DRAWING EDUCATION

IN

JUNIOR SECONDARY SCHOOLS
(11-14)

V O L U M E   O N E

DRAWING EDUCATION IN JUNIOR SECONDARY SCHOOLS   (11 - 14)

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A Masters dissertation submitted in fulfilment of the requirements for the award of the degree of MPhil at the Loughborough University of Technology, December 1982.

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ABSTRACT

This thesis aims to explore the values and knowledge expressed in, and underlying, present secondary school curricula, which contain the direct and indirect experiences of drawing. Initially, this will be a personal statement of my approach and appraisal of planning principles and strategies for drawing in secondary school curricula. However, it will be necessary to consider many other points of view, especially to place in a wider context the idiosyncracies of my values and judgements.

The identification of various assumptions and beliefs about drawing education is the essential philosophical basis of this study. This is intended to be a practical working statement of ideas, rather than an abstraction of ideas from their working context, forming theory alone. The thesis will explore and reveal assumptions about 'what counts as drawing knowledge' in junior secondary schools. How drawing knowledge is selected and structured is of crucial importance in answering most of the questions about drawing education. A valuable way in which to look at the curriculum is to regard it as a 'selection from the culture of a society'. I should also suggest that there is a real need today to look at the curriculum more rationally and from basic principles. This is essentially a question of clarification of educational principles. Questions about how we regard 'the nature of education', or what are our aims for education, as well as questions about 'our society' do influence our decisions about what should be taught; the technical changes, social changes and changes in values and beliefs also, inevitably, influence schooling generally.

A practical objective of this thesis is to develop a structure for drawing knowledge so that children can 'think in terms of drawing'; so that they can produce their own knowledge about what drawing is,

as much as experience some of the major aspects of drawing which can and have been devised and considered. The instructional material and resources to be developed in this work are not intended to be free of 'teacher involvement', but aim to highlight the generally accepted areas of drawing knowledge most widely used and discussed in education.

The importance of structure in any learning is crucial. Structure is an essential tool for action to enable the fullest use of the knowledge gained, and is not offered here as a substitute for genuine experience. Great importance is attached to the ideas and skills which children may bring to their 'drawing experiences' and 'drawing experiments' in the first three years of secondary schooling.

The principle areas of study will be:

    A.   The general aim to reveal various assumptions and beliefs about drawing education.

    B.   The specific objective of exploring:
        a) My approach and appraisal of planning principles and strategies for drawing education.
        b) Drawing knowledge.
        c) The selection of Drawing knowledge.
        d) The structure of Drawing knowledge, including 'drawing as experience' and 'drawing as experiment'.

    C.   The production of an instructional resource pack as practical support to the thesis.

ACKNOWLEDGEMENTS

CONTENTS

CHAPTER ONE

MY APPROACH AND APPRAISAL OF PLANNING PRINCIPLES AND STRATEGIES FOR DRAWING IN JUNIOR SECONDARY CURRICULA

I   MY RATIONALE FOR TEACHING DRAWING

The particular area of the curriculum I have chosen to consider is the
'subject-matter' which I teach. This includes the values and notions
I have for establishing a rationale for my teaching, as well as my
justification for curricula changes to aid the implementation of
'drawing' as an acceptable and worthwhile 'field of knowledge'.

Most curriculum evaluation, design or innovation is a compromise between
educational ideologies, organisational constraints and the degree of
willingness of 'educationalists' to become involved in the conflicts
of educational debate.

Practically, I am concerned with the development and appraisal of
'drawing knowledge', its structure and the types of 'curriculum organisation'
into which drawing knowledge can most effectively be taught.

I see drawing as a particular human mode of enquiry and expression.
I feel that it has an important place in an individual's education.
In my consideration of drawing knowledge I do not advocate the
infallibility of academic or ideological authority; I accept the need
to distinguish between 'belief' and 'knowledge'; and between 'imparting
criteria' and 'fostering the students' ability to make his or her own
value-judgements on rational grounds.

Drawing has featured in the majority of man's cultures throughout time.
It is a particularly important medium through which man has acquired,
and communicated, many forms of knowledge.

I see education as a means by which children can be prepared for
'future living' and I feel that a most appropriate aim for a curriculum
is the study and appraisal of contemporary culture.

"The universe is open to piecemeal interpretation. Different men
construe it in different ways. Since it owes no prior allegiances
to any man's construction system it is always open to reconstruction". [1]

This notion applies to curriculum development as much as to any theories
about the nature of knowledge and man's part in its origins and uses.
According to my valuation and conception of curricula activities and
design, I aim to find and show a distinctive subject-matter for
'drawing' which can be revealed for examination by the use of distinctive
concepts, generalisations, procedures and problems. I am concerned with
the major areas of interest, improvement and development of drawing.
In developing a subject-matter, my aim is to use and find knowledge that
is relevant to today's students and a wider context, to society. The
intention is to offer a working definition of drawing as a field of
knowledge, so that it is adaptable to new ideas, as much as to cultural
changes. This stance is intended to champion a flexible and creative
position for drawing education, which is capable of absorbing,
criticising and evaluating a wide range of influences, from individuals,
society and culture.

An important issue related to how ideologies affect decisions made
about curriculum design may be seen in the conflicts brought about
by the 'educationalists' who desire to keep 'reality' and 'truth' open
to negotiation and those who desire the security and certainty that
'reality' is absolute, tangible and within reach. In terms of practical
curriculum development I endorse J.S. Bruner's comment:

> "A more difficult task is to instill early in the learner what
> in effect is a balance between impatience with the trivial as
> proof against clutter and an open spirit towards what might be,
> but is not obviously relevant. Here again, the experience of
> those who have worked on constructing curricula suggests that one
> plunge right in. Short of that, it is difficult to accomplish
> anything. One starts concretely trying to give some feeling for

the way of thought that is a discipline and one often succeeds.
Again, it is as with musical instruction where one gives the
learner the simplest possible Mozart rather than a scale so that
as early as possible he may sense what music is." [2]

The distinctive features of drawing worthy of study can be the areas
of experience and interest which most people recognise as being important,
relevant and typical about drawing. This approach does not exclude the
possibility for new insights into the nature, or value, of drawing as a
uniquely human experience, or mode of behaviour.

II   MY FUNDAMENTAL PRINCIPLES FOR TEACHING DRAWING

These principles are based on the notions of 'drawing as experience'
and 'drawing as experiment'.

i)   Drawing as experience

Drawing as experience represents all the activities which may be called
drawing. It represents the knowledge we have for drawing, its skills,
its forms and its products. The teaching objectives for 'drawing
as experience' are both instructional and expressive.

ii)   Drawing as experiment

Drawing as experiment relates to how an individual seeks and finds an
understanding of drawing experiences so that they express new insights
and feelings about objects, events and ideas. The teaching objectives
for 'drawing as experiment' are directed towards the possibility of
an individual creating new forms of understanding through drawing.
This approach has considerable implications for enabling individuals
to find their own knowledge about drawing.

The notions of 'experience' and 'experiment' are crucial to my
philosophy for education.

III THE CONTEMPORARY SITUATION

The next, and possibly the most fundamental planning approach to drawing
curricula design is a critical appraisal of how drawing is selected
and perceived at school level. What are the principles for the
selection of curriculum content for a given school? Both external and
internal influences on a school need to be considered.

IV DRAWING KNOWLEDGE

The subject-matter of drawing should be seen in its cultural context,
especially since I believe that drawing should be part of a curriculum
so designed as to promote cultural awareness and a capacity for creative
thought and action. My aim generally is to take a discipline of
knowledge, in this case drawing, and 'make it a tool for thought'
This is the principle of acquiring knowledge by aquaintance; by
generating knowledge in terms of 'the thinking that goes with the field'
rather than being passive and knowing about ideas or facts as a spectator.
For me, the most attractive aspect of teaching drawing is that it is
first-hand knowledge 'and experience', and that any drawing activity
is, and should be, 'active'. Learning about drawing requires us to draw.
Further, I support the notion that because knowledge must be
speculative there should be very little need to prespecify behavioural
objectives for the outcome of learning about drawing. What a teacher
may teach can be expressed in terms of principles of procedure, a process
rather than a product.

V PEDAGOGICAL AIMS

The art of pedagogy can properly determine some aspects of curriculum
design, but not all. I feel that the implications of teaching by
'discovery' or 'inquiry' methods rather than by 'instruction' are
fundamental to the development of the teaching of drawing. The

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interraction between 'what drawing is' and teaching by discovery
crystalise the structure of my 'pedagogical aims'. This does imply,
as Stenhouse comments that "it is clear that these 'goals' centre
around the process of learning, rather than around the product". [3]
The chief function of stating teaching aims in a general sense is
to provide an orientation to the main emphasis in educational programmes.
My 'aims' in the teaching of drawing are intended to clarify the kind
of atmosphere in which drawing may take place, as well as contain the
values held for a particular theme in total.

Generally, my pedagogical aims for drawing are as follows:

     to validate drawing knowledge and activity for students, and
     the needs of society, especially culturally;

     to establish critical awareness of 'motives' for drawing in
     education, as well as life in general;

     to develop an understanding and study approach to significant
     drawing 'forms';

     to equip children with 'experience' of drawing skills, techniques
     and effects in the representation of many types of feelings,
     fantasies, designs and information;

     to consider the effects of 'perception' in drawing activities,
     thinking and enquiry;

     to enable children to achieve and articulate reasoned, aesthetic
     and technical judgements about the 'meaning' of drawing and
     drawings;

     to seek insights into the cultural use of 'graphic images',
     including iconography;

     to establish links with the world of work and further education to
     gain knowledge of how drawing is used by people and societies;

to adopt a flexible and creative position in the overall
curriculum of a school, especially by realising natural links
with many other subject areas and the possibility for establishing
theme based courses and the integration of different fields of
knowledge.

This list of aims is not meant to be exhaustive or prescriptive of a
total structure, since any issue about drawing may be a starting
point to a drawing activity. These aims should also be open to
criticism and revision. This is essential, since pupil attitudes
and abilities, the effects of new knowledge, the provision of resources
and shifting values are all issues of control or influence on
curriculum decisions. Enabling children to 'know what drawing is'
including its powers and weaknesses, as much as its everlasting qualities,
are important factors of my teaching. This approach is directed towards
'why man draws?'; which is a question central to all learning about
drawing.

> ".....we are the only creatures to have painted representational
> pictures and it is this talent which led to developments which
> ultimately transformed the life of mankind". [4]

Thus general sims outline possible starting points for learning about
drawing. Skilbeck argues that ".....goals imply and state preferences,
values and judgements about the direction in which educational activities
might go". [5] But these goals also "embrace teacher and pupil actions,
..... including a statement of the kinds of learning outcomes which
are anticipated" and have strong implications for my discussion of
'objectives'. [6]

Thus the use of 'aims' to illuminate the major procedures, concepts
and criteria for the subject-matter of drawing is not that they are
the ' objectives to be learned by the students' but that they "are
important precisely because they are problematic within the subject.

They are the focus of speculation, not the object of mastery". 7

Some of the key concepts and processes involved in drawing which
characterise its essence, and serve as goals, are the notions of:

        invention

        imagination

        observation

        manipulation of media and technique

        communication of information or feelings

        design-by-drawing

       graphic design and using images

        perception

        discrimination

        value, aesthetic and technical judgement.

The aim and use of these notions is that by exploring the fundamental
concepts the student should be able to generalise from what he has
learned to what he may encounter later and hopefully 'gain rewards of
intellectual excitement'. As Bruner states "to learn structure
..... is to learn how things are related." 8

VI   <u>PEDAGOGICAL OBJECTIVES</u>

Yet, the most problematic of issues facing the planning of a subject-
matter is, 'what is the learner to do to achieve knowledge of drawing?'
Is the learner required to remember what he learns? Is just experience
of facts, skills, objects and issues enough for the teacher to impart?
Who should decide what knowledge, information or values are worth studying?
There are no answers to these questions concerning 'objectives' that
can be wrapped up as a panacea for education. The problems about the
use of terms like 'aims' and 'objectives' are essentially philosophical.
These problems have been heightened by the polarisation of the
ideological positions advocated by the 'behavioural objectives'

supporters and the 'process model' exponents. Theory fights theory. I feel that decisions about 'objectives' are determined by what is considered of value in a particular situation, whether or not 'we' are aware of our values. Perhaps the most logical and rational way an objective can be expressed is dependent on the degree of precision required of the teacher, the learner and in the context. As Davies says "some objectives should be intentionally left vague, otherwise limits are placed upon inquiry and exploration". [9] He distinguishes between 'general objectives' which "tend to be more expressive, evocative and thematic" [10] and 'specific objectives' which are designed to be as "unambiguous as possible." [11]

Knowledge and actions are in a "continuum of ends and means" [12] Flexibility of action and freedom to change our 'ends-in-view' as they interrract with the means, characterise, for me, a rational and ethical approach to curricula planning. The purpose for knowledge, or activity, are anticipated in the guiding principles ('aims' or 'goals'); they are expressions for what might be learned, not what will be learned.

But, what is it that the children will actually end up doing or thinking as a consequence of my teaching drawing and will it bear any relation to my intended influence? Practically, I would want my students to feel a sense of achievement and purpose in what I presented to them. Thus is it possible, in such a continuum of ideas and actions, to establish, teach and evaluate an 'objective', an end, an act of doing or knowing?

Bloom, in his attempts to make more secure and efficient the contract between teacher and learner, generalises that "the basic task in education is to find strategies which will take individual differences into consideration, but which will do so in such a way as to promote the fullest development of the individual." [13] He asserts that "a strategy

for 'mastery learning' must find some way of solving the instructional problems." [14] He does, however, tend to make generalised statements which produce lists of categories for which objectives are selected and expressed in terms of 'can select' or 'can design' or 'can draw'. These are examples of specific behavioural objectives for which Bloom's taxonomy of behavioural objectives has recently been used in The Schools Council proposals for Technical Graphics.

The proposed 16+ examinations concerning 'national criteria' for Design Education tend to prescribe what children should learn. This is a striking example of the use of behavioural objectives, especially for assessing what children learn. The consequences of requiring too many behavioural objectives will in my view limit curriculum innovations. This will also be an important consideration with regard to how public examinations may influence the first three years of secondary schooling.

As Davies states "in describing the 'behavioural component' of an objective, it is important to identify, in very clear terms, exactly what the learner is expected to 'do', when demonstrating competence." [15]

The essential need for behavioural objectives is an expression of a need in educationalists to see tangible results for their efforts and to enable them to evaluate the success of the work, quantitatively, as much as qualitatively. The danger is that the evaluative aspects take over from the analysis of what is valuable, or in need of change. This as Tyler states, "equates a purpose with an objective", [16] but which as Stenhouse points out "they reach eagerly for coherence and sacrifice firm grounding. In short, they are highly speculative." [17] Much more needs to be understood about human behaviour and learning. The essential criticism of 'behavioural objectives', being used in drawing, is that they appear too certain of their value and importance,

although they can and do add clarity to teaching issues. As Stenhouse says; "The objective model appears more suitable in curriculum areas which emphasise 'information and skills'." [18] I sense that this is an influential argument, but borne out of notions of refinement and measurement rather than the function, value and context of the skills being considered as part of the 'meaning' of the drawing process. I tend to give priority to 'why skills are used', since understanding this notion gives significance to 'how skills are used' and 'why they arise'.

In my view drawing activities such as mark making and communicating information personally or publically are fundamental for an effective education in drawing. The 'drawing products' such as pictures should be seen within this context, rather than as the essential purpose of learning to draw.

Another powerful theory about what is essentially required of the student to 'do', or rather be 'involved in', is the notion of a 'process model'. What is important is not the end product in learning, but the process of learning, and it is this notion that is the unifying principle of educational procedure for the 'process model'. The teacher helps to evaluate significances in knowledge, culture, behaviour and ideals rather than asserts or instructs particular and historically acceptable ideas. The emphasis is placed on teacher judgement of content and experiences rather than didactic assertions about what is held to be true. The 'process model' seeks to encourage curricula design and development, not just curricula evaluation.

Hirst rejects the polarising exhibited in the two basic theories "he simply demands that we specify the outcomes in terms we have for them already - the items of knowledge we want, the attitudes, values, skills, habits and so on; the question of how far we can specify these is a matter of practical judgement. However, what is central to our

choice of ends is that they are rationally justifiable or defensible." [19]
Philosophically, I agree that we can only use the past because it is
all we have experience of, but we do need to consider the context of
our learning, which in turn can aid our vision of the future, and give
us confidence to tackle the new situations facing us.

Eisner simplifies the problems of objectives by using two types of
objectives, 'instructional' and 'expressive' where:

> "Instructional objectives embody the codes and the skills that
> culture has provided and which make inquiry possible. Expressive
> objectives designate those circumstances in which the codes and
> the skills acquired in instructional contexts can be used and
> elaborated; through their expansion and reconstruction culture
> remains vital". [20]

This relatively simple discrimination between the 'known' and the
'unknown' crystalises and important structure to aid the curricula
planning of drawing courses.

In evaluating the essential process of drawing activity I have used
the terms 'forms' and 'meaning'. I note a similarity between Eisner's
objectives and my terms. The 'forms' are the skills and techniques,
the process of making a drawing, which may change or embody new
techniques. The 'meanings' imply concepts of evaluation, judgement
and the effect of a particular work in its context, or from its
original conception; it is how the student might learn to judge drawing.
The value in this 'known', 'unknown', 'form', 'meaning' structure is,
as Eisner points out, that "we can raise questions about types of
relationships between (them) which are most productive for various types
of students for various types of learning, and for various subject-matters." [21]

This structure is also, isomorphic to my educational philosophy
concerning 'experience' and 'experiment'.

Both my structure for drawing knowledge and my teaching rationale
contain 'vague objectives', like 'form' and 'meaning'. In teaching
I would aim to maintain an open dialogue with students about their
drawing education. This is the structure of my "goal formation", [22]
the way in which I anticipate learning outcomes.

Thus drawing subject-matter should be used as part of an educational
'process' where, in my case, as a teacher, I am a 'learner' and a 'critic',
since the "process model is essentially a critical model", [23] and it is
committed to 'teacher development'. But I cannot prescribe exactly what
drawing is, nor can I say how it is to be taught since as Bruner points
out the 'teacher's style' is very important, especially how he or
she encourages the students to think in terms of the subject area.

I agree with Harris when he says that teaching is an art and "that
curricula design has to accommodate and generate artistry, but that
the design process itself is at least partly an artistic process. " [24]
Thus I feel that "a teacher can plan a lesson designed to promote
originality and creativity, but cannot (logically) know precisely what
the outcome will be." [25]

"The major weakness of the process model of curriculum design...
rests upon the quality of the teacher". [26] But "this is also its
greatest strength." [27] Teaching 'products' tends to improve teaching
as 'instruction' whereas the process model uses "teacher judgement
rather than....teacher direction" [28] as well as encouraging pupil choice.

As Bernstein states:

> "Formal educational knowledge can be considered to be realised
> through three message systems; curriculum, pedagogy and evaluation.
> Curriculum defines what counts as valid knowledge, pedagogy defines
> what counts as a valid transmission of knowledge, and evaluation
> defines what counts as a valid realisation of this knowledge on
> the part of the taught." [29]

This succinct use of 'three message systems' offers a very important structure to educational debate. My central task is to consider 'what counts as valid drawing knowledge' with respect to pedagogy and evaluation.

VII   SUMMARY

The essence of my planning issues for the promotion and use of drawing as a field of knowledge has centred around:

1) my ideological and 'situational' analysis of the needs for drawing education, especially the background motives for such a development,

2) my consideration of drawing knowledge, its 'structure', working definitions and 'pedagogical aims',

3) my personal, yet teacher orientated discussion, and evaluation, of a new subject-matter,

4) my adoption of 'vague objectives' and the notion of 'process', rather than 'production' when considering 'learning outcomes' and 'goal formations',

5) my view that 'intuition' and 'artistry' are the problematic but important features of teaching methods,

6) my desire for eclectic evaluation, especially procedures that illuminate issues rather than prescribe for them.

These are the basic principles and strategies that have characterised my approach to planning and implementing drawing in a secondary school curriculum for 11-14 year olds.

C H A P T E R   T W O

DRAWING KNOWLEDGE

I   WHAT IS DRAWING?

i) <u>The nature of drawing, with reference to practical, theoretical</u>
   <u>doctrinal aspects of drawing knowledge</u>

The character of drawing is generally recognised in the following form,

as described in the Oxford dictionary:

> "drawing...... The art of representing by line, delineation without
>
>   colour or with single colour........product of this,
>
>   black and white or monochrome sketch;..........."
>
> "draw......... (5) Trace (furrow, figure, line);..........
>
>   delineate, make (picture), represent (object),
>
>   by drawing lines, use pencil thus, describe
>
>   in words;..........." [30]

Most people accept these notions as descriptive of the essential

qualities of drawing. We all need to understand the general characteristics

of an activity, like drawing, in a basic and generally acceptable form.

But once we are aware of the many varieties and kinds of drawing

activities, both for the process of drawing and the products of

drawing, we realise that no single notion will indicate the nature

of drawing.

