

## Paper Presented at AARE Conference Fremantle, 2001

JON 01196

### In the Eye of the Beholder- Conceptual change in school aged children's understanding of the role of the beholder in art.

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An understanding of artworks during childhood is acquired over time; both through the acquisition of information and the development of reflexive theoretical frameworks. It has been established that students in early high school possess a more complex understanding of an artwork than those in early primary school (Gardner, 1983). As children mature they are able to incorporate increasingly complex properties into their concept of art. This extension of conceptual understanding is paralleled by an increasing autonomy of reflexive thought. This paper explains this more complex reflexive process as a meta-cognitive ability manifesting in the form of a meta-representation of art..

#### **The nature of artworks**

Artworks are nominal artefacts that also represent the world. As such, artworks are part of a larger language of meaning to which we bring our experience of the world and art. Artworks are problematic for the viewer as they present a two stage challenge to be understood. Firstly, they challenge the viewer's understanding of real objects, and secondly the understanding of artworks which also represent other objects. Thus artworks have to be interpreted on two cognitive levels: as real objects and as representations. Very gradually children sort out what pictures do and do not do. The understanding of the asymmetrical relationship between the object represented and its representation is one of the first steps in the development of a representational mind.

Clarke (1997) suggests an artwork (in his case a photograph) is suspended within a complex web of interrelationships. In viewing artworks we enter into this complex relationship that includes the purpose for which it was made, our perception of it, our theory of art, and our theory of the role of the beholder in art.

How is it then, that we (the beholders) negotiate this complex web and understand the intention of the image maker (artist) and are able to construct a meaning of the image (artwork)?

*[T]he pictorial significance is an objective property of pictures that beholders attempt to detect... and....is constructed by an act of judgement of the beholder... the beholder being the person who attempts an uptake of the pictorial communication (Freeman, 1995,p.2).*

We are able to approach artworks and imagery in a way to extract meaning (uptake the pictorial communication) because we have a belief in the intentionality of the artist to provide a site of interaction within which we can construct our own meaning. Our belief is based on

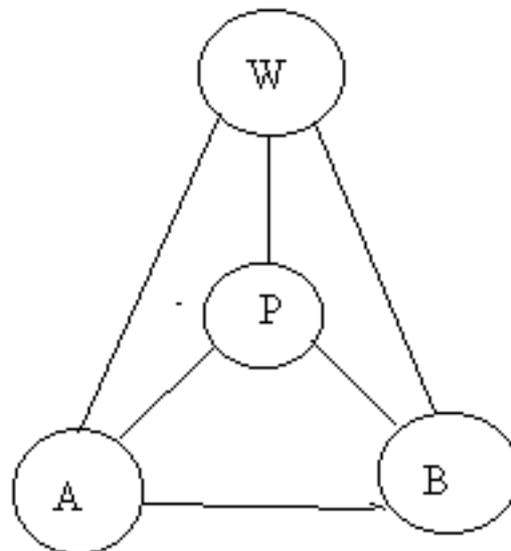
predictive strategies that have been successful in the past (Dennett,1987,p.15). Our predictive strategies are situated within the theories we hold about the world.

Theories are, according to Freeman *causal-explanatory framework(s) of beliefs (that) underpin the manifestation of understandings* (Freeman,1991,p.65). The function of a theory is to organise perceived information into understandable networks of relations. When we perceive something in the world we make meanings through processes of classification and connections with what we already know –we develop concepts. Concepts are made up of clusters of properties held in homeostatic causal relations (Boyd (1988). Each conceptual cluster may be seen to occur as a node within a homeostatic representational network.

As we grow and mature we develop complex conceptual constructions to represent and interpret our understanding both of ourselves as well as the world in which we exist. These conceptual constructions, described as vernacular folk theories or common sense notions of how the world works are implicit in all of our fundamental interactions and understandings of ourselves and how the world works. For human relations there is a folk psychology, for the world, its objects and nature there is folk physics and biology. Freeman (1995) suggests there is a folk aesthetics or folk philosophy of art. He gives these theories the name "framework theories" as a general way to think about something (Freeman,1995).

The minimal agents or concepts for a theory of art according to Baxandall are the artwork, the artist, the content and the beholder (1991,p.67). We come to understand the notions of artist, artwork, beholder and the world as conceptual clusters represented in our minds. The interaction of the four agents artwork, artist, content and beholder within the network can provide a platform for representing a functional construct of a vernacular theory of art.

