

## USING THE VISUAL ARTS TO HARNESS CREATIVITY

**DR FRANCES ALTER**

falter2@une.edu.au

Tel Work: +61 267733822

Tel Home: +61 267713365

SCHOOL OF EDUCATION  
FACULTY OF THE PROFESSIONS  
UNIVERSITY OF NEW ENGLAND  
ARMIDALE, NSW 2350  
AUSTRALIA

### KEYWORDS

Creativity, Creative pedagogies, Visual arts, Innovation, Learning, Motivation

### ABSTRACT

*This paper illustrates the potential of the visual arts to be an engine that drives creativity and innovation in school settings. It is also reasoned, that the visual arts, as with other creative arts disciplines, will not become important and necessary engines for change in education without a determination to critically review arts pedagogies and to connect curriculum reform to creativity research and innovations occurring in other fields. These themes are explored through a review of literature pertinent to the nature of learning in the visual arts, visual arts and creative pedagogies, and teaching visual arts for creativity. Future directions and considerations are proposed in the final section of the paper.*

## **PART 1: INTRODUCTION**

The intention of this paper is to illustrate the potential of the visual arts to be an engine that drives creativity and innovation in school settings. It is also reasoned, that the visual arts, as with other creative arts disciplines, will not become important and necessary engines for change in education without a determination to critically review arts pedagogies and to connect curriculum reform to creativity research and innovations occurring in other fields. These themes are explored in the paper through a review of literature pertinent to the nature of learning in the visual arts, visual arts and creative pedagogies, and teaching visual arts for creativity. The discussion at the conclusion of the paper brings together the issues and makes a case for using the visual arts in schools to motivate higher levels of creative engagement amongst school students.

The arts appear to offer such fertile ground for fostering creativity. Indeed the connection between the arts and creativity is so close that Moga et al (2000, p. 91) comment: 'The view that studying the arts makes people more creative and imaginative is part of our folklore'. However, new understandings of cognition, learning and creativity, require some reflective analysis of how arts curriculum is currently enacted and what future role arts subjects may have in regards to fostering creativity in schools. This kind of reflective dialogue is particularly important now that decisions are being made about the aims and purposes of new national arts curricula in Australia.

A concern expressed by some arts educators is that emphasising creativity in learning may come at the expense of students' critical understanding of arts knowledge and skills (Brown & Imms et al 2009). Certainly, it is important to consider whether a greater emphasis on creativity in arts learning would compromise skills-based instruction. However, conceptualising creative thought as free and unbridled thinking, as is often the case, creates an unnatural dichotomy between skills-based and enquiry-based learning. Creative thinking is not laissez-faire because it involves a dynamic interplay between generating ideas and making judgments about them. Robinson (2001, p. 133) says,

... creative achievement does not always require freedom from constraints or a blank page... The creative achievement and the aesthetic pleasure lie in using standard forms to achieve unique effects and original insights.

The purpose of generative activity in creative thinking is to find an alternative to what has become conventional or routine or to expand the possibilities of a situation. However, many ideas generated are likely to be dead ends that do not work and modifications may have to be put in place before they can work or succeed. Evaluating which ideas work requires judgement (Robinson 2001, p. 133). Getting the balance right between generating ideas and making critical judgments about them is important to creative growth as an artist. Furthermore, students need grounding in visual arts knowledge and skills in order to be able to make critical judgments. It seems possible that teachers can aim to create learning environments that stimulate independent inquiry and exploration while also encouraging skills-based learning.

At a time when the world is increasingly moving from a text-based culture to one that is saturated in images (Freedman 2001) it appears there is a growing need to consider students' visual education. The increasingly multimedia nature of our world has made it much harder to make a distinction between words and pictures in terms of how they contribute to comprehension and understanding of meaning (Dresang 1999, cited in Unsworth 2008, p. 4). Unsworth (2008, p. 4) comments: 'the increasingly multimodal nature of our textual habitat has made

it necessary to reconceptualize the nature of literacy and literacy pedagogy.' Without guidance or instruction it is unlikely that students will develop a deeper understanding of their visual experiences and be able to communicate effectively through visual media. Students should be offered opportunities to use image resources creatively and innovatively, all of which requires skills development.

