whether this idea of working in partnership is workable in the Taiwanese school context.

Thirdly, the media can play a crucial role in transforming parents' attitudes to education and to trumpet the nature of creativity. For example, the fashionable debates espoused in Charles Landry's "creative city", and Richard Florida's "creative class" and creative industries have been widely trumpeted by Taiwanese media and scholars, so that it has gradually embedded a new notion of creativity and a new form of achievement in our society. Although at present the focus in Taiwanese society is largely on the economic and productive value of creativity, this may be a necessary prerequisite to value different aspects of creativity, rather than a narrow focus on valuing academic achievement. One officer (O4: WMN) responsible for operationalising the *Creative Education* in Taipei City for example stressed the importance of publicizing the meaning of creative education by media: 'We should utilize media, such as radio, TV or outdoor TV walls to constantly publicize what creative teaching and learning and creative thinking is, to teachers; the media effect will be bigger than continuing training and workshops.' However, it should be noted that the media programme might mainly influence well-educated parents who can more easily get access to that kind of information.

7.4 Key contributions and possible limitations of this study

In this section, I would like to reiterate the key contributions that this research has made. These include conceptual, methodological, and empirical contributions. In

doing so, I will also discuss the possible limitations of this research.

Conceptually, I have mixed psychological, educational, and sociological approaches to understanding the practice of creative education. In the pilot study, I found limitations to using a single approach or pre-established framework to understand the complexity of classroom interaction. Many subtle factors and critical incidents emerged out of my empirical fieldwork, which could only be understood in relation to a mix of theories and themes in each chapter. For example, in Chapter Four, I employed Ball's (2006) concept of "policy as text and policy as discourse" to understand the complexity of the process of policy-making and practice of the *Creative Education*. In Chapter Five, I drew on Bernstein's (1975) analytical framework of the "expressive and instrumental orders" to interpret the school culture, while Devine's (2004) and Lareau's (1987) interpretations of parental involvement in children's schooling were used to understand the relations between parental socio-cultural backgrounds and children's performance and schooling.

Another significant challenge was overcome in Chapter Six, where I have developed a conceptual framework to scrutinize and code the process of teaching and learning. It includes Craft's (2000) concept of "little c creativity"; Pollard's (1985) analytical framework for teacher classroom strategy; Jeffrey's and Woods's (1996) concept of tone and characteristics of classroom atmosphere in the teaching process; Kimbell *et al.*'s (2004) assessment framework for developing ideas; Tripp's (1993) concept of the critical incident; and Rowland's (1987) three models of teaching and learning. Each theory enabled me not only to deconstruct the complexity of classroom interaction, but also to systematically analyse varied key factors of creative education. The aim of using a varied combination of psychological, educational, and sociological approaches echoes Ball's (2007) suggestion that:

> *Theory is a vehicle for 'thinking otherwise'; it is a platform for 'outrageous hypotheses' and for 'unleashing criticism'. […] It provides a language of rigour and irony rather than contingency. The purpose of such theory is to de-familiarize present practices and*

categories, to make them seem less self-evident and necessary, and
to open up spaces for the invention of new forms of experience. (Ball,
2007, p. 116)

Regarding the development of methodological approaches, I began with Kimbell and Stables's sophisticated experiences in researching design and creativity, and then drew on their multi-methodological approach for my data collection within the Taiwanese context. Their framework helped me to overcome the shortage of appropriate methods and instruments for researching creativity in Taiwan. It is significant that I have tested their Design and Technology assessment booklet (used as the student Creative Diary in my study) in Taiwan for teaching purposes in varied subjects. My findings suggest that the Creative Diary can be used for teaching purposes in Arts, Science, and Social studies subjects. In the context of ICT lessons, the photo story line was not so effective at recording the process of making webpages. However, the Creative Diary enhanced student interests in their study, and increased the possibility that students were able to develop creative and critical thinking through the sub-task questions in the diary. Moreover, the coding framework and chronology was designed to display the fluid observation data. The aim of the coding and chronology approach is not only to help visualize the data, its real significance is an attempt to evoke something of the dynamic classroom interactions and subtle changes of the students and communicate this with readers. Because the three case study schools were all Taiwanese, the chronology should also help non-native readers get a sense of a Taiwanese classroom through the photo series and teacher transcriptions. It is my hope that this might reduce any cultural gap between author and reader.

