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Purposes in drawing: the significance of children's personal styles for design and technology

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Abstract
The work described forms part of an extended research project, investigating the development of children's skills and understanding in drawing and modelling for design thinking. The focus of this phase of the research is the sense of purpose that a child brings to a free drawing task. A typology is proposed, based on repeated observations of a small group of children, that uses two main dimensions to such purposes, namely patterning (investigating shape, colour, and pattern), and representation/narration, which is regarded as a continuum. Children's concerns in managing the task of drawing are also discussed. Some implications for the teaching of Design & Technology to younger children are suggested.

Introduction

Drawing is an essential modelling tool for design, whether it is carried out using pencils or pens and paper, or through the use of interactive software. It is widely accepted that learning to use this tool enhances the capacity both to present ideas and to 'support the cognitive skills that comprise a design strategy' (Garner[1]). How this development comes about is less clear. In the Primary phase of schooling, there is a widespread assumption that drawing is an essential component of children's work in Design & Technology. There seems to be little evidence that pupils use drawing as their preferred means of conveying design ideas. The question then arises as to how children do perceive drawing as an activity, and what intentions they themselves bring to it.

The observations which form the basis of this analysis were undertaken in the period May 1994 to July 1995. An initial sample of children at a local infant school between the ages of 4.6 and 5.8 years was observed and recorded while in the process of drawing freely (ie not within the context of designing). The observations were considered with reference to their apparent pre-occupying intentions in drawing, which were broadly classified into three groups, as follows:

Representation, signifying an interest in drawing things that exist, concern with showing those things as they are, and demonstrated by a high proportion of the child's talk being concerned with identifying elements of the drawing;

Narrative, signifying an interest in story-telling through drawing, concern with feelings and events expressed through the drawing, and demonstrated by a high proportion of the child's talk being concerned with events and feelings;

Patterning, signifying an interest in forms, relationships, shapes and textures, demonstrated by a playful approach to the drawing situation and lack of interest in naming elements or discussing events in the drawing.

This analysis presents some contrast with that of Gardner[2] which only recognises 'Dramatists' and 'Patterners'. He characterises the two groups as follows:

> patterners..... analyze the world very much in terms of the configurations they can discern, the patterns and regularities they encounter, and in particular the physical attributes of objects..... endlessly experiment with forms ...in their drawings.....
>
> dramatists.....are keenly interested in the structure of events as they unfold in their vicinity

I would argue that the 'narrators' and 'representers' which I have identified represent two extremes of a continuum. Clearly, it can be argued that no picture with a strong degree of integration is without a narrative or dramatic element. While that is clearly true for an expert practitioner, in that a whole picture will be built up consciously to present a specific view or aspect of that which is portrayed, there does seem to be a strong contrast between the intentions of these young children in exhibiting a preference for either narration or representation. However, as will be seen, several of the children in the sample do not seem to occupy a stable position on this continuum, but choose different modes at different times. Pattern-making may be a dominant theme for some children, but may also be associated with either narrative of representation. It appears to be independent of the child's disposition to use narrative.

Eighteen children were revisited on two occasions each, during the summer of 1995; for about half this selected group, the second visits were approximately one year later than the first, and for the remainder, the second visits were separated from the first by seven or eight months. For each child, there was an interval of at least one month between the first and second revisit. These children were selected to offer a cross-section of perceived responses in the earlier sample. Thus, from the initial observations of these children (24 drawings) we have eleven drawings in which representation is the dominant theme, eleven with a strong narrative component, one which seems to occupy a mid-point between representation and narrative, and three with strong and two with slight patterning elements. The purpose of revisiting a subset of the original group was to try to establish whether the differences perceived in these initial observations represented aspects of individual/personal style, or whether children adopted different approaches to drawing on different occasions

Method of approach

The observational method for the repeat visits was the same as that reported in Egan[3], in order to obtain comparable data, and also to continue with a situation which had become familiar to the subjects. Each child was observed individually, in a space slightly away from the usual class base. Beyond introducing the activity ('Would you like to do some drawing today?') no instructions were given, and the observer avoided as far as possible asking leading questions, other than saying 'Would you like to tell me about this? or 'Is there anything else you would like to tell me about your drawing?'. However, each child was restricted to a single drawing per occasion, whereas in the initial set of observations children were allowed to move to a second and in one case a third drawing if they so wished.