Apart from teaching literacy skills, visual arts education can have a distinctive role to play in encouraging individuals to be more innovative and adventurous in their thinking when responding to art and other visual media. This is because artworks often: address universal human concerns and conditions; bridge cultural and economic divides; are open to a variety of interpretations; can trigger emotional responses due to their expressive content; and contain complex layers of meaning, symbols and metaphor. The following section describes the nature of learning in visual arts disciplines in order to tease out the characteristics and qualities that make the learning area suited to the application of creative thought and practice. Visual arts as studied in Australian schools invariably incorporates both theory and practice, and these are discussed in more detail in order to gain further understanding of the role these play in promoting creative inquiry.

## **PART 2: PERTINENT LITERATURE**

### ***A: The nature of learning in visual arts disciplines***

Engaging with artworks in the wider art world offers both symbolic and practical occasions to deal with ambiguity. When artworks are metaphorical, multi-layered and ambiguous, messages or ideas are not literally communicated. This makes interpretation of meaning difficult because art concepts may be contested and there is a real likelihood that more than one answer to questions of meaning can be found (Eisner 2002; Efland 2002; Tishman 2006). This elusiveness and ambiguity encourages the application of creative thinking (Sternberg & Williams 1996). When students have to sort through many categories of knowledge to find solutions to the puzzle presented to them they are required to synthesise their prior knowledge with the ideas expressed in artworks in order to find a creative solution (Sternberg & Williams 1996). The process of knowledge synthesis is, according to Anderson and Krathwohl's (2001) revision of Bloom's cognitive taxonomy, creative in orientation. However, the extent to which there is creative processing occurring when students study artworks is dependent on the circumstances that surround this task.

Students can be pushed to unpack the depth and complexity of works by inviting them to ask creative questions, make diverse observations and explore multiple viewpoints (Tishman 2006). Creative thinking can be encouraged through brainstorming the topic as a class group and asking students to frame their own 'what if' questions. Questions, such as, 'What if we knew...?' and 'What would change if...?' stimulate curiosity and lay the groundwork for independent inquiry (Tishman 2006). Often unlocking meaning in art can involve applying strategies. We look for image titles or other text accompanying the image to establish expectations, scan the image for information, identify the visual and design elements presented, and try and identify the artist's purpose. Young people can learn to ask themselves – What am I looking at? What does this image mean to me? How is this message effective? What clues can I find in the artwork that tells me the intention of the artist? Ideally students should use these questions to generate lots of ideas – lots of observations, questions, claims, and so on. These sorts of questions help them to shape their enquiry and what should emerge are not singular answers but diverse perspectives.

Engaging in art making or art production has long been considered an effective way of developing creative behaviour amongst students and this has often emerged as a rationale for the inclusion of art education in school curricula (Bates 2000). There is growing scientific support for this common maxim, for example, the world's top ranking science research journal *Nature* has recently published research data that shows 'drawing is thinking, both in terms of visual problem-solving, and in terms of technical and interpretive creativity' (Geake 2009, p. 173).

Art educators typically conceive of art making tasks as problem solving tasks (Eisner 2002). The word 'problems' is in fact widely used in visual arts education discourse as well as current curriculum documents (Board of Studies New South Wales 1997, 1999, 2000). The Queensland Senior Secondary Visual Art Syllabus (2007, p. 8), for instance, describes how within the making process, students are expected to 'define visual problems and communicate solutions related to relevant concepts, focuses, contexts and media'. The motivation for art exercises therefore comes from finding or having a problem to solve. However, these problems can vary in their potential for creative processing (Koster 2001). Activities that are centred on ill-defined problems encourage students to find and apply information on their own and to make use of various problem-solving methods. Bruer (quoted in Delacruz 1997, p. 33) states: 'an ill-defined problem is one for which there is no ready made, best explanation or representation and no standard method of solution'. Setting challenging problems and framing interesting themes or ideas as the basis for further student art investigation are tasks that demand quite a high level of creative imagining on the part of teachers. Students of course also bring their own interests, insights and experiences into their art investigations and this can both challenge and extend the teacher's original conceptual framework.

