Creative Arts: An Essential Element in the Teacher's Toolkit When Developing Critical Thinking in Children

Caroline Nilson
Murdoch University, c.nilson@murdoch.edu.au

Catherine M. Fetherston
Murdoch University, Western Australia, c.fetherston@murdoch.edu.au

Anne McMurray
Griffith University, School of Nursing, a.mcmurray@griffith.edu.au

Tony Fetherston
Edith Cowan University, t.fetherston@ecu.edu.au

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Abstract: This is a position paper, which argues the position that critical thinking is a crucial skill, which needs to be developed in the school curriculum and that the creative arts can do this. The paper explores the states of the Arts in the present curriculum and goes on to argue that knowing how to develop critical thinking is an important pedagogical skill that needs to be developed in our pre-service teachers. This position is supported through data gathered from an innovative project that explored teachers' and mothers' perceptions of children's critical thinking.

Introduction

A key employability skill that is widely acknowledged as important for all sectors of education is the ability for students to think critically. The analysis of knowledge requires critical thinking, which in turn involves processing the meaning and significance of observed experiences or expressed inferences. The concept of critical thinking adopted for this paper has been developed from the three basic analytical dimensions of logic, criteria and pragmatism proposed by Ennis (1962) as being essential components of the critical thinking process. Logic arises from the ability to evaluate the reasonable from the unreasonable; the criteria refer to the ability to judge information using a set of rules and the pragmatic dimension covers "the impression of the background purpose on the judgement and whether the statement is good enough for the purpose" (Ennis, 1962, p. 85). It is from these dimensions that aspects of critical thinking can be developed, requiring precise intellectual and emotional judgment. For the most part, critical thinking results from belief rather than action (Ennis, 1962, 1969, 1985, 2001; Facione, 1990; McPeck, 1981; Norris, 1985; Paul, 1993). This is epitomized in a quote by Glaser (1941, p. 409), who notes that "critical thinking is the awakening of the intellect to the study of itself". Similarly, with regard to the development of metacognition, but more precisely, critical thinking is assessing the authenticity, accuracy, and/or worth of knowledge claims and arguments. Critical thinking requires careful, precise, persistent and objective analysis of any knowledge claim or belief to judge its validity and/or worth (Ennis, 1991, 1996). The role of critical thinking development through teaching the Arts was first proposed by Elliott Eisner (1965, 1966). Eisner advanced this claim and continued to expand his theories by offering an analysis, relevant to the classroom of behavioural characteristics. He has published widely around the question of 'What do the Arts Teach?' and consequently provides yet another compelling justification for the importance of creative arts education for pre-service primary teachers.

Australian Arts curriculum initiatives centre on the National curriculum. In the key document 'Shape of the Australian Curriculum: The Arts' (Australian Curriculum,

Assessment and Reporting Authority (ACARA), 2010, p. 3) it is stated that "an education rich in Arts maximises opportunities for learners to engage with innovative thinkers…such an education is vital to students' success…". Further, it states that "as emerging critical and creative thinkers, students will gain the confidence and the tools to understand and critique the Arts in everyday life. Students will learn that the Arts exist in process as much as in finished artistic products. These two statements, taken from the key curriculum document, underpin the importance of critical thinking in the Arts curriculum at all levels.

This paper supports this finding by taking the position that the development of critical thinking in primary school students can be enhanced through the process of undertaking Arts activities that enable them to make considered judgements about the world around them. Facilitating this requires that pre-service teachers are provided with the skills and resources that will enable these processes. Consequently this paper will argue that knowing how to develop critical thinking by engaging in Arts activities is an important pedagogical skill that needs to be developed in our pre-service teachers and that generalist teachers are currently not prepared adequately to teach the Arts in a manner that delivers the potentiality of the discipline. In addition the paper will highlight the importance of sufficient resourcing to ensure that the Arts curriculum allows for meaningful and extensive learning in each of the Arts areas. This position is supported through data gathered and previously published (Nilson, Fetherston & McMurray, 2013), which explored teachers' (both primary generalists and artists-in-residence (AiR)) and mothers' perceptions of 150 nine and ten year old children's critical thinking development, when participating in an innovative community Arts project conducted in the Peel region of Western Australia in 2010.