The nature of drawing is a function of the nature of man, with special

regard to how and why man communicates. The nature of drawing is very

complex. Because drawing is a mode of inquiry unique to man, it is

therefore a particular field of knowledge. Man generates knowledge;

knowledge is not separate from man, and drawing is a human attribute

and a human mode of expression.

The sum of what we know about drawing cannot be recorded. Our

familiarity with drawing, gained by experience, has developed throughout

our history; man's knowledge has generally developed exponentially.

The range of information now available through drawing and generated by drawing is infinitely variable; and questions about the nature of drawing relate directly to epistemological considerations. The study of drawing is essentially telelogical; and is a facet of the study of all knowledge.

Drawing knowledge is also relative to the values which men have for different forms of knowledge; it is neither eternal nor ephemeral. Knowledge about drawing is available to everyone either through the creation of drawings or by viewing drawings. The extent to which people understand drawing will generally depend upon their attitude and values for drawing, as much as how they have been initiated into drawing activities through various forms of institutional education.

Because drawing is a means by which human experience can be shaped and modified, drawing knowledge is influenced by the way value-judgements are expressed and put into practice throughout education. The values which we hold for drawing knowledge affect what the learner can know and achieve and how the teacher may approach his task. Ideological factors relate to the value system prevalent in any given society and educators need to be aware of the way in which values and beliefs permeate their work. Generally, the nature of drawing knowledge has cultural significance as well as being influenced itself by the ideologies and values of educators, parents and the world of work.

Knowledge about drawing, its nature and essence is relative to, and dependent upon, how people know about drawing.

> "How........do people become sensitive to visual form? How do
> they acquire the insight, perceptivity and skill needed to
> produce visual form that will have social or personal importance?" [31]

How people value and use drawing knowledge is an indication of the
nature of drawing. The nature of drawing is further masked by the ways
in which drawing knowledge has been taught. Knowledge is always confused
and intermingled with beliefs and doctrines.

People act towards things on the basis of the meanings which they
attribute to them, and this is a continuous and emergent process.
It seems quite probable that children learn language despite the kinds
of influences which adults claim for aiding its development. This
may be even more so for drawing, which is a very complex mode of
communication.

Drawing knowledge is a particularly effective form of empirical knowledge
because of its basis in observation and experiment. It is also a very
powerful medium through which theoretical knowledge can be examined
and expressed. But it is man's consciousness which shapes and interprets
the images created through drawing. Education itself is a crucial
symbol for the nature of drawing, because its original meaning was to
'draw out' individual talent through inquiry and contemplation.

ii) <u>The development of the notions of 'drawing as experience'</u>
    <u>and 'drawing as experiment'</u>

    "..... in man's spontaneous approach to the world, the attitude
    he takes is not a critical one, or, in more sophisticated terms,
    it is not an epistemological attitude ....man's attitude
    is not one-of a knowing subject, it is not an intentionally curious
    attitude, but the naive attitude of somebody who 'experiences'
    something. Note that I do not say 'experiments' but 'experiences'.
    The first term expresses the attitude of somebody who intentionally
    searches for something with curiousity, while the second expresses
    the spontaneity of one who finds something without searching for it." 32

Due to the exigence of discussion I propose to look at drawing within two broad fields of knowledge: 'drawing as experience' and 'drawing as experiment'.

Drawing as experience represents the knowledge we have for drawing, its skills, its forms and some of its meanings and uses. Children may experience drawing within their own culture, for example, at home through parental expectation. They may experience drawing specifically within a disciplined learning environment, for example, when instructed to draw at school. They may also use drawings to express spontaneously their feelings about ideas and issues put before them at school. Children may experience certain skills and techniques of drawing which are considered important, as well as be instructed in the meaning of various 2-D cultural symbols.

The point at which a child demonstrates an understanding of drawing by deliberate use of drawing experiences to express feelings and insights about objects, actions or ideas marks the point at which drawing experiments have begun, in my view.

The conscious intention to use drawing, either by exploring techniques or finding and using certain images for certain contexts, may also be seen as a particular stage in the development of thought in children. Naturally, how drawing experiments manifest themselves will depend upon the degree of conscious effort and thought exhibited by individuals. Insights into what drawing is may be intuitive or well worked out and designed.

Drawing as experiment also represents the knowledge which drawing might find; the way in which drawing might lead us into new insights about any field of knowledge. Self knowledge of feelings and beliefs are a special feature of drawing experiments. The communication of knowledge through drawing also occurs on a wider public front, and in many forms.

Drawing as experiment may also lead us into insights about the nature
of drawing. Why man draws will always be a fascinating question. This
question is of paramount importance to any curriculum which aims to
develop and use drawing knowledge.

Both cases, of 'drawing as experience' and 'drawing as experiment',
demonstrate a structure for my theories about what the nature of drawing
is generally thought to be. These two fields also include forms of
'propositional knowledge', 'dispositional knowledge' and basic 'knowhow'
about drawing.

My principle aim in drawing education is to develop and find in
individuals an awareness of drawing as experience and drawing as experiment,
so that there is a structure to their knowledge about drawing, and an
open view to the creative and rational possibilities for the use and
understanding of drawing. Most of the main areas where drawing is used
rely upon a creative use of drawing experiences and experiments.

iii) <u>Drawing knowledge and theory</u>

A theory is a set of principles expressed independently of phenomena.
Drawing has traditionally been used as the medium through which theoretical
knowledge has been experienced and experimented with. For example,
hypothesis, proofs and designs. All subjects draw upon drawing.

Drawing is in itself a unique human phenomenon. It is an activity which
pictures, thoughts and feelings. It represents theories, but also
stands for ideas, objects and events.

"Thinking is concerned with the objects and events of the world we know.
Therefore, when thinking takes place, these objects and events must be
presented and acted upon." [33]   Drawing enables us to hold onto our
perceptions of the world in a specialised form.

Drawing is essentially a means by which thoughts may be expressed.
The message in any drawing tends to overwhelm the actual drawing.

We are inclined not to think of drawing, but the subject depicted in a
drawing, even if it is a study of drawing technique. This is the
essential paradox of the nature of drawing, despite many drawings
being visually powerful.

There is drawing, but both the act of drawing and the interpretation
of drawings are transformed into the meanings ascribed to the drawing.
Syllogistically, therefore, there is no such thing as a drawing, which
is absurd. We have to make a supreme effort to see the drawing, the
marks made. Our understanding of the illusions of light and shade
modelled in drawings, mask the drawing, as much as any iconographical
significances, which are contained in a drawn image.

Drawing cannot in itself have a theory, but many theories exist for the
processes and products of drawing. Thus drawing cannot be defined
because there are an infinite variety of theories about what drawing
might be. These theories relate to:

> how we react to drawings,
>
> how we perceive drawings
>
> how we communicate through drawings
>
> how we form drawings
>
> and how we use and understanding drawings.

iv) <u>A discussion of the knowledge which is generally recognised</u>
    <u>for both drawing activities and drawing products</u>

The knowledge contained in drawings, as much as the knowledge found
through drawings will always make drawing a feature in all knowledge.
This is an important argument for its inclusion in any school curriculum.

Drawing can be seen as a branch of Mathematics as shown by geometry
in particular, but by any composition of forms using lines or dots
which may exhibit mathematical meaning or be assigned other meanings.
For example, a black and white pattern which symbolises good and evil;
or Pythagoras' theorem as a particularly effective mathematical example.

"Pythagoras raised (this) knowledge out of the world of empirical fact into the world of what we should now call proof." [34] We experience the natural world and thereby make empirical judgements and statements about it. Drawing is an invaluable tool here, but more powerfully when it aids our construction of hypothesis or demonstrates a proof of a natural law. Theories about drawing may also arise out of any scientific activity which explores 'how people draw' and, more importantly, how they establish meanings for the marks they make. The study of sight and perception depends on certain drawing in the creation of theories which may explain the mechanism of seeing and understanding of visual forms by people.

This issue may relate to how people perceive drawings. Modern interpretations of human perception tend to argue that perceptual judgements are based on sensory data and brain hypothesis (pre-perception), whereby the brain orders experiences so that we see things as 'objects'. "Perceiving and thinking are not independent." [35] This may be why we cannot just see the 'figure' of the 'impossible' object in the Necker cube.

Drawing is a feature of child development in certain cultures. It may figure as a particular human trait. It is a strong indication of cultural influences on groups of people, especially idiomatically as shown by the fashions and trends which influence artistic styles. Drawing is also a part of everyday commonsense knowledge. A sketch map of a town showing a journey or a drawing of how to fit something together are general examples.

Drawing may be a 'displacement activity' as described by psychologists for example, doodling. In this case, it is an idle activity and a function of anxiety, boredom or aimlessness. Doodling usually means a person's attention is not focusing on the topic at hand, for example, doodling instead of note taking at a lecture. It is a natural activity

and a natural extension of man's 'nervous' activity and body movements, and needs no justification, except perhaps within psychology and related sciences. However, doodling may also concentrate the mind on a particular interest or problem.

> "In our daily lives we have to understand visually, ideas, directions and symbols which are drawn; we may resort to some kind of drawing to explain ourselves to another." [36]

In art education, drawing is used to represent and symbolise feeling; and image making is used as a means of developing perceptual faculties. By creating drawn images we can gain access to our personal feelings; thinking in images enables us to be conscious of our susceptibilities.

> "Through the assimilation of new feelings, our intelligence of feeling is continually revitalised and enriched - we grow emotionally. ..... it is through the operation of our feeling intelligence that we discover the emotional meaning of our experiences, that we come to know our being and can insist upon the integrity of our own existence." [37]

Drawing is employed in some way or other in almost every area of the school curriculum, and is of central importance in many trades, professions and industries, (architectural, mechanical, engineering, cartographical.....)

Education about drawing is now tending to be concerned to illustrate the wide range and function of drawing, rather than merely the use of tradional media for representational drawing as has so often been the case. The value of children's drawing has generally been less clearly recognised and understood compared to areas concerning literacy and numeracy. However, drawing has always featured in school curricula. In this respect, it is analagous to language, in that it is a means of communication often allied to the teaching of reading and writing, although not without certain problems.

"The new freedom encouraged by other visual trends in our culture,
has led to a 'graphics explosion' in information books, including
school books. Picture researchers use their ingenuity to extend
the range of kinds of illustration available - a diversity which,
whilst considerably enriching the evidence available also makes
it harder for the pupil to grasp the total effect......" 38

Marland goes on to point out that within the curriculum, specific
attention should be given to study of visual sources: graphics, maps,
photographs.

"When books are used, the interaction of graphics and text should
be prepared for and discussed. To reintegrate the static breaks
of the illustrations with the impetus of the text is difficult." 39

The word 'static' implies that illustrations generally are not as 'vital'
as the written word, as issue I would dispute.

"This reading skill - paradoxically, one which modern attempts to
make books easier for the 'less academic' have made more acute." 40

Proof that visual stimuli are not valued as highly as the written word.

Learning about drawing and reading drawings at school may produce a
particularly idiomatic form of knowledge which in turn represents
drawing itself for a large number of people. Drawing is something
children do, the rest is left to training and vocation for specialised
fields.

"Without the skill of drawing too many designers today are forced
to design only what they can draw, rather than draw what they
can design." 41

Our knowledge of representational art has been used in many ways.
Design generally has increased our need for understanding how images
can be used. Clear direct communication of information is a continuing
demand of all the agencies of mass communication; and it is ironical

that photography is not the master in the representation of information, as is drawing. This is one reason why drawing is of major importance in education.

All our knowledge of drawing can be used in design. Our intention is to show how things might be. The designer's drawings are illusions; but generally calculated to describe what might be and to create an image of a product and demonstrate how it can be used. Although logic demands that these two elements follow on to the other it is not always the case.

"The ability to draw is fundamental to an effective understanding of form....." [42]

Drawing knowledge is extremely useful to designers.

"..... on (these) occasions it is necessary to operate at the speed of thought upon a quickly responding medium, or analogue, that represent the 'form' of the problem. Traditionally this medium has consisted of sketches drawn quickly 'on back of envelopes' and of accurate mental pictures of tentative designs....." [43]

The use of drawing in design is summed up succinctly by N. Cross:

"A designer is involved in three kinds of image making, in three kinds of language.

1. The private language, iconographic, diagrammatic, sketchy manipulation of strategies which are primarily for the designer himself.

2. Public images. Clear indications of the main configurations of the design, sometimes dramatised and heightened, directed at the client and users

3. Technical drawings. Detailed and precise images,
highly artificial and conventionalised, directed at the
construcional workforce." [44]

Design by drawing is an activity central to design. Artefacts do not
exist at the beginning of designing and it is drawing which is one
process which enables the designer to 'talk to himself', to formulate
his ideas.

However, design by drawing may create as many problems as it does
solutions. Scale drawings are helpful to manufacturers, but do not
necessarily show how a product may be used by a consumer.

Graphic design is essentially the two dimensional design of images,
which are intended to have practical and symbolic significance.

"Graphically designed pictures communicate information about
actions, images and symbols. This information may be read from
the picture or within the picture. How we respond to these pictures
is a complex issue; our reactions may be learned within our
culture, as much as derived from our perception of the images." [45]

Examples of graphic design include programmes, posters, advertising
literature, packaging, letterheads, symbols, trademarks, signs, logorams,
typefaces, television and film titles as well as the layout and design of
diagrams and information graphics. Highly innovative visual effects are used
in commercially orientated graphics. Modern publicity tends to initiate
new styles and fashions in its advertising graphics. A 'good' advertising
campaign is remembered; a well packaged and attractive article 'sells'
and an aesthetically pleasing graphic creates the 'right'image. The
commercial motives behind the use of graphic designs are considerable. The
influence of graphic design on our culture is worthy of study.

Thus, drawing knowledge is used in an infinite number of ways and has effect within most forms of knowledge.

The nature of drawing includes communication with oneself during the execution of the drawing; it also includes communication with other people. This communication of information may be clear or cryptic. It does however tend to be one way, despite the fact that the onlooker of a drawn image may put his own part in the meaning of the picture. The spread of 'information technology' today has produced 'interactive devices' where technical information can be stored by micro electronic mechanisms in the form of words and pictures. The information in the drawn images can be altered and re-designed. The power to alter images directly is extremely useful although expensive and again, demonstrates the value of drawn images, no matter how complex the medium through which they are produced.

Drawings are generally seen as 'still' pictures. The fact that they enable us to retain our perceptions of what we see means that we may take instant action as a result of what we read in a drawing, or we may store the picture and its information for reference. Altering an image adds an extra dimension to the power of drawing.

> "'Computer graphics' provides ways of simulating reality or building fantastic new worlds - together with the power to explore or manipulate the 3-D images created. For the artist it is a new way to paint, or to animate a film; for the scientist to understand his data or test a hypothesis; and to anyone to play ever more elaborate space-invaders style games, or to participate in and control extraordinary, dangerous or impossible events..." [46]

Even with all the complex devices at our disposal the basic eye-hand co-ordination of drawing will always be required because we, not the machines, make the images.

"We are nature's unique experiment to make the rational intelligence prove itself sounder than the reflex. Knowledge is our destiny. Self-knowledge, at last bringing together the experience of the arts and the explanation of science, waits ahead of us." [47]

Drawing knowledge is an aspect of man's rational intelligence. Drawing has been a feature of man's behaviour probably for all of man's existence, and certainly for all of his history.

Mathematically, man has used drawing to aid his perception of certain natural laws. Because of this, drawing is a universal experience for man.

Drawing in itself cannot produce new knowledge about the natural and physical world, but it does act as a catalyst for man's thoughts and art. Man can gain new insights from having drawn. Drawing is a succinct method of recording phenomena and representing hypotheses. Drawing is a graphic analogue of physical and metaphysical events. It acts as a structural device for many forms of expression. This is why drawing is an invaluable tool in all knowledge.

Professor R. Feynman speaking on B.B.C. Horizon about Physics and knowledge generally: "If (you are) interested in the ultimate character of the physical world, both real and complete then at the present time our only way to understand the world is through a mathematical type of reasoning............we don't know any other way to describe it accurately ....There are many aspects of the world in which mathematics is unnecessary, for example, love......." [48] Drawing in itself cannot be as powerful as Mathematics; but without it a great deal of Mathematics could not be succinctly expressed.

Analogy: (Oxford Dictionary)

"(Maths) proportion; agreement, similarity (to, with, between) analogue; (logic) process of reasoning from parallel cases;" [49]

35

As an analogue, drawing is the merging of imagination and observation
in the experience and expression of objects, actions and ideas. Drawing
enables and enhances the observation of fundamental ideas and natural
phenomena.

The earth's planetary movement has been observed and recorded by theories
and drawing. From this information man has learnt to predict when and
where the sun will shine at an exact spot at midsummer. He can draw
a sundial in the landscape, on paper or in his mind. The power of
drawing is that it holds our perceptions as images before events,
reminds us of when they will occur and stores our knowledge of events
which have happened in the past.

> "The raison d'être of the symbol lies in the human urge to express
> that which is inherently inexpressible.......
> The symbol itself was reality (for primitive man) for it was
> believed to possess the power of working magic and thus of directly
> affecting the course of events......" [50]

Drawing is man's expression and recording of what he sees and encounters.
A 'still' picture holds a perception of a concept. E.g. The pictures
man creates relate to man, his proportions and his view of the world and
the scale of things relative to himself. Man can distort his illusions
and images to give other views of the world. Pictures can be figurative,
arbitrary and abstract in their symbolism.

> "It is.........largely due to him (Picasso) that the conception
> of art as a powerful emotional medium, rather than a search for
> the perfection of ideal forms of beauty, has become accepted among
> artists of our time. The pursuit of ideal beauty is a very
> mathematical notion and is arbitrary as well as possible to
> experience. The fundamental belief that art should spring from
> a primitive need to express our feelings toward the world around
> us in strong emotional terms makes us more prone to value a work
> of art for its vitality than for its perfection." [51]

Arts education is concerned with the "opening up of new realms of feelings;" [52] drawing knowledge, as an aspect of art, tends to be subjective in character. ".......our self-expressive behaviour is at the root of all healthy and meaningful emotional life." [53]

For the artist:

> ".......the crux of the matter lies in the relationship between feeling and form. Our hypothesis is that new feelings are assimilated only through projection into expressive forms. Through the assimilation of new feelings, our intelligence of feelings is continually revitalised and enriched - we grow emotionally...." [54]

The contrast of drawings of a mathematical nature with drawings as art outlines the paradoxical nature of drawn images. All drawing is abstract and arbitrary, since a drawing stands for a thing or an idea and it is not the thing. Yet drawing is a physical phenomenon in itself; it is an analogue with reality.

> "1   The world is all that is the case...........
>
> 2.033 Form is the possibility of structure.......
>
> 2.1   We picture facts ourselves
>
> 2.12 A picture is a model of reality
>
> 2.13 In a picture objects have elements of the picture corresponding to them.
>
> 2.141 A picture is a fact
>
> 2.1511......a picture is attached to reality.....
>
> 2.1512 It is laid against reality like a measure.
>
> 2.171 A picture can depict any reality whose form it has. A spatial picture can depict anything spatial, a coloured one anything coloured, etc.
>
> 2.21 A picture agrees with reality or facts to agree; it is correct or incorrect, true or false." [55]

Most drawing styles are idiomatic and influenced by the culture of
the drawer, but drawing is a universal mark making activity which man
does quite readily in many situations and forms. Once drawing becomes
a conscious activity it takes on far more powerful significance.

There is the possibility of finding new knowledge by self-expression
through drawing. Drawing in itself cannot find new knowledge about
nature and life, but it always holds out the possibility for new knowledge
about ourselves and other people. Drawing is a means by which 'reality'
and 'life' may be questioned, discussed, reflected upon and understood.

II DRAWING AND REALITY

Drawing has been seen as a particular means by which reality can be
expressed. The interpretation of existence, natural phenomena
and thought has been a longstanding preoccupation of artists.
Throughout the history of art, artists have been concerned to represent
objects with great precision and their images have appeared to be
reality itself to most people.

It is a well held view that the function of drawing is to represent
reality, to represent things as they are. But a drawing is merely a
set of marks on a two dimensional plane, for example, a piece of paper.
The images created are only relatively true to life, not absolutely
true to life. Our eyes can deceive us in many ways because no matter
how hard we try to be aware of what we see, there are other factors
influencing how and what we see.

"The eye is always charged with thought." M. Proust.

An artist does not naturally know how to draw to make things look real,
no matter how skilled he may become. He has to learn to make things
seem real. Essentially, drawing is the recognition of natural or
symbolic forms contrived and projected into lines and marks on a surface.
Learning the meaning of arbitrary or symbolic forms in drawing is a

function of the influence of society and culture. The recognition
of natural forms in drawn marks in an aspect of human perception which
also is enhanced by learning and familiarity rather than purely
innate characteristics of seeing.

