



*Art in Early Childhood*

## Understanding the role of critical and creative thinking in Australian primary school visual arts education

Frances Alter  
University of New England, Australia

### ABSTRACT

Much attention has been devoted to critical and creative thinking within the field of education in recent years. One reason for this burgeoning interest results largely from research that has shown it is possible to increase students' critical and creative thinking capacities through instruction and practice. In the past this was often regarded as an innate individual disposition and education was thought to have little impact on development (Presseisen, 1999). Another reason for the increased attention given to these forms of thinking is due to rapid sociological changes. With movement to what is often referred to as 'the information age' the ability to be both a critical and creative thinker is considered an important element of life success.

A number of scholars have reasoned that the complex nature of the visual arts provides an excellent platform to actively engage students in critical and creative thinking (Perkins, 1994; Efland 2002; Eisner, 2002;). However, the discipline alone cannot be charged with achieving this. Teachers also must create opportunities for developing thinking. Art teachers cannot assume that teaching facts and technical skills is adequate to the task, since students need to be guided to develop their abilities to reason, inquire and form concepts.

This paper discusses theoretical underpinnings and some findings from my case study research concerning the critical and creative thinking orientation of students in primary school art classes. What was highlighted through the study was that, whilst primary teachers had valuable subject expertise and many years of teaching experience behind them, the educative role of the arts in teaching higher order cognitive processes was often missing from their art lessons.

During my first three years of employment as a visual arts lecturer, I frequently had the opportunity to oversee university pre-service primary school teacher trainees undertaking their practicum. Observations of numerous primary school classrooms during this time revealed a consistent attitude amongst many teachers that gave art a second-class status. 'School art' was largely perceived as a fun subject that could be

sporadically sandwiched between other subjects. Art classes were justified because they had entertainment value. Since students enjoyed these classes, the assumption was that they could not contain any serious thinking or learning.

As if to confirm this prejudice, teachers frequently engaged in activities that did little to stretch the cognitive orientation of the subject. Students seemed to be doing 'mechanical' or 'tidy' tasks that did not challenge them to think creatively, or reflect upon their ideas and opinions. Many of the supervising teachers were encouraging student trainees to do 'busywork' in which no one but the teacher did any real planning or decision-making.

Needless to say, this was somewhat disheartening. I had invested time and effort in promoting a different conception of arts teaching, a conception that acknowledged that the visual arts offered teachers a powerful teaching tool. Goldberg aptly states:

What the artist does through artistic activity is what emancipatory educators encourage: critical, reflective, and creative thinking in the context of society, coupled with expression. The expression might be an attempt to change society or to simply explore its complexities (Goldberg 2001, p. 33).

After observing that the cognitive aspects of visual arts education were frequently devalued in the primary classroom, I embarked on a research project that attempted to document the contextual elements of visual arts classrooms in order to identify factors that encouraged higher order thinking skills.

## **Primary school art classrooms in New South Wales**

Curriculum reforms in Australia in the last two decades appear to have created more opportunities for teachers to use the visual arts as a vehicle for cognitive development. In 1994, educational change in Australia was most evident through the restructuring of the national arts education curriculum framework by the Curriculum Corporation (CC, 1994). Throughout the following decade state syllabuses were progressively introduced in each Australian state. All of these essentially followed a Discipline Based Art Education (DBAE) Model, proposed by the national curriculum writers (Emery, 1998).

In New South Wales, the current creative arts K-6 syllabus was introduced into primary schools in 2000. Within the new curriculum framework it became mandatory to teach the creative arts (visual arts, drama, music and creative dance) that combine to form one of six key learning areas in the primary curriculum. Art appreciation and art making were the two discipline strands that formed the foundation of learning in the visual arts. Art criticism/aesthetics, art making and art history were the three discipline strands at secondary level.

A key learning objective within the primary visual arts syllabus is forming a close relationship between art practice and art appreciation such that one informs the other. To facilitate art making, current syllabus documents recommend teachers provide a

wide range of experiences in creating two- and three-dimensional contemporary and traditional art forms. To guide pupils' conceptual understanding of art, the syllabus recommends teachers initiate dialogue about works of art in both past and present social contexts. Art appreciation involves pupils in speaking, reading and writing activities.

In schools throughout New South Wales the visual arts are usually taught by generalist primary teachers, not subject specialists. Currently, class sizes in State schools typically average around 26 to 27 pupils (NSW DET, 2002). Primary teachers are required to cover six key learning areas and the visual arts make up just one part of one of the six areas. The amount of time dedicated to art during a school week varies widely from classroom to classroom but it is quite normal for primary teachers to dedicate around one hour a week to art lessons.