Aesthetic and Teleological Judgements: The Connection between Arts and Thinking

It has been well described that the processes involved in undertaking Arts activities involve critical thinking (Eisner, 1965, 1966, 2002) and that critical thinking requires the use of judgement (Ennis, 1962, 1985, 1991, 1996). To further understand the 'faculty' or 'power of judgement', Immanuel Kant's influential theory describes it as having two roles, 'determining' and 'reflecting', which Kant further divides into 'aesthetic' and' teleological' judgment (cited in Ginsborg, 2005). Aesthetic judgment relies on the ability to discriminate at a sensory level and uses a combination of intellectual opinions, will, desire, preferences, values, subconscious behaviour, conscious decision, training and sociological institutions (Ginsborg, 2005). Teleological judgment is the practice of evaluating a decision against the criterion of whether the outcome achieves the original goal, characterised as "purposive or functional" (Ginsborg, 2005, p. 3).

Teaching art forms, either visual or performing arts, requires the teachers and students alike to embrace the concept of aesthetic judgements, by tacitly connecting learning to social and personal life, building their thinking dispositions and developing cognitive capacity (Efland, 1996, 2004; Eisner, 1985; Lowenfeld & Lambert Brittain, 1970). Further to this notion, Richmond (2009, p. 104) suggests that art education assists in the 'emancipation' of students by allowing for a "more independent vision, which is the basis of personal action and the subsequent shaping of a life of one's own". This proposition has been suggested by Richmond (2009, p. 104) to also extend to community life as students' knowledge of self-awareness is increased with community involvement by allowing "self-expression, informed by a rich vocabulary of ideas…to enable dialogue about the things that matter…not just the artist…but also the life of a community". The sense of 'liberation' that art provides teachers and the students is central to the ways of belonging and being in the school environment (McKenna, 2013). Personal 'rules' in art making needs to be encouraged in each student, thus

allowing individual style and virtuosity. The teacher's goal is to guide the development of individual style and virtuosity to enable the student to demonstrate the accomplished specialised skill (McKenna, 2013).

Students who are involved in creative arts activities practise aesthetic inquiry and reflective thinking (Lampert, 2006) and to enhance these areas within the process of education, it is suggested that education be infused with the arts (Anrezejczak, Trainin & Poldberg, 2005; Burger & Winner, 2000; Burton, Horowitz, & Abeles, 1999; Deasy, 2002; Grierson, 2006; Luftig, 2000; Richmond, 2009; Robinson, 2001, 2006; Smithrim & Upitis, 2005). Art fulfils the psychological need for sense, imagination, feeling, spontaneity, language judgment and self-awareness (Caldwell & Moore, 1991; Efland, 2004; Mishook & Kornhaber, 2006; Nilson, 2008; McKenna, 2012; Richmond, 2009; Russell & Zembylas, 2007). The question here is whether the current and proposed Australian Arts Curriculum structures have acknowledged this 'truth' through adequate consideration to staffing in terms of specialist Arts teachers and suitable and sufficient resources to provide for the Arts, which consists of five subject areas.

A further important question relates to the adequacy in skills of the primary generalist teacher, to teach the Arts. Providing children with the opportunities to satisfy these needs through the experience of creative arts means pre-service primary generalist teachers need to be prepared with the skills to teach across all arts subjects in the Australian Curriculum. To date, there is evidence that the arts have not been taught adequately in the pre-service teacher education courses and that there is little mentor support and professional development available once teachers graduate and are in the workforce (Alter, Hayes & O'Hara, 2009, 2009a; Dinham, 2006; Dinham, 2007; Ewing, 2010; Garvis & Pendergast, 2012; Garvis & Riek, 2010; McKenna, 2012; McLean Davies, Anderson, Deans, Dinham, & Griffin et al., 2013; Temmerman, 2006; Torzillo, 2013).

The Arts in the Australian Curriculum

Despite strong evidence for the support of the arts in the Australian curriculum particularly in preparing students to participate effectively as global citizens (Ewing, 2010), the position of the arts in current Australian schools programs is variable, with dance and drama usually only available as an extracurricular activity and with one State having legislation for the inclusion of only music and visual arts in the curriculum (ACARA, 2010). Consequently, in a crowded curriculum it is tempting for schools to implement just a minimal arts program, which limits many children's access to the exposure of music, dance, creative writing, stage performance, and creative and visual arts. As a result a valuable vehicle through which meaningful learning of motivation, problem solving, self-discovery and context is rendered unavailable to children (Herberholz, 2009; Magsamen, 2009; Nilson et al., 2013; Robinson, 2001, 2006). This was a specific issue highlighted in the research undertaken in the Peel region (Nilson et al., 2013). Extracurricular Arts opportunities were highly valued and sought by mothers for their children, as the Arts in their curriculum was viewed as inadequate and a "filler to academic subjects" (p.7). In addition, the dissatisfaction by the mothers extended to the lack of artistic ability of the generalist teachers, reporting that the "product of the art work was considered more important than the process" (p. 7). Further to the argument that specialist teachers are required in primary school settings to either teach the individual Arts subjects or at least support the generalist teachers to facilitate the subjects, was a comment made by an artist-in-residence during the Peel Study, who was commenting on the lack of credibility given to the Arts in the curriculum. She stated that:

> Very few schools have got specialized art teachers…it's not sitting there drawing and painting…it's about clay, it's papier mache, making junk music instruments, creating

costumes, creating mask, creating artefacts…it's giving the children a chance to express themselves creatively, to use some imagination, to get a variety of things, materials and objects together and just with their imagination…think of something three dimensional…with their eyes and their hands and their fine motor skills to create it…first they have to visualize it in their head…visualize it, then they start to create it…that is teaching them valuable life skills (Nilson, 2011, p. 95-96).

ACARA anticipates the Australian Curriculum: The Arts Foundation to Year 10 will be published in late July 2013, following a three year consultation period. The initial feedback report for the proposed curriculum highlighted several concerns (ACARA, 2011). A major concern was the overcrowding and 'cramming' of the arts disciplines and allocation of insufficient time for deeper and more extensive learning in each of the Arts areas. Sufficient time should be devoted to the arts, particularly in the primary curriculum, where Arts programs should incorporate the development of critical thinking, which is fundamental in shaping adult development (Isbell & Raines, 2007; McKenna, 2012; Robinson, 2001, 2006 2010; Richardson and Prior, 2005). Limited exposure and time restraints placed on the Arts in the current curriculum reduces children's opportunities for full engagement in thoughtful and reflective practices that would help nurture this development (Nilson, et al., 2013). This is of particular importance because critical thinking and its development occurs both during and after the experience of production and therefore time to reflect is a key factor to this endeavour (Eisner, 1965, 1966, 1985, 2002). The teachers in the Peel study were found to be particularly concerned that there was limited time to facilitate any student reflective practice or to evaluate any learning outcomes with the students following arts activities. The teachers felt that "reflections are probably not done efficiently enough…we probably might spend about five minutes at the end of the lesson talking about what we've done today and what did they think about this idea and what did they think about that idea… but it's never to the extent that I'd like to do it" (Nilson, 2011, p. 91).

Further concerns raised in the feedback report of the proposed Arts curriculum (ACARA, 2011) were related to implementation issues. The important consideration of the Arts Industry and Community Arts Networks that supplement in-school learning through collaborative partnerships was not highlighted. There is a need for sustainable collaboration between school teachers and Arts discipline specialists to provide childhood educators with resources, materials and methods to support the development of appropriate curricular for deeper learning (Balshaw, 2004, Isbell & Raines, 2007; Kinder & Harland, 2004). Art projects that are managed by teachers who have professional support are able to provide the children with a strong learning experience through the arts (Ewing, 2010; Imms, Jeanneret, & Stevens-Ballenger, 2011). This was highlighted in one particular theme of the Peel study; 'processes in mobilising children's creativity' (Nilson et al, 2013, p. 5) where AiRs perceived that with expert guidance, teachers could learn to use strategies to excite children's imagination. One AiR provided this example:

My take on imagination is that it's a response to certain conditions… if I keep throwing ideas at them then it's not fertile ground for them to develop imagination…I just keep asking questions once we've set a scene…as an example; We are at the beach…I ask 'who is there?'…from there I continue to draw on them to develop the story…at the start they say…'I don't know'… the teachers I work with want to tell them…I say 'Shhhh! Let them develop that first thread of the idea for themselves'…I believe the more we allow them to develop the ideas the more we can engage them in imagination development (Nilson, et al., 2013, p. 10).

Arts discipline specialists are considered to make the most useful contribution to the quality of Arts curriculum delivery (Ardzejewska, McMaugh & Coutts, 2010; Donelan, Irvine, Imms, Jeanneret, & O'Toole, 2009; Imms, et al., 2011). Although there are a growing number of secondary trained specialist art teachers working in primary schools in Australia, not all schools have the capacity to employ them and therefore Arts education largely falls on