When creating art, the creative process can involve metaphorical thinking, flexibility and visualisation (Csikszentmihalyi 1996; Sternberg & Williams 1996; Starko 2005). Metaphorical thinking allows the individual to find parallels between seemingly unlike ideas and to take ideas from one context and represent the idea effectively in a new context. Flexibility denotes the ability to look at a situation from many points of view or to generate many categories of responses (Sternberg & Williams 1996; Starko 2005). Visualisation assists some creative individuals to conceive of things they cannot see (Gardner 1993; Csikszentmihalyi 1996; Starko 2005).

The common use of abstraction, visual metaphor and analogy in art practice are thought to foster creative thinking because the conscious use of these expressive symbolic devices engages the artist in innovative or imaginative thinking (Roukes 1988; Efland 2002, 2004; Eisner 2002). Efland (2004, p. 769) argues that constructions of imagination can and should become the principle object of study,

*... where it is necessary to understand that the visual image or verbal expression are not literal facts but embodiments of meanings to be taken in some other light.*

Artists often use visual analogies, puns, metaphors, myths, paradoxes and anomalies in order to transform the commonplace. Radical transformations and de-contextualisation of images/symbols can create a sense of tension or conflict in terms of the perceiver's interpretation of the image schemata being represented (Solso 1996). Artists consciously use these devices to produce non-literal and unexpected visual forms in their art because they are aware that interpreting these images requires further intellectual effort (Solso 1996). When the eye sees something incompatible with one's hypothesis of the world this can create psychological dissonance. What we 'see' is to a large degree determined by our knowledge of what we 'should see' (Solso 1996, p. 75). In this respect recognising contextual elements plays a large part in the comprehension of signs, symbols and objects.

Art practice affords opportunities for self-expression whereby student artists can communicate an interpretation or vision of aspects of his or her world. Art practice is expressive in nature because emotion, feeling, thought and knowledge are inexplicably entwined (Cropley 1992; Eisner 2002). This serves to connect individuals with the world in a myriad of ways because it places the expression of the 'self' and the formation of an artist's personal and social identity within the realities of society and culture (Cropley 1992; Efland 2002; Eisner 2002). Self-expression in art making, however, does not necessarily produce creative results, although assessment or judgments of students' creativity in schools often centres on the level of creative expressiveness shown in students' works of art (Eisner 2002).

The rise in postmodernist pedagogies in art has added complexity in terms of how creativity is assessed because the concept of creativity in students' art making has been redefined. Less value is placed on inspiration, originality and purity of form, as was previously the case in the modernist model of art education. The effect of post-modern perspectives upon art making practices in art education is palpable with many art educators encouraging students to borrow ideas from other artists and appropriate images, ideas and compositions from diverse cultural sources (Bates 2000). This is consistent with postmodernist art that often incorporates appropriation of imagery and ideas, as well as, collage and juxtapositions of historically and culturally diverse art objects and images (Clark 1996, p. 2). Mass culture has allowed new forms of art to infiltrate the elitism of art and modernist notions of self-expression and ownership are undermined through manipulating 'masterpieces' on computers (Wilks 2000, p. 26). As a result creativity is more closely associated with the process of production, the synthesis and transformation of existing ideas and imagery with one's own, than it is with originality of style or form.

### ***B. Visual arts and creative pedagogies***

It is important to clarify what definition of creative thinking grounds the discussion throughout the paper because it is such a contested concept. Torrance's definition of creative thinking is valuable in that it emphasises the different characteristics and functions of creative thought. Torrance states (cited in Alvino 1990, p. 1) it is:

*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).*

Within current literature in the field of creativity research there is a concept that creative thinking can be improved through instruction, however, Csikszentmihalyi (1996, p. 1) points out that,

*It is easier to enhance creativity by changing conditions in the environment than by trying to make people think more creatively.*

Creative thinking is encouraged and developed through establishing the environmental conditions in schools that encourage curiosity, complexity, risk taking and imagination. Environmental factors include the social and physical conditions that impact on the learning experience. Social conditions involve people with whom students interact at school like peers, teachers and administrators and physical conditions include resources, equipment, and facilities. Teachers represent a strong social influence upon the student learner in respect to the ways they motivate and encourage students to apply creative thinking (Amabile 1996; Anderson & Krathwohl 2001; Csikszentmihalyi 1996; Ennis 1989; Tishman Jay & Perkins 1993).