An artist must be initiated into the conventions of drawing by
learning and acquiring particular skills to be able to create his
illusion of reality. There are examples of artists who deliberately
unlearn traditional techniques to establish an 'innocence of vision'.
Tradition, memory, procedures and ways of teaching are all very
influential in how we learn to draw. We anticipate certain outcomes
for new experiences and we adopt certain presuppositions for what
might be. Drawing, as a human experience, is just one example of this
trait; it is as much for the drawer as the person looking at the drawing.
Psychologists term this form of pre-disposition to events, projection.

Man has the ability to project his thoughts onto suggestive natural
forms. Drawings suggest many forms and they seem to invite an onlooker
to contribute to their meaning. We make up our own minds as to the
value and significance of drawn images, both consciously and unconsciously.

It is difficult to change people's conditioned ways of seeing,
especially because they are usually unaware of the influences affecting
their judgement. A philosophical question about representational
drawing is 'should someone drawing render what 'is', or should they
render what they 'see'?'

Many artists have aimed to be objective in their representation of
natural forms. They have carefully aimed to avoid stylistic influences.
They have aimed to copy reality; to work from nature alone; to draw
things just as they happen. Our everyday, common-sense knowledge
about drawing is based almost entirely on the notion of drawing things
as they really are.

But nearly all works of art are generically similar to contemporary works, and the work of a previous generation of artists. Our teaching of drawing is, for the most part, influenced in this way. It can also be shown that children's drawing is directly influenced by their teachers. Some artists have called for drawing, not to be taught at all. Children should come to drawing naturally and not be tarnished by the 'contamination' of stylistic influences.

Examples of people having their sight restored have shown us that those with no knowledge of art have a difficult task in learning to develop both spatical perception and the interpretation of signs and marks which demonstrate various forms. For example, we all have to learn to distinguish between a cube and a cylinder, and that shadows enable us to see depth. We all learn to distinguish forms and relief in drawing. Our understanding of drawing is reinforced and developed through our experience of the real world of solidity, texture, light, shadows and distances. We can be tricked by optical illusions, by ambiguous images or by incomplete images.

We are all to a great extent irrational about drawing, because we allow ourselves to be influenced by pictures. Many people desire to represent things as they are, to mirror nature. But this is not possible because art influences art.

> "In Art as in Literature there are two modes by which men aim at
> distinction; in the one the Artist by careful application to what
> others have accomplished, imitates their works, or selects and
> combines their various beauties; in the other he seeks excellence
> at its primitive source - NATURE" [56]

However, Constable was clearly influenced by other landscape artists. Art in the first place comes from art. This applies as much for the relationship in time for artists' works as for social and cultural differences. Art itself determines the appearances of objects and events,

not objective vision. Metaphors and similes for describing art, nearly all relate to the senses and experiences used in the real world. Images are described as being real rather than as pictures. People live and breathe in pictures; observers of pictures react as witness to the events they see and natural objects are 'true to life'. Photography is the natural extension of artists' desire for actuality; its influence in representational art has been very strong. Would we see things in a different way today if there were no photography? Do we ever see things as they really are?

Perhaps art creates its own criteria for what is real.

"A great artist invents a type and life tries to copy it.....

the proper school to learn art in is not life but art." [57]

Our task in education is to demonstrate these paradoxes and to structure a child's experience of drawing so that in the end, he is free to determine his own interests in the art of drawing. Art and drawing do change as does our knowledge and our feelings.

III DRAWING AND SYMBOLS

A main function of drawing, apart from the pleasure that it gives, is the communication of information. Drawing enables us to communicate with ourselves and with other people. Through drawing we can explore our experiences of what we see and experiment with ideas about what we would like to see. This form of communication will always be a creative act, no matter how mundane the task or notions, and involves imagination and a desire to fulfil our various needs. We communicate many kinds of information through drawing. This information may be factual or relate directly to our sensitivities, feelings and emotions. In this respect, drawing symbolises our sense of reality, from its crudest forms to the most sophisticated forms of picture making.

Drawing experiments represent the use of drawing in its most original

and creative forms. Contriving an image which symbolises a message
is of great importance in the development of man's knowledge. Drawing
can be practical and convey factual information clearly and precisely;
it can also symbolise beauty, truth, genius, civilisation, status, sin
and goodness. These notions and images are usually affected by our
cultural assumptions about the nature of drawing and art. Many symbols
are cliches or hackneyed, but the possibility for creating new symbols
is always present through drawing.

"Man and other mammals respond to signals and signs. But only man
communicates through symbols. Symbols are exclusive human creations
for a world of meanings." [58] Symbols have to be learned. They can
relate to sounds as phonograms or to images as logograms. Symbols can
be designed and based on images themselves, concepts of phenomena or
purely arbitrary marks. e.g. $\nearrow$ curve, $\approx$ water, $+$ plus. Using
drawing as a tool to design symbols as well as express them, is an
important feature of two-dimensional graphic design.

All drawing may be seen as symbolic. The marks made in drawing are
ultimately arbitrary. It is the eye and the mind which finally create
the meaning and significances of a drawn image. "The relation between
what we see and what we know is never settled.." [59] Our drawing also
relates to our sense of what is real or unreal; and especially the mind's
preparedness to suspend one belief in favour of another. We see only
what we want to see.

"Rational, intentional conveying of experience and thought to others
requires a mediating system, the prototype of which is human speech
born of the need of intercourse during work.......The means of
communication was the sign (the word or sound); that through simultaneous
occurrence a sound could become associated with the context of any
experience and then serve to convey the same context to other human
beings. Closer study of the development of understanding and communication

in childhood, however, has led to the conclusion that real communication requires meaning - i.e. generalisation as much as signs." [60]

I suggest that the image is another powerful mediating system, too often ignored in early learning. The world of experience must be greatly simplified and generalised before it can be translated into symbols. Human society categorises experiences by conventions and communication is therefore by and through conventions and symbols. Drawing represents man's thoughts and reflections of conceptualised actuality.

"Man constructs models of his world, not only templates that represent what he encounters and in what context, but also ones that permit him to go beyond them." [61]

Symbols operate in and through men "the human actors who perceptually have learned to transform the world according to the meanings of the symbols by which they pattern their perceptions of the world and evaluate its possibilities." [62]

Drawn symbols have their meaning imaginatively invested in them by man; each culture orders and interprets experience which can be signalled by and through symbols.

IV THE PROBLEMS OF DEFINING DRAWING KNOWLEDGE FOR SCHOOL CURRICULA

(i) Defining drawing

How drawing is defined will depend on what is meant by drawing in a given context for any particular drawing activity. A definition of drawing that would be useful to an artist sketching a landscape might not help a costume designer, producing a costume. The need at all for a definition is suspect since a teacher will need to be aware of many conceptions and beliefs about drawing. For example, he will need to have some understanding for the uses of drawing in the many professional, academic and everyday fields which make use of drawing. More importantly,

in my view, he should have some understanding of, and disposition towards, drawing as a particularly human mode of expression.

"........man has always used his graphic ability to good effect. Ideas have to be 'seen', to be 'put down', in order that they can be explored and examined. The role that sketching and drawing can play is unique and deserves the fullest attention." [63]

A teacher will also come into contact with the different concepts about drawing held by his colleagues, the children and the general expectations of the children's families and the community. This will all be in the context of popular 'mythology' about drawing at school.

As Ken Baynes in his discussion about defining 'design'in 'About designing' says:

"How is the teacher to approach this problem of definition? Does it mean that all the definitions are quite useless? In what way can all this effort at simplification actually help to clarify the nature of (design)?" [64]

I simply change 'design' for 'drawing'. There is a professional need for teachers to be clear about what they mean by drawing for both 'drawing as experience' and 'drawing as experiment'. In this case, the use of 'working definitions' which may indicate the spirit of purpose of a drawing course may be a useful tool in structuring what children might learn about drawing. They may also communicate to colleagues and parents the nature of the teaching activity. Ultimately, it is the drawing activity and the products of drawing which may indicate more precisely what drawing is, rather than a theory about drawing. We should be clear about certain skills, techniques and effects which we can use in drawing. We should be aware of most of the complexities and subtleties of drawing, and provide for the possibility of new forms of expression through drawing. Creativity is a particular human trait which cannot be prescribed for. Philosophically, statements about what children should

experience in drawing still do not provide a definition of drawing knowledge.

> "Creative art form is never an end in itself, it is never completed merely by having been done. Its very meaning is inseparable from the need for expression - thus, for communication. Art, as it is realised in a tangible, visible form, aims to evoke in the beholder the experience of the maker." [65]

Consideration of our motives and intentions for drawing may give us an insight into the significance of drawing, but equally important will be our understanding of the form of a drawing. How drawings are made and used helps us to establish various meanings for drawing. How the 'drawer' continues to create or inform himself and other people about his work may also offer us an understanding of drawing. The very fact that a drawer is reluctant to say anything about his work may also be of value in knowing what drawing might be. I find that the constant interplay of the 'form' and 'meaning' of drawing is a useful tool when describing drawing.

Drawing may be described as an activity rich in many experiences and possibilities for experiment, for example in;

> Self expression.
>
> Self exploration of feeling, ideals and sensitivities.
>
> Observation of objects, actions or ideas.
>
> Exploration of 'mark making', media effects and techniques.
>
> Aesthetic appreciation, knowing or feeling that a drawn image or a process of drawing, satisfies needs and serves a purpose.
>
> The appreciation of different forms of drawing styles, effects in and for pictures and images, including an understanding of how people react to drawings and perceive two-dimensional images.
>
> The use of drawing to communicate to oneself and other people information of many kinds.

Making the distinction between drawing as an active experience and the

products of drawing activities - the pictures or images - is important
when structuring how a child might learn about drawing. In addition,
we should be aware of the knowledge to be communicated through a
visual image. How we structure the picture will depend on the
knowledge to be communicated.

Defining drawing generally is extremely difficult. At best we can
only indicate the main areas of drawing knowledge which are comprehensible
to most people. These areas include notions about 'forming drawings',
'using and understanding drawings' and 'looking at drawings'. To know
what drawing is requires that we have some insights into these varied
aspects of drawing knowledge. A definition serves a formal purpose of
indicating a particular approach to an area of knowledge and is often
used to outline various syllabuses and examination courses in secondary
education.

A working definition of drawing which I have found useful in teaching is

'Drawing is the formation of marks and images worked on a two-
dimensional plane symbolic of objects, actions or ideas that can
be perceived, learned and understood by most cultures.'

There is no binding logical order of activities in drawing, although
for convenience, many people use and follow various structures. These
notions have implications for teaching methods. A drawing activity can
start in any way. How children are motivated to draw is an important
consideration within a structure for learning about drawing.

(ii) Some of the main elements of drawing which may be considered
     for a working definition of drawing at school level.

The particular skills which mark out drawing as a uniquely human
attribute are generally recognised as the substance of drawing. Linear
marks made with certain media on the tip of a certain instrument, a pencil,
pen, brush or finger, usually demonstrate what drawing is. The rich
and undoubted array of talent and skill shown in the production of many

types of drawing enhance the popular mythology of "he's a good drawer"
and "she's got a good eye" and "he makes his drawing seem so real".
The skill of the eye-hand combination and the production of a realistic
picture are all that drawing seems to a great many people. Traditionally,
classical knowledge trained the mind and drawing trained the
physical co-ordination of the eye and the hand.

> "Clear view, exact measurement, precise statement. These, to
> my mind, are golden words, summing up in a terse form all possible
> reasons why we teach drawing to all...... First and foremost,
> of course, is the training it gives to the hand and eye......" [66]

The practical knowledge of various drawing techniques and effects is
naturally useful to any study of drawing. Exploration of the
'mark-making' processes is a crucial element in our understanding
of drawing. However, drawing takes place in a context, no matter
how ill-defined, which means that 'how something is drawn' is
dependent upon 'why it is drawn'. We should aim to experiment
with experience through drawing.

Knowing how to draw is essentially the skill of using 'form' and
'aesthetic judgement' in relation to any expression, or need to
communicate through drawing.

A) A general taxonomy of drawing knowledge

    a) Forming drawings

    b) Using and Understanding Drawings

    c) Looking at Drawings

The following general taxonomy represents the principle areas of
experience which may classify what drawing may be taught at a
secondary school. It is an essentially practical format but includes
various possibilities for the development of theories about drawing.
The interplay between 'drawing as experience' and 'drawing as experiment'
is constant through the following notions.

a) Forming Drawings

The practical and expressive skills of making pictures with drawing

techniques. This may be called 'drawing know-how'. 'Forming drawings' should include considerations of various

media,

techniques,

effects,

terms,

resources,

instruments and

tools,

as well as the surfaces on which the drawing may take place. Analysis of elementary 'mark-making' is also important here.

b) Understanding Drawings

Knowing about drawing as an experience which may be seen as a discipline in its own right, and using various kinds of conceptual knowledge. This may be called propositional knowledge about drawing. Examples of 'Using and Understanding drawings' should involve research and thought about the function of the image, as well as the context in which it can be used. The subject conveyed in a drawing may be about the

1) Natural World (people, imaginary creatures, animals birds, plants and other living things; natural environments);

2) Man-made Objects (designers' drawings and sketches, project drawings, presentation and maintenance drawings, technical illustration); or

3) Symbols (graphic design, signs, logograms, house organs, badges, trademarks, lines, conceptual signs, image related signs, arbitrary signs, patterns).

c) Looking at Drawings

Knowing how drawing can be used in certain contexts, especially when drawing communicates philosophical or emotional notions. This may be called dispositional knowledge about drawing. Examples of 'Looking at drawings' will variously include considering:

1) direct representational reactions about pictures;

2) descriptions of a drawing form;

3) association with images, e.g. sky is blue;

4) special knowledge from and about pictures;

5) iconography;

6) reactions to information being communicated by an image; and

7) perception and sight, including illusions of reality.

However, each area relates to another in many combinations and permutations, hence the difficulty of defining what drawing is. These categories are not intended to be exhaustive, but serve as a guiding 'structure' for my teaching. The communication of many kinds of information is an essential purpose of drawing.

Working definitions are useful if they highlight the ways we often find ourselves looking at, using, or forming drawings. An indication of the spirit of an enquiry is always useful, but we should never prescribe for the ways that we should look at drawing.

Within the general taxonomy of drawing knowledge of

    a) 'forming drawings',

    b) 'using and understanding drawings' and

    c) 'looking at drawings'

the following general notions occur:

    1) Motivation to draw

    2) Research into drawing activities

    3) Information

    4) Contexts in which drawings may be used

    5) Reactions to drawings

    6) Form and meaning in drawing.

1) Motivation to draw

This may not always be spontaneous, a highly prized notion especially in the context of individual creativity. But why people draw is,

in many ways, a separate issue from how children learn to draw at school. The question of spontaneous insight or creativity is also problematic.

Generally, school drawing is stimulated by a theme or idea offered by a teacher. The degree of importance of the purpose of the drawing can be discussed, and should be thought through in the context of a drawing lesson. In many respects this aspect of child drawing is rarely considered. Children tend to be told what to draw, rather than be given various options to use drawing to communicate particular needs or requirements; although circumstances change and dictate school activities.

Far more thought and value should be given to utilising and nurturing children's own ideas and aspirations in drawing education. This is especially important where drawing may be seen as a natural extension of 'play' or 'peer group activity' but also in the context of the study of drawing as a human skill. Too often adult concepts of the nature of drawing are imposed on children. This may be inevitable because of formal schooling. But, guiding children through 'their own world' into 'other worlds and realities' is essential to effective and enjoyable teaching and learning.

Awareness of the necessity for drawing should feature throughout any course in drawing. However, a statement of intentions for a drawing or drawing activity may limit the creativity of an individual's work. Although explaining the objective of 'learning about drawing' to children may seem esoteric, I feel it is fundamental to their development of drawing skills.

When required, a statement of aims for a drawing can be useful, especially when communication is required to be clear, and accessible in meaning to most people.

Another motive for learning to draw is the establishment of knowledge about drawing techniques. This may help to clarify the main aim of a drawing. We need to be clear about the function of drawing and our methods of teaching drawing.

The main aims of teaching drawing may be:

1) to develop drawing skills and emphasise notions about 'form'.

2) to develop an understanding of the different ways people use and appreciate drawings and emphasise notions about 'context', 'redaction' and 'aesthetics'.

3) to develop an understanding of how people react to drawings and emphasise notions about 'seeing and perceiving' as well as the influence of culture and society.

4) to develop a view of how drawings contain and describe various forms of information, feelings, designs or fantasies and emphasise how 'knowledge' can be communicated through drawing.

5) to develop an understanding of the symbolic implications of drawn images and emphasise notions about the 'meaning' of various pictures.

6) to develop an understanding of 'reality' and emphasise notions about the 'changing nature' of illusions and the 'paradoxes of message systems'.

These teaching aims affect how children may learn about drawing and, in themselves, they may represent what drawing is to many children. We motivate children to experience and experiment with drawing in many ways but usually from the teacher's needs rather than the child's.

2) Research into drawing activities

Research into the topic to be depicted through drawing should always figure in the teaching of drawing. The course of critical investigation and search to discover background information before drawing represents essential research and should feature in learning how to draw. Drawing in itself is a research tool.

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The following topics are commonly assumed to be necessary elements of research for drawing activities:

1) essential facts and information into the background of the subject, including topics and themes associated with the prime subject.

2) the aim of the drawing may be to

   explore 'reality' by being representational in nature

   or

   symbolic and have iconographical significance

   or

   abstract in form.

3) any commonly assigned labels for drawing may need clarification and may be called:

   technical, mechanical, architectural, natural, historical, futuristic, cartographical.

4) to consider the most effective form of the drawing, including its style, the effects of caricature and sketching.

5) the shape, arrangement of parts, visible aspect - aesthetic judgement and composition of the picture based on the subject and media employed.

6) the structure of the type drawing whether it be freehand, mechanical, a sketch, a diagram, a pattern, geometric, orthographic, dimetric or involve perspective.

Much of good research depends on good resources. Providing children with opportunities to research is fundamental to all education. In this respect, drawing education is very important.

3) Information

Drawing can clearly communicate information. All drawings communicate general items of information within the unity of a picture drawn, and a drawing's full meaning can only be established within the context in which it is used. Information can be about 'objects', 'actions',

'events' and 'ideas' or any combination of these topics, as considered in my working definition for drawing. For example, information about 'objects' can recognise, explain, relate, record and explore various themes about things that 'did exist', 'do exist' or 'might exist'. A drawing will always contain more than one item of information especially since the onlooker finds his own information, at times very different from the artist's intention.

Drawing can also inform us about 'actions' or 'events' by describing the movement, sequence or assembly of things or ideas, as well as cause and effect and design. Actions refer to behaviour, deeds, operations, gestures, modes of moving and mechanisms. Events refer to cause, change, persuasion, investigation and places. Further, drawings can communicate various 'symbolic actions or ideas', for example, schematic diagrams, archetypes, patterns, concepts, graphic designs, mathematical notions, designs and arbitrary signs.

Generally, drawing may be considered in three main areas which can be categorised by the type of information which drawing can communicate.

a) Drawing by observation, memory or imagination.

b) Drawing for design and the expression of forming three-dimensional objects.

c) Drawing symbols and creating images in graphic design of two-dimensional image and illusions.

Thus, by considering what information is being communicated, we may begin to understand the purpose of drawing; a fundamental consideration for any discipline and one which needs considerable development in drawing education generally.

4) Contexts in which drawings may be used.

How we understand drawings depends greatly on how we use them. The context in which we place a drawing, for example, a single work or a printed work, is an important feature of the effect and use of

the drawing. The 'private' and 'public' aspects of a drawing are very important considerations about the value of drawing and how it has been used. The notion of context relates directly to the information being communicated through a drawing.

5) Reactions to drawings.

An important way in which we might understand drawings is to consider our conscious and unconscious reactions to them. This is essentially how we perceive, through 'the eye', what the drawing is, as much as how we might conceive what the drawing is communicating, through the mind. Thus, what, is 'reality' in drawing? Do we see a girl or a picture of a girl, when looking at a drawing of a girl? We need to be aware of how we look at drawings.

We need to be aware of what we see in drawings, especially if we need to take action from the drawing, for example, to follow a direction or to make something or to understand how something might work. Understanding the 'form' and the 'meaning' of a drawing is an important concept for us to consider when developing ways of criticising drawings made by children, students, professionals and artists, past and present. Yet a further aim is to explore the different contexts in which drawings have been used, and are being used; for example, the drawings and sketches made 'before', 'during' and 'after' the designing and making of a building, a vehicle or an item of clothing. It can be shown that drawing has influenced man in many ways; for example, at the beginning of the industrial revolution, it was instrumental in the organisation of ideas, materials and divisions of labour in the construction and development of complex technical innovation.

6) Form and meaning in drawing.

Our motivation to draw and our knowledge about drawing will usually include conscious or unconscious notions about the form and meaning of a drawing activity or the products of drawing. Awareness of the form

of a drawing can lead to an understanding of the meaning of an image or activity. Consideration of the use of a drawing may, in turn, aid or determine choices about the form the drawing may take.