Observations

Table 1 (See p50) shows the dominant mode for each child in each drawing that was observed. As can be seen, there is some variety in the stability of children's approaches. Some children exhibit a consistent approach, and these are mainly those in whom a very distinct style could be detected in the earlier work. Others adopt a more eclectic style, varying between narrative and representational modes. The general distribution between mainly narrative and mainly representational drawings in the whole sample remains relatively constant, in that they exist in roughly equal numbers (12 and 15 respectively compared with 11 & 11 in the previous sample).

These observations seem to confirm that interest in pattern is relatively independent of position or stability on the representation - narration dimension, in that a tendency to develop patterning may be associated with any position on the dimension, including the extremes. It should be noted however, that in most cases during the sequence of observations children drew their 'representative' productions using mental rather than physical models.

Only one child has a strong and exclusive interest in pattern. Indeed, Carl, who adopted a very playful approach to the whole event each time, punctuated his work by saying "That doesn't look like anything, does it?" Even on

	First Observations Drawing			Summer 1995 Observations Drawing			
Name	1	2	3	1	2		
Ben	R	N	N	R	R		
Carl	P	P		P	P		*
Christopher	N	N[p]		P[n]	P		
Dean	R	N		N	R		
Hannah	N			N	N		*
Hazel	N			P[n]	P		
Jack	n/r			R[n]	N		
Jason	P			N	N		*
Jennifer	R			R	R		*
Jonathon	R			n/r	R		
Joshua	N			N	N		*
Laura	N			R	N		
Louisa	R			mp	R		*
Matthew	R			N	N		
Megan	R[p]			P[n]	P		*
Rebecca	R[p]			R	R		*
Sean	n/r			R	R[n]		*
Thomas	N			N	R		

Key:

R = representation: a picture of something; relatively little narrative
N = narrative: having a strong element of story-telling
P = pattern: concerned with forms and relationships
lower case [r/n/p] = weak/ subsidiary element

NB some pictures involve both pattern and other elements

Table 1 : Drawings of the eighteen sample children, classified according to perceived intentions

the occasion when he began by announcing his intention to draw a cat, he quickly diverted that intention, to produce a pattern by extending the animal's limbs, and writing in the spaces created. Three others seem to be developing a greater interest in pattern, though combining their patterning activity with elements of narrative or representation. A slight tendency in the group as a whole seems to indicate a shift from the narration-representation emphasis towards more interest in patterning. However, this is demonstrated by only four children in the sample, three of whom tend to combine their interest in pattern with other elements.

All the children in the sample used some narrative statements (describing events or attributes of elements in their drawings), and some identification statements during the series of observations, although not all did both for every drawing. The comparative frequency with which they did one or the other on each occasion provides the raw data from which their response is judged as more strongly narrative or representative. Willingness to use narrative in drawing does not seem to be closely related to use of narrative in general conversation. Megan and Hazel, for example, both of whom show strong patterning tendencies, and Sean, while doing a representational portrait of himself with a friend, engage in a series of narratives unrelated to the subject matter of their drawings, while in the observation sessions. Conversely, Hannah, although very unwilling to talk to unfamiliar adults at all, uses event-narrative almost exclusively in discussing her drawings.

It is impossible to say to what extent these variations in style are the outcome of individual experience. Children's earliest drawings, in Western European culture at least, take place in social environments, and are subjected to comment by adults and older siblings, which are likely to influence children's later approaches. It is highly probable that some aspects of drawing activity are more highly valued by surrounding adults and commentators than others. Young children's experiments with pattern often end up looking disorganised and 'messy' by adult criteria, as one set of forms is superimposed on another. It is also difficult to judge at this point the

Type of utterance	First Observations All Children		Revisit observations	
Managing media	211	15%	292	15%
Managing depiction	215	15%	331	17%
Total management	426	29%	623	32%
Total utterance	1453		1928	

Table 2 : Task Management as a proportion of all utterances

possible influence of expectations placed on children's drawing activity in the school environment, or indeed the extent to which the use of a school setting for the observations may have influenced these outcomes. Several children during the later visits spontaneously said "there are some spaces to fill up" on their drawings, a pronouncement that sounded very much like the echo of something said by a teacher!