A number of arts education professionals and scholars claim that teaching and learning styles that have 'naturally' developed around the arts are conducive to supporting creativity. Unfortunately, few studies actually test this hypothesis. Past research into creativity within arts education often lacks a critical perspective (Weilgosz & Imms 2007, p. 59) and the literature relating to cognitive development has focused on the nature of the arts themselves for training cognitive competencies rather than investigating the views and practices of teachers (Delacruz 1997; Eisner 2002; Hamblen 1997). The absence of this kind of research is not surprising when one considers how little scholarly investigation there has been into the professional practice of creative arts teacher-practitioners (Eisner 2002).

Despite the broad interest in creative pedagogies amongst educational researchers, there are very few studies that have been centred on visual arts education. A small number of research studies conducted in Australia, the USA and UK have followed different methodological approaches in order to investigate the role that visual arts pedagogies can play in fostering creativity. Amongst the body of research in this area are: an auto ethnographic study (Corcoran 2006); ethnographic case studies (Alter 2008); case studies that employ analysis procedures grounded in the phenomenological tradition (McSorley 1996); and a large-scale study involving over 2,000 students in North America that combined quantitative measures with qualitative methods (Burton, Horowitz & Abeles 1999).

These research studies have by and large described both deficiencies and successes in relation to forming creative learning environments in visual arts classrooms. All of these studies described situations in which teachers and students were failing to attain anticipated levels of creative thinking in various aspects of the curriculum. Reasons cited in these different reports included: teachers' lack of art knowledge and training; limited teacher philosophy or conception of creative aspects of art investigations; a domination of traditional pedagogies that limit opportunities for independent student inquiry; limited time to allow for in-depth investigation of art topics; students' lack of confidence; wide variations in creative abilities between individual students; and a lack of metacognitive skills to develop strategies amongst students for improving creative performance.

The findings of an ethnographic case study research project called the *Self Portrait Project* conducted in the UK by the *Esmée Fairbairn Foundation* (Hall, Thompson & Hood 2006) found that teachers' beliefs about their own creative capacities affected their art teaching practices. Prior to an extended intervention program involving resident artists in ten primary schools in scattered locations, the participating teachers questioned their own ability to facilitate creative engagement in the arts.

*The teachers considered themselves uncreative, unskilled and too pressed for time to engage in teaching the arts. Through analysis of observational data it was observed that teachers equated critique with being negative, and this meant they neglected the postproduction stage of the projects and were hesitant about the language they should use to talk about the art, rather than the effort, the child had made. They lacked confidence in both formative and summative assessment processes (Hall, Thompson, & Hood 2006, pp. 5-6)*

There were however, promising signs that strategies put in place to promote teachers' self efficacy as well as creative engagement for students through the subject area were relatively successful in the *Esmée Fairbairn Foundation project*. Corcoran's (2006) study also found that certain intervention measures were successful. She trialled programs in her own classes that included greater levels of partnering and group work. The inspiration for this approach came from Parnes' (cited in Corcoran 2006, p. 109) earlier research that found group work

contributed to superior creative thinking amongst group members. The benefit of partnering and group work was that students brought with them a different background of talents, strengths, facts and experiences.

Burton, Horowitz and Abeles (1999) found that there was a correlation between high arts exposure in North American schools and high creative thinking ability scores. Students in arts-rich schools (multiple forms of arts regularly integrated into the curriculum) scored higher on the *Torrance Tests of Creative Thinking - Think Creatively With Pictures* than did students in arts-poor schools. The Torrance Test results also showed that the majority of these students scored well on measures of fluency, originality, elaboration and resistance to closure – capacities central to creative thinking. Highly creative students demonstrated an ability to imagine problems from different perspectives, taking imaginative leaps, and in problem solving tasks they layered one thought upon another as part of the problem solving process (Burton, Horowitz & Abeles 1999, pp. 37-40). Unfortunately, the findings in regard to the effects of school climate upon the promotion of thinking were rather broad and non-specific and the study failed to clarify how students' applications of creative and imaginative thinking were enhanced through so-called 'innovative teaching'.