Form is essential to meaning and awareness of our needs to draw places drawing in a context. "Form is the possibility of structure." [67] The notion of form generally relates to understanding and knowing how to draw. When looking at drawings, if we are aware of the form of a drawing, we have a much better chance of knowing what is its meaning. Our understanding of form relates to our recognition of the practical consideration of the

> shape
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> style
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> composition
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> choice of media
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> techniques
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> visual effect of the drawing

Drawing is usually ordered and structured by a chosen form and designed to illicit particular reactions and responses in certain contexts. In describing the forms of drawing, metaphors for vision, 'to see', 'examine' and 'understand' are often used. Art describes art, because art influences art.

The form of a drawing may be decided upon before or during its execution. Generally, if an idea for a drawing exists, it can be treated in a variety of ways. The simplest example of variation of form in drawing can be seen in the use of a motif in a pattern. Another structural consideration for the form of a drawing is the use of an overall plan, which may not be evident to the onlooker, but which structures the whole image. The use of compositional devices, for example, the 'golden section' is a traditional formula. A more complex developmental form may also be employed which may be unified by a theme, but drawn in the form of a montage, for example a film poster. Unity and rhythm are key descriptions

of the structural form of an image. The compositional unity of a drawing contributes fundamentally to the power of its image.

How a drawing may be used will depend on its effect and its structure as much as the artist's understanding of the images he might create. A powerful method of structuring the form of a drawing lies in the way in which the final image is designed to arouse the imagination and feelings of the onlooker as much as to remind him of the meanings of symbols and signs. Formal compositional structures may be employed, distorted or abandoned; they may serve as an image. Comparisons of simile, metaphor and image are literary in origin, but visual forms are also among the principle methods of arousing the imagination and illiciting responses or reactions through drawing. We often allow certain images to stand for other meanings than those which are directly representational.

'Realism' and 'symbolism' in drawing involve calculated manipulation of form. Hidden meaning in a drawing may be found on reflection of the use of colours, shapes and characters in a picture. How meanings become assigned to drawn images and how anything can represent something is a philosophical question at the root of how man understands the world and his world in particular. Drawing is but one tool in this spectrum. This is why drawing is a unique and valuable human attribute because of the power of images, symbols and the action taken from them.

The aim of categorising various themes in drawing is to build up a relatively consistent structure, so that students and teachers can effectively 'draw', 'understand' and 'read' drawings. This structure is important in how ideas and skills in drawing might be expressed in teaching.

Thus, is there something general about drawing that all children should experience and can a 'common core' experience be devised? This will always be a paradoxical question for me, since in the interests of

providing worthwhile, coherent and general experiences, there are elements
of drawing which I would want all children to experience, for example,
to be given the question - how does drawing help us as people?
However, I would not want to say that there is only one way to explore
drawing. Thus, an essential issue in the discussion of the structure
of drawing knowledge is the consideration of teacher styles, intuitions
and artistry when faced with particularly important issues about drawing.
Further, there are factors of human development generally which should
be considered in relationship to drawing skills.

Thus, working definitions of drawing are important to the clear expression
of teaching objectives. However, no absolute definition for drawing
exists or should exist in my view. Drawing knowledge should always be
open to new interpretations and developments as much as the enhancement
of the important experiences of the past knowledge about drawing.

V DRAWING KNOWLEDGE AND THE CURRICULUM

i) Epistemology and the drawing curriculum and theories about
   school knowledge

Essentially, curriculum is a field in which decisions to act are
required. Epistemology is of fundamental importance since it is the
philosophy of knowledge and deals with theories of the methods or
grounds of knowledge. The processes and forms of knowledge and
understanding are complex.

Knowledge may be socially or culturally constructed as the sociology
of knowledge describes with two main theories:

    1) 'reality' is not universally perceived in the same way.

    2) within a given culture different members have differential
        access to knowledge, which is related to their position in the
        social structure.

But, the 'nature of knowing' is not entirely external to individuals

and out of their control or comprehension. "..... man cannot only deal
with information before him, but go far beyond the information given
- with all that this implies both for swiftness of intellect and for
fallibility." [68] Man's intellect enables him to see his world
empirically but also to construct theories and provide proofs from
which to develop and increase his own knowledge or human knowledge
generally. Drawing is a tool in the construction of theories and
experiences.

Whether or not there are 'eternal verities' separate from man will never
be known. I believe that the laws of the universe are not absolute,
but that there is enough evidence of the power of our known knowledge
for us to live our lives without being crushed by uncertainty.
Examples of how sensitive and rational we may be in how we share and use
our knowledge may demonstrate that knowledge cannot be absolute, but
relative.

At the heart of the common-curriculum argument is the notion that
there should be a common cultural experience available to all
children regardless of social background. It is an important ideal for
schools to be concerned with the question of equality of access to
worthwhile knowledge and experience in the interests of fair play and
democracy. Paradoxically, not all teachers will be able to achieve this.
The very fact that we all see things differently is the corner-stone
of the development of all knowledge.

As with the principle of natural selection in theories about evolution,
the variety of interpretations of knowledge, and the different values
held for knowledge, is a strength and not a weakness. Variety is as
important as unity in all forms of knowledge.

In thinking about the subject-matter of drawing in the curriculum,
I have chosen three broad typologies for knowledge. This is intended
to be practical rather than philosophically sophist. I feel that

uncertainty should feature in discussion about knowledge, essentially because it is not possible to be absolutely exact about 'what drawing knowledge is'. However, too much uncertainty leads to inaction.

Three kinds of knowledge and understanding which relate to drawing as experience and drawing as experiment are as follows;

a) know-how - skills, techniques, trained capacities to perform in practical situations where pupils' expressive capacities are relevant and useful, for example, skills of language, numeracy, bodily movement, drawing techniques, social intercourse, research and inquiry/discovery skills.

b) Propositional knowledge - knowing about, knowing that such and such is the case, knowing why, knowing what - various kinds of conceptual knowledge, knowledge of theories, ideas, facts etc., as in the academic disciplines, such as art and history, and in the common-sense or 'general' knowledge of everyday life.

c) Dispositional and tacit knowledge - knowledge in the form of a capacity or power to act in specific situations. Disposition include values, like truthfulness, and intellectual powers, like intelligence; true knowledge occurs where we have only one part of which is conscious and expressed in words or drawings; examples are to be found in religion and the arts.

Drawing knowledge may seem to be a collection of human skills associated with using various media to produce various marks which may create various pictures, images or diagrams. The search for what drawing is may appear to become the art of producing logically ordered lists and categories for types of drawing, uses for drawing, ways of forming drawings and so on.

This is disconcerting because the possibilities for different types of drawing activities is infinite. It is the very fact that no-one can

say for certain what drawing is that makes drawing so fascinating and timeless. We will always puzzle over why cave drawings were made. Drawing will always be a 'rich' human experience for all children of all ages.

In 'Children's Growth through Creative Experience', a Schools' Council Publication, I agree with their general statement:

> "..... education through art and the crafts takes its natural place, not as an ancillary but as a mode of learning and understanding. It is no longer out on the periphery of education, but has moved near, to the centre." [69]

Drawing is a mode of learning. An essential issue for children to be 'educated in drawing', in my view, is that each child should be given opportunities to 'think' in terms of drawing. Children should use drawing not merely to receive instruction in it. They should experience the many forms of drawing that people have tried, and hopefully obtain the intellectual and emotional rewards of new possibilities, outcomes and experiments in drawing.

The essential problem of defining an area of knowledge is that any statement or theory assigned to it may in the end limit the development of the knowledge and restrict its effective use for all people. Drawing knowledge and production should be organised in a variety of contexts and we should avoid advocating one form of action to the exclusion of all others.

> "Wherever we begin our struggle to change reality, we must be be prepared to enter any other context and link up with any other struggle which might help radical experiments in education to become more than isolated and short-lived ventures." [70]

Thus, there is no need for an absolute definition of what drawing knowledge is, but what is of paramount importance is 'how drawing knowledge is regarded in schools'.

What is required, when considering most forms of knowledge, is a dialectic between 'consciousness' and 'reality', which can deal with the complex interplay between thought and action, and between belief and that which can be objectively demonstrated to be true. In general, men partly make their own knowledge, although it is often made without their understanding of it. Also, societies create individual social personalities, but individuals too can alter the structure of society. The processes of change are an enormously complicated interaction between the wills of men and groups of men, and the structures of social relations in which they are born, mature, work, procreate and die. Knowledge about drawing is relative to social and cultural influences, since thoughts and actions are socially located.

An essential educational problem is to clarify 'what it is to know', since "every educational situation implies an act of knowing" [71] The concept of 'banking education' regards "men as adaptable, manageable beings", [72] and it is this notion of 'storing' or 'depositing' knowledge in students which denies the students the opportunity to develop a critical consciousness. "... the more completely they accept the passive role imposed on them, the more they tend simply to adapt to the world as it is and to the fragmented view of reality deposited in them." [73] Drawing as experience at the exclusion of drawing as experiment.

Traditionally, knowledge is portrayed in schools as an external body of information, not produced by human beings at all, but somehow independent of them. Its tentative changing character is underplayed; its social origins are often ignored. Knowledge in fact, can become 'dehumanised'.

This dehumanisation extends to include the production of knowledge. Children and teachers can be seen as unable to produce knowledge, and only capable of receiving it. Pupils can be seen as empty vessels into which knowledge is to be poured by the teachers. Education then becomes

a series of narrated experienced by teachers.

Any act of drawing will always be unique. Drawing represents a clear opportunity for children to produce their own knowledge. The atmosphere in which they work can be an inhibiting influence if the development of their work is not seen as a true attempt for children to freely express their thoughts and feelings.

Drawing is always firsthand experience. As a particular human mode of expression, it is an ideal medium for pupils and teachers to begin a dialogue with the world they all live in.

ii) Drawing as part of School Knowledge

Once questions are asked about how 'relevant' or 'up-to-date' an area of knowledge is, it appears that curriculum study has done its job. Good evaluation of 'how effective a curriculum is' generally seeks to illuminate issues rather than to confirm or deny fashions in thinking or the status quo. Knowledge may be qualified and conditioned by other considerations than relevance and being 'up-to-date'; and what is relevance anyway?

If knowledge is uncertain, changing and in a state of flux, how can teachers organise their 'subject-matter' for teaching? What part do speculation, reverie, imagination and free association of ideas play in preparing the mind for knowledge? These questions are central to a full understanding of the value of drawing knowledge. These are our ends-in-view rather than a means to an end for drawing knowledge in a curriculum.

Skilbeck points out that "students are seldom challenged to reflect on the question 'what is this subject, or what is the knowledge status, value and utility of this subject-matter about which I am expected to have knowledge and with which I am expexted to perform various tasks?'" [74]

Effective drawing can only manifest itself through genuine experiments with experiences of all kinds. Drawing is now being seen as a subject which should be taught with an understanding of the context in which it is used and thought about.

Is self-knowledge the same in kind as knowledge of external reality? Is all knowledge socially and culturally located, determined and relative to the interests and preferences of particular social groups? Drawing knowledge is an area of knowledge which can contribute to the answer to these questions because its very existence depends upon awareness of these issues.

An analysis of contemporary drawing curricula would need to consider the following issues:

A) The external factors which may influence a school curricula, containing 'drawing' in all its forms.

    a) cultural and social changes and expectations, including parental expectations,

       employer requirements,

       community assumptions and values,

       the changing nature of relationships between adults and children,

       ideology and the various values associated with drawing knowledge.

    b) educational system requirements and challenges (policy statements, examinations, l.e.a. expectations, demands or pressures, curriculum projects and educational research).

    c) the changing nature of the subject-matter to be taught, with special regard to how this information may be made available to schools.

    d) the contribution of teacher-support systems, (training, research, in-service).

    e) flow of resources into the school.

B) The internal factors which may influence a school curriculum containing drawing in all its forms.

a) the pupils (aptitudes, abilities.... defined educational needs).

b) the teacher (values, attitudes, skills, knowledge, experience, strengths and weaknesses, roles).

c) the school ethos and political structure (common assumptions and expectations, traditions, authority, power distribution, methods of achieving conformity to norms and dealing with deviance).

d) the material resources (plant, equipment and potential for enhancing these).

e) perceived and felt problems and shortcomings in the existing curriculum.

From the analysis of drawing within certain curricula, the study may then lead into considered action for curriculum development of drawing knowledge. This may consider:

C) Statements of what children may learn about drawing (goals - preferences, values and judgements about the direction in which the activity of learning about drawing might go).

D) Implementing a particular course or scheme

a) The design of teacher and student learning activities, content, structure, method, scope, sequence.

b) Building resources for learning.

c) Design of institutional setting.

d) Personal deployment and role definition.

e) Timetable.

E) Interpretation of the particular drawing curriculum

a) Build in possibilities for change and review.

b) Eclectic evaluation.

F) Assessment of student achievement

a) assessment and reconstruction possibilities.

This structure has been adapted from M. Skilbeck's proposal for "the curriculum development process" [75] and represents a succinct and practical set of

considerations for the structuring of the teaching of drawing in secondary schools.

If men are to be free to be creative and rich in the things that matter, they must rid themselves of the professional pedagogue, according to Illich. "Schools are alienating in that they reduce personal experience and the quest for meaning to the pursuit of commodities - grades, examination passes and so on .... children themselves become commodities." [76]

This extreme criticism of how knowledge is handled by teachers has elements of truth, and significance for drawing education. For children to understand the full creative power of drawing, they will need freedom to experiment with their own knowledge of drawing. However, without an underlying structure for drawing experiences, little can be achieved. This will be especially important with regard to how foundations for advanced forms of learning may be established. The solution, in my view, is a continual dialogue between pupil and teacher about the issues of drawing education; without this approach, teaching is sterile. Ideally, both the teacher and the pupil should seek knowledge, rather than one give and the other receive.

"Education cannot be neutral.... its role... will always be in the service either of the 'domestication' of men or their liberation." [77] (Freire) Education is, to a great extent, inseparable from 'power', since both the distribution of education in a society and curricula content may be explained by the power structure of society, and, particularly, the interests of dominant groups and professional institutions. Despite teachers thinking and behaving within the tradition of the liberal ideology of educator's neutrality, teachers are not neutral in their activities, because it is not education which shapes society, but society which shapes education, according to the interests of those who have power in society. Teachers' choices of actions, and knowledge, are essentially ideological in origin, and thus

a political choice, whether they comply with the social order or aim to change it.

I have faith in the power of education and its use of schools, because it holds out the possibility of individual freedom. Liberation is the action and reflection of men upon the world in order to transform it and is a useful philosophical principle for drawing knowledge. It is increasingly important that the political character of education is made more explicit, and for a change of responsibilities to define education from colleges and authorities to schools and communities. The structure of drawing knowledge, derived from the most influential thinking about drawing, is of fundamental importance to the formation of a curriculum into which drawing is placed.

CHAPTER THREE

THE SELECTION OF

DRAWING KNOWLEDGE

I THE SELECTION OF KNOWLEDGE

1) The sociological study of education

"How a society selects, classifies, distributes, transmits and
evaluates the educational knowledge it considers to be public,
reflects both the distribution of power and the principles of
social control." [78]

Educational knowledge is a major regulator of the structure of experience.
From this point of view, one can ask 'How are forms of experience,
identity and relation evoked, maintained and changed by the formal
transmission of educational knowledge and sensitivities?'

Schooling is the way in which experience is given a distinctive form.
Drawing is generally part of this experience and how it is given a
distinctive form for a particular school is central to an understanding
of the selection of drawing knowledge for various curricula.

Questions about the social principles which regulate

'what counts as valid drawing knowledge',

'what counts as valid transmission of drawing knowledge' and

'what counts as valid realisation of this knowledge by the taught'

are of paramount importance in curriculum development involving drawing.

"What then is involved in the acquisition of knowledge? Certainly
it involves learning many different concepts, using these in a
growing awareness of facts, truths and forms of many kinds, mastering
many logical operations and principles, applying the criteria of
different types of judgement, and so on." [79]

The selection of knowledge generally is influenced by the degree of control
with which various 'dominant groups' in society manipulate events in
education, and also by the deeply rooted effects of culture through
the process of hegemony. The extent to which contemporary school curricula
represent 'conscious or unconscious' cultural choices which accord with

the values and beliefs of 'dominant groups' is central to our understanding of how knowledge is selected in, and for schools. Educators are members of the 'dominant groups' although not in ways as influential as they appear to be, or would like to be.

Sociological study of contemporary curricula generally aims to identify assumptions about the curriculum, essentially by analysing what values are embodied in the curriculum and how they are presented. The nature, ethos and evolution of the curriculum has profound cultural significance, essentially because what educators do is influenced by the systems of values, beliefs, customs, norms, institutions, meanings which characterise social living. The study of the curriculum is essentially teleological and most practically pursued by reference to the ideologies which shape the selection of 'school knowledge', as much as in the analysis of the instrumental motives for curricula action or tradition. Thus, it may be shown that schools serve an economic function and an ideological role in society.

A useful interpretive ideology derives from the Marxist notion which aims theoretically to account for the origin and growth of belief systems held by social groups, particularly in relation to their social and economic situations. This thinking has influenced the 'sociology of knowledge' which sees knowledge as relative to particular social and historical situation, and that it reflects the interests and preferences of particular social groups, rather than meeting any absolute criteria or universality for knowledge. But more importantly, these systems of beliefs can be seen to give 'a distorted picture of the real world in the interests of......dominant social groupings.'

The sociology of knowledge seeks to unmask the taken-for-granted views which groups or individuals may hold about curricula content by using

the notion that 'reality' is not perceived in the same way by different people or groups, and that within a given culture different members have differential access to knowledge, which is related to their position in the social structure.

Friere's dialectic investigating the differences between thought and reality, between belief and universal truth, realises that there is a complex interplay between how men perceive the world and man's perceptions which may reflect a world which appears to exist independently of human ideas. He concludes that education is not neutral but inseparable from the power structures in society, and idealises that "the emphasis should be upon liberating pupils from existing definitions of reality so that they can realise themselves as subjects who have the power to construct realities rather than accepting passively the one imposed upon them...." [80] Drawing knowledge may be very powerful in this respect.

In complete contrast, Boyson aims to prescribe reality for pupils and teachers with "basic specific curricula". [81] He demands value for money for rate payers "and compulsory education is a farce and morally indefensible unless all schools cover the same basic syllabus as preparation for society." [82]

R. Williams sees the influence of culture and society on how education is organised in his argument that "what is thought of as 'an education' being, in fact, a particular selection, a particular set of emphasis and omissions". [83] The process is thus a form of indoctrination; ".... an active shaping to particular social ends", [84] based on slowly changing 'class standards'. Education dealt with producing gentlemen, professional men, tradesmen , and more recently, technicians and consumers. However, Williams is trying to establish: what a member of an educated and participating democracy needs.

ii) <u>The social and cultural location of drawing knowledge</u>

Truth and objectivity are human products. Knowledge is a 'social construct'
whereby criteria of 'truth' are entirely relative to the social context
in which they are believed to be true. Knowledge is not socially
'determined' but socially and historically situated and constructed.
The value of the 'sociology of knowledge' is that it can be used to
demystify and unveil certain presuppositions about why particular aspects
of knowledge are included in the curriculum.

Young is interested in curriculum reform, especially when he argues
"for making more explicit the political character of education......" [85]
Young's sociological perspective endeavours to transform the notion that
what exists is the only possibility; he aims to enhance this position
by suspending 'taken-for-granted' views about knowledge and common-sense.
He assumes that 'powerful' individuals and groups in society will
attempt to define and prescribe what counts for knowledge and questions
how accessible knowledge will be to certain people and how the knowledge
is structured, arranged and communicated.

A) The different social values for drawing knowledge

The 'sociology of education' can be used to reveal the criteria for
'different social values' attached to why some kinds of knowledge
are considered more worthwhile or important than others. For example,
'science can be seen to be given different social value and importance
form 'technology'. That is, there are plenty of examination courses
leading to high levels of study in the established sciences of physics,
chemistry and biology, whereas technology is confused with craft subjects
and aspects of the applied sciences, for instance engineering. A similar
case can be made for drawing knowledge in relation to many 'academic
subjects'. Drawing is rarely seen as a subject discipline in its own
right in a secondary school curriculum which is further evidence for its
low status generally. Drawing is so often assumed to be of general use

in education but rarely taught in a structured form. Drawing is taught
in Art but essentially for the purposes of Art and not for an understanding
of drawing itself. Technical drawing uses drawing but rarely engages
children in the purpose of drawing, despite affirmations to the contrary.
Many other subjects instruct children in various styles and formats for
diagramatic representation of facts. Science subjects traditionally
employ this use of drawing. Design education is an area of growth for
drawing since it is increasingly seen as a tool for three-dimensional
design as well as for various courses in Graphic Design and Graphic
Communication. The development of common core drawing courses for
design education and general education is a field that needs encouraging
so that drawing can be an effective area of knowledge at school level.
Thus Young considers that "once the meanings associated with 'areas of
knowledge' are seen as socially determined" [86], then sociological enquiry
into the intellectual content of what counts as a subject or knowledge
becomes possible. Universities and further education institutions
would be key areas of study of the socially determined survival of many
changing areas of the curriculum. Their interest would enhance a more
effective evaluation of drawing knowledge as well as design education
and other curricula areas involving the integration of different forms
of knowledge.