Freeman and Sanger (1993) represent one such framework in the following intentional net.



**Figure 1: From Freeman & Sanger (1993) the intentional net that defines a representational picture (P) as being at the centre of relations with (A), beholder (B) and the world (W)**

How we manipulate the significance and interactions of these property nodes within the homeostatic network determines the complexity of the theories that we hold.

To fully comprehend the development of children's understanding of the role of the beholder in their vernacular theories of art it is necessary to investigate processes of cognitive development together with an exploration of theory development in children.

### **Cognitive development**

We are aware from the literature that children come to know and understand the world through an ever increasingly complicated set of representational processes developed over time (Piaget 1954, Fodor 1975, Wellman 1990, Perner 1993, Karmiloff-Smith 1992).

This paper draws on descriptions of the processes of cognitive development and the development of theory formation identified by Annette Karmiloff-Smith (1992). She describes the development of conceptual understanding as a continuous progression that occurs at various rates within different knowledge domains. Unlike Piaget who favours a 'lock-step' domain general progression using the processes of assimilation and accommodation, Karmiloff-Smith describes the process of representational redescription as the fundamental process of conceptual development. It is through the process of representational redescription that meaning is constructed.

In the representational redescription model information is taken in and encoded to form representations in the domain specific area relative to the type of information it is. Karmiloff-Smith calls this level 1 representation. Neither this information nor its component parts are at that time accessible to other domains. As she says *it takes developmental time and representational redescription for component parts to become accessible to potential intra-domain flexibility and creative problem-solving capacities* (Karmiloff-Smith, 1992,p.20).

Level-I representations are redescribed in processes of abstraction or explication to E1, E2 & E3 representations. During this process Level-I representations that are implicit (ie automatic/rote learnt) become explicit as E1, E2 and E3 representations. Because explicit knowledge allows for a greater flexibility and possibility of connection between domains it allows for such things as analogies to be made. The new redescribed information is now used for goals different from *the original level-I representations which remain intact in the child's mind and can be continued to be called on for particular cognitive goals which require speed and automaticity* (p.21). It is as E2 & E3 representations that information can be explained as conscious verbal reports (p.22).

### **Theory development**

As we learn and know about the world we develop theories about how it works and how and why its components interact. This *involves conscious construction and exploration of analogies, thought experiments and real experiments, typical of older children and adults* (Karmiloff-Smith,1992,p.15). However all theories and *causal beliefs eventually run dry in their ability to explain future patterns (and) more associative aspects of concept representations take over* (Keil,1989,p.57). When new understanding comes to us it is through the processes of representational redescription that we are able to develop new conceptual links that can result in theory change.

Whether the processes of meta-explication in representational redescription are or are not conscious they form the foundation processes of making meaning and understanding the world.

## **Representational mind and making meaning from artworks**

Perner (1993) provides a developmental model of the acquiring of a representational mind. He describes three levels in the development of the understanding of representations. In the first year of life a child is able to understand that a picture has the resemblance of the thing depicted. During the child's second year the picture becomes a depiction of a situation. By about four years of age the picture has become marks on paper that the child now understands to be a representation of what is depicted (Perner, 1993). *This concept revolutionises children's existing understanding of mental states ...enabling them to develop a representational theory of mind* (Perner, 1993,p.144). It is with the consequences of this revolution and its subsequent development in relation to a child's understanding of the role of the beholder in art that this paper is concerned.

This representational theory has been described as a naive realist understanding of the world, where what is perceived in the world is thought to exist exactly in the brain (Freeman, 1993). A naive realist understanding of art may include the intention of the artist but remain oblivious to the role of the beholder and other agents in the interpretation of artworks. As a children's theories of art develop *a reflective awareness of the judgements they make emerges* (Freeman, 1995,p.1). In this way the initial understandings could be said to be representationally redescribed, and a more complex set of relations within the representational net begin to be understood by the child.

However, naive realism is not a stage that one masters by a certain age and then moves beyond. In some aspects of our adult lives we remain naive realists. Even the most autonomous of thinkers may find themselves responding in a direct object - subject manner at some time of their daily lives. For example, if we see a friend smiling we deduce that they are happy on the evidence before us when the truth may be otherwise.