### **C. Teaching visual arts for creativity**

There are a number of research studies that have criticised aspects of school culture as having a negative influence on the expression of a child's creativity (Csikszentmihalyi 1996; Dacey & Packer 1992; Sternberg & Grigorenko, 1997; Torrance 1995). The enforcement of inflexible rules and standardised routines play a part in the prevention of original ideas and creative performance. Csikszentmihalyi (1996) asserts that measures of creativity indicate that, after attending school for a short time, many students become more cautious and less innovative. He also points to the teacher as one of the main offenders in the suppression of creativity. Sternberg and Grigorenko (cited in Corcoran 2006, p. 40) similarly focus on the role of the teacher within classrooms and their research finds that teachers' authoritarian position within classrooms has a negative effect. Students are able to quickly identify that teachers find certain behaviour unacceptable and those who ask original and unexpected questions are deemed by teachers to be disruptive.

The capacity for creativity is not always understood to be teachable (Cropley 1992; Weate 1993; Starko 2005); however, creativity researchers Hennessy and Amabile (1988) believe that social and environmental factors play a more major role in creative performance than innate biological and personality attributes. Amabile's (1996) research suggests that given the right circumstances, an individual's creative behaviour, and thus performance, can be improved. Sternberg and Williams (1996) also argue that having a creative attitude is at least as important as creative thinking skills and that education can influence the development of both.

There are many things we can learn from creativity research in terms of how to improve the culture of schools so that it fosters and rewards creative thought. Studies of creative people have found that they excel in a particular pursuit because they love what they do (Gardner 1993; Sternberg & Williams 1996). Unleashing creative performance in the classroom is also thought to help students discover their interests or talents (Gardner 1983; Sternberg & Williams, 1996). Characteristically, when interest is stimulated students become more highly task-orientated and exhibit greater patience when working through complex mental computations (Geake 2009).

A key factor in student motivation is prior success and self-efficacy (Delacruz 1998). Ashton and Webb (as cited in Delacruz 1997, p. 55) surmise, 'that the basis for human motivation is the belief that one's actions produce a result in the environment'. Teachers can build students' motivation to pursue particular learning activities by

establishing learning tasks that are stimulating, interesting and challenging. Curiosity comes into play in relation to objects, events and ideas that are unusual, animated, humorous, suspenseful and problematic (Delacruz 1997).

Creative thinking can also be encouraged through teaching programs that incorporate a focus on important ideas and expressing discoveries (Starko 2005). Brain-based studies have shown that creative individuals are slower to draw conclusions about things perceived in their environment and this allows them the chance to develop creative insights (Geake 2009, p. 100). This suggests teachers should encourage students to keep an open mind and look for alternative possibilities to solving problems through delaying closure in problem-based tasks (Geake 2009, p. 100).

Clearly, the creativity research cited here shows there is interconnectivity between interests, motivation, curiosity, discovery, open mindedness, as well as feelings of self-efficacy and success, but knowing how to foster these states of being is a complex task for schools and teachers.

### **PART 3: DISCUSSION AND CONCLUSION**

This paper set out to show the potential of using the visual arts to create learning environments that foster student innovation and creativity. It also set out to consider the position of visual arts education in respect to the use of creative pedagogies. It is claimed that this focus on teaching practice is important because teachers represent a strong social influence upon the student learner in respect to the ways they motivate and encourage students to apply creative thinking. Despite the fact that there is little research data available in the area of visual arts education, some pertinent studies were presented in order to form a clearer picture of whether teacher-practitioners have been successful in employing strategies that use the visual arts to harness students creativity and innovation. In considering all the literature and research around this topic, there seems to be a case for critically reflecting upon current teaching approaches vis-à-vis the fostering of creative thinking.