The commercial interest in graphic design as well as the increasing
significance of computer graphics in many fields, for example, molecular
biology, architectural design, space research and film animation industries,
add enormous weight to the value of drawn images as a powerful tool in
communication generally. 'Real time interaction computer graphics'
may represent a highly technical and complex use of drawing. These devices
are reinforcing the value of drawing in many fields both socially and
technically. The essential task in secondary education is to translate

this value for children so that they can see the effectiveness of drawing, and understand its potential. 'Seeing is believing'; drawing offers us a chance to explore our realities, technically, commercially and artistically. Further education institutions are developing some courses to meet these demands and gradually schools are following suit.

Computer graphics offer rapid changes in drawn images; they 'legitimize' the power of drawing because computers are highly prized machines. If computers enhance the value of drawing so much the better; pragmation has its place in the development of knowledge. However, drawing knowledge itself is of a higher value than any medium through which it is expressed, whether this be a pencil or a computer.

B) The stratification of drawing knowledge

Another major question arising from Young's thinking is "how can we relate the extent to which knowledge is stratified in different societies.....

to characteristics of the social structures?" [87] That is, why are particular forms of knowledge regarded as suitable for different students? Why has drawing traditionally been assumed to be useful for the 'less able children academically'? In general, why is it assumed to be right for some students to study highly specialised and narrow fields of knowledge and others given more general and unspecialised curricula?

Ironically there are many aspects of comprehensive schooling which maintain this form of discrimination. Acceptance of drawing education for all children, as part of a common core for the first three years of secondary school would require a considerable change in curriculum styles for many schools. Faculty systems, which encourage the integration of many forms of knowledge, are becoming increasingly important structures within schools. They enable more children to experience most of the major areas of knowledge without over-emphasising the relation between individual abilities and the intellectual requirements of certain highly prized areas of knowledge. But the effectiveness of any school

system is initially dependent on the attitudes and values of the
teachers; and stratifications of knowledge stems from such values.

The Hirstain notions of forms and fields of knowledge also reinforce
the credibility of what has been called 'classical humanism' by reasserting
the educational value of the fundamental intellectual virtues and the
meaning of the age old objective of cultivating rationality.

An example of this is found in the conception of education which
encourages the importance of 'cognitive development'. This has tended
to dominate and underpin a great deal of the thinking which has structured
secondary school curricula, and has placed knowledge to a great extent
outside the learner. Design education has had a relatively low status
compared to mathematics, sciences and languages. Drawing as part of
Art and Design has rarely had the status of a traditional subject.
Drawing has traditionally been taught in many contexts. It was an
aspect of the refinement of Victorian ladies; it has always been a
traditional feature of early childhood. It has so often been used to
fill in the last ten minutes of many subjects, for example an English
lesson, with the notion of 'draw a picture of what happened in a story'
This usually shows little regard for how the drawing may be used,
especially when it has been executed on lined paper. Most science work
books include the copying of other people's diagrams; 'A' level sciences
demand diagrams as part of examination answers. Art education itself is
often based on 'derivative' art work, whereby children are asked to
ape commercial art techniques. As previously noted, drawing is seen as
something people do without the benefits of a structured course or
discussion of its value and power to 'communicate information'.

Drawing knowledge is a rich area for the study of how certain knowledge
is valued. Teachers generally have unwittingly under-valued drawing;
people generally seem afraid to draw because of their unjustified fear
of being exposed as someone who cannot produce a drawing. Drawing exposes

people in the same way that language does, but without the security of dictionaries and grammatical rules, despite the wealth of popular books on how to draw.

The use of Bernstein's abstract dimensions of the social organisation of knowledge in curricula, the 'integrated' and 'collection' paradymatic types of curriculum, shows "the expansion of knowledge and the access to it is parallelled by its increasing differentiation" [88] which arises when "some groups.......legitimise their knowledge as superior or of high value". [89] Comparison of public and state school systems would provide evidence for this point, as does the relationship of art and craft subjects to the academic subjects of mathematics, science and languages in many present secondary school curricula.

Bernstein states that "as we move from 'collection' to 'integration' the moral basis of our educational choices will become explicit and we must expect considerable conflict of values." [90] Design education is developing which, in turn, should mean a fuller and wider use of drawing. Drawing should now be taught in a much broader context as a tool for experience and experiment in all forms of knowledge.

Young states that through the necessary use of historical and cross-cultural societal study, emerges the "idea of the stratifications of knowledge, that we can suggest relations between the patterns of dominant values and the distribution of rewards and power, and the organisation of knowledge." [91] He speculates the notion why certain areas of knowledge are lebelled, related and assigned to particular groups, for example, the 'classics' for academically bright children or 'concrete operations' for working class children. Drawing is often seen in this latter category. Particular trends in educational thinking, for example, 'equality of opportunity', have been focussed upon in recent debates, which, in turn, are characterised in curriculum changes.

The change in the status of drawing knowledge needs our full attention.

Some of the new 16+ examinations intend to place the traditional areas of art and craft education within the broad context of design. Drawing will thus be seen in this context for most of the occasions when it will be formally taught. Traditional Technical Drawing may well be phased out, except where it is relevant in Design, essentially because its 'educational content' is minimal. The consequences of change in the formal of secondary school examinations will in turn affect the common core teaching of the first three years in secondary school Design Education. These changes will increase the value of drawing in education. Supporting this view can be seen in the increased number of teacher in-service education courses which look not simply at basic drawing skills but drawing as part of a common core education (Leicestershire). Change in education sometimes occurs as a result of shifting values and altered social realities on a broad front. Lawton notes particular changes in attitudes towards education of the major educational reports and acts (Hadow, 1944 Act, through to Newsom and contemporary views) from 'elitist' to 'meritocratic' and now 'egalitarianism' and 'social relevance' generalisation of values. Thus social attitudes and values affect educational thinking as much as political changes.

Social reproduction may occur through the school curricula by the 'stratification of knowledge', since the resultant curricula will constitute values and assumptions chosen and imposed through the dominant culture of the powerful groups in society, and which is seen as one of the major means of legitimisation of the social order. This is the political nature of education, whereby the major role of schooling is the transmission of knowledge as it relates to the social organisation of work processes.

The major change in the importance of drawing knowledge in general education has increased due to a much greater value being placed on drawing skills in many areas of work.

"And yet the role and function of drawing is still a topic of debate, and many of Britain's top industrial designers disagree on the subject. It is too simple to say that those who value drawing skills are those who can draw and that those who don't can't. Britain's top designers do, in fact, draw very well. But some believe that it is possible to be a good industrial designer without drawing skills, arguing that designers who are weak in this area move to block models as soon as possible. Still, most agree that weak drawing skills can be a definite liability when it comes to selling ideas to clients. And that, of course, is the crunch, for at the end of the day a design is only worth the value placed on it by the client, and his first impressions are usually based on what he sees in presentation drawings." [92]

Professional individuals and institutions use their authority, control of resources and professional language to establish and maintain influence and control over the layman, in their attempts to preserve their prestige and a status quo in a hierarchical social system. The use of computers provides a language and prestige for designers using drawing to create images and graphic displays. In this same general sense the teacher is also consciously and unconsciously exercising control over the learner. Drawing can appear to be something that is only pursued at school and that one cannot draw properly unless taught to draw or having attained passes at particular examinations. Essentially most drawing is learnt rather than derived from any innate human characteristics, but it can be experienced outside educational institutions.

Any changes in the accepted relations of knowledge areas and the offical view of them will be regarded as a threat and a challenge, especially when the boundaries of a subject become problematic, for example, what is drawing in an integrated scheme of work? How will problematic areas of knowledge fit into traditional curricula?

If the teacher does not control the working definition of his subject

specialism, the pupil teacher relationship may become more problematic.

C) The social organisation and control of drawing knowledge

The implications of Young's study is that certain academic studies in
Britain involve assumptions that some kinds of knowledge are more
worthwhile than others; that teachers are socialised into agreeing with
these assumptions, especially since career chances for both pupils and
teachers are made better through the high status of particular areas of
the curriculum. The career opportunities of Technical Drawing teachers,
or, today, Graphic Design teachers, are far more problematic compared
to that of, Science teachers, unless they can demonstrate the value of
their subject-matter within 'Design Education'.

Rewards are given to both pupils and teachers for abstract, highly
literate, individualistic and esoteric knowledge, an old example being
Latin. The mounting rewards in graphic design commercially may change
teachers' views of the potential career opportunities afforded by skills
in drawing and designing. The non-academic curriculum is seen as
involved in concrete knowledge, orally presented, involving group
activities and a worldly emphasis. Drawing is generally seen in this
view, and is ironically most effectively taught in this manner.

Young sees this position not due to the knowledge being valued in its
own right, but because the criteria represented "accord with the values
of the dominant groups at a particular time". [93]   A school in which
I have recently taught, offered third year children six periods of
compulsory sciences for a year, but only three periods of a chosen design
subject, one of which could have been drawing, for a half year. This
demonstrates the inequality of one subject against another, but a clear
choice of the senior staff in control of the basic timetable and
therefore the structure of the curriculum because they publically valued
sciences higher than Design. There are many factors influencing the
subjects in a timetable. I see Science as equal to Design, however

University entrance favours sciences to design and hence there is inequality at school level. For example Engineering courses require Mathematics and Sciences but rarely Design or associated Drawing courses as a requirement of entry. If the values of the dominant groups were changed it would require a new labelling of what counts for success or failure "and thus also a parallel redistribution of rewards in terms of wealth, prestige and power". [94]

An essential criticism of a completely relativist position towards knowledge is that there is always a need for us to distinguish between the 'validity of human thought' and the 'origins of thought'; this may characterise the differences between sociologists and philosophers, involved in epistemological theories and problems. As Apple points out "objective institutions and structures.... 'out there'...... can control our lives and our very perceptions... it is to the nature of such processes that attention might fruitfully be turned". [95] We need to be aware of why knowledge is structured and selected in education in the way that it is.

Thus, since the distribution of power tends to follow the distribution of wealth and property, and that the culture of dominant groups tends to produce the dominant culture, the choice of knowledge within the curriculum represents a major source of social control.

The cultural apparatus as a whole is established and used by dominant institutional orders. A dominant group is, therefore, any institution which shapes reality. This may occur as a result of physical constraints and the logistics of presenting an educational programme and can be seen as the instrumental form which characterises the reality of the curriculum. Examinations, marking schemes and assessment procedures act as constraints on alternatives, but do legitimise and sustain definitions of school knowledge. Competency includes a concept of appropriate attitudes to work and a submission to most of the rules of the established

order. Ultimately, the curriculum can be seen as the medium rather than the message, and the content of the curriculum is hidden in a political spectrum of cultural conflict dominated by the interests of the powerful.

The autonomy of headteachers and their hold on the school curriculum; the ethicological arguments which produce courses in higher education institutions; the bureaucrats and professionals who assign resources to educational establishments; the controllers and producers who operate various mass media agencies and 'edit' information for general consumption; the economically powerful companies which advertise and shape various fashions and trends in the consumption of both essential and non-essential goods; and the owners of wealth and the means of economic production, represent examples of dominance.

A strong influence may also be seen in how the intellect, 'the mind' and ideals related to abstract speculation have shaped criteria for establishing the content of curricula: the search for 'eternal verities'. Another example of how dominance occurs can be seen in how a 'cultured class' possesses and values fine arts and objects produced by and through contemporary technical innovations. 'Art for art's sake, money for god's sake' is a mixed contemporary idea which sums up a powerful cultural influence on art. It is often valued more as investment than for itself. Access to formal culture comes from identifying worthwhile knowledge affirmed by that culture, for example, classical music rather than popular music; appreciation of renaissance art as being full of virtue and life, where modern art may be seen as being a confidence trick. Similarly, the difference between realistic drawing and expressive or abstract drawing also marks particular affirmation prescribed by the culture of dominant groups. These notions are extremely general but such generalisations tend to permeate people's common knowledge of various arts. A Leonardo drawing or cartoon is highly prized, whereas a Victorian engineer's drawing would have less value.

Thus conflict over the form of educational provision and the content of the
curriculum does reflect the diversity of ideologies which have arisen,
either through historical traditions or structural constraints
associated with resources, but more importantly, as a result of social
controls exerted consciously, and unconsciously, by dominant groups.
This control is essentially 'one dimensional' and determined by those
who have the means to realise their interests and maintain their 'distorted
view of reality' by not making clear their objectives or actively
understanding how, and why, they themselves are influenced. Man generally
does not take an epistemological attitude to his influences and experiences.

However, educational success is highly correlated with family backgrounds
and family influence, though constrained by the general, social and
cultural environment.

> "Pacification of existence means the development of man's struggle
> with man and with nature, under conditions where competing needs,
> desires, and aspirations are no longer organised by vested interests
> in domination and scarcity...." 96

II THE SELECTION OF DRAWING KNOWLEDGE FOR SECONDARY SCHOOL CURRICULA

The study of how drawing knowledge has been selected for secondary
school curricula is a particular example within the spectrum of how
knowledge is selected in, and for, schools. The fact that, in general,
the way in which social interests influence schooling has been obscured
is a central issue today. Teachers need to develop an understanding of
the differences between 'knowledge', 'ways of teaching' and 'methods of
assessing the effect of their teaching on children'.

This will necessitate a much wider understanding of the political and
cultural forces at work in schooling. It seems likely to me that
"the values of our education have lost substance and honour by avoiding
conflict". 97

There is always a need to reveal assumptions and beliefs in education because these issues refer to the nature of education itself. Knowledge is essentially a 'social construct' as well as a 'human construct', in my view.

> "The pragmatist or instrumentalist theory of knowledge..... is a
> view which believes that knowing is essentially a practical activity,
> that one knows in doing..... Whereas a 'realistic' theory of
> knowledge.... presupposes a metaphysical assumption, that the world
> has a definite fixed structure already there to be known." [98]

These are opposing views according to Reid. These differences characterise the difficulty of placing most forms of knowledge in context, within a curriculum. This problem further enhances the notion of knowledge being separate from people but, paradoxically, influenced by people's values, as much as generated by individuals.

> "The disciplines of learning represent not only codified knowledge
> but ways of thought, habit of mind, implicit assumptions, short
> cuts and styles of humour that never achieve explicit statement....
> deadening and banalisation are also characteristics of knowledge
> once it becomes codified." [99]

Thus, I agree with Durkeim that "education is an eminently social thing in its origins as in its functions, and that, therefore, pedagogy depends on sociology more closely than on any other Science". [100] Since drawing comes from man it too is dependent on society and culture for its force and vitality, as well as its generalised forms.

> "Attempts to change or modify educational codes will meet with
> resistance at a number of different levels, irrespective of the
> intrinsic educational merit of a particular code." [101]

For Bernstein, formal educational knowledge is considered to be realised through three message systems:

> 'Curriculum',
>
> 'Pedagogy' and
>
> 'Evaluation'

as noted in Chapter One. An education knowledge code refers to the underlying principles which shape the three systmes. The form this code takes also depends upon social principles which regulate 'classification and framing' of knowledge made public in educational institutions. Knowledge and beliefs are given a particular form.

Bernstein sees a contemporary trend towards 'integration', rather than 'classification' in the changes of educational codes. This change would, in my view, enhance drawing education and aid its development. There is a great deal of empirical evidence for the following comments by Bernstein about education generally which have been modified for drawing education:

> 1) "The growing differentiation of knowledge at higher levels of thought, together with the integration of previously discrete areas, may set up requirements for a form of socialisation appropriate to these changes in the structure of knowledge." [102] The whole nature of drawing education is in a state of flux today.
>
> 2) "Changes in the division of labour are creating a different concept of skill" [103] and many new and traditional uses for drawing are being developed.
>
> 3) "The less rigid social structure of the integrated code makes it a potential code for egalitarian education." [104] From this, people are learning how areas of knowledge relate and therefore, a field like drawing may be used in many contexts.
>
> 4) "..... there is the problem of making sense of the differentiated, weakly co-ordinated and changing symbolic systems......." [105] This means that knowledge is relative and not absolute and that there is greater freedom for us to use the drawing knowledge we have.

In the broad spectrum of education, drawing knowledge should be seen as knowledge within the grasp of most people, for their use and in a human context. Drawing knowledge should not be taught as inert knowledge, despite the fact that very often many drawings need little justification.

The study of empirical evidence for the way in which 'social and cultural' controls and influences are exerted on the selection of drawing knowledge in secondary schools represents a major objective in understanding how drawing knowledge is structured. Bernstein's categories would be particularly useful in this respect, when applied to drawing knowledge. (See reference 29.)

Curriculum: Drawing knowledge and various curricula i.e. 'what counts as valid drawing knowledge?'

Pedagogy: The views and values teachers hold for drawing knowledge, drawing experience and drawing criticism. i.e. 'what counts as valid transmission of drawing knowledge?'

Evaluation: The way in which drawing experience is given a distinctive form. The effect of schooling.... i.e. 'what counts as valid realisation of drawing knowledge on the part of the taught?'

The selection of drawing knowledge and the forms of curriculum devised for the formal teaching of drawing for the first three years of secondary schooling, with special reference to notions about 'common core courses' would represent the essence of a further less theoretical study.

This study has essentially been a discussion of the philosophical issues involving the selection and structure of drawing knowledge, with respect to certain elements of curriculum development.

How a curriculum may be formed is not always dependent on the 'intrinsic logic of a field of knowledge'. The forms of transmitting knowledge, the judgements made about the value of learning about drawing, and the value judgements made in the selection of drawing knowledge, are all 'social facts' which influence how and why various curricula are formed.

How drawing knowledge is selected for various drawing curricula can be revealed through discussion with teachers by examples of what Bernstein calls 'Classification', which encompasses and demonstrates the following

issues:

a) The nature of the differentiation between contents of a curriculum
......when, where, what, how and why drawing is taught, in relation
to the other contents of a curriculum.

b) How a school:

    1) selects drawing knowledge

    2) classifies drawing knowledge

    3) distributes drawing knowledge

    4) transmits drawing knowledge

    5) evaluates the drawing knowledge it considers to be public.

c) How a school structures drawing experiences:-

    the forms of experience, identity and relation evoked, maintained
    and changed by curriculum planning, teaching and evaluation
    procedures.

CHAPTER FOUR

A STRUCTURE FOR

DRAWING KNOWLEDGE

I MY STRUCTURE FOR DRAWING KNOWLEDGE

As with a definition of drawing, a similar problem is encountered with forming a structure for the teaching of drawing. The following structure is the basis for my teaching and is offered for criticism and analysis.

"The first object of any act of learning over and beyond the pleasure it may give, is that it should serve us in the future." [106]

My structure for drawing knowledge relates directly to my ideals and practical considerations for drawing in the secondary school curriculum. This curriculum aims to determine and reveal for children, the underlying principles that give structure and meaning to drawing knowledge.

However, "if the consciousness of the teacher is to be in the minds of the students, then first of all the consciousness of the students must be in the mind of the teacher". [107]

This seems to me to be a vitally important notion underlying how a teacher selects and structures knowledge for children. The topics and skills that may be taught, as a fundamental structure need to be continually sought and reviewed. The function of experience and experiment with the major topics and skills of drawing is that they are most likely to give the student a sense of intelligent mastery over the material. As noted in Chapter one, this approach is intended to reveal the 'thinking which is the field'. "Grasping the structure of a subject is understanding it in a way that permits many other things to be related to it meaningfully. To learn structure is to learn how things are related". [108]

A rich source of ideas can be found by noting the methods adopted by successful teachers and curriculum development as much as through a critical appraisal of the practices of professionals and academics in the fields of contemporary drawing.

Drawing education is essentially about the opening up of new realms
of feeling, especially to aid personal growth.

> " he radically changed work in Design and Craft in many schools
> has switched emphasis from traditional craft skills to personal
> and community problem solving, decision making and, above all,
> meaningful expression of ideas, feelings and beliefs." [109]

Drawing can be valued as a leisure activity, a therapy, an aspect of
creative thinking, a method of understanding academic ideas and
physically, can improve and develop the co-ordination of the eye
and hand as an aspect of general motor skills.

> "The prime value of the 'arts in education' lies..... in the unique
> contribution it makes to the individual's experience with and
> understanding of the world. The visual arts deal with an aspect
> of human consciousness that no other field touches on: the
> aesthetic contemplation of visual form." [110]

Drawing functions 'within' and 'without' Art. The essential thinking
which characterises what drawing is, is based largely on the power of
visual metaphors. The use of 'visual metaphor' has placed some drawing
as not mere objects but as a "form within which man's most cherished
values can be embodied". [111] Drawing generally functions in personal
and public forms and can depict man's fears and dreams, as well as
model his material world.