### **Research and reforms to arts education curriculum in schools**

There is a notable lack of research that investigates pedagogical practice in the arts. Apart from my own research only a couple of Australian studies to date have explored the role of arts teaching in the development of higher order thinking (Wilks, 2000; Corcoran 2006). These studies focus on either critical or creative thinking as they relate to different learning strands within the secondary school arts curriculum.

There have been a number of studies in Australia that describe a situation in primary schools where there is a lack of teacher preparedness, training and confidence in relation to teaching arts subjects (Bamford, 2002; Russell-Bowie, 2003; O'Hara, 2005). This in fact has been well documented over the last two decades in a number of nation-wide reports such as the report to the Minister for Education and Youth Affairs, Action: Education and the Arts (1985); the Australian Senate Committee Report, Arts Education (1995); The Australia Council Report, Australians and the Arts (2000); and two more recent federally-funded reviews, the National Review of School Music Education (2005) and the National Review of Visual Education (Davis, 2008).

A major source of stress for generalist primary teachers can be providing the time and attention to meet different education demands. It is not surprising, therefore, that teachers without significant subject expertise and training can often be under-confident when it comes to teaching visual arts. When it came to laying the groundwork for research, this situation made it difficult for me to find primary teachers willing to participate in my study. I was very fortunate to meet two primary teachers who were willing to share their teaching experiences with me.

### **A cognitive understanding of the visual arts**

My study investigated critical and creative thinking and these represent categories or forms of cognition. There are many labels given to different types of cognitive abilities

just as there are many and varied views of cognition. Consequently, it is important to clarify what is meant by the term 'cognition'. Eisner (2002, p. 9) simply states that 'Thinking, in any of its manifestations, is a cognitive event'.

Cognition clearly involves perception of one's environment through the senses and interpretation of this information through the filter of the brain. Cognitive scientists now think of these mental processes as 'cognitive architectures' that allow our minds to build and execute programs in specific domains (Bruer, cited in Delacruz, 1997, p. 8).

For most of the second half of the twentieth century one can see that the view of cognition that informed developments in school education favoured rational subjects such as mathematics and sciences. The arts fell into the non-cognitive grouping of curriculum subjects largely because they were considered emotive rather than reflective or intellectually demanding. Fortunately, this artificial division is no longer emphasised, and contemporary theories of cognition now accommodate and acknowledge components of artistic expression and aesthetic response (Delacruz, 1997). However, popularly held assumptions about which subjects best promote cognitive development are difficult to overturn (Eisner, 2002).

### **Definitions of critical and creative thinking that applied to the study**

Critical and creative are frequently collocated by researchers who investigate higher order thinking. The order of the terms, that is, whether 'critical' or 'creative' appears first, is usually irrelevant. While these forms of thinking are essentially different from each other there is a common perception that a close relationship is formed between the two. Beyer (1989) however, warns that this drawing together of terms can be problematic because it blurs important conceptual boundaries. He says, for example, that

Whereas creative thinking is divergent, critical thinking is convergent; whereas creative thinking tries to create something new, critical thinking seeks to assess worth or validity in something that exists; whereas creative thinking is carried on by violating accepted principles, critical thinking is carried on by applying accepted principles. Although creative and critical thinking may very well be different sides of the same coin they are not identical (Beyer, 1989, p. 35).

It is important therefore, to establish some theoretical constructs for both critical and creative in order to understand their differences and to appreciate the relationship they are given in educational models designed to improve higher order thinking. A working definition of each term is essential to clarifying the basis of the conceptual framework for this study. The following definitions have been selected because they are representative of a wide range of definitions proposed by both critical and creative thinking theorists and I consider them readily able to be applied to the study of artistic practice in an educational context.

Alvino's (1990) glossary of terms provides some valuable, short and workable definitions of thinking terms. These definitions are widely, but not universally, accepted by theorists. Alvino describes critical thinking as

The process of determining the authenticity, accuracy, or value of something; characterised by the ability to seek reasons and alternatives, perceive the total situation, and change one's view based on evidence. Also called 'logical' and 'analytical' thinking (Alvino, 1990, p. 50).

This definition of critical thinking is applied to the study although metacognition is considered within the study as an aspect of the critical thinking process and this is not specifically mentioned within Alvino's definition. Metacognition includes ability for self-awareness, self-monitoring, and self-regulation and has been recognised by some theorists as the highest level of critical thinking (Pohl, 2000b, p. 42).