Eisner (2002) points out that there have always been competing conceptions of arts education. Recent education literature, for example, emphasises the important role the arts have in developing multicultural and intercultural understanding (Donelan 2009). The quest to create social and cultural dialogue through the visual arts has brought many changes to the way in which the subject is taught in Australian schools. The 'Western' view of art, so prevalent in earlier curriculum constructs, has been challenged and students are now introduced to diverse examples of non-Western cultural practices and perspectives in art (Brown, Imms et al 2009). However, it is possible that the subject area can accommodate different educational aims, such as, socio-cultural understanding, the development of visual literacy, and fostering critical and creative thinking, without compromising the quality of the learning experience.

A multilayered and multi-disciplinary visual arts curriculum would be able to address key educational principles quite effectively because the value of art lies in its multi-connectedness. To achieve this outcome both curriculum documents and teaching practices in visual arts need to be aligned to promote key educational principles. Extending visual education beyond the parameters and boundaries of visual arts education would also allow integrated teaching of subject content. Some degree of interdisciplinarity is needed because the realm of the visual arts overlaps with many school subjects and this invariably will challenge old curriculum constructs (Freedman 2003). Creating greater partnerships between educationalists interested in exploring the use of visual



communication in multi-disciplinary teaching would be a positive way to help teachers and students to understand the complexity and power of visual imagery.

Fortunately, the Australian national curriculum debate and discourse happening within the visual arts education field at the present time is informed by a recent national review of visual arts education. The *National Review of Visual Education (NRVE): Visual Arts, Craft, Design and Visual Communication* (Davis 2008) considered a number of key questions, many of which are pertinent to the themes of this paper. The report titled, *The More We See* (Davis 2008), is the result of a two-year review that examined existing programs and good practice from across the education system. Davis (2008, p. 42) highlights the interest amongst contributors to the review, in placing arts education at the forefront of creative pedagogies in schools and tertiary education:

*More recently the discussions have broadened to encompass the centrality of the wider creativity agenda to education and, specifically, arts education. Critical to these discussions is the shift in focus from the job of schools being to teach the curriculum to it being that of teaching students and thereby being sensitive to and cognisant of not only multiple ways of knowing but also key personal qualities which mediate that knowing in the context of others.*

Grierson (2006, p. 10) reminds us that creative thinking is 'one of those marketable enterprises in the innovative conditions of educational commercialisation'. Weate (1993) similarly raised concerns about the economics of creativity in the business of education more than a decade ago. The reality is that economic and political interests do exert an enormous influence upon education. Evidence of this can be found in recent official documents, for example, a fundamental concern expressed in the *First We See* report (Davis 2008) was that visual education was not meeting the needs of the 21st century world of work. Key overarching problems identified in the report included: the importance of creativity and innovation to international competitiveness; and societal, employer and policy concern about the need for skills relating to innovation and creativity emanating from visual education (Davis 2008, p. 207).

Educationalists therefore, need to be critically aware of the complexity of the situation in order not to destroy the potential of pedagogical innovations to address the needs of the individual. Functional outcomes-based models of education, so common in current school curriculum, are often at odds with what has been learned about the dynamic conditions that give rise to creative thought and processes (Grierson 2006). Under pressures of accountability to meet external industry standards and benchmarks of performance, teachers are not likely to be able to afford the luxury of giving time to play, daydreaming, and suspension of judgement and solutions, all hallmarks of creative processing.

A critical factor identified in the *First We See* report (Davis 2008, p. 208) is the lack of research knowledge about pedagogical practices in classrooms across the country. A review of creativity research in arts education also indicates there has been some complacency within the field because there has historically been a paucity of studies that examine teaching practice and student performance. Fortunately, this pattern seems to be changing and some small-scale studies have investigated the phenomenon of creativity from different perspectives and entry points over the last decade (Weilgosz & Imms 2007). It is essential therefore, that arts education becomes a significant partner in creativity research. It has been claimed art education 'has for far too long considered creativity as its exclusive territory' (Weilgosz & Imms 2007, p. 48).