Empirically, this research offers three dynamic stories regarding the practice of creativity in the Taiwanese classroom. The discussion has ranged from the level of policy-making in central government to practice at the classroom level. For example, I have argued that there is a gap between western creativity theories and the Taiwanese socio-cultural context. In Taiwan, English theories of creativity have not been completely translated and understood and creativity remains a political, academic, and media driven rhetoric rather than a practiced phenomena. Moreover, this research has highlighted the relationship between the creative

performance of students and their families' economic and socio-cultural background. All three case schools were located in privileged catchments, though the parents of each school represented a variety of social classes in terms of their educational qualifications and employment. Each school's students also demonstrated distinct characteristics in their attitudes toward problem solving, classroom climate, and their performance of creativity both in the classroom and in the Creativity Diary. In School E, I found that in the "having ideas" stage, the development of creative ideas was confined mainly to five high achievement students. This may have been because these five students were in the talented science group, but interestingly all of their parents were relatively better educated and wealthy. In School A2, it was evident that its liberal and open-minded parents had influenced the school culture and the range of appropriate subjects (for example its cram school (private tutors outside school) subjects were more diverse than other two schools). These observations prompted me to consider the social class issue as highly relevant, and yet current creativity and creative education research do not raise this as an important issue in children's creativity. My empirical fieldwork has demonstrated that to some degree the children's creativity performance depends on what kind of economic and socio-cultural resources their parents have invested in them. In the next section, I will outline a framework for future research based on the relationship between social class and student creativity.

Finally, I would like to discuss three possible limitations of this research particularly with regard to the research design, data collection and data analyses. The original research design did not include a comparison between middle-class and working-class schools, as the influence of social class on children's creative learning only emerged in the course of the fieldwork. Therefore, the main strength of this research has been its ability to see how these affluent middle-class families in my three cases influenced their children's creative learning, the school cultures, and the teachers' teaching. This research is unable to see whether children from different social classes appear to have differing levels of creative ability.

Regarding the limitations of my data collection, the quality of data collection was highly dependent on my relationships with research subjects, especially the

three teachers and their students. For example, the distribution of the teacher questionnaire was reliant on the teacher and as a result I only managed one-third response rate in School E. In addition, my close relationships with the students might have had unforeseen effects on their performance as I argued in Chapter Three.

In relation to the limitations of the data analyses, this research could not include a comparative judgment on the student Creativity Diaries from outside experts such as artists, website designers, or scientists; the evaluations of student creativity used in this research were mainly those made by the teachers. However, in the context of this project this is less of a problem because the main research objective is an exploration of the practice of creative teaching and learning, rather than grading students' creativity.

7.5 Future research

At the end of this thesis, I would like to outline an initial idea for future research. I have noticed the subtle influences of school culture and social class and believe these might be 'invisible' factors in developing children's creativity. I would therefore like to propose a two part framework: Part I, is related to school culture and social class; Part II, is related to social class and educational investment.

In part one, I draw on the American sociologist Jean Anyon's (1980, 1981, 2006) argument about the relations between social class, school knowledge, and the hidden curriculum. Her research was derived from five primary schools and she differentiated them by social class, including a working-class school, middle-class school, affluent professional school (upper middle class), and executive elite school. In relation to school knowledge, she assessed school curriculum, pedagogy, and other materials in each classroom and school. Anyon concluded:

> *In the two working-class school, work typically involved rote behavior, following steps whose reasoning was not explained.* (Anyon, 2006, p. 40)

> *In the middle-class school, work typically involved getting the right*

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answer to questions posed by teachers and textbooks. If one
accumulated enough correct answers, one obtained a good grade.
(ibid)

In the middle-class school the children are developing somewhat
different potential relationships to capital, authority, and work. […]
Their school work is appropriate for white-collar working-class and
middle-class jobs […] Such work does not usually demand that one
be creative and one is not often rewarded for critical analysis of the
system. (Anyon, 1980, p. 88)