It is suggested by Freeman (1993) that an autonomous theoretical framework is necessary for school aged students to engage productively in art critical studies. Moving beyond a naive realist relationship to more reflexive thought is necessary in order to operate beyond stereotypical notions. It is paramount in the development of autonomous thought and action.

### **Research description**

#### **Study purpose and design**

The purpose of this study is to map perceived shifts in children and young adolescents conceptual understanding of the role of the beholder in their vernacular theories of art. It poses the null hypothesis that there will be no significant shift in school aged students conceptual understanding of role of the beholder in art as they move into early adolescence. This study is not concerned with children's interpretation of individual artworks but with mapping the emergence of a notion of the role of the beholder in art. It is based on the analysis of school aged children's explanations of their responses to a series of structured questions in an attempt to identify implicit theories of the beholder in their theories of art.

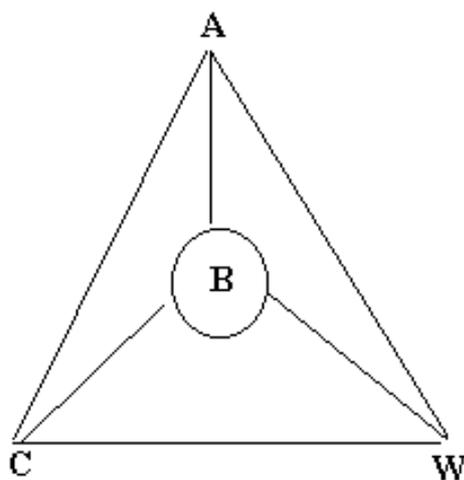
In analysing school age children's explanations of their responses to a set of structured questions this study seeks to expand on the work of Freeman and Sanger (1993). Their study of rural children showed that by 11 years old children include the agency of the beholder within their vernacular theory of art. A subsequent study of urban English children showed a conceptual shift in students understanding of the role of the beholder in art to be closer to 9 years old for that group (Freeman, 1995).

## Design of the questions

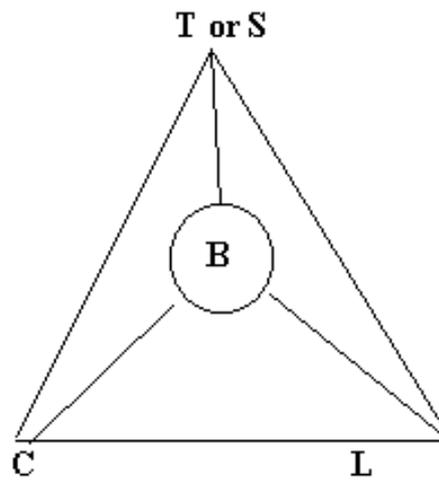
The study uses the map developed by Brown and Haynes (1998), which modifies the presentation of the relational network described by Freeman and Sanger (1993) by placing the beholder in the centre. The map represents an ontologically neutral schema for the generation of relational questions. Thus the questions do not presuppose cultural influences that may underpin respondents' answers, nor do they pose answers to relations that the respondents are then asked to comment upon. Respondents are therefore free to fill the logical spaces of the diagram in any way they choose.

This study does not attempt to identify what kind of beholder the respondent is. Rather, it is about the explanation of what function is played by the agency of the beholder in both art and the art lesson in the mind of the respondent.

Twelve questions were designed to explore the relationship between the beholder and other agencies represented on this map. Six of the questions explore the relations between the agencies of artist, artwork, beholder and content in a theory of art. The other six explore these relations within the context of the art classroom where the teacher and student are substituted for artist and beholder, subject matter for content and lesson for the artwork. The questions identify the six possible functional relations represented on the map described below.



**Fig 2. Theory of Art**



**Fig 3. The Art Lesson**

### **Maps for representational relations of the four fundamental agents for a theory of art. (Brown and Haynes 1998)**

On the theory of art map (fig2&3) the artwork is represented by (W), (B) represents the beholder, (C) the content of the work and (A) the artist. On the map describing conceptual relations in the art lesson, the subject matter or content is represented by (C), (L) represents the lesson, the agencies of teacher and student are represented at the apex by (S) or (T). When the teacher substitutes the agency of the artist, the student is implicated in the role of the beholder (B) and visa versa.