In order for arts education to maintain an important place in discourses around creativity, arts educators need to keep abreast of significant leaps in knowledge in the broader field of scientific and educational research around creativity and learn more about the conditions that support its' growth. Collaborative research that provides connections between the arts, sciences, and education would provide a powerful platform for instituting radical reforms that may change the culture of schools so that they establish the conditions for creative growth. Within the parameters of education in Australia, reflecting upon what is essential in teaching quality visual arts education, as well as visual media and communication across a range of curriculum domains, is timely in that it is now possible for teacher practitioners and researchers to take the opportunity to argue for a national curriculum that values, supports and rewards creative thought.

## **AUTHOR BIOGRAPHY**

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.

## REFERENCES

- Amabile, T. 1996, *Creativity in Context: Update to the Social Psychology of Creativity*, Boulder, Colorado.
- Anderson, L. & Krathwohl, D. (eds) 2001, *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, Longman, New York.
- Alter, F. 2008, *Artful Thinking: Critical and Creative Thinking in Primary and Secondary Visual Arts Education*, Doctoral Thesis, University of New England.
- Alvino, J. 1990, 'A Glossary of Thinking-Skills Terms', *Learning*, vol. 6, no. 18, p. 50.
- Bates, J. 2000, *Becoming an Art Teacher*, Wadsworth Group/ Thomson Learning, USA.
- Board of Studies New South Wales 1997, *Stage 4 and 5 Syllabus*, Board of Studies New South Wales, Sydney.
- Board of Studies New South Wales 1999, *Stage 6 Visual Arts Syllabus*, Board of Studies New South Wales, Sydney.
- Board of Studies New South Wales 2000, *K-6 Creative Arts Syllabus*, Board of Studies New South Wales, Sydney.
- Brown, R., Imms, W., Watkins, M. and O'Toole, J. 2009, 'Valuing the Visual Arts', in *Education in the Arts: Teaching and Learning in the Contemporary Curriculum*, Sinclair, C., Jeanneret, N., and O'Toole, J. (eds.), Oxford University Press, South Melbourne, Vic., Australia.
- Burton, J., Horowitz, R. & Abeles, H. 1999, 'Learning in and Through the Arts: Curriculum Implications', in *Champions of Change*, Fiske, E. (ed), The President's Committee on the Arts and the Humanities.
- Clark, R. 1996, *Art Education: Issues in Postmodernist Pedagogy*, National Art Education Association, Reston.
- Corcoran, K. 2006, *Enhancing Creativity: Strategies Implemented in the Senior Secondary Visual Art Classroom*, Doctoral Thesis, Griffith University.
- Csikszentmihalyi, M. 1996, *Creativity: Flow and the Psychology of Discovery and Invention*, Harper Collins, New York.
- Cropley, A. 1992, *More Ways than One of Fostering Creativity*, Ablex Publishing, New Jersey.
- Dacey, J. and Packer, A. 1992, *The nurturing parent: How to raise creative, loving, responsible children*, Simon & Schuster, New York, NY.
- Davis, D. (2008). *First We See: The National Review of Visual Education: NRVE Final Report* Retrieved 23/10/09, from

[http://www.australiacouncil.gov.au/research/education\\_and\\_the\\_arts/reports\\_and\\_publications/first\\_we\\_see\\_the\\_national\\_review\\_of\\_visual\\_education](http://www.australiacouncil.gov.au/research/education_and_the_arts/reports_and_publications/first_we_see_the_national_review_of_visual_education)

Delacruz, E. 1997, *Design for Inquiry: Instructional Theory, Research and Practice in Art Education*, The National Art Education Association, Reston.

Donelan, K. 2009, 'Arts Education as Intercultural and Social Dialogue', in *Education in the Arts: Teaching and Learning in the Contemporary Curriculum*, Sinclair, C., Jeanneret, N., and O'Toole, J. (eds.), Oxford University Press, South Melbourne, Vic., Australia.

Efland, A. 2002, *Art and Cognition*, Teachers College Press, New York.

Efland, A. 2004, 'Art Education as Imagination Cognition', in *Handbook of Research and Policy in Art Education*, E. Eisner & M. Day (eds), Laurence Erlbaum Associates, New Jersey.