In the affluent professional school, work was often creative activity
carried out independently. The students were continually asked to
make sense of their experience – to "think," to develop and express
their own ideas and interpretations, and to apply analytical concepts
in creative linguistic and artistic ways. […] Their schooling was
developing in them a relation to their work that was creative and
relatively autonomous and appropriate development for later
professional, high-paying occupations. (Anyon, 2006, p. 41)

In the executive elite school, work and knowledge were highly
academic, intellectual, and rigorous. Students were not encouraged
to use personal creativity to make sense of the world, but rather to
follow rules of good thought, rationality, and reasoning. (ibid)

Her arguments about the relations between social class, school knowledge, and creativity capability support my hypothesis. Although her fieldwork was conducted in 1979 within an American context, her theories would appear to provide a sound theoretical basis for exploration in the contemporary Taiwanese context for the following reasons:

First, Anyon's descriptions of the working-class and middle-class school emphasize their rote study and getting the right answers, however, these features of learning also can be seen in my sample of three affluent middle-class schools. For example, the majority of school D parents are affluent professionals, but its

ICT curriculum mainly involved skill-led and didactic teaching and learning. By contrast, school A2 parents were relatively well-educated professionals, and its art curriculum involved creative and exploratory teaching and learning. The differences of the two cases runs against Anyon's argument, suggesting that school curriculum and knowledge are not necessarily connected to social class in Taiwan due to the Taiwanese socio-cultural focus on examinations and progress. However, it would be very interesting to evaluate creative study in both working-class and middle-class Taiwanese schools. As a number of my interviewees suggested, it may be that rural schools (where the parents tend not have experience of as much formal educated as parents of urban schools) may enjoy more room for creative education because parents are not as competitive as the middle-class parents in Taipei City.

Secondly, Anyon (1980, p. 89) suggests that the affluent professional schools develop in their children the skills "necessary to become society's successful artists, intellectuals, legal, scientific, and technical experts and other professionals". Anyon's definition of the affluent professional families is similar to Florida's (2007) definitions of the "creative class"[10]. It will be very interesting to investigate a school where the occupations of many parents locate them in the creative class, in order to test Anyon's theory that such schooling involves more creative and critical thinking.

In the second part of my framework, I will build upon Devine's (2004) argument regarding parents' use of their economic, social, and cultural resources to secure an appropriate future for their children. In my research, I have highlighted that Taiwanese parents are eager to increase their child's competitive advantage through various extra supports, such as cram schools or private tutors. Thus the school curriculum and knowledge may not directly reflect the students' social class, and parents' belief in education; it is the extra-curricular support which reflects the social class. To explore this further I would be interested to investigate the social practices regarding how parents use their money and other resources? Would parents from the "creative class" spend more resources on

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[10] Florida's (2007, p. 135) broad definition includes scientists, engineers, artists, cultural creatives, managers, professionals, and technicians.

creativity related activities, such as science workshops, visiting museums or galleries, and summer camps in foreign countries? Are working-class parents less able to control their children's education in term of developing creativity?

Building upon my findings of this thesis, my future research will explore more literature relating to creativity and social class, and will try to utilize sociological approaches to explore in more depth the socio-cultural contexts influencing children's creativity.

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Appendix 1: Teacher semi-structured interview questionnaire

About you

1. What subject do you teach?
2. How long have you been a teacher?
3. How long have you taught at this school?
4. Which year group do you currently teach?
5. Do you hold any other position in or outside of your role at school? If so, what?

Creativity

6. In your opinion, what does 'creativity' mean? What is the meaning of creativity in relation to your teaching and why?
7. In your opinion, why is creativity important for pupils? Is it important for:
   - developing skills for future career
   - improving levels of achievement
   - increasing self-confidence and self-esteem
   - freedom of thinking
   - others

About government initiative

8. Are you aware of the "Creative Education White Paper" and the "six action plans"? If so, where did this awareness come from and how?
   - Official document (letter)
   - Internet / website
9. Were you involved in developing any of the action plans? If so, how did you become involved and why?
10. Have you ever been offered any guidelines or training from the Ministry of Education in relation to how to practice creativity in your own teaching and learning? If so, what form did this take?
    - Workshop/ lecture/ conference
    - booklet / on-line resources
11. Did previous teacher training courses provide any ideas related to creative teaching and learning? If so, in what form was this offered?
    - Formal: subject
    - Informal: private course
12. If you were not offered any training or guidelines from the government, how

have you come to understand the role of creativity in education?