Managing the task of drawing

An unexpected observation in the first phase was the extent to which children in the sample were pre-occupied with aspects of task management. The children revisited up to a year later still exhibited significant concern for the management of the task of drawing. In the original sample, management of the task of drawing accounted for 426 out of a total of 1453 utterances (21.7%). In the revisited group, a total of 1928 utterances included 623 concerned with managing the task (32.2%). (See Table 2)

Far from declining, concern with managing the task of drawing itself appears to have increased. Moreover, when the 'management' figures for the selected group in the original sample were isolated and compared with incidence in the revisits, a distinct shift in attention can be seen from concern with managing the media, (eg. finding the right pen or crayon for the next bit of drawing) to managing the depiction (eg giving the person the right number of fingers). (See Table 3)

This may well reflect Gardner's[4] observation, that pre-school creativity is typically overtaken by rule conforming. It is well-attested that these early years of schooling are marked by a development of interest in rules governing human activity, and with a concern for 'getting things right'. This increased attention to the management of the task of drawing would also seem to indicate a fragility of confidence in the activity which contradicts the freedom and fluency with which children use available media, and construct their images. This in turn might suggest that intervention to constrain pupils to draw in particular styles or with particular purposes in mind must be very sensitively handled if it is not to contribute to the lack of confidence found in many older pupils and adults.

Implications for Design & Technology Teaching

Narrative drawing differs from representation in allowing the individual to explore realms of possibility as well as those of reality. None of the children who engaged in drawn narrative during my observations suggested that they were recording actual events. By contrast, although not working from direct observation, those who were working in the more

Type of utterance	First Observations selected group		Revisit observations selected group	
Managing media	160	55%	292	47%
Managing depiction	130	45%	331	53%
Total management	290		623	

Table 3: Selected Group: task management statements

representational mode showed some concern for 'accurate' representation; "I'll just do quite a round circle" (to show the school logo on his sweater) says Sean, "cause I can't write the words". One child (not in this sample) that I observed in a home setting, drawing a picture of her family, even went as far as telephoning her grandmother to find out what clothes she was wearing that day.

Much of the attention given to children's drawing in the Primary school is directed at increasing the accuracy of the representation. Indeed, much of the attention paid by adults to how children draw is based on assessment of how 'accurately' they 'represent' reality according to the prevailing conventions of representation in Western culture. There is good reason for this; the symbolic way in which children use forms may to some extent limit the accuracy and detail with which they are able to observe, or at least to remember what they have observed. Skill at representation is only part of the picture, however, and over-emphasis on the importance of developing those skills may have some detrimental effects. In the first place, it may contribute to the marked lack of confidence which many children develop in their ability to use drawing as a mode of communication. Secondly, it may cause children to shift their attention, perhaps permanently, from narrative to representational drawing. But narrative drawing, by working in those areas of what-might-be rather than of what-is, is much closer to the design skills of visualisation that technology education seeks to develop. It is also closer, because it involves an element of dialogue between the child and the drawing, to the use of drawing as a vehicle for explanation which is central to design activity.

Patterning, and the development of attention to pattern in both objects and events is also seen as an important design skill. Cross[5] (1982) draws attention to this importance:

> .....it is.....in all fields of design that one finds this pre-occupation with geometrical patterns; a pattern (or some other ordering principle) seemingly has to be imposed in order to make a solution possible.

He is, of course, talking about adult design activity. Without overt adult attention to pattern as a way of seeing the world or of exploring forms, however, the young child who is more interested in forms and organisation than in 'realistic' representation may well come to the belief that s/he lacks skill in the arena of drawing, and subsequently withdraw from it.

If all the 'natural' intentions brought by children appear to have relevance to the development of design skills, and if additionally we wish children to develop other understandings about the nature and purposes of this sort of two-dimensional modelling, then it is important for teachers of young children to be clear about the contribution of those different intentions and functions. The key question, then seems to be that of how teachers of young children encourage and develop diverse approaches to the skills of drawing and visualisation, both as aspects of general education and in the development of children's design skills and strategies.

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