the shoulders of the generalist primary teacher (Alloway & Dalley-Trim, 2009). There is evidence to confirm that many primary generalist teachers do not feel equipped to teach across all five subjects of the Arts curriculum (Alter, et al., 2009, 2009a; Dogani, 2004; Garvis & Pendergast, 2010, 2012). In a study aimed at providing an insight into the current perceptions of beginning generalist teachers regarding teaching the Arts, Garvis & Pentagast (2010) found that the teachers felt supported in their schools, when helped by colleagues and specialist teachers in the area. If specialist art teachers are not available, then the primary generalist teacher should be supported by an AiR, whenever possible. (Donelan, et al., 2009; Imms, et al., 2011). In addition, establishing collaborative and sustainable projects between schools, Arts organisations and Arts discipline specialists, maximises student engagement, learning and achievement (CEOM, 2012; Donelan, et al., 2009; Ewing, 2010; Imms, et al., 2011). Furthermore, the role of the Arts in the community must be considered more seriously because if the perceived value in the arts increases so too will the community's investment in them (Ewing, 2010). One theme in our study connected specifically to community engagement. This was 'children's creativity contributing to community vibrancy', which identified that the children developed a sense of belonging and connection to the community through the arts activity and a sense of pride in their contribution to the community event (Nilson, et al., 2013, p. 5).

In the recent Review of Funding for Schooling (RoFfS) in 2010 commissioned by the Australian Government a review panel, chaired by David Gonski, visited schools and consulted with key education group across Australia and received over 7000 submissions. An important recommendation to arise from the Gonski report relates to raising the profile of the teaching profession, with an understanding that quality teachers and teaching excellence impacts positively on student engagement and performance. One key element is the preparation and training of teachers to "use the curriculum as a resource upon which to draw, to shape learning programs to stretch individual children from their current stage of learning to the next achievable stage" (RoFfS – Final Report, 2011, p. 218). In the context of the proposed Arts curriculum, generalist teacher training programs do not prepare the new graduate to teach the arts (Alter, Hayes & O'Hara, 2009, 2009a; Dinham, 2006; Dinham, 2007; Ewing, 2010; McKenna, 2012; Temmerman, 2006; Torzillo, 2013). Currently primary teachers have limited if not poor backgrounds in the arts and have difficulty in providing effective visual arts education. This has resulted in what teachers refer to as the 'bag of tricks', which produces many pieces of 'multiple sameness'. The lack of expertise on the part of the teacher translates to markedly similar works from the student. The teacher lacks the ability to facilitate individual responses to a task and the children copy one another or simply follow instruction to result in similar outcomes for every child (Alter et al., 2009a; Darling-Hammond, 2000; Dinham, 2007; Gibson & Anderson, 2008; Hudson & Hudson, 2007; Oreck, 2004; Russell & Zembylas, 2007). Emancipating students to communicate their own meaning to others in the classroom enables social construction (Fetherston, 2008). When considering an image for example, students perceive characteristics and elements within the work in their own unique way (Fetherston, 2008). As students review and explore the individual characteristics and elements of an image they develop their own meaning. The issue of 'multiple sameness' was highlighted in the Peel region study in the theme; 'environmental factors influencing children's creativity' (Nilson, et al., 2013), where a lack of creative arts experts to provide instruction across the curriculum greatly influenced whether children were offered the opportunity to be independently analytical and creative. One mother reported that "if a child had a few teachers" in the primary years that were not "arty and didn't particularly like it" then the teacher was "more inclined to not understand" its importance and the children "would not get exposed to it as much" (Nilson, et al., 2013, p. 7). This view is supported by recent research (Alter et al., 2009a; Eason, Giannangelo &

Franceschini, 2009), which concluded that teachers with creative talents encourage and support student creativity in the classroom, while those who are not creative do not feel confident to do so. The artful space in the classroom can become 'alive' when self-regulation is coupled with the knowledge and belief that the Arts have a value to student and teacher alike (Mckenna, 2013). Self-regulation in this instance is a metacognitive ability which fosters thinking (thoughts and thinking about the art and its co-creation). Teachers need to develop the skills to foster thinking, creative behaviour, and high personal motivation in the viewing and making of art (Mckenna, 2013).

In addition, the Gonski report (RoFfS – Final Report, 2011) found that all schools regardless of location and student population, and whether they are located in the government, independent or Catholic school sectors require the same level of resources. An AiR in the Peel study talked about the lack of resources to teach the arts reporting that "there is no funding…very few schools have got specialised art teachers…very few schools have even got a wet area where they can do art work…you know…I've had to go out into the yard and do it…and sometimes there has been no running water and we've had to bucket it" (Nilson, et al., 2013, p. 7). The implications of such resource shortages can only impact negatively on the opportunities given to children to develop creative and critical thinking. (Jalongo, 2003; Robinson, 2001)

Research on the preparedness of the generalist primary school teacher to teach the Arts, has in the main concluded that they are ill equipped (Alter et al., 2009, 2009a; Dinham, 2006, Dinham, 2007, Dongani, 2004; Ewing, 2010; Temmerman, 2006). The focus must now be on ensuring that each classroom has a teacher equipped with a 'toolkit' to provide quality teaching (McLean Davies et al., 2013), that includes the development of critical thinking through arts exposure and engagement (Darling-Hammond, 2000; Dinham, 2008). Essentially, the 'toolkit' should be filled with supportive 'resources' such as the administrative and financial support from schools to enable generalist teachers to be flexible to drive innovative strategies to deliver effective arts education in schools; to support the professional development of generalist teachers to provide quality teaching in the Arts; and to support pre-service teacher training to build teaching skills in the areas of critical thinking and the Arts.