- Internet/ on-line resources
- Learning from mistakes or colleagues
- Attend extra course outside schools

13. Have you ever received any kind of pressure, influence, or suggestions from head-teachers, colleagues, or parents in relation to practicing more creative teaching?

Creating a project

14. How do you plan a 'creative' project?
15. Where does the idea for creativity in a project come from?
16. What objectives are identified in a creative project?
17. What approaches or techniques do you encourage in a creative project?

- Group discussion
- Case study
- Problem solving
- Others

18. What do you use as measures of success in a creative project?
19. How do you assess the effectiveness of students' learning in a creative project?

Practicing a project

20. In your opinion, did this project provide opportunities for pupils to engage fully in the process? If so, how?
21. How did you encourage learners to think creatively and was risk taking a part of this process? If so, why?
22. In your opinion, did you take any risky idea or action in this activity?
23. Do you think that a creative project always engages with the original objectives and plan? If so, how?
24. Did the project generate interests and new ideas amongst the participants? If so, where was this apparent?
25. How did you deal with any 'critical incidents' that may have occurred and let students aware of the critical incidents?
26. How did you help learners to expand their own creative ideas in this situation?

Outcomes

27. What were the challenges for you in the creative project as a whole?

- Timing control
- Risk taking
- Class management/ discipline

28. Were there been any noticeable difficulties in implementing the creative project? If so, what were they and why?
    - Pace of curriculum
    - Background Skill/ knowledge
    - Resource

29. In your opinion, what is the conflict (1) between class discipline and creative teaching (2); between assessment and creative teaching (3); parents' value and creative teaching?

30. What differences do you think you have influenced through the development of this project?

31. In your opinion, what have been the biggest changes for pupils as a result of a creative project?
    - Creative thinking
    - Self-confidence
    - Communication skills
    - Others

32. Do you think that the project outcomes match the objectives? If so, where?

33. What were the most important impacts on you and students relating to use of the creativity diary and why?
    - Benefits
    - Difficulties

34. Do you have any suggestions of your own for improving the creativity diary?
    - Language
    - Layout, procedure

35. What are the priority issues for a new creative project?
    - Timeline
    - money/resource

36. Are there any other things you would like to see incorporated into this project?

Appendix 2: Head-teacher semi-structured interview questionnaire

About you

1. How long have you been a head teacher?
2. Before you became a head-teacher, how long had you been a teacher?
3. How long have you taught in this school?
4. Do you hold other positions in the education department of the Taipei City government? If so, what position?

Creativity

5. In your opinion, what is 'creativity'? What would you say is the most important meaning of creativity in relation to school management? What are the reasons for your answer?
6. In your opinion, why is creativity important to the role of teachers?
    -   to improve teaching
    -   to improve students' levels of achievement
7. In your opinion, why is creativity important for pupils?
    -   to encourage skills for future career
    -   to improve levels of achievement
    -   to increase self-confidence and self-esteem
    -   to encourage freedom of thinking
    -   others

About government initiative

8. Have you heard of the "Creative Education White Paper" and the "six action plans"? If so, where did you hear this from?
    -   Official document (letter)
    -   Internet / website
9. Does your school engage with any of the action plans? If so
    -   how did it get involved?
    -   why did it get involved?
    -   why hasn't it got involved?
10. Does your school get any guideline related to the practice of creativity in education, or related funding from the Ministry of Education or the Taipei City government? If so, what kind of support?
    -   Workshop/ lecture/ conference
    -   booklet / on-line resources

11. If your school has not had any guidelines or related support from government, then what is the particular understanding of the role of creativity in education?
    - Internet/ on-line resources
    - Learning from mistakes
    - Attending relevant courses outside schools
12. Do you encourage the teachers to practice creativity in teaching? If so, how?
13. Do you receive any pressure or suggestions from MOE or parents to advise you to develop creativity in school? If so, what form does this take?