Within this fundamental knowledge is the specialised knowledge of how
images may be produced. There are unique skills in drawing and
they relate to

> 'forming drawings',
>
> 'using and understanding drawings' and
>
> 'looking at drawings'

as previously described. By learning the fundamental thinking associated
with drawing a student may be able to generalise from what they learn to
what they may encounter later. Knowledge gained with a structure will be
better remembered. A prime responsibility of a teacher is to organise

facts in terms of principles and ideas from which they may be inferred.
Structure in this form will also enable children to better remember
the information which they have learned. A great deal of this form of
learning is unconscious. How we learn language is a prime example but
most of learning to draw is achieved in the same manner. This notion
implies the power of the 'hidden curriculum' as much as reinforcing the
point that teachers assume that children learn how to draw naturally
rather than by study.

A prime pedagogical objective should be to find an awareness of methods
which will enhance drawing skills which are derived unconsciously.
However, it is not always possible to be rational about what we learn.
Non-specific transfer of training relates to habit and association more
than to structure and direct training. Understanding of basic and
general ideas does broaden and deepen knowledge. What is required in
drawing education is the structuring of early experiences to engender
this understanding. The first three years of secondary education remain
formative in character and very important for the achievement of
individual understanding of basic drawing values. The effect of Primary
School education is also important, although minimal in the structuring
of drawing education for children generally.

The first three years of secondary school are an especially important
period in drawing development. As Eisner empirically observes "drawing
skills tend to be arrested at about the period of adolescence......
Development beyond that provided by such experience requires concerted
effort or instruction. Thus, with respect to productive skills in the
visual arts, most adult's ability is equal to that of a 14 - 15 year old."[112]

Agreeing with this general notion, it seems to me that drawing education
for 11 - 14 year olds is crucial. Two issues remain in the development
of drawing courses.

1) The need to provide experiences of the most pervading and powerful

ideas and attitudes relating to drawing, as valuable materials for

teachers to teach drawing to this age group, and

2) The eternal problem of finding material which matches the

capacities of the children as much as their interests. This

should, in my view, require finding practical ways of utilising

and engaging an individual child's own ideas.

Mastery of fundamental ideas for drawing involves not only the grasp

of general principles, but also the development of an attitude towards

learning and enquiry, towards guessing hunches, "towards the possibility

of solving problems on one's own". [113]

How this relatively esoteric point of view can be inculcated into

most adolescents will rely on effective and creative teaching, as much

as useful and realistic teaching ideas and materials. The principles

of 'drawing as experience' and 'drawing as experiment' are crucial to

forming a structure for drawing education.

The primary aims of learning about drawing involves:

1) The structure of drawing knowledge by its fundamental principles.

2) Elements of discovering learning which may lead to drawing

experiments and experience.

3) Experience of major works and fields in drawing.

4) Experience of how drawing is used and understood.

5) Discussion of how we look at drawings and how we react to them.

6) Examples of skills, techniques, effects and instruments which form

drawings.

7) Experiment with personal and public ideas through drawing.

I believe it is possible to present the fundamental structure of a

discipline in such a way as to preserve some of the exciting sequences

that lead a student to discover for himself.

The objectives of discovery through drawing should include both

empirical knowledge and theoretical knowledge based on:

1) Discovery of fundamentals about drawing skills and significances.

2) Discovery of 'eternal verities' or their myth through drawing.

3) Discovery of personal expression and feelings, including intellectual excitement.

4) Discovery of something new, whether for design or the creation of images and symbols, but above all, drawing itself.

5) Discovery of the philosophical basis for drawing by considering the effect and value of drawing to:

   a) symbolise objects, actions and ideas.

   b) explore reality.

   c) communicate information and many forms of knowledge.

   d) reveal sensitivities and dispositions to life, natural phenomena and thought.

For drawing to be effectively taught it needs to be seen as subject-matter which will enhance and contribute to a curriculum, so designed as to promote cultural awareness and a capacity for creative thought and actions in its students.

Drawing as a common experience in the first three years of secondary education should encompass two fundamental notions.

i) Drawing education should enable an individual to apply drawing knowledge interpretively in making sense of the world, and

ii) Drawing education should enable an individual to respond to the world critically and reflectively.

Paradoxically, there cannot be universal agreement about this since pedagogical styles are themselves individual. However agreement in principle is always useful.

The task of good teaching is to find and use drawing knowledge which is relevant to today's students, and more widely, to society. This knowledge needs to be structured so that it is flexible enough to cope with the changes in subject-matter and to be seen within a broad cultural context. Drawing is a distinctive subject-matter which can be carved out for

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examination by distinctive concepts, generalisations, procedures and problems.

However, "the bulk of teachers are little concerned with updating their subject knowledge and structure. Their prior concern is the quality of their teaching. The ground work in subjects changes slower than the frontier of knowledge." [114]

Thus the production of resources which illuminate issues related to the structure of a subject-matter, like drawing, are of paramount importance in the development of fresh thinking about the educational issues related to any area of knowledge.

There are inevitably mismatches between teacher expectations and what a child may learn. This notion owes more to inert thinking on the part of teachers than to child abilities, despite the many problems associated with teaching 11 - 14 year olds. Many adolescents exhibit good skills in drawing; many adolescents, however, still retain childlike drawing schema, as do many adults, and this again represents a challenge in teaching.

There is also a mismatch between subject content and what is needed and valued in society generally for drawing. There are many rich areas of drawing experience still to be used at school level.

A lack of coherent structure in the teaching of drawing, especially from basic knowledge which may lead to advanced forms of drawing, is a main problem facing the development of 'drawing education' generally.

My aims for teaching drawing are based on drawing knowledge being:

1) rational, coherent and fundamental in principle and founded on the best practices and thoughts about drawing.

2) contemporary and tempered by the most effective and valued traditional drawing.

3) socially relevant, especially in its applications.

4) able to involve pupils in firsthand experiences and experiments.

5) broad and balanced in terms of the values and points of view which
   may be presented to children.

6) learnable and teachable, and therefore, structured around pedagogical
   aims and objectives more than the intrinsic logic of drawing
   knowledge which is not definable.

7) interesting in its own right.

These principles underly my basic structure for drawing at secondary
school level.

The major conceptual objectives for my drawing knowledge structure are directed towards providing drawing experiences and experiments based on the following:

Conceptual Themes	Learning Methods	Classroom techniques	Drawing Parameters
Invention	Inquiry	Individual and group research.	Redaction (editing ideas and images)
Imagination	Investigation		Syntax (choice of style and visual statement)
Observation	Problem-defining	Role play	
Discrimination	Hypothesising		Pictorial design criteria (researching)
Aesthetic	Experimentation	Large and small group discussion	Information - (recording, transferring and generating)
Manipulation	Searching		
Communication	Exchanging opinions		
Design	Exploring feelings	Games	Expertise (Value of line and techniques, conventions)
Value judgement	Accumulating and retaining information		
	Exposure to diverse aesthetic styles	Projects	Fluency (rapid reading, recognition and inter-pretation
	Evaluating and interpreting		Symbols

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II A COMMON CORE DRAWING COURSE

Among the arguments for a common core curriculum, has been the fact that

such a basic recommendation would be a guide to junior teachers.

It would also provide a secure starting point for curriculum planning

generally for individual schools. For parents and pupils it would

allow mobility between schools to be made with little disruption.

However, a common core curriculum may inhibit teacher initiatives in

curriculum innovation and development. There would also be a danger

of government or industry dictating their requirements in education.

But if only a minimum core curriculum is considered then most of these

fears may be assuaged. If there is to be a common core curriculum,

one problem remains and that is how will a common core be communicated

to schools in general?

A common core drawing course should represent the basic skills and ideas

for drawing knowledge which can be presented within a given school, and

which every child should experience.

My main strategies for a common core drawing course relate directly to

the nature of drawing: drawing knowledge. Empirically, there are

several commonsense aspects of drawing knowledge which most people would

accept as fundamental to drawing skills and ideas. The types of drawing

and the strategies people establish for using drawing are the essential

components for a common core course. Teachers should use their own

judgement, preferences and interpretations for the structure of the

drawing courses they provide based on fundamental drawing knowledge.

'Drawing as experience' and 'drawing as experiment' are my fundamental

educational aims for a common core drawing course for junior secondary

school students. They permeate the following basic drawing activities

and concepts which are generally recognised as fundamental to drawing

knowledge:

A) The notion of mark making including experience of using different media, tools and materials with which marks can be made.

B) The assembly and control of marks, whereby some form of structure may be made.

C) The notion of observation as being a crucial skill in drawing. This includes the ability to draw and communicate information, which is inextricably concerned with observation and being able to 'see'. The difference between looking and seeing is important. We can observe objects, actions and ideas but we do not begin to understand their nature until we consciously see what they are.

Objective drawing, as much as drawing from the imagination, feature strongly within this essential drawing skill based on observation and contemplation.

D) The notion of drawing for a purpose. In this instance drawings are formed to work in certain contexts; they are designed to communicate particular information. This area includes drawing for 3-D designing as well as the 2-D design of graphic images.

Within these basic concepts are the notions of 'private drawing' and 'public drawing'. Also, 'drawing activities' are seen as more fundamental than the acquisition of 'drawing products'. Looking at drawings and taking action from the information contained in them, or making aesthetic judgements about their form, are also features of a common core drawing course.

How acceptable or coherent the notions of a common core drawing course will be to children will depend greatly on how drawing skills are presented to them. How a child's own ideas are found and nurtured is also of paramount important in education. It seems that children will involve themselves in most of the ideas and skills offered to

them providing they can find some meaning for themselves in an activity. What is crucial is that children do find satisfaction and significance in their 'drawing experiences'. Whether they will naturally find ways of creating 'drawing experiments' depends to a certain extent on chance, but more importantly on a structured learning environment. By providing a structure to drawing knowledge more children will develop their own potential to understand and use drawing.

There are dangers in teaching drawing in a linear fashion for example by starting with mark making and moving to the structure of mark making so that the marks have meaning, through the use of line, tone, surface texture, shape and form, and then finally placing drawing skills in a context where information may be graphically communicated. This linear approach tends to reinforce a craft approach to learning about drawing. In many cases, because drawing has been taught with little or no, structure, the basic skills may need to be taught in isolation from a working context for drawing activities. This may be seen as remedial action rather than good teaching practice. Nevertheless, it is important to seek the essential skills of drawing. Isolating fundamental notions about drawing helps clarify the nature of drawing as well as providing an effective starting point to learning about drawing.

Given a basic structure for drawing each teacher should teach the elements that are relevant to his curriculum needs. The order in which drawing activities may be taught will also be open to change and personal choice. Part of the art of teaching drawing is the identification of basic skills and the establishment of appropriate contexts for those skills.

I feel it is important that in some form or another, the basic drawing knowledge outlined above should be incorporated in a curriculum somewhere and at some time.

The qualifications for teaching drawing vary widely. Generally teachers

with a design background teach drawing, and it is to this area of education that drawing in its own right may be best developed and used. A major responsibility for teaching drawing will also befall art teachers. But, art teachers tend to teach drawing for the purposes of art and not drawing. Design teachers will undoubtedly teach drawing for design, but since drawing is fundamental to design education, it is more likely to be taught for its own sake within design education. Drawing is used widely across the curriculum without structure or forethought on the part of teachers generally. Only a wider awareness of the educational value of drawing will enhance a better use of its important value. Primary School education in drawing will need development to support a proper use of drawing knowledge throughout education. Drawing is a basic human skill as is the ability to write. Children are taught language and mathematical skills at an early age; these subjects are given importance socially and culturally. Also at this age children exhibit confidence in drawing; they describe their experiences very well visually. The fundamental skills of mark making occur at a similar time to the development of writing. But children are given every encouragement and support for enriching their language development and very little structured help with their drawing. This situation continues until children reach secondary schooling.

However drawing is still only taught within subjects like Art, Technical Drawing and some Design. It still lacks structured teaching 'across the curriculum'. Thus a commore core drawing course of the nature described here represents not just a basic educational proposal but as previously noted, the basis for remedial action to regain children's skills and confidence in drawing. This action may be a concentrated effort to overcome considerable lost ground throughout general schooling. The most practical way in which drawing education can be enhanced will be by re-focusing 'drawing' as it occurs in subjects like Art, Technical Drawing and Design into a more general drawing course.

Drawing education should feature as part of an individual's education;
it is as important as any other area of knowledge. This should have some
structure and should relate drawing knowledge to its many uses and
contexts within schooling as much as a basic human skill.

How a common core drawing course may be structured within a curriculum
is an essential practical issue. My view is that it should feature as
part of design education as a separate course, and as part of an
integrated course where drawing is an important feature of a multiplicity
of design activities. Ideally it should also be structured as a basic
skill, similar to numeracy and literacy across the curriculum. But this
is a doubtful proposition, despite a small number of schools attempting
such a course. However, drawing as a separate subject will be difficult
to establish. This may be because, within the working curricula of
today, subjects like Art, Technical Graphics, Graphic Design and
Technical Drawing already represent the separate areas where particular
drawing skills occur.

The most practical way to establish the full value of drawing knowledge
is to consider it in the same way as design education. How drawing
is placed in a curriculum will depend on the particular curricula
structures and values being promoted for individual schools.
Curriculum changes to fully utilise the value of drawing knowledge in
education will mainly be derived from teachers. Basic teacher
education does not fully support drawing as a common core experience
throughout education. Many of the changes required should come
from in-service education courses. These courses should be styled
in such a way that the regenerated interest in drawing enables
teachers to develop new ways of teaching drawing with confidence.

My aim in considering the value of drawing knowledge has been to
educate children's natural confidence to draw. Essentially what is
required is a series of drawing strategies which can be taught and

learnt in an open, flexible and creative manner. Elements of structure for drawing knowledge will be important since this approach allows children to develop from basic forms of knowledge to more advanced levels of drawing. Awareness of how particular areas of knowledge are valued is also important in curriculum development. I value drawing as much as other areas of knowledge because it has something unique to offer people generally. I would wish all children to use 'drawing as experience' and to seek the possibilities for 'drawing experiments'.

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DRAWING EDUCATION

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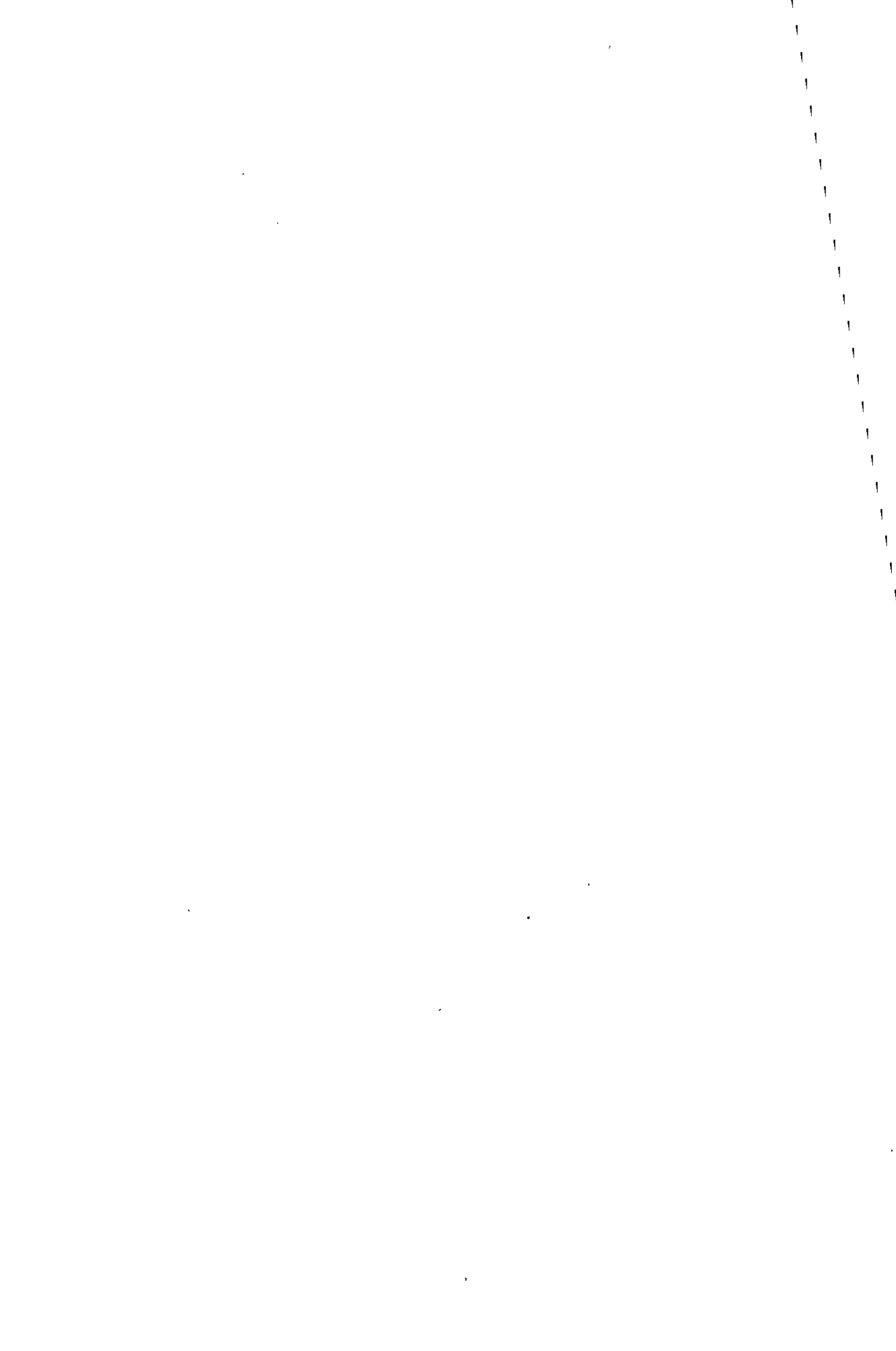
JUNIOR SECONDARY SCHOOLS
(11 - 14)

Supplementary Appendix

to

III FOUR MAIN DRAWING ACTIVITIES

ii) Observational and imaginative drawing.

In the series of drawing activities for IMAGINATIVE
DRAWING, I am aiming to establish some of the different
ways in which we can 'look' and 'discuss' drawing objects,
actions or ideas other than by direct representation.
Our consideration of the 'form' of our drawings will
also be an important feature of using our imagination
in drawing.

The drawing activities here will emphasise the value
of your personal response to your experiences through
drawing. Your inner subjective feelings and sensations
are very important in this form of drawing.

No drawing can be totally objective because we, as
people, act as the translator or medium through which
experience and insight are expressed in a drawn form.
Imaginative drawing expresses both personal feelings
and emotions, as well as insights into the nature of
things for others to appreciate.

Because the pictures which we create may change many
times in the process of their being drawn, our drawing
may become more imaginative. Drawing enables us to
make and explore our personal responses to all manner
of experiences. In these instances our drawings become
expressive and it is this form of creativity through
drawing which demonstrates the power and value of
imaginative drawing.

Not all drawing, whether objective or imaginative needs
to be representational. Imaginative drawing is the
drawing made in the analysis of our responses and sens-
itivities to our environment, to the objects about us

and, vitally, our personal expression of our feelings.

Drawing is an important means by which we can communi-
cate information about what we see and know. But drawings
are not reality; effective drawing requires us to be
conscious of what we see, as well as free to allow
hidden feelings and ideas to be expressed. Drawings
are imaginative visual statements; our experiments
with the form of a drawing demonstrate another example
of the use of our imaginations in and for drawing.

In general, being imaginative means that we show and
use our mental faculties to form images of things which
are not present to our senses; it is the creative faculty
of the mind. We can be imaginative in our drawing with
or without direct observation of objects and actions.

Expressive drawing occurs whenever we search for meaning
through drawing. We can gain personal excitement from
drawing as well as give pleasure to others through the
use of many different media, drawing techniques and
the construction of our images. This is at the heart
of our aesthetic responses to drawing, as well as the
sharing of our insights into objects, actions or ideas.

Imaginative drawing involves recording, analysing,
thinking, speculating and communicating information
and feelings. If we aim to understand certain objects
we should study them from many view points. Discussion
of first hand experience and the different feelings
and thoughts of other people are crucial elements, guides
and aids to our expressive drawing. By drawing objects
and living things we aim to describe their appearance,

but importantly, we should aim to discover something of their nature and being.

Our emotional feelings and reactions to our drawing subjects will affect our drawing and will at times extend our drawing beyond the level of direct represent- ation. Sensitive and careful discussion can aid the quality of our emotional feelings affecting our drawing. We should aim to be aware of how various media or techniques can be 'analagous' to things which we depict in drawings. For example, exploring the use of sharp, hard pencil for fine, small, thin objects.

Learning the qualities of various media will enhance the interpretation of what we see. Understanding this point requires us to be aware of the form of our drawing in relation to its meaning.

Use of loosening up exercises and mark making before a particular study is important since it may lead to the discovery of certain drawing techniques or effects which will enhance the significance of images and pictures. Thus our awareness of the forms of drawing, relevant discussion and observation all aid our development of expressive drawing.

Throughout the following drawing activities the need for preparation and discussion is of paramount importance. Sensitivity to our experiences can be brought into focus through the interaction of feelings between people.