The Teacher's Toolkit
Organisational Policies

Children cannot be taught to be creative by direct instruction but rather by exploring and experiencing environments that nurture creativity (French, 2007; Robinson, 2001; Upitis, 2011; Zimmerman, 2009). Critical thinking (and creative processes) draw from knowledge and skills that allow children to see things in new and different ways and to think unconventionally, to break boundaries and go beyond information provided (Jeffrey & Craft, 2004; Schirrmacher & Englebright Fox, 2009). The literature suggests that to incorporate creativity and critical thinking into learning and teaching through the arts, adaptation at both organisation and facilitator levels is required (Isabell & Raines, Cannatella, 2004; Robinson, 2009; Schirrmacher & Englebright Fox, 2009). However, it appears that due to centrally controlled approaches to pedagogy, the opportunity to foster creative learning, teach creatively and teach for creativity is reduced (Craft, 2003; Fetherston & Lummis, 2012; Jeffrey & Craft, 2004; Robinson, 2001, 2006, 2010). A Principal of an extra-curricular art group in the Peel region study, suggests that these restrictive impositions create a disposition of imaginative powerlessness in children, because "children are caught in a box…they can't get out and do what they really want to do…or be who they are…or have the emotions that

they really want to have and be expressive" (Nilson, 2011, p. 100). Organisational policy should allow strategies that enable both teacher and students to interact and reflect, to seek information and take initiative; and to support and encourage risk-taking and original ideas with tolerance, stimulate creativity and critical thinking (Craft, 2003, Jeffrey & Craft, 2004; Nilson, et al., 2013, Wasserman, 2000). Restricted organisational policies impact on teachers, students and administrators and reduce "the impetus to learn" as further growth is halted through their experiences (Fetherston & Lummis, 2012, p. 14). In their study to explore teachers' perceptions of organisational strategies that would support teachers to deliver effective arts education in schools, Alter et al. (2009a, p. 24) highlighted the following three considerations:

- The practice of utilising others and working together to implement lessons;
- The availability of galleries and resources to support teaching; and
- The influence of families and communities in developing creative arts skills and interest.

Such co-participative approaches focus on a 'learner inclusive' pedagogy which enables "creative teaching of the teacher and the creative learning of the learner" and encourages the learner to identify and explore knowledge (Jeffrey & Craft, 2004, p. 86). It is therefore essential that schools within the government and private sector be given more autonomy, budgetary control for resourcing, and flexibility to drive innovation. Partnering with universities, community arts organisations, early childhood services and day care centres to create experiential learning opportunities for current and pre-service generalist teachers must be the way forward (Bowell, 2013; McLean Davies, et al., 2013). By rethinking the usual models school principals, teachers, and management committees can have a greater impact on the learning needs of students by ensuring they are well equipped for the 21st century (RoFfS, 2010, Robinson, 2001, 2006, 2010).

Teacher Professional Development

There is evidence to suggest that the impact of Arts based educational programs for many generalist primary teachers are a source of struggle and intense frustration (Oreck, 2004; Upitis, Atri, Keely & Lewis, 2010). Professional development (PD) opportunities created for generalist classroom teachers' need to acknowledge generalist teachers' lack of experience with specific art forms in order to be effective (Uptis, et al., 2010). The PD needs to reach the generalist teachers, in a deep and meaningful way so that they become Arts advocates for their students, their school and the community (Oreck, 2004; Uptis, et al., 2010). For PD to be effective it must be structured to meet the needs of adult learning principles and provide adequate time for mentoring, inquiry and reflective practices (Donovan, 2007; Lind, 2007). The learning needs to be supported as a high priority by administration (time and funds); encourage collegiality and the establishment of ongoing outside professional support and facilitation; and embrace research based strategies (Darling-Hammond & Friedlaender, 2008; Morrow, 2003, Oreck, 2004; Richards, 2003). Further to this, PD programs in the need to emphasise integration and assessment strategies, and outcomes based learning (Andrews, 2004, 2008, 2010). In an evaluation of a University facilitated PD program for teachers learning in the Arts, it was confirmed that working with practicing artists, in a peer-supported environment promoted teacher self-efficacy (Andrews, 2008). Andrews (2010) reports that through a partnership program, between faculty and school, where generalist teachers work with professional artists, teachers develop:

A knowledge base, confidence and willingness to teach the arts, and an understanding of the relationship of theory to practice is enhanced in a partnership program involving professional

artists that promotes teachers' personal arts learning (discipline-based learning) and the development of integrated arts teaching strategies (arts integration) within the course content. (p. 93).