Functional relations between the artist and artwork (A->W) or (T->L), between the content and artwork (C->W) or (C->L), the work and the beholder (W->B) or (C->T) are interpreted as representing a naive realist understanding of the role of the beholder in a theory of art. Within the representational relations set up by this framework, naive realist explanations, while acknowledging that an artist has an intention to make an artwork, would *omit the role played by the beholder (students, teachers, settings)* (Brown, 1998).

Reflexive understandings are represented on the network (fig 2 & 3) when a third element is incorporated into the artist - artwork relation. For example A->B->W indicates a more complex understanding of the role of the beholder in art. The beholder is incorporated into the relational network as mediator between the agencies of artist and artwork (A->B->W), between the lesson and the content

(L->B->C), and between the content and artist (C->B->A).

Questions were designed which explored relations between the agencies on the two maps (figs 2 & 3.). Those questions exploring the functional relations for a theory of art are denoted with 'a' and those representing the relation of the agencies in an art lesson are denoted 'b'. In all but one instance (8.4b) positive 'yes' responses to the questions indicate the incorporation of a third element into the relational framework indicating a autonomous rather than naive response.

The questions and representational relations are shown in table 1.

TABLE 1 Interview questions and representational relations.

Theory of art	Art lesson	Representational Relation	
		Naïve -No	Autonomous -Yes
1.1a: Can a happy artist paint a sad picture?	2.1b: Can a bad student do good art work in school?	A-W	A-B-W
3.2a: Can you have a sad tree in a happy picture?	4.2b: Can you have an easy drawing, which is good, of a complicated tree?	C-W	C-B-W
5.3a: Can a sad artist make a tree look happy?	6.3b: Can a good student make a bad drawing of a tree?	A-C	A-B-C
7.4a: Can an artist be made happy by a sad painting they have made?	8.4b*: Can a poor lesson make a teacher bad?	W-A W-A *8	W-B-A (8)W-B-A = no

9.5a: Can a drawing of a happy tree make an artist sad?	10.5b: Can a lesson about happy people make a teacher sad?	C-A	C-B-A
11.6a: Can a sad picture have a happy tree?	12.6b: Can an easy lesson make a hard subject?	W-C	W-B-C

## The Sample

Students from three government schools in the Inner Western suburbs of Sydney were interviewed. The three schools each provided a balanced gender group of six children whose average ages were 7 years, 10 years and 13 years old. These three age groups were chosen for specific developmental reasons. Eleven (11) is understood to be a critical age developmentally as the emerging adolescent establishes autonomous thinking. Children on both sides of this age were interviewed in order to provide a clearer reflection of the perceived shifts in conceptual understanding of the role of the beholder in art.

The Inner West of Sydney is a upwardly mobile middle class community. Many of the students had visited art museums and participated in art activities at home and school. Several of the students had parents or neighbours who were artists and others had parents who worked in the arts industry.

## The Interview

The interviews were conducted at the various schools and consisted of two parts. The first questions were designed to establish rapport as well as ascertain biographical information, interest and exposure to the art world. The second part of the interview consisted of the 12 structured questions.

## Analysis

Questions were designed in anticipation that in their responses children would mentally construct a situation using their own conceptual models. Evidence of their theories of the beholder was elicited from analysis of their explanations. Analysis consisted of examination of the explanations for consistency and logic in relation to the initial 'yes' or 'no' responses.

Responses to the questions were identified as naive realist or autonomous understandings of the role of the beholder as described above. A naive realist explanation is one that engages only two agencies within the conceptual map. Therefore such responses have a direct subject-object relation on the map which excludes the beholder. Autonomous responses show a reflexive explanation and include the agency of the beholder within the framework represented by the map. An autonomous response transposes the subject-object dyad into a object-beholder-subject relation which by implication incurs a more sophisticated explanation.

Final tallies of 'yes' and 'no' responses were recorded as 'autonomous' and 'naive' responses in the results section below. Representation of 'autonomous', 'naive' and 'maybe' responses are made graphically in figure 4.

## Validity and reliability measures

Validity and reliability measures were employed in a number of ways. To ensure there was no set sequence in the order in which the questions were asked that might influence results the questions were asked in random order. The questions were written on cards and these were shuffled before each child was individually interviewed. Probes to the questions were designed beforehand to ensure a consistency of approach in eliciting elaborated responses.

The teachers of the three groups of students were also interviewed to establish any significant impact their own theories of art may have had on students' opinions and attitude.