The fact that we naturally respond to fluffy, baby animals in a different way to a smelly compost heap or a relentless machine is important to our discussion

of our disposition to things. However, we must guard
against a cliched response. For example, a bat is usually
regarded as an ugly creature and an ideal model for
a gargoyle, but,in my view, it is a beautiful animal,
well adapted to its environment and needs for survival.
All living things, as part of evolution, can be marvelled
at. Our different responses to them can be expressed
powerfully through drawing.

Making the effort to actively explore the nature of
things is vitally important to good drawing. 'Looking'
and 'discussing' are crucial elements in imaginative
drawing. Copying previously worked out images, whether
photographic or drawn, may aid a speedy and accurate
response to particular needs for pictures and images,
but they are no substitute for direct experience, a
memorable stimulus or an interesting conversation.

An imaginative approach to researching for an image
does, at times, require a conscious effort on our part
to see things. One way to heighten our perception of
things is to use discussion to identify, describe, compare
or contrast various objects, especially if they are
unusually placed. Another example of imaginative drawing
can be found in the use of the idea of 'metamorphosis'.
Changing familiar objects into something unusual is
a valuable drawing experience. In this instance, we
need to use what we know as much as allow ourselves
the freedom to consider the unknown.

All these activities will act as an imaginative focus
for what we draw. Being prepared to search for a
different viewpoint or scale for our drawing will place

our observation and recording of events within an expressive context. Using drawing to tell a story allows us to express personal feelings and ideas. Telling a story from someone else's images may also be a useful aid to our overall understanding of drawing.

Drawing can be beneficial psychologically, in that it can be a means by which we can convey unconscious feelings, anxieties and conflicts, especially since we do not have to justify our pictures on every occasion when we draw.

Imaginative drawing is derived from many sources. We draw from our dreams, inventions, insights and observed experience, but we primarily express our feelings in imaginative drawing. Imaginative drawing represents our experiments with ideas and drawn images. Through these experiences we can gain the confidence to interpret our sensitivities. Concentration upon drawing the appearance of things seen and felt, can lead to an emotional response through drawing.

What is depicted in a picture has no real existence, but we often assume that it does. In this sense all drawings are imaginative

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different viewpoint or scale for our drawing will place

our observation and recording of events within an expressive context. Using drawing to tell a story allows us to express personal feelings and ideas. Telling a story from someone else's images may also be a useful aid to our overall understanding of drawing.

Drawing can be beneficial psychologically, in that it can be a means by which we can convey unconscious feelings, anxieties and conflicts, especially since we do not have to justify our pictures on every occasion when we draw.

Imaginative drawing is derived from many sources. We draw from our dreams, inventions, insights and observed experience, but we primarily express our feelings in imaginative drawing. Imaginative drawing represents our experiments with ideas and drawn images. Through these experiences we can gain the confidence to interpret our sensitivities. Concentration upon drawing the appearance of things seen and felt, can lead to an emotional response through drawing.

What is depicted in a picture has no real existence, but we often assume that it does. In this sense all drawings are imaginative

Volume 2

DRAWING EDUCATION

IN

JUNIOR SECONDARY SCHOOLS
(11 - 14)

VOLUME TWO

A PROPOSAL FOR A

STRUCTURED RESOURCE PACK

FOR DRAWING EDUCATION IN THE

FIRST THREE YEARS OF SECONDARY SCHOOLING

A WORKING DOCUMENT

ABSTRACT

The following ideas represent a basic structure for children to learn
about the main forms of 'drawing experiences' and 'drawing experiments'.
They are not necessarily the final form in which they may be presented
to children in their first three years of secondary schooling.

C O N T E N T S

I   A STRUCTURE FOR DRAWING KNOWLEDGE FOR 11-14 YEAR OLDS

AT SECONDARY SCHOOL

The aim of a basic structure for drawing knowledge is to introduce

and describe some drawing activities which may form a 'common core'

drawing curriculum. The main assumption underlying this proposal is

that the activities are intended to explore the nature of drawing rather

than the applications of drawing within particular subject areas. The

educational aims for my structure of drawing knowledge are intended to:

i)   give children a respect for, and confidence in, their own

thoughts and skills about drawing.

ii)   provide a set of workable experiences, activities and models,

which analyse 'why man draws' and 'how he uses drawing'.

iii) impart a sense of respect for the capacities of people to draw

and use drawing.

iv)   leave the student with a sense of the unfinished business of man's

powers of communication through drawing.

Two principle areas of drawing knowledge are explored through the

drawing activities.

Drawing as experience

'Drawing as experience' represents the knowledge we have for drawing,

its skills, its forms and some of its meanings and uses. The teaching

objectives for 'drawing as experience' are both instructional and

expressive.

Drawing as experiment

'Drawing as experiment' relates to how an individual demonstrates an

understanding of drawing by deliberate use of drawing experiences to

express feelings and insights about objects, events or ideas.

This form of drawing expresses original thoughts and skills. The

teaching objectives for 'drawing as experiment' are directed towards

the possibility of an individual creating new forms of understanding through drawing.

For each student to be able to 'think in terms of drawing' is the main objective of this learning material about drawing. This notion encapsulates both 'drawing as experience' and 'drawing as experiment'. The main drawing activities to explore are:

'Mark-making',

'Observational and imaginative drawing',

'Design-by-drawing' and

'Drawing symbols, signs and patterns'.

These activities are offered, not so much as a prescription for drawing, how to draw, but, rather as a means of developing various notions about the 'art' and 'nature' of drawing, talking and thinking about it. From these activities it is hoped that a student should be able to use drawing knowledge to experiment with his or her own ideas and feelings, skills and pleasures.

The activities aim to build up the use and understanding of drawing terms and expressions commonly used through discussion. These exercises are also intended to explore how we use drawing in various contexts and how drawing communicates many aspects of information. Students should be encouraged to make their own decisions about drawing, especially those concerned with :

1) the information which they are communicating,

2) the graphic form of their drawing and

3) the value and effect of their drawing.

Personal choice of expression of the subject, whether figurative, pictorial or abstract in form is also important. While the students are developing their own skills and ideas they will also need to consider how drawings help people in the many ways they do. Drawing can help us to see things more clearly. It can be said that 'it is not what is seen,

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but how we see', that is a most important experience to consider, when drawing. Learning about drawing is not simply making pictures and images, but also being able to look at other pictures and to understand their meaning. It is possible to learn about the things we see and experience through drawing.

This set of drawing activities aims to develop individual ways of seeing and understanding experiences, needs and ideas. Personal interests are crucial in developing 'drawing experiments'.

Students should aim to look closely at things and ideas. They should choose the most appropriate media, such as pencil, pen or paint for drawing. Enjoyment of 'mark-making' and handling different media is a very important experience as well as being sensitive about what is being drawn.

Experiment and draw form here.

Drawing experience and drawing experiment involve:
A) Looking at drawings
B) Using and understanding drawings
C) Forming drawings.

Within all three of these activities both drawing activities and drawing products occur where:

      drawing activities represent the act of drawing and

      drawing products represent the drawn images and pictures,

      especially in a working context.

Most drawings involve thought about:

      the concept of a picture or image

      the design of the drawing

      the execution of the drawing

      the use of the drawing

Originality and creative drawing occur when any of these notions

are experimented with personally or publically.

A) Looking at drawings

Looking at drawings means receiving information from drawing products.
This is essentially when the artist communicates to the onlooker.
'Realism' and 'symbolism' are the main forms of information being
communicated through a drawn image; both deal with images, concepts
and arbitrary symbols.

'Looking at drawings' generally involves consideration of:

a) Direct representation in pictures.

b) Description of a picture form.

c) Association made for the marks in an image.

d) Special knowledge from, and about, pictures.

e) Imagery in pictures (iconography)

f) Reactions to information being communicated by pictures.

g) Perception of two-dimensional images.

B) Using and understanding drawings

Using and understanding drawings generally means placing a drawing in
a context, especially to enhance the feelings or information being
communicated through a picture.

Subject areas for drawing tend to be:

a) The Natural World, including people, imaginary creatures, animals,
   birds, plants and all living things, as well as natural phenomena
   and natural environments.

b) Man-made Objects, including designers' sketches and drawings,
   presentation drawings, production and technical drawings, maintenance
   drawings, technical illustrations and promotional drawings related to
   objects and things. Observational and imaginative drawing which
   is representational or abstract are also important.

c) Symbols, including graphic design, symbols, logograms which convey
   concepts, image related signs, arbitrary signs and symbolic images

and patterns.

C) Forming pictures

The act of drawing involves forming pictures, images or simply mark-making.
It is essentially the structure of an image made by various marks with
a particular medium.

Forming pictures involves:

a) Mark making - the exploration of media and materials and tools,
   including free experiment and structured exercise to explore the
   possibilities and potential of the effects created by marks.

b) Surface, Texture and Shape - the development of techniques appropriate
   to material and surface explanation; exploitation of line, shape
   and textures.

c) Form - proportion and scale of objects and ideas, especially
   aesthetic consideration of the effect of certain forms and special
   references to strategies to show three-dimensional configuration,
   tone and shadow.

d) Light and dark - the tonal balance and effect of an image.

e) Inside and Outside - the exploration of inside or outside of an
   object, design or idea with reference to ghosting, sectioning,
   exploded views and overlapping lines, shapes and tones.

f) Composition - structuring an image so that it has unity and impact
   in its setting.

II STRUCTURED DRAWING ACTIVITIES

i) **Drawing Activities**

A) Mark Making

B) Observational and Imaginative Drawing, including observation of
fundamental ideas and phenomena.

C) Drawing Symbols, Signs and Patterns.

D) Design-by-Drawing.

Each Drawing Activity will be set out in the following format and order:

ii) Themes: The subject's general theme as well as the general type
of drawing activity.

iii) Subjects: A title for the particular drawing, including an outline
of what might be drawn. This will also include examples of
drawing initiated by children.

iv) Starting points:

Concept – An introduction to the information which may be communicated
through drawing, either technically or imaginatively. This is intended
to be a personal selection, exploration and statement of what is 'known'
or 'unknown' about the subject. A starting point for drawing may arise
from a general stimulus or guidance about the topic being studied.
Much of this early work can be introduced through discussion and
questioning. For example:

   'what can you see?',

   'what can you find?',

   'what could you say.....?',

   'what is the concept of the drawing?',

   'what kind of marks can be made?'

v) Drawing strategies:

   (i) Design of Image – A discussion of the purpose of the subject
   for learning about drawing. This will be supported by questions
   about terms generally used in drawing. Personal selection,
   analysis, recording and researching of examples of the subject

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and ways of drawing are explored in this section.

(ii) Artwork - A discussion of the 'graphic form' of the drawing,
including choosing and experimenting with different media,
loosening up exercises, constructional techniques (freehand
or mechanical), composition of the drawing, drawing effects
and styles and relevant activities for developing drawing
skills. Special reference will be made to the possibilities
for choosing how the 'form' of a drawing may be considered
in relation to the 'meaning' of the image drawn.

iii) Use - A discussion about the use and exhibition of the drawing,
where it may be used and how people might react to the drawing.

iv) Summary of drawing activities:

A discussion of the value and quality of the drawing. A personal or
general criticism of the sensitivity of observation, the interpretive
value of the image and, importantly, the degree of individual and
personal statement contained in the drawing. A questioning of whether
the drawing represents an achievement of the original goal or the
finding of a new experience, effect or information. Has the student
learned anything new or interesting about their subject or drawing?

The concluding aspects of the drawing activity may also lead to further
enquiry of ideas and skills and alternatives to look at and aim for as
drawing experiments.

III FOUR MAIN DRAWING ACTIVITIES

i) Mark making

A) Introduction

In this series of activities, I am aiming to introduce you to some of
the ways we can explore drawing as a 'mark-making' process. I have
chosen to consider elements of mark-making which would support the
other major areas of drawing activities presented in this work pack.
These mark-making activities aim to support my structure for a common
core drawing course. This section essentially explores the notion of
drawing for its own sake. The main emphasis is to enhance the pleasure
and delight to be found in making graphic marks. Communication will be
mainly between the drawer and the marks drawn and the objective of
these exercises will be to explore information about line, tone
shape, surface form and texture.

This section is presented first, but is not intended to be the major
starting point for drawing activities. In many instances it is very
useful to learn how marks may be made before executing a drawing.
But equally important is the notion of experimentation with marks and
media as a consequence of drawing a particular image or picture.
Undoubtedly, mark-making can be taught for the pleasure it gives in
itself, but it also should be placed in a working context when it is
relevant to do so.

Mark making involves the exploration of media, materials and tools so
that, in both free experiments and structured exercises, the many
possibilities for graphic marks can be seen. The potential of such
exercises to structure and influence drawing skills and imagination is
considerable. This is especially important since we all have to learn
how to draw. Understanding the mark making process leads to a fuller
understanding of how 'form' relates to 'meaning' in any drawing activity.

The main areas for consideration are:

i) Exploring mark making by using different media, materials and tools with no previous knowledge or without the intention of producing a special effect.

Media: pencil, ink, pastel, paint, crayon

Materials: cartridge paper, coloured paper

Tools: pens, drawing instruments including ruler, set squares, french curves and compasses

ii) Exploration of line to encourage confidence in using pencil and other media, especially through games or invented disciplines.

iii) Exploration of tone to see how tonal effects can be made and used.

iv) Exploration of surface, by observation of various examples to develop appropriate techniques in the explanation of surfaces by drawing.

v) Exploration of texture, by observation of various examples to develop drawing effects which may describe textures of surfaces and materials.

vi) Exploration of shapes.

vii) Exploration of form.

B) A list of drawing subjects and themes for mark making:

		Drawing theme	Subject
1)		Marks made by different media	Explore marks made by pencil, pen and pastel
2)		Line	Types of line
3)		Tone	Exploring tones
4)		Surface	Surface textures
5)		Shape	Drawn and cut out shapes
6)		Form	The cube as an example

C) Particular examples of Mark making

<u>Drawing Activity:</u>   Mark making

<u>Theme:</u>   Marks made by different media

<u>Subject:</u>   Explore the marks which can be made by pencil, pen, pastel
and any combination of these media.

Starting points

Mark a piece of paper with several squares, for example three rows of
four squares measuring 10 cm square. Use pencil for the first row
and explore the different possible marks that can be made within a
square. Continue this for the other rows with the pen and pastels.
Towards the end of the exercise try combinations of different effects.
This is not a pattern making exercise.

Drawing Strategy

The purpose of exploring the marks which can be made from pencil,
pen and pastels is for you to enjoy simply by making marks.

Summary

Towards the end of your drawing by exploring marks you should be
able to see and name many types of marks.

<u>Drawing Activity</u>:   Mark making

<u>Theme</u>:   Line

<u>Subject</u>:   Types of line and various ways of drawing line

<u>Starting points</u>

Make up several exercises for drawing lines so that you can explore

some of the techniques of line drawing. Explore lines made with the

same pressure as well as lines made with changing pressure. Draw

lines across the paper and up and down the paper; draw lines parallel

to each other; vary the shapes by drawing circles, spirals or

irregular shapes.

<u>Drawing Strategy</u>

The purpose of exploring lines is to develop your confidence in drawing

interesting lines, shapes and forms. When drawing lines as marks you

will need to consider how your hand and fingers control your pencil.

For example how different were your lines when you pushed with the

pencil rather than drew with a pencil? How quick could you repeat

a line or a pattern made up of lines.

Now try drawing lines to represent the ideas contained in the following

words:

        Rough

        Smooth

        Wiggly

        Straight

        Clean

        Happy

Summary

Did any of the lines you drew suggest anything? Did you find that after

you had loosened up that your lines were better drawn? Drawing lines

as part of exploring mark making is a very important experience.

The aim of doing exercises like this is to build your confidence and

for you to see the many possibilities for how lines can be used in

drawing.

<u>Drawing Activity:</u>   Mark making

<u>Theme:</u>   -Tone

<u>Subject:</u>   Exploring tones

<u>Starting points</u>

Cut out a 'tone strip' from a black and white photograph, so that it

is not possible to recognise what the picture is in the strip. Stick

this strip down on a piece of paper and use pencils to draw in tones

around the photograph so that your tones mark the original picture.

This exercise may be supported by the drawing of a grey tone scale,

achieved by using different grades of pencil.

<u>Drawing Strategy</u> .

By trying to match tones the skill of making a particular tone in pencil

will be explored. This is a very precise exercise and will involve a

conscious use of media.

<u>Summary</u>

There are many other exercises of this type which can be devised.

For example, if part of a picture is cut away then this portion may

be drawn in with pencil, and again tonal values will be explored.

Once exercises of this type are completed, ask someone else to see if

they can find the original strip of photograph. Is pencil the only

media which can create tones?

Drawing Activity: Mark making

Theme: Surface

Subject: Surface textures

Starting points

Find different objects which have different surfaces for example,

hard and soft objects like a stone or a piece of cloth. Cut out a

square window 5 cm square in cardboard and place it over the object.

Choose the most appropriate media for drawing the surface of the

object the part of which can be seen through the window. Use of

coloured paper to draw on would be a useful experience in this exercise.

Drawing Strategy·

Exploring the surfaces of things is important in the development of your

drawing skills. This type of drawing is not meant to be simply the

direct representation of the object itself. It is an exercise to

capture the character of the object, especially its surface, its

external appearance.

Summary

Does your drawing in a square use different types of marks? Does your

drawing look like the object or does it capture the character of the

object? Did you use colour in your drawing and did that help your

description of different surfaces?

Drawing Activity: Mark making

Theme: Shape

Subject: Drawn and cut out shapes

Starting points

Use line and cut out shapes in cardboard to draw the basic shapes and

outlines of various objects, you will need to look closely at the

character of your subject.   Photographs are useful in this type of

drawing.   Choose a subject which has a distinctive shape, for example

a duck, a kettle and so on.

Drawing Strategy

There are many drawing issues involved in the study of shape.   The

size, scale and proportion of the shapes which characterise an object

are important ideas to be aware of.   The direction of line involved in

forming a shape needs to be understood so as to enable you to 'catch'

the character of something.   When you have tried to draw the basic

shapes of objects, try transforming the shapes by distorting your

drawing.

Summary

By drawing distinctive shapes you should be able to see how effective

your judgement of shape has been.   Does your drawing look like what it

is supposed to?   How exact have you been?

<u>Drawing Activity:</u>   Mark making

<u>Theme:</u>   Form

<u>Subject:</u>   The cube

<u>Starting points</u>

Choose some basic solid shapes to study the idea of form. Draw a cube
using a cut out polystyrene cube of size 5 cms square.

1) Face on.

2) With it moved 15° to the right.

3) With it moved 85° to the left.

4) From above.

5) From below.

6) Mark and cut the faces of the cube.

7) Draw the cube into a box which is empty.

8) Make the box appear wooden.

9) Draw a Rubik cube.

<u>Drawing Strategy</u>

In drawing a cube consider the effects of light falling on it. Look
for the darkest and lightest areas on the cube. Look for reflected
light, cast shadows and ways of drawing the different tones of light
and dark. Shine a light on the cube to see what happens.

As well as considering the effects of light, this exercise is designed
to show you the form of a cube. What happens to the back edges of the
cube in comparison to the front edges. You will need to consider what
is meant by perspective. The further away an object is the smaller it
appears. These changes will affect the form of your drawing.

<u>Summary</u>

The form of a cube is essentially its shape, arrangement of parts and its whole visible aspect. When you draw you will always need to consider the form of an object. An object's form is essentially what makes it what it is, and this is different from other things. A cube is a cube and a fly is a fly.

Many other exercises can be devised to study form, for example, drawing all the basic solids.

ii) Observational and imaginative drawing

A) Introduction

In this series of activities, I am aiming to introduce you to some of
the ways we can draw as a result of looking at things. I have chosen
to consider man-made objects, things from the natural world and some
examples of imaginative drawing. You will need to consider how something
can be drawn and your reasons for drawing it. The purpose of the
activities is for you to explore and discover some of the FORMS of drawing,
as well as how we might use drawings to 'represent' things and to understand
what they are. I hope that after you have studied this section you will
be able to apply its principles to many examples of OBSERVED DRAWING.

What is the purpose of drawing? There is no direct answer to this
question mainly because there are so many meanings and uses for drawing.
Whenever you are learning about drawing skills and ideas there will
always be many ways to achieve success and pleasure from your studies.

One of the most useful methods of learning to draw is to draw by looking
at objects. The more you look at things, the more you may see.
Sometimes you need to know what to look for and other times you may be surprise
by what you find. How many times have you experienced the strange
feeling that you have never noticed something before which has always
been in common view.

We can learn how to use pencils and pens. We can experiment with
different media, one with the other. In many cases, this can be very
satisfying, because simply using a pencil or pen may be a pleasure
in itself.

Tensions may arise when we begin to want to improve our drawing.
Often we are put off drawing because what we see and what we want to
draw rarely seem to meet our expectations of a final result. It is
always important to want to succeed and improve our work, but there

are also times when we need to relax and let things happen. Our first efforts are the means to better results. It is always useful to loosen up and work towards an improved drawing. Very rarely will our first and only drawing be the most satisfying. We do need to develop a critical approach to drawing and we should aim to consider many possibilities in our drawing. Simply drawing for the sake of drawing is important, but there are many times when we need to see why we are drawing.