Definitions of creative thinking proposed by Paul Torrance form the conceptual basis for understanding creative thinking in the study. Torrance (cited in Alvino, 1990) defines creative thinking as:

A novel way of seeing or doing things that is characterised by four components – FLUENCY (generating many ideas), FLEXIBILITY (shifting perspective easily), ORIGINALITY (conceiving of something new) and ELABORATION (building on other ideas) (1990, p.1).

It should also be noted that within most theories of creative thinking there is both a process and a product orientation. This is because others often judge the psychological process according to the novelty or originality of what is produced by the thinker.

## **The research design**

My main preference in selecting schools to participate in the research project was to find individual teachers who were teaching the visual arts in their classrooms on a regular basis and who had an enthusiastic interest in the subject. The reasoning was that it was more likely these would be rich centres for visual arts activity and therefore places where one might find dynamic approaches to teaching. It seemed pointless to look at classrooms where there was little art activity, as logically there would be minimal opportunities for critical and creative thinking through engagement with art.

Fortunately, through consultation first with a regional creative arts consultant, and then later with the teachers and schools themselves, two enthusiastic visual arts teachers at different schools were recruited. They were experienced teachers who had been teaching in the primary context for more than ten years. Neither of the teachers had any formal art training beyond high school and pre-service teacher education units of study in visual arts. The participating primary school classes were a composite class (year levels four, five, and six) and a single age class (year level four). Both primary schools involved in the research were situated in the New England District of northern

New South Wales in eastern Australian.

Fieldwork was conducted in schools over a normal school term. The children involved ranged in age from eight years through to twelve years. In-depth semi-structured interviews were conducted with the class teachers as well as with a small group of students from each of the classes. In addition to this, weekly visits were made to each class and detailed notes were recorded during these visits. Furthermore, a number of photographs of student artworks, exhibitions and displays were taken but these were not subject to analysis in the way that the written transcripts were analysed. Interview and observation data was transcribed and analyzed using a combination of qualitative methodologies including grounded theory and content analysis.

Case study data was used to investigate how teachers, students and environmental factors might influence the role of creative and critical thinking in visual arts education. Within each of these three lines of inquiry the findings were further organised to answer more specific questions in relation to theoretical perspectives, teaching and learning strategies, and scheduling and resource factors.

Analysis of the interview transcripts was focused on interpreting teachers' and students' reflections on their teaching and learning practices. Observation notes on the other hand reflected my own perspective on aspects of each case study. They provided more detailed information about the events that took place during a number of set class exercises. Specific actions and interactions were studied to see if they signalled critical and creative engagement.

## **Preliminary findings**

During interviews the primary teachers claimed to enjoy teaching art, but there was still a sense that it was a privilege rather than a normal core activity. They commonly said one of the biggest benefits of teaching the visual arts was that the majority of students were intrinsically motivated to learn. In their view this was because it did not appear to be seen by their students as work. Surprisingly, the teachers appeared uncertain about what counted as evidence of students' application of critical or creative thinking during visual arts lessons. In general they attributed the development of critical thinking to engagement in art appreciation activities while creative thinking was attributed to art practice activities.

During observations of art lessons there were a number of types of behaviour that the researcher believed were indicative of a student's engagement in critical thinking. Students who were able to think critically were often focused and goal orientated. Students were thought to be engaged in critical thinking when they organised their own art materials and work space; planned and organised class time fairly effectively; made artistic decisions independently; analysed and made aesthetic judgements about their own and others work; reflected upon their own actions and reactions to things; compared and contrasted written or visual information about art forms, ideas, and concepts; recognised that visual symbols and icons have socially-constructed meanings; justified a decision or course of action during the art making process; and

solved visual problems with little guidance.

Students who were able to think creatively were similarly focused and goal orientated but there were distinct kinds of behaviour that the researcher believed were more indicative of creative thinking. Students were thought to be engaged in creative thinking when they responded to the unique sensual qualities of various art materials; closely considered visual phenomena and explored understandings in interpreting meaning in artworks; responded positively and with interest to complex images that were ambiguous in their form and meaning; used materials and techniques in new and original ways; invented their own visual problems or ideas to explore further; experimented and took risks in art production; created art products that were expressive and showed individuality; were persistent in solving problems and remained open to further possibilities during the art making process; and borrowed or adapted elements of other artists' work or style and presented it in new ways.