Eisner, E. 2002, *The Arts and the Creation of the Mind*, Yale University Press, Harrisonburg, VA.

Ennis, R. 1989, 'Critical Thinking and Subject Specificity: Clarification and Needed Research', *Educational Researcher*, vol. 18, no. 3, pp. 4-10.

Freedman, K. 2001, 'Understanding Art as Process and Product: So What's New?' in *On Knowing: Art and Visual Culture*, P. Duncum & T. Bracey (eds), Canterbury University Press, Christchurch, NZ.

Freedman, K. 2003, *Teaching Visual Culture: Curriculum, Aesthetics, and the Social Life of Art*, Teachers College Press, NY.

Gardner, H. 1993, *Creating Minds*, Basic Books, New York.

Geake, J. 2009, *The Brain at School: Educational Neuroscience in the Classroom*, McGraw-Hill Open University Press, Berkshire, England.

Grierson, E. 2006, 'CREATIVITY: Cultural identities in a state of becoming', *Australian Art Education*, Vol. 29, No. 2, pp. 5-20.

Hall, C., Thomson, P. and Hood, P. 2006, 'Making spaces: arts policy and pedagogy in the UK', Australian Association for Research in Education Conference, 2006, Paper reference: HAL06247

Hennessey, B. and Amabile, T. 1988, 'The Conditions of Creativity', in *The Nature of Creativity*, R. Sternberg (ed), Cambridge University Press, Cambridge, pp. 11-41.

Hamblen, K. 1997, 'Theories and Research That Support Art Instruction for Instrumental Outcomes', *Arts Education Policy Review*, vol. 98, no. 3, pp. 27-33.

Koster, J. 2001, *Bringing Art into the Elementary Classroom*, Wadsworth: Thomson Learning, USA.

McSorley, J. 1996, 'Primary School Teachers' Conceptions of Teaching Art Criticism', *Studies in Art Education*, vol. 37, no. 3, pp. 160-169.

Moga, E., Burger, K., Hetland, L. and Winner, E. 2000, 'Does the Arts Engender Creative Thinking? Evidence for Near Not Far Transfer', *Journal of Aesthetic Education*, vol. 34, no. 3/4, pp. 91-104.

Queensland Studies Authority, 2007, Retrieved 5/02/2010 from <http://www.qsa.qld.edu.au/10-12/1263.html>

Robinson, K. 2001, *Out of Our Minds: Learning to be Creative*, Capstone Publishing, Great Britain.

Roukes, N. 1988, *Design Synectics*, Davis, Worcester, MA.

Solso, R. 1996, *Cognition and the Visual Arts*, MIT Press, Cambridge, Massachusetts.

Starko, A. 2005, *Creativity in the Classroom: Schools of Curious Delight*, Lawrence Erlbaum Associates, New Jersey.

Sternberg, R. and Grigorenko, E. 1997, 'Are cognitive styles still in style?', *American Psychologist*, Vol. 52, no. 7, pp. 700-712.

Sternberg, R. and Williams, W. 1996, *How to Develop Student Creativity*, Association for Supervision and Curriculum Development, Virginia, USA.

Tishman, S. 2006, *Artful Thinking: Final Report*. Harvard: Harvard Graduate School of Education.

Tishman, S., Jay, E. and Perkins, D. 1993, 'Teaching Thinking Dispositions: From Transmission to Enculturation', *Theory Into Practice*, vol. 32, no. 3, pp. 147-153.

Unsworth, L. (ed) 2008, *Multimodal Semiotics: Functional Analysis in Contexts of Education*, Continuum International Publishing Group, London.

Weate, A. 1993, 'The Economics of Creativity', in *Arts Education: Beliefs, Practices, and Possibilities*, P. Errington (ed), Deakin University Press, Vic.

Weilgosz, M. and Imms, W. 2007, 'A Brief History of Creative Research', *Australian Art Education*, vol. 30, no. 1, pp. 47-67.

Wilks, S. 2000, *Critical Inquiry in Arts Criticism and Aesthetics: Strategies for Raising Cognitive Levels of Student Inquiry*, Doctoral Study, The University of Melbourne.