## Significance

Chi square was used to determine significant difference between the total of the autonomous and naive responses. This allowed for the identification of any significant difference in tallied scores between the 7 & 10 year olds the 10 & 13 year olds and the 7 & 13 year olds. However on such a small sample it was not possible to test for significant differences between the autonomous and the naive responses within each age group.

## Results and analysis

The results of this study are presented as statistical data and summaries of children's' explanations. Statistical data was generated from answers to structural questions and verified by analysis of explanations. Responses from each age group were tallied. Tallied 'autonomous', 'naive' and 'maybe' scores are presented in tables 2 and 3 and in figure 4.

**Table 2: Autonomous responses by question and age group**

Quest	1	2	3	4	5	6	7	8	9	10	11	12	
7yrs	3	4	1	2	4	3	2	4	1	1	1	5	31
10yrs	3	6	2	5	4	6	6	5	3	2	4	6	52
13yr	5	6	6	5	5	6	5	6	5	3	5	5	62

**Table 3: Naive responses by question and age group**

Quest	1	2	3	4	5	6	7	8	9	10	11	12	
7yrs	2	2	4	3	1	3	3	2	4	3	1	1	29
10yrs	3	0	3	1	2	0	0	1	3	4	2	0	19
13yr	1	0	0	1	1	0	1	0	0	0	0	1	5

Chi square tests applied to establish the occurrence of any significant difference between each group and are represented in tables 4,5 and 6 below.

**Table 4: Chi square value between the 7 and 10 year olds was 6.52 = 0.01**

	7yrs	10 yrs	Total
<b>Autonomous</b>	31	52	83
<b>Naive</b>	29	19	48
	60	71	131

**Table 5: Chi square value between the 9 and 13 year olds was 11.75 = 0.01**

	10yrs	13yrs	Total
<b>Autonomous</b>	52	62	114
<b>Naive</b>	19	5	24
	60	67	138

**Table 6: Chi square value between the 7 and 13 year olds was 26.98 = 0.001**

	7yrs	13yrs	Total
<b>Autonomous</b>	31	62	93
<b>Naive</b>	29	5	34
	60	67	127

### **The 7 year olds**

The seven year olds had a total of 29 responses that could be described as naive realist and 31 autonomous responses. Few of the students could remember visiting a gallery but several enjoyed participating in art making activities at school and home. The teacher of this group has a strong interest in early Australian art but in no way describes himself as an artist. He had a autonomous response to all questions.

### **The 10 year olds**

This group had a predominance of autonomous answers 59 compared to 19 naive. These students were from backgrounds where art and art practices were known. Almost all had visited an art gallery and several had parents who were artists or worked in art institutions.

Their teacher was also an accomplished artist with a strong interest in art education. She answered all but two questions with autonomous responses the others with 'maybe'.

## The 13 year olds

This group had a predominance of autonomous responses with only five indicating a naive realist theoretical position. The 13 year olds were at the end of their first twelve months art education as part of the mandatory one hundred hour course in visual arts. They had experienced a range of art making and critical experiences in the visual arts. Most made reference to artists they had studied at school in their interviews. The teacher of this class had many years experience teaching visual arts in secondary schools and answered most questions as a autonomous knower.