An artist-in-residence, who supported a teacher during the project development in the Peel study encouraged the students to be artists rather than just take part in the art. The teacher reflected on what she had learnt from the creative engagement and said that:

> She expects quite high standards when I have children writing, but when they've done art I think …'Oh well! That's probably the best they can do…one go and its good enough…however (name of artist-in-residence), had different ideas…well some of those children redid their work three or six times…they were really proud of what they achieved…what a life lesson" (Nilson, 2011, p. 125).

Once students have grasped the basic ideas; the more they are able to practice the deeper the learning journey (Fetherson, 2006). Transfer of learning that allows students to apply the knowledge to many other situations, is well within a teacher's control and can be achieved by allowing opportunity and extended time for that to occur (Fetherston, 2006). Based on the understanding that creativity and critical thinking is an attitude rather than an aptitude (McPeck, 1981; Schirrmacher & Englebright Fox, 2009), children should begin to view the world in a different way and become stimulated to explore and problem solve the endless possibilities from creative endeavours.

Further to administration making PD a priority, authorities in Arts education (Wasserman, 2000; Schirrmacher & Englebright Fox, 2009) suggest that teachers reflect on their own creative abilities and consider opportunities for enhancing and developing these characteristics in themselves. Providing children with the opportunity for creative learning and critical thinking requires teachers to teach creatively (Cannatella, 2004; McKenna, 2013; Schirrmacher & Englebright Fox, 2009; Wasserman, 2000). However, teachers can only develop their students' behaviour and thinking if they engage their own creative abilities (Oreck, 2004, 2006). Teaching methods and educational philosophies used in classrooms are greatly influenced by teachers' perspectives (Dogani, 2004; Eason et al., 2009; Fetherston, 2006; Oreck, 2004). The more a child's background of experiences is influenced by objects, people and places the greater the range of creative and critical thinking possibilities (Vygotsky, 1962). During the Peel region art project (Nilson, 2011) the interactions between the children and school teachers, AiRs and mother helpers assisted the move forward towards their creativity and critical thinking potential. The art project required that the children constructed a replica model of an historic building. Below is an example of how the collaborative planning, design and construction of the replica building, using all kinds of different materials, supported the opportunities for creativity and critical thinking development in the children:

> When we laid the floor boards, which were pop sticks…they all had to glue them on…they learnt and understood that you don't just glue them end to end otherwise it isn't strong…we stagger them…they learnt something about strength and building…the same with the bricks… "why are bricks off set?"… "well it's stronger"…how we measured and drew lines mathematically on the floor to make sure our floor boards stayed straight…how we had to cut in and go back to make pieces to fit in (Nilson, 2011, p. 117).

Teachers have the responsibility to create an environment that empowers children to think, create their own questions and own the answers (Eason, et al., 2009).

Critical Thinking and Creative Arts Training for Pre-Service Generalist Teachers

Critical thinking has been conceptualised by Ennis (1991, p. 8) as the ability to undertake "reasonable reflective thinking that is focused on deciding what to believe or do".

Torrance (1962) has identified seven indicators of creativity, which are curiosity, flexibility, sensitivity to problems, redefinition, self-feeling (self-directed), originality and insight. The kinds of thinking and the types of projects in which children engage are determined by the teacher, which are in turn, guided by their own creative and thinking ability (Eason, et al., 2009). The results of a study conducted by Alter (2011, p. 25) at different state schools situated in a regional/rural area in northern New South Wales, to examine critical and creative thinking within the context of visual arts education at primary and secondary school levels, suggested "that it cannot be assumed that competent art teachers are also innovative teachers in regards to creating environments that foster critical and creative thinking". Understanding the ways in which pre-service education could prepare generalist teachers to transfer their knowledge of arts into effective subject specific teaching methods is an important area that has been investigated by Prentice (2002). In order to have a point of reference in Prentice's study, a working party of 12 teacher educators from nine initial teacher education facilities in England, met on eight occasions to first identify the following key outcomes which they considered, should result from Arts education, which all relate closely to creativity and critical thinking:

- Distinctive ways of being intelligent;
- Using arts processes and procedures to generate personal creative responses and ideas;
- Visual communication of feelings and ideas;
- Critical thinking and analysis of design; and
- Aesthetic awareness.