Outcomes

14. Since participating in the government initiative, from your perspective, what are the biggest changes for teachers and students to have occurred?
15. In your opinion, what are the challenges or difficulties for your school in developing a more creative approach to teaching?
    - For you
    - For teachers
    - For students
16. In your opinion, what is the point of conflict (1) between: class discipline and creative teaching; (2) between assessment and creative teaching; (3) between parents' values and creative teaching?
17. In your opinion, what are the strengths and limitations involved in developing creative education within the context of the current Taiwan education system?
18. In your opinion, what are the priority issues related to the future development of creativity in schools in Taiwan?

Are there any other issues you would like to see addressed in government initiatives on creativity in education?

Appendix 3: Officials and scholars semi-structured interview questionnaire

About you

1. How long have you been in the Ministry of Education?
2. How long have you involved in this government initiative and why?

Creativity

3. In your opinion, what is 'creativity'? What would you say is the most important meaning to the term in relation to Taiwan's educational system and why?
4. In your opinion, why is creative education important?
   - For schools
   - For teachers
   - For students

About government initiative

5. What is the government's overall concept for the development of Creative Education?
6. Where do you think this concept comes from?
7. How does the government understand and interpret the terminology around creativity and creative education?
8. Are these concepts related to developing creative industries and the knowledge economy? If so, give reasons for answer
9. How is the concept of creativity aligned to policy or strategy?
10. What is the public sector's vision and hope for the development of the "Creative Education White Paper"?
11. Where is this vision derived from?
12. Can you describe the process of developing the "Creative Education White Paper"?
13. Does this policy refer to other country initiatives? Which one/s and what is the link?
14. What are the main mechanisms of delivering creative education policy?
15. Why is the Advisory Office in charge of this programme in particular?
16. How does government deliver the policy to schools?
17. Is there different voice in the planning process of creative education schemes?

Outcomes

18. How far is it achieving its objectives and targets?

19. How is the scheme currently being measured and evaluated?

20. Do you think that participant schools bring any new significance or innovation to Taiwan's educational reform programme? Why/why not?

21. In your opinion, what is the main obstacle and difficulty with this program in practice?
    - administration/budget
    - schools' attitude
    - examination system

22. In your opinion, what are the strengths and limitations of developing creative education in Taiwan?

23. What do you think/hope will happen to the initiative in the future; for instance in the next 5 years?

24. With the benefit of hindsight, are there aspects of the initiative - its development and implementation – that could have been done differently? Why and for what reasons?

Appendix 4: Observation template

Project Name		Participants	S / T / CP/TA/ P
Curriculum		Year Group	
Venue		Date	sheet

Time			Teaching Process	Techniques		Storytelling	Award	Music
S	A	M	1. setting a goal 2. stimulation	questioning	challenge	Competition	Dance	Visits
W	G	I	3. iterative practice & thinking	Metaphor	Analogy	Presentations	Practice	Drawing
sin	inter	col	4. transition 5. completion	Experiment	observation	Imagination	Modelling	n/a
dir	sup	**n/a**		Role play	drama	Brainstorming	other	

Resource	Critical Incident

Time			Teaching Process	Techniques		Storytelling	Award	Music
S	A	M	1. setting a goal 2. stimulation	questioning	challenge	Competition	Dance	Visits
W	G	I	3. iterative practice & thinking	Metaphor	Analogy	Presentations	Practice	Drawing
sin	inter	col	4. transition 5. completion	Experiment	observation	Imagination	Modelling	n/a
dir	sup	**n/a**		Role play	drama	Brainstorming	other	

Resource	Critical Incident

Time			Teaching Process	Techniques		Storytelling	Award	Music
S	A	M	1. setting a goal 2. stimulation	questioning	challenge	Competition	Dance	Visits
W	G	I	3. iterative practice & thinking	Metaphor	Analogy	Presentations	Practice	Drawing
sin	inter	col	4. transition 5. completion	Experiment	observation	Imagination	Modelling	n/a
dir	sup	**n/a**		Role play	drama	Brainstorming	other	

Resource	Critical Incident

Level of learner engagement: S = stationary, P = podding, M = motoring,
Class arrangement: W = whole class work, G = group work, I = individualised work,
Teaching style: sin = single way teaching, inter = interactive teaching, col = working collaboratively Teacher
intervention: dir = direction, sup = support