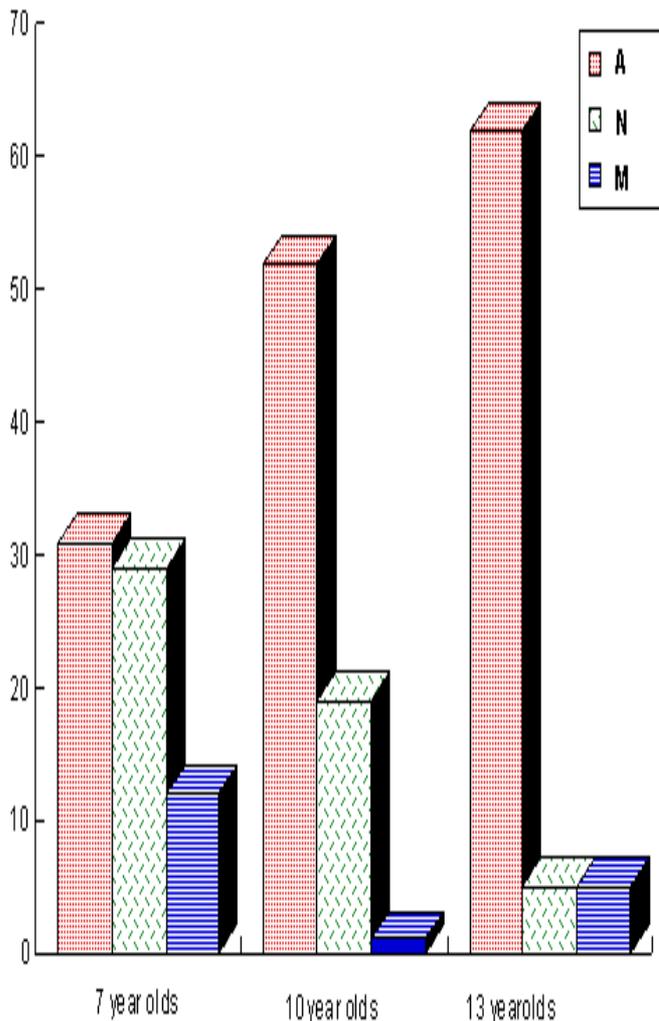


Figure 4. 'Autonomous' (A), 'Naive' (N) and 'Maybe' (M) responses by age group

## INTERPRETATION of RESULTS and DISCUSSION

### The role of the beholder

Having an autonomous perception of the role of the beholder in art is based on a reflexive understanding of the role played by the agents involved. In answering the questions, respondents had to explore the relations between the agencies on the map in relation to their own theory of art or the art lesson. This involved being able to take their knowledge of

the artist, artworks and content as separate categories and juggle these around the category of beholder/audience within a theory of art as represented on the relational map.

While no definitive age for a change from naive realist to autonomous thinker can be identified in these groups of children, the results strongly support the notion of a gradual shift in perceptual understanding in school aged children. All respondents offered some answers that indicated a reflexive understanding of the beholder in their theoretical framework. No single student held an entirely naive realist theory of art. Two of the thirteen year olds answered and explained all the questions as autonomous knowers. All children in the study showed evidence of autonomous thinking and reasoning along some aspects of the conceptual framework. However the autonomous responses from the 7 and 10 year olds indicated an inclusion of the beholder that was often simplistic. From their point of view, a happy artist might paint a sad picture because 'he was tired of doing happy ones'. Older children with more consistently reflexive responses were able to give more complex explanations in their justifications. Some acknowledged the art world, some recognised teachers or themselves and other students as beholders, while others acknowledged the artist's intention to 'say something' and the beholder as the person to interpret.

Importantly the findings here suggest that for the groups of students interviewed a reflexive understanding of the role of the beholder in art is emerging as early as 7 years old and is well established by 10 years old. This is consistent with, and extends findings described by Freeman and Sanger (1993).

### **Naive responses**

Younger respondents understood that artists have an intention to make images and artworks. They have however, little conscious understanding of the intentions of artists to produce artworks beyond representing particular objects, or that the viewer interprets an artwork to determine its meaning. Naive realist explanations operate at a direct object->subject level of understanding within a theory of art. This theory of art refuses the role of the beholder by excluding it from the relational network.

Working at the level of naive realism, the inability to connect more than two concepts at the one time leads to confusion, not understanding and not knowing (Lakoff,1987) . They are constrained by beliefs represented on the map as subject-object relations and as such are unable to incorporate a third element into their theoretical framework. Grappling with their own inadequate theories they are observed here at a point of cognitive development where representational redescription as meta-representation has not yet facilitated a theory change into a more autonomous understanding of the role of the beholder.

The questions that drew the most naive realist responses from all age groups were 9.5a and 10.5b, and 11.6a for the 7 year olds. These questions test the relationship between the artwork and the content within the map that is. C->W and W->C. Autonomous responses to questions that explore content->artwork and artwork->content relations must by implication involve the beholder in the framework. The respondents had to import the concept of the beholder into this relation differently from questions that mentioned the artist, teacher or student explicitly. Responses to these questions are significantly different in that they indicate that although the younger aged students incorporated a third inexplicit element into their theory of art, when asked about artist->artwork or artist-> content relations, they still held a strong belief that there is a direct relationship between the content of the artwork and its implied meaning. So that a painting of a happy tree is just a happy tree; likewise a sad tree in a painting is a painting of a sad tree. Not until students were in the older group were they less constrained by this belief and began to see that the artist may have had an

intention beyond mere object representation of a particular subject matter in their artwork and that the beholder has an impact on interpretation.