These key outcomes translated into three essential components that undergraduate generalist primary pre-service students should be expected to do during their course:

- Engage in a range of art and design activities at their own level in order to acquire subject knowledge and understanding;
- Reflect on their learning process in order to identify essential skills and concepts in order to inform their teaching; and
- Demonstrate through planning, teaching, class management and assessment, their application of subject knowledge and understanding (Prentice, 2002, p. 74).

Involving pre-service students in creative arts processes during their education, could develop the kinds of thinking (tenable, satisfying, enjoyable, effective, useful, valid) that will guide their own creative ability and confidence to teach the Arts (Gibson, 2003; Hennessy, Rolfe & Chedzoy, 2010; Heyworth, 2011, 2012; Hudson, Lewis & Hudson, 2011).

An innovative AiR project to enhance pre-service generalist teacher training in the Arts was trialled by the University of South Australia in 2011 (McDowall & Meiners, 2011). A group of artists across the five arts subjects worked with 3rd and 4th year pre-service generalist teachers in two intensive periods to deepen their foundation experiences previously gained through different courses during their university study. The findings of the AiR project identified that the students had developed an increased artistic awareness and sensitivity; arts-related skills and processes; arts-related confidence; and enabled creativity. All Australian universities should be reviewing their course structures for pre-service generalist teacher preparation to align with the inclusion of 'the arts' as a learning area in the Australian Curriculum proposed for implementation in 2014 (Hudson, et al., 2011; Russell-Bowie, 2012)

Developing knowledge regarding the importance of environments in the development of creativity and critical thinking in pre-service teachers is an essential element in assisting them as graduated teachers to develop these attributes in their students (Loomis, Lewis & Blumenthal, 2007). A primary strategy pre-service teachers need to learn about is how to excite the children's imagination, thinking and creativity, and how to allow for children's

input into the development of the art work (Loomis, et al., 2007). These principles were employed by an artist-in-residence in the development of a banner for the Peel region art festival (Nilson, 2011). The AiR discussed the evolution of the finished project and described that:

> They wanted bullying to be dead…so I said 'that's a good idea'…so the rest of the class said how about 'bullying be dead'…they kept changing the words around…'make bullying dead'…I then said 'is there a way of making it deader than dead'…they had a think and one of them said 'extinct'…they said if it's dead it's dead, but if it's extinct, it can never come back again…one boy said 'Yes! like a dinosaur'…one of the boys could draw a dinosaur…so he drew the picture…they talked about it further…it was decided to make it look like a fossil (so it would be REALLY dead)…so the boy drew bones" (Nilson, 2011, p. 119).

Providing an environment for children that is conducive to free-thinking and creative expression is an important responsibility for teachers (Nilson, et al., 2011). Children's creative impulses are squashed in convergent (restrictive) thinking environments, where rejection, criticism, failure or pressure to conform and will often result in a 'shut down', in order to protect their creative integrity (Nilson, et al., 2009). In addition when environments override children's autonomy and creativity children will become dependent on others for their own solutions and answers (Schirrmacher & Englebright Fox, 2009).

Participating in creative arts increases children's reflective processes and motivates the development of thoughts that relate to their everyday lives, which makes knowledge, have relevance (Brooks, 2005; Mckenna, et al., 2013). A mother participating in the Peel region study evidenced how the art project had allowed her daughter to make connections between things (redefinition) explaining that:

> She (daughter) has become able to think in an artistic sense…it's artist thinking…we were walking down the drive way…we've got peppermint trees…she said...'mum can you smell that, it smells like holidays'… I see that as thinking in an artistic way…it was just beautiful" (Nilson, 2011, p. 107).

When teaching through the arts, teachers require time, materials and the space to facilitate learning. In addition, the teacher must be a sounding board for dialogue and retelling of events to encourage observation, sensitivity to problems, originality, meaning making and self-feeling (Brooks, 2005; Schirrmacher & Englebright Fox, 2009). If pre-service teachers are not made aware of these aspects during their own pre-service education and given strategies to assist them in incorporating them into their teaching they are not being given the opportunity to develop these skills that are so important to nurturing critical thinking.