Overall, it was noted that there were a number of structural, environmental and pedagogical elements that influenced the role of critical and creative thinking in visual arts classrooms. These could be classified as either 'discouragers' or 'encouragers'. 'Discouragers' had a negative influence and 'encouragers' a more positive influence. The balance established between 'discouragers' and 'encouragers' for either critical or creative thinking was different in each of the case study primary art classrooms. However, there were many commonalities discovered between both case studies.

### **Factors that discouraged student engagement in critical and creative thinking**

Amongst the environmental factors that negatively impacted upon student application of critical and creative thinking were short time allocations, limited physical resources and inadequate facilities within classrooms.

The weekly time period allocated to a visual arts lesson in one case study was just 35 minutes. One lesson in this case represented one art activity, such that students would begin and finish a new art exercise each week. The 35-minute lesson included five to ten minutes for looking at and talking about reproductions of artists' works, time for the distribution and preparation of art materials and time for cleaning up once the art activity stopped. This effectively gave students just fifteen to twenty minutes to complete each art activity. It was readily apparent that students in the class with limited time for art could not think through a range of design ideas, form decisions, evaluate the effectiveness of their choices and further refine their work. Throughout their interviews, students in this class group typically complained they had just one go at getting it right and they expressed frustration at not being able to extend themselves and do more detailed and careful work.

With regard to classroom design, spaces in both primary schools were ill-equipped for art activity. For example there were no sinks and no running water for washing up in or near the classrooms. The students and teachers were required to go down school hallways to collect water in buckets. Although poorly equipped classrooms could

not be directly connected to critical or creative thinking, these circumstances clearly compromised the quality of the teaching and learning experience in these classrooms. Similarly the range of art materials was limited. Most class stores only included paper, colour pencils, oil crayons, acrylic paints (in a restricted range of colours), brushes and a few other items. This predictably meant that there was a dominance of 2-dimensional forms such as drawing and painting.

A paucity of good quality materials and an over-concentration on painting and drawing had a bearing on how creative and innovative students were able to be in their art making. There was less opportunity to discover, manipulate, experiment and select from art media. Furthermore, there was often little time to play or experiment with the media that was provided, such that students were not able to explore the sensual, tactile and expressive qualities of different media prior to undertaking final work.

Amongst the pedagogical factors that negatively impacted upon student art classes were limited flexibility in class routines and organisation; a lack of developmental lesson sequence in programming; limited sharing of responsibilities and choices; an emphasis on more derivative work; no integration of art study with subject matter recently studied in other discipline areas; limited scope for creative processing in terms of the type of subject matter or themes selected; a lack of inclusion of students in the long term planning; few opportunities to experiment and play with media prior to working on set projects; and not enough time to discuss broader issues and ideas related to art. All these factors discouraged critical and creative thinking amongst students.

Limited flexibility in regard to class organization meant there was almost no time to focus on extended learning tasks. For example, in both case studies there were no co-operative learning groups formed or long-term project work set. Individual set work gave students little opportunity to engage in critical dialogue with their peers. A project approach might also have placed more responsibility and decision-making upon students.

In both case studies fairly derivative work was encouraged in art-making activities. A more formal approach was frequently taken wherein groups were shown reproduction images of the work of European masters and were guided towards imitating some of the particular techniques and styles identified in the original work. There were limited options for choosing from different types of subject matter and themes. Teachers' choices were more literal and representational rather than involving unique design problems, imaginative work or fantasy themes. In interviews, students commonly expressed frustration that they rarely used their imagination during art-making activities.

In both case studies it appeared that there were no connections formed between art themes and other subject matter recently studied in other subjects. This provided little opportunity for transfer of learning from one domain to another. The important process of mental synthesis, whereby knowledge and skills developed in different fields could be brought together in a cohesive way, was not built into these art programs.

## **Factors that encouraged student engagement in critical and creative thinking**

It was difficult to find structural or environmental factors that encouraged critical and creative thinking within any of the classrooms. In a couple of the classes there were, however, some valuable resources in the form of art reproductions. In one case study group, the teacher collected original artworks. These visual resources promoted interest and discussion and encouraged students to investigate art concepts.

A number of pedagogical factors encouraged critical and creative thinking in the classes observed, and these are worth noting here. One teacher posed interesting visual problems that had the potential for creative processing. Posing interesting visual problems for students to solve required students to move beyond simple art-making processes. For example, the class studied the same subject (fruit) in different light conditions, noting how the type and level of light changed the colour of the objects and created effects like shadows and highlights. Over three lessons the students progressively drew and painted these objects inside the classroom with curtains open and light projecting from large windows. Later, students drew the same objects with curtains drawn but with projected lamp light and then the same objects were drawn outside in full sun. The changing environmental circumstances allowed students to hypothesise, observe, test and evaluate the way in which colour and light are incorporated into artworks. Students had to learn to apply different techniques and skills in order to capture the change in light quality. Unfortunately there was no discussion in which they could share their hypotheses or their conclusions about light and colour and this would have promoted more critical reasoning.