### **Autonomy in the responses**

There was a higher than anticipated level of autonomy in the younger group, which can be interpreted in several ways. Firstly is the desire of children "to be right" or to please the interviewer by answering 'yes' to questions, despite the fact they didn't understand what was being said.

The second issue is that the manner of questioning of this younger group may have resulted in them not understanding the questions or perhaps they were not probed sufficiently for explanation.

The autonomous explanations by the younger children tended to be simplistic. Though by 10 years old the relatively simplistic explanations were expanded upon with the description of why and how a happy artist might paint a sad picture: "well, he might just want to paint something different you know...he might just paint happy things all his life, might just get a bit of colour into it, blue or a bit of feeling into it maybe". The 13 year old reaches beyond the internal reasoning of the artist and includes in the explanation an understanding of the impact of the artwork on the audience: "because he might have a lot of inspiration from sad things, a lot of things around him might not be very happy, like he might live in a bad neighbourhood, he might decide to show about where he lives". Hence, explanations for the answers that indicate a reflexive understanding of the role of the beholder in art range in themselves from simplistic to complex representations across all age groups.

### **Explanations**

It is understood that explanations cannot be given without a theory. In order for concepts within a theoretical framework to be expressed verbally, they must be represented, according to Karmiloff-Smith's representational redescription model, at E2 or E3 levels (1992). Naive realists, it would seem are not able to accommodate more than two concepts into their framework. The conceptual nodes on the map (see fig1, 2&3) represent concept clusters in the child's mind. Concepts develop through the aggregation of characteristically similar information, innate and perceived, around these nodes. Explaining and justifying responses to the questions in a reflexive manner can be described as a meta-analytical activity and is fundamental to autonomous thinking. Understood in terms of representational redescription, conceptual data at the nodes is accessed through several axes on the map evidenced by the respondents' explanations.

The relationship between the linguistic expression of 'artist', for example, and the reality of artist in the world, and the manifest stereotype of artist in our society, forms a complex dynamic cognitive model that has been subject to various changes over time. All the categories on the relational framework have reference to social stereotypes that exist in our culture and are manifest in our language. So even though the framework itself is independent of culturally constructed notions the concepts that congregate around the conceptual nodes are influenced strongly by the constraints of cultural mores.

Significantly, the respondents identified artists as male. Another strong conceptual theme that emerged from all groups was that artistic practice is generally a self-expressive and mood dependant activity. The 13 year olds held a more autonomous theory of art, and made reference to artists expressing ideas in order to make some observation about the world to an audience.

In relation to conceptual notions another salient issue was the respondents' use of 'good' and 'bad', 'happy' and 'sad' as concepts and value judgements. In answering questions respondents had to refer to their own notions of 'good', 'bad', 'happy' and 'sad', so determining for themselves what a 'good' or 'sad' painting might look like. To do this they had to mentally access the information within their own conceptual models in order to answer the questions.

So from a naive realist position a sad artist paints a sad picture, a good teacher gives a good lesson. The older children were more circumspect. They frequently asked, "what do you mean 'happy', 'good', 'bad'?" Similarly the teacher of the 10 year olds asked: "How can you have a happy tree?" For those holding a more autonomous theory of art 'good' and 'bad' began to have less rigid meanings. The explanations of the older students included notions of audience response to artworks, the autonomy of the artist to act, and the desire to include or express particular viewpoints.

### **Self referencing**

Although this study is not about the students' role as beholder but about the children's understanding of the role of the beholder in art, respondents frequently referred to themselves by example.

There was an initial perception that an understanding of the role of the beholder in art may be accelerated by children's world experiences. But this doesn't hold for all cases. For instance the 7 year old who gave the most autonomous answers was one of the few of his peers to have been to an art gallery on several occasions. He also was the only one able to mention and talk about the work of an artist, in his case Leonardo Di Vinci. He indicated in his explanations that he had some knowledge of the art world and answered with 9 autonomous, 1 naive and 2 maybe responses. By way of comparison the youngest of the 10 year old group, whose father was an artist, participated in art activities at home, had visited an art gallery and could identify the work of Van Gogh, answered with 8 autonomous, 3 naive and 1 maybe responses.