The ability of children to learn from creative art experiences and then apply that learning to other subject areas has been acknowledged by many authorities (Burton et al., 1999; Efland, 2004; Eisner, 2002; Marshall, 2005). The Arts interact with disciplines such as science, mathematics, history and written and spoken language whilst also encouraging creative and critical thinking (Isabell & Raines, 2007; Marshall, 2005; Nilson, et al., 2011). A teacher from the Peel study detailed how she and the AiR developed a whole range of critical thinking activities, which related to developing, creating and completing the art piece and how it engaged the children in creative and critical thinking. She reported that:

> We were following the history this year…we invited (name of museum curator)…he talked to them…gave them the background knowledge of what it was like…where they sat…what movie's they watched…what characters were involved…it was an historical thing as well…it went from the art, to us investigating the Mandurah history…so by the time they got to see their art work we had combined it with the era…now they will talk to me about what they have found out…how things have changed since then…we've had (the museum curator) come back and they have written interview questions for him…it was great…they really linked to the history (Nilson, et al., 2013, p. 14).

As a further example, a mother helper with a mathematics and science professional background, who assisted the children in the construction of their art piece reported that:

> It made them realize that they are learning stuff for a reason…ruling, estimating things, calculating…how many do we need…they can use what they've learnt…they were fascinated with the hot glue gun…it goes through and gets heated, makes a liquid… 'Oh! Yes!...we learnt about solids and liquids'…you know it's scientific…they can use it in real life processes" (Nilson, et al., 2013, p. 14).

These processes honour the unexpected and provide an opportunity to think and create until the desired outcome is achieved (Ennis, 1991).

Teachers must think laterally to extend the learning of the arts to other subject matter and collaborate with experts in the other subjects. To develop these skills pre-service education must include opportunities for engaging in the arts learning experience. McLean Davies, et al. (2013, p. 104) advocate for clinical practice programmes in preparing pre-service teachers that enables them to "work with others to assess, plan, and evaluate impact; to seek and use evidence to make the adaptations that are required and to enjoy the satisfaction that comes from seeing positive responses to their interventions".

In schools, mentoring and induction models have been used in Australia to support early career teachers to transition into teaching (Ewing & Manuel, 2005; Hudson et al., 2011; Paris, 2013). However, mentor shortages and induction failure have led to high attrition rates in early career teachers (Ewing & Manuel, 2005; Paris, 2010). With the current shortage of mentors there is no guarantee that early career or pre-service teachers will receive worthwhile experiences in the school setting (Hudson, et al., 2011). This was evidenced in a study (Hudson, et al., 2011), which explored the perceptions of final-year pre-service teachers' in primary school settings, of their mentoring for learning to teach art. Consequently, tertiary education providers must consider other ways to prepare and support both pre-service teachers and beginner teachers, which will enhance their preparedness for teaching the Arts and assisting the reducing the high attrition rates (Hudson, et al., 2011; Paris, 2010, 2013).

An innovative 'reciprocal mentoring' program was developed at Edith Cowan University within the school of Education (Paris, 2010, 2013). Visual arts pre-service teachers in their final year were placed in schools as AiR's and mentored secondary students in specific Arts disciplines, which supported the school-based teacher with reduced skills in the particular discipline. The following year, the school-based teacher was called upon to mentor the now graduated beginner teacher for the induction period. The findings reported that there was mutual reward from the mentoring relationship where both parties were able to exchange knowledge (Paris, 2013). A further innovative approach aimed at preparing generalist pre-service teachers with Arts experiences was trialled alongside the previously mentioned study conducted by Hudson, et al. (2011). Third year pre-service teachers were provided with a 'real-world' experience conducted at a university site. They engaged 36 school students ranging from grades 4-6 in visual arts activities. There was an overwhelming positive response to this tertiary coursework on art education (Hudson, et al., 2011, p. 86). Real-world teaching experiences can advance pre-service teacher development for teaching the Arts (Hudson, et al., 2011; McDowall & Meiners, 2011).

Conclusion

As the creative arts have been highlighted as being key learning areas in the new Australian Curriculum proposed for introduction in 2014, it is recommended that greater dialogue around the use of arts in the curricula occur between tertiary institutions, education agencies, teachers, schools and community arts organisations. This form of collaboration is

required to provide effective generalist teacher preparation courses to prepare teachers with better skills to deliver the arts curriculum effectively. Effective delivery of arts programs that develop creativity and critical thinking in children also requires current teachers to ensure that they are equipped with better skills to deliver arts programs effectively by reflecting on and evaluating their own creativity and critical thinking attitudes and being supported with opportunities for further professional development in the area of arts program delivery. In addition, the conflict in policy and practice relating to the tightened control around pedagogy and curriculum requires re-visioning to establish a climate within education establishments that stimulates creativity and critical thinking through the creative arts.

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