Sometimes moderate risk taking was required of students during discussion sessions. For example, they were encouraged to make guesses or predictions as to the meaning of things seen in artworks. Students were allowed to form different interpretations in art appreciation sessions and it was noted that students were good at acknowledging the legitimacy of different views or values expressed by other students in class. Both teachers actively encouraged this kind of behaviour although it was also noted that often it was the same students who articulated their views. Similarly in art-making sessions the teachers made it clear that they valued individuality of expression, although copying of others' work was tolerated and attracted no further comment.

In some of the classes there was a focus on self and peer critique and reflection. In these situations, the teachers used students' own artworks as a basis for reflection, evaluation and discussion, but this was always restricted by time. One of the teachers emphasised appreciation of student artworks in that she devoted approximately twenty percent of class time for students to evaluate and reflect upon each other's work at a mid point and at the end of work. In these intervals work would stop for up to ten minutes to allow for initial viewing and then feedback during teacher-led class discussion.

Critical thinking strategies were applied in situations where teachers not only showed students examples of artworks but raised critical and probing questions as to what sorts of messages were contained in artworks. Students would imagine what might have been the artist's purpose when they created the artwork. Sometimes the discussion became extended and students were involved in deeper analysis of the aesthetic

qualities of the work. In these same classrooms there was also some incorporation of different social and cultural perspectives when one teacher brought original Australian Indigenous artworks and another brought Native American (Canada) artist prints to look at and discuss. It was normal for all the classes to incorporate art appreciation in some form even if this was not frequent. Interestingly, there was some concern voiced by one of the teachers that increasing the time devoted to art appreciation in lessons might jeopardise student enjoyment and motivation.

At key times there was free-flowing discussion between students and teachers and the teacher used probing questions to extend inquiry into artworks. These questions were not simply intended for checking answers. This dialogue engaged students and stimulated deeper thinking about the themes and ideas that were being discussed.

## **Conclusion**

The study aimed to discover and document the ways that two primary teachers and their students might be approaching higher-order thinking during art activities. During interviews with the primary teachers it was discovered that, while they believed they created an environment for encouraging critical and creative thinking in art classes, they found it difficult to articulate how particular teaching strategies might have contributed. Furthermore, there was uncertainty about the kinds of student behaviour or learning outcomes that might indicate higher levels of critical or creative engagement. On the other hand, the teachers both believed their approach to art teaching was essentially student-centred. They felt their students needed guidance and structure but that they were still able to express their own ideas freely within this structure.

Analysis of observation notes suggested that there were occasions that students practised critical thinking. Students were beginning to engage in critical reasoning during art appreciation activities and these were a common feature of both primary art classrooms. During art appreciation sessions in one of the classrooms there were opportunities for students to critically reflect upon their own work. It was concluded that during appreciation and reflection periods students were practising skills involved in the analysis and evaluation of visual information. There was less scope for creativity however, in either class. Art-making tasks were often limited in their potential for creative processing and students were not encouraged to use their imagination or to brainstorm ideas. Limitations in the use of media and resources as well as time constraints combined to reduce the complexity and depth of exploration in art making.

In summary, it is believed there is a need to re-think art teaching practices. Attention should be given to considering ways that primary teachers might stimulate their students' intellectual curiosity and foster deeper levels of student enquiry through art. In actuality, it seems even amongst experienced and enthusiastic art teachers there is an emphasis on teaching art procedures and technical skills while less attention is given to developing conceptual understanding, encouraging creative imagining and exploring social issues and topics associated with art. Further mentoring of teachers as to the kinds of approaches that might increase opportunities for higher cognitive

thinking processing should contribute significantly to the quality of primary art teaching as well as to the development of students' capacity for critical and creative thinking.

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### **About the Author:**

Frances Alter PhD, is a lecturer in the School of Education at the University of New England, Australia, where she teaches undergraduate and postgraduate courses in primary and secondary arts education. She is also the artistic director and coordinator of the annual University of New England Acquisitive Art Prize (UNESAP) and Let's Hang It! exhibition. Frances is interested in visual literacy and culture and her recent research examines the capacity of visual arts pedagogy to act as a mediating element in the development of critical and creative thinking.