Freeman and Sanger's (1993) study of rural children concluded that environmental factors had very little impact on children's conceptual development from naive to autonomous thinkers. Consequently the evidence in this study is confusing on this point. Clarification may be available in using a larger sample in a future study or it may be that as Karmiloff-Smith (1992) has suggested, sensory input through lived experience can accelerate conceptual development in those domains.

### **Naive and autonomous theories in the art classroom**

An understanding of children's perception of the role of the beholder in art has implications for the classroom teacher, both in the manner they present material and also how they respond to students' artwork. Given the naive realist belief that artworks directly represent what they are and by implication what the nature of the artist is, there is a direct relation between content and artwork or artist and content in their perception.

For instance, a naive realist child holds a belief that bad artists produce bad artworks, yet knows that they themselves are good. What happens to this child in the art classroom when it is one day drawn to their attention that they have produced a bad artwork? Without a reflexive understanding of the role of the beholder this student cannot make autonomous judgement about their own work. The ramification of this is significant for students' understanding of evaluative advice from teachers about what their artworks. Students gauge

how the teacher perceives their work at the students' level of conceptual understanding of the role of a beholder.

Given the complex chain of agency that underpins the representational quality of students' art works, the responses to the questions in the study have implications for teachers in their understanding of conceptual development in middle childhood and early adolescence. Students develop an understanding of the role of the beholder in their vernacular theories of art along many axes of the relational framework in inconsistent patterns. Some relations they understand more easily than others and may revert to a naive response when faced with a difficult question (Karmiloff-Smith, 1992). Evidence for this is found in the responses to the question 'Can a lesson about happy people make a teacher sad?'

This question tests the relationship between the content and the teacher (artist). A reflexive response to this question relies on the understanding of the rebounding audience. Teacher replaces the artist here and the class (students) become the beholder to the teacher's performance, at the same time as the teacher is beholder to the students' response to the content (and other stimuli). Despite the level of autonomous responses from so many of the older respondents, their responses to this question were markedly different. Although they could understand that a poor lesson didn't necessarily make a teacher bad, they had great difficulty in understanding how a lesson about happy people could make a teacher sad.

The question was answered by one of the 13 year olds who said: "I don't know, I'm not a teacher". The representational relation is one of  $W \rightarrow B \rightarrow T$ . The students interviewed found it very difficult to place themselves in this relation and fell back on a naive realist  $W \rightarrow T$  response which excluded the beholder, in this case the class. Interestingly the students when asked did not have as much difficulty including the beholder into the network for question 9.5a 'Can a drawing of a happy tree make an artist sad?' which tests the same relation. The relationship of content to lesson and teacher's mood is an interesting one and from this study it would seem that it takes students until after the age of 13 to understand the nature of this rebounding audience in school and to a lesser degree in art.

In the art classroom the students fulfil the role of beholder to their own art making and to the artworks and visual imagery generated in the world, as well as to the teaching practice of the teacher. The teacher operates as beholder to the students' performances, the art world and their own practice.

From all groups who responded with autonomous responses there was an overwhelming sense that how a beholder responded to a given situation depended very much on the qualities of the beholder. So that for the students interviewed, bad students could do good artwork in school because they enjoyed art (and not other subjects). Consequently they tried harder. A teacher could be made sad by a lesson about happy people because the students were misbehaving. A poor lesson from a teacher didn't make them bad because the class wasn't trying hard enough or it was boring necessary work. An easy lesson could make a subject hard to understand if you were not very bright or didn't pay enough attention. There could be an easy way to make a drawing of a complicated tree if you had the skill and knowledge.

Given the responses of the students in this study the concept of the beholder that students think lie in the minds of others such as the teacher as they perceive the student beholders in the art class was difficult to identify, If the study is to be repeated with a larger group greater emphasis should be put on this very important question.

## **Conclusion**

The development of critical skills evidenced by reflexive autonomous thinking is dependant on the students' levels of conceptual development. This study has shown that there is a gradual shift in conceptual understanding in relation to the role of the beholder in art from naive realist to autonomous thinker in school aged children to early adolescence. In developing art curriculum teachers need to be cognisant of this fact, by employing pedagogical practices which allow for reflective thought among all agents of the representational map and along all points of the continuum of cognitive development.

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