What is observed drawing? What can looking at something and drawing it achieve for us. The closer you look at something the more you might understand the thing itself. Drawing can explore the nature of things. This especially so since drawing captures, in a still picture, a particular moment or gesture which expresses the very nature of the person or thing. You may set out with the task of observing what something is and a particular insight into your subject may be revealed suddenly to you. The power of drawing is that it can communicate all sorts of information and ideas in so may different ways.

If the object is animate, then its life and movement needs to be considered. How can a living thing be drawn?

All of these examples describe the possible information drawing can find and show through observation. We can show the external features of something as well as its internal structure. This interplay between exteriors and interiors will always be important in learning how to draw because their contrasting natures lead us to consider the many possible ways of representing what we see.

Comparing objects has always been an important feature of learning to draw. We can explore how different things react to each other or affect each other. We should aim to ask as many questions about things as possible. Do they cast shadows on each other? Are some parts hidden behind something more dominant or obscure? Is something far away, too

big or very sharp? Is it hard or soft? Could we touch it?

The different relationships of things will always be an important feature
in drawing.

But what are the marks representing in a drawing? What are we
representing by a few lines and marks? How many times have you looked
at a drawing and wondered if it were a photograph? Did you think that
what you saw was real or did you know it was a picture? Does the
picture tell you anything new or unusual?

We see pictures everyday as part of our way of life. In how many places
do we use pictures? I am certain that you could think of more than
one hundred places where pictures and drawings are used. How do you use
your drawings? Do you get pleasure from showing friends what you have
drawn? Do they say that they like your drawings? Always try to think
of the many places you could use your drawings.

Drawing is not simply trying to make your picture look real. This sort
of drawing is a useful experience for you, but it is not the only way
to draw or the only reason to draw.

What sort of information can we see and find through observed drawing?

LOOSENING UP EXERCISES

At the beginning of any drawing activity, loosen up by drawing a few
free lines and shapes. Explore how something makes marks, especially
if this experience is simply pleasurable or if it helps you to follow
through an idea, no matter how fantastic. Loosening up or doodling
in this way can release any tension in you. It does not matter what
you draw. You can devise many games or examples of doodling.
For example:

> Lines, parallel lines, curves, straight lines, uneven or broken
>
> lines, circles, 'taking a line for a walk'.

Shaded shapes of different tones and textures, special effects
of light and dark.

Making patterns and overlapping shapes.

B) A list of drawing subjects and themes for observational and
imaginative drawing

	Drawing theme	Subject
1)	Living things	A live animal
2)	Natural objects	A stone
3)	Natural objects	A feather
4)	Natural objects	A fir cone
5)	Small familiar objects	Bar of chocolate
6)	Small mechanical object	Wrist watch
7)	Small mechanical object	Pliers
8)	Small mechanical object	Ring can
9)	Large objects and landscapes	View through a window
10)	A vehicle	A coach
11)	A vehicle	A bus
12)	A vehicle	A vintage sports car
13)	A vehicle	An aircraft
14)	A vehicle	Part of a car
15)	Fantastic objects	A fantastic spaceship
16)	Cartoons	A cartoon car
17)	Cartoons	A joke
18)	Imaginary ideas	The meaning of a word
19)	Imaginary ideas	Metamorphic drawing
20)	Imaginary ideas	A scene from a story or poem

C) Particular example of observational and imaginative drawing

Drawing activity: Observational and imaginative drawing

Theme: Living things

Subject: Sketch and draw a live animal. Any familiar animal may be
used, for example, a cat, dog or rabbit.

Starting points

Make several sketches of the different parts of the animal, especially
its head and eyes, and then try a drawing of the whole animal. You should
aim to make your drawing 'look like' the animal. Now show the animal
doing something everyone is familiar with, for example, how it sits or
how it looks and listens. What is the character of the animal? Also
make several sketches of the animal in its surroundings. What are the
natural surroundings for your animal?

Drawing Strategy

The purpose of drawing a live animal is for you to develop 'quick
sketching' and to realise some of the problems of drawing something
which moves. Be confident and never worry about mistakes, everyone
makes them. Keep looking at all the things you could draw about the
animal. What shape is its eye, foot, tail, ear or nose? How far apart
are its eyes? What is the position of its ear to its nose to its eyes?
Keep looking for all the details and experiment with drawing textures
which show fur, skin, feathers and any other feature. Make quick sketches
of the different parts of the animal, returning to incomplete drawings when
the animal returns to a previously drawn view.

Make your first drawings in pencil. Choose different grades of pencil
so that you can make a 'tonal drawing'. This is a freehand activity and

you will need a drawing board, paper and a comfortable sitting position. Try several loosening-up sketches. Draw the different parts of the animal in 'proportion' and keep them in their correct position relative to each other. Choose a way of making a coloured drawing of your animal. Discuss the different uses of animal drawings. For example, what sort of information can you find in books about birds and how are the birds drawn? Also, how could you draw a wild or rare animal? Look at and collect examples of animal drawings.

Summary

Can you recognise the type of animal it is from your drawing? Did you see anything about the animal that you have never seen before? Is this new experience in your drawing?

Drawing activity: Observational and imaginative drawing

Theme: Natural objects

Subject: An interesting stone or group of stones

Starting points

Find an interesting stone or make several sketches of different views of
the stone. Explore the shapes and patterns of colours in your stone.

Drawing Strategy

Look closely at the surface of your stone. How rough, sharp or smooth
is its surface? What shadow does the stone cast? Make your drawing of the
stone appear 'solid'. Now change the stone into something. Make it
change into something its shape suggests to you.

Draw the basic shape of the stone and its shadow from different views.
Loosen up with some quick sketches. Use pencils to start with and then
choose a method of working in colour, for example, a wash technique
using water colours. Look for related shapes and their colours to
create the effect of surface patterns.

Summary

Does your stone look like a stone? How many drawings did you make to
change your stone into something else?

Drawing activity: Observational and imaginative drawing

Theme: Natural objects

Subject: Sketch and draw colourful feathers

Starting points

Look carefully at the structure of a feather. What are all the main features of a feather? What are its shapes and colours? What function does your feather serve a bird?

Drawing Strategy

The aim of this drawing activity is for you to observe detail. Draw two feathers together to see how each relates to the other.

Draw several feathers noting the direction of the shapes in the feather and the direction of the lines you draw. Practice drawing parallel lines and notice how lines can be used to create an image of a feather. Choose a fine pencil for this drawing. Position the feather so that you can see the best view of it.

Discuss different ways of drawing feathers.

Summary

Does your drawing look like a feather? Could you now draw a feather floating in the air?

Drawing activity: Observational and imaginative drawing

Theme: Natural objects

Subject: Sketch and draw a group of fir cones

Starting points

Explore the structure and patterning of an open and a shut cone.

Compose a small group of cones to make an interesting picture.

Drawing Strategy

The purpose of this activity is for you to draw fairly complex shapes
and to draw one cone in front of the other.

Make a freehand drawing of your cones. Use line and tone in your drawing,
and see how lines can create the form of each part of a cone.

Where would drawings of cones be used?

Summary

What are the shapes and patterns which make up a cone? Why are they
shaped this way? Are your drawings of the cones 'real'?

Drawing activity: Observational and imaginative drawing

Theme: Small familiar objects

Subject: A bar of chocolate

Starting points

Look carefully at the sweet for about 30 seconds. Try and remember as
many things about it as you can. Hide the sweet and make a sketch from
memory of the bar of chocolate. Discuss how effective your sketch is.
What have you remembered and what have you forgotten? What features of
your drawing appear correct or incorrect? How 'real' is your sketch?

Make a set of observed drawings of your bar of chocolate. Consider the
various parts of the sweet, its size, shape, colours, wrapper and its
lettering. Look at the way the wrapper is folded, the creases in it,
the textures of the materials from which it is made and how the light
falls on the sweet.

Open your sweet in the ordinary way and take a bite from the chocolate.
Make a series of sketches of the open wrapper and the sweet inside.
Discuss how the wrapper may open and the different ways people open
sweets. Consider how to draw torn paper and the broken sweet. Show
different sketches of the sweet gradually being eaten. Pose the sweet
and draw every crumb.

Make a composition of several sweets, some open or loose and make a
drawing.

Drawing Strategy

The reason for making this series of drawings is for you to realise that
we need to look carefully at an object to be able to draw it effectively.
You will have made a drawing from 'memory', a set of drawings of the
'outside' of a sweet and a set of drawings of the 'inside' of the sweet.

You are exploring the structure of the sweet and what it looks like. Use soft pencils and coloured pencils for your first sketches. Also try using felt pens for some of the drawings of the wrapper. Aim to make your drawings appear solid, that is show the three-dimensional quality of the sweet. Study how to create the effect of 3-D with lines or shaded shapes and draw the effects of light and dark. Notice tone relationships of surface shapes and colours.

How much better are your observed drawings than your memory sketches? How much more information about the sweet have you found through drawing?

Summary

Do you feel pleased with your drawings? Do you think you have improved in any way? Do you know how to make something appear solid in a drawing? Which media do you think created a good effect in your drawing, the pencil, coloured pencils or felt pens? Did you combine any of these media? Do you know what 'foreshortening' is? Where do you think these types of drawing could be used?

Drawing activity: Observational and imaginative drawing

Theme: Small mechanical objects

Subjects: Sketch and draw a wrist-watch

Starting points

The aim of this activity is for you to show what a wrist-watch looks like,
how it shows the time and what it is made of;   also how a wrist-watch may
be worn and how it fastens to a wrist.

Drawing Strategy

The purpose of this exercise is for you to find the best view to show how
something works.

Choose the best medium for your drawing.   Remember to keep your drawing
in proportion and look at the relationships of one shape to another.

Where could your drawing be used?   Collect samples of pictures of watches.

Summary

Have you achieved what you set out to?

<u>Drawing activity:</u>   Observational and imaginative drawing

<u>Theme:</u>   Small mechanical objects

<u>Subject:</u>   A pair of pliers or mole wrench

<u>Starting points</u>

What do pliers do? How many parts are there to your pliers?

What are they made of? How do your pliers work?

<u>Drawing Strategy</u>

The purpose of this drawing activity is for you to show what pliers are.

Consider making some sketches of how they could be used after you have

made a full drawing of a pair of pliers.

Use pencils and try several views of the pliers. Remember to take into

account 'foreshortening'. Make your drawing look solid and three-

dimensional. Notice how straight and curved lines can be used in your

drawing.

Where would drawings of this type be used?

<u>Summary</u>

How would you criticise your drawings?

<u>Drawing activity;</u>   Observational and imaginative drawing

<u>Theme;</u>   Small objects

<u>Subject;</u>   Draw a soft drinks can

Starting points

What shape is the can? What shape is the top of the can? What happens

to the shape of the top of the can as you change your view of the can?

What is the can made of? What does the label look like? What happens

to lettering on a rounded surface? How does the light fall on the can?

What reflections can you see in your can?

Drawing Strategy

The purpose of this drawing exercise is for you to draw and illustrate

a can so that your picture looks 'real'. You will need to consider all

your drawing skills and knowledge as you create the 'illusion' of a can.

Make several sketches of the can from different positions. Remember to

take into account foreshortening. Use your pencil and thumb, with an

outstretched arm, to roughly measure the height of the can.

 Develop your **drawing** by composing several cans together to see

how each reflects in each other. Use pencils, coloured pencils and a

rubber for this drawing. Study the tone and colour relationships on

the surfaces of your can.

Where would a drawing like this be used?

Summary

Which drawing do you prefer, the freehand sketches or the technical

drawing?

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<u>Drawing activity:</u>   Observational and imaginative drawing

<u>Theme:</u>   Large objects and landscapes

<u>Subject:</u>   Make a drawing of a view through a window

Starting points

What can you see through the window? What can you see in front of the window? What can you see on the window? How far can you see? What happens to things the further away they appear?

Drawing Strategy

The purpose of this activity is for you to look at how things relate to each other. If you can notice how one shape relates to another, as well as how big one shape is to another, then you can organise your drawing so much better. This is called drawing in proportion. Notice also the direction of the lines you use.

You are drawing a 'perspective' view through your window. Use pencils and finish off your work using a water colour wash technique. You will need to practice a wash technique to help you decide how best to use water colours. Line relationships are very important in this type of drawing.

Where would this type of drawing be used?

Summary

Does your view look real enough? Are your pencil lines too strong? Did you use too much paint?

Drawing activity: Observational and imaginative drawing

Theme: A vehicle   3? .

Subject: Make a mechanical drawing of a coach to the same size as

the given drawing.

Starting points

Look at the drawing of the coach. Which view of the coach is in the

drawing? Is the drawing finished? If it is not finished what do you

think is missing? What sort of shapes and lines are there in the

drawing? Could you do this drawing freehand?

Drawing Strategy

The purpose of this drawing is for you to measure and draw a clear

outline of the coach using technical drawing instruments.

You will need a drawing board, tee-square, set squares, protractor,

ruler, pencils and a pair of compasses for this drawing. When you have ·

completed a line drawing you can choose to draw the coach in ink or add

colour and a company sign to your drawing. If you add a company sign,

make sure you plan what you will put on the coach. How can you make a

technical drawing of the coach? Which comes first, a measurement or

a drawn line?

Where are drawings of this type used and why? How could you make an

original drawing of a vehicle like this?

Summary

How accurate were you? Did you use all the instruments? Do you know how

to use the instruments now? Did your drawing become messy in any way?

What does this picture tell you about the coach?
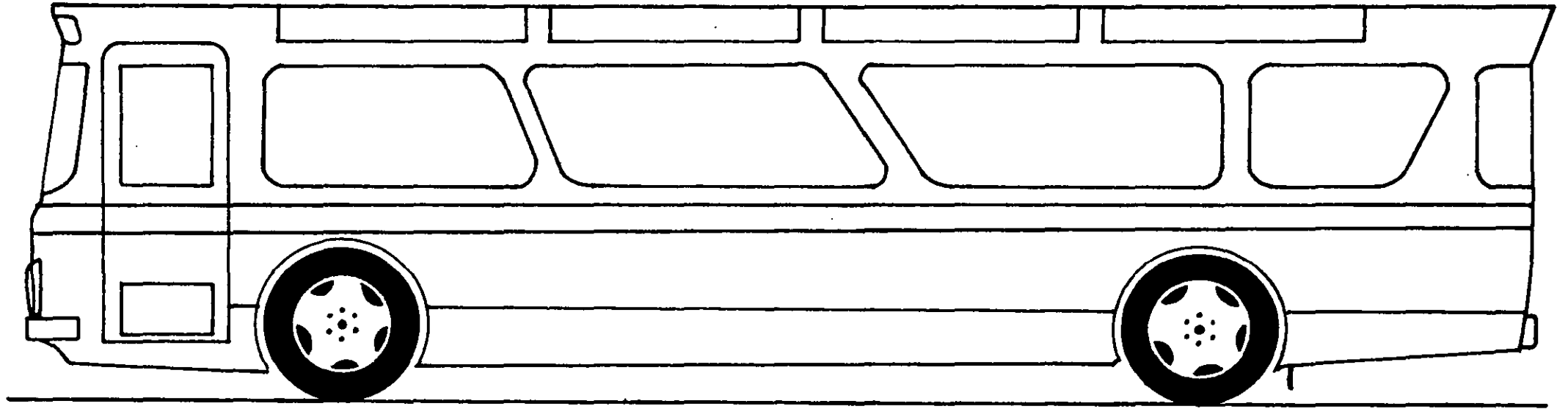
Coach Drawing

You will need:

pencils, tee-square and drawing board, set squares,
compasses, a ruler and rubber. Coloured pencils.

Drawing

1) Draw the ground line and measure the
   distance between the centres of the
   wheels and draw two circles for the
   wheels.

2) Draw in a vertical line through the
   front wheel on which you can make
   the various height measurements of
   the long horizontal lines of the
   coach.

Drawing activity: Observational and imaginative drawing

Theme: A vehicle

Subject: A technical illustration of a bus

Starting points

Which view of the bus is given to you? Is the drawing finished? If not, what can you add to the drawing to complete it? Research the true colours and markings of your local bus.

Drawing Strategy

The aim of this drawing is for you to measure and draw the bus so that you can illustrate your drawing.

You will need all the technical drawing equipment as well as a choice of pencils and coloured pencils. You should see how effective a tee-square is in helping you to draw the horizontal and vertical lines in your drawing. Put your own colours and markings on the bus as well as the reflections in the windows. You are now illustrating your drawing.

Can you see any perspective in the drawing; if so, give some examples.

Summary

Where would a drawing like this be used? How would it be made originally? Is copying a drawing a good thing?
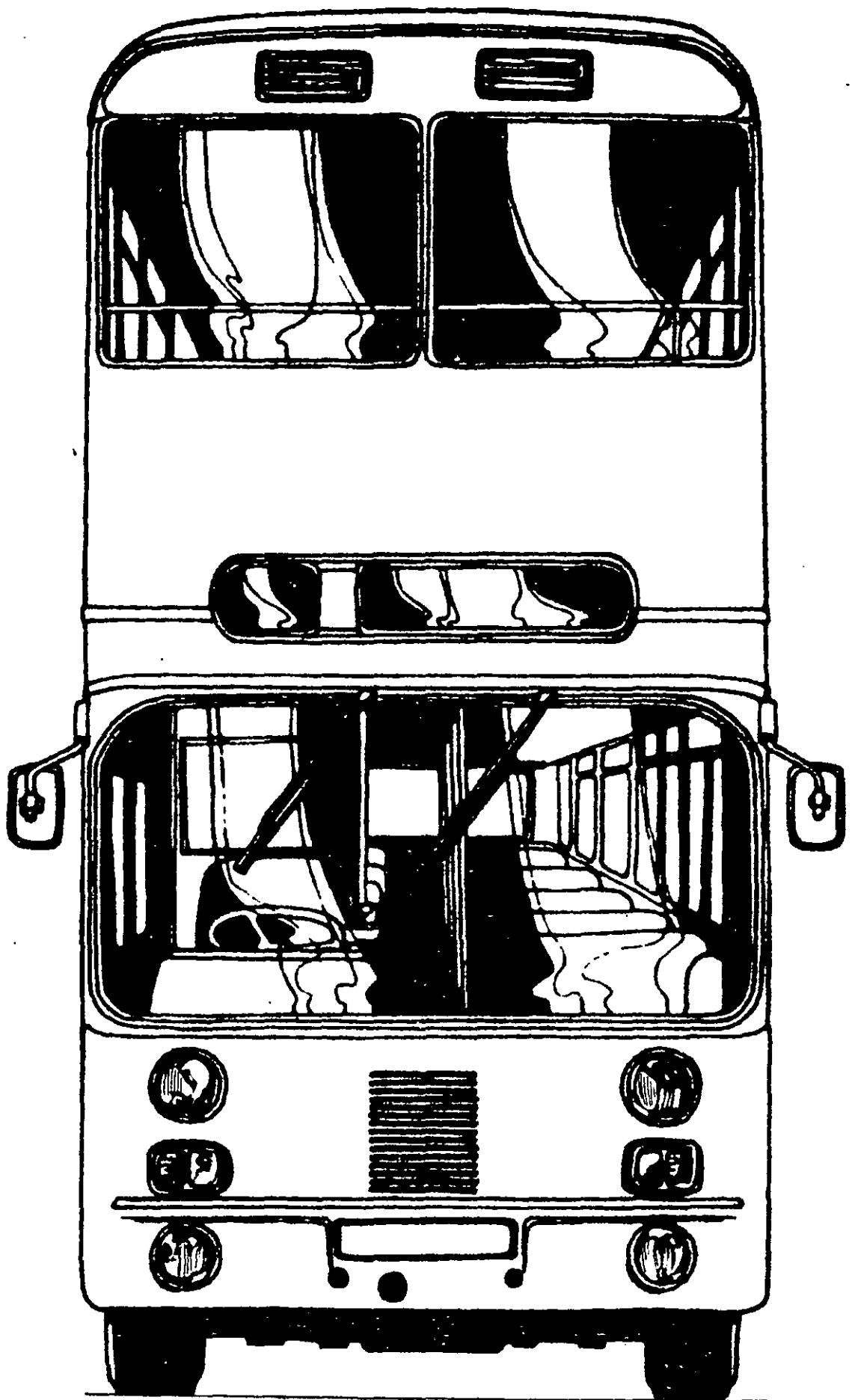
Drawing activity: Observational and imaginative drawing

Theme: Vehicles

Subject: Draw a side view of a vintage sports car from the given

information.

Starting points

Study all the sketches and drawings given to you. Consider the scale of

your drawing.

Drawing Strategy

The purpose of this activity is for you to consider the research needed

to produce an illustration of a vehicle. Also this type of drawing has

a style of its own. Do you like this style, if so why?

Use what ever equipment or media you think you will need. Look carefully

at the different ways you could illustrate this car. Start with a

pencil drawing. Study how colours and tones can be added or subtracted

to your illustration.

What is the use of drawings in this style?

Summary

Are you pleased with your drawing? What does your drawing communicate?

Car illustration (Alfa Romeo 1·5 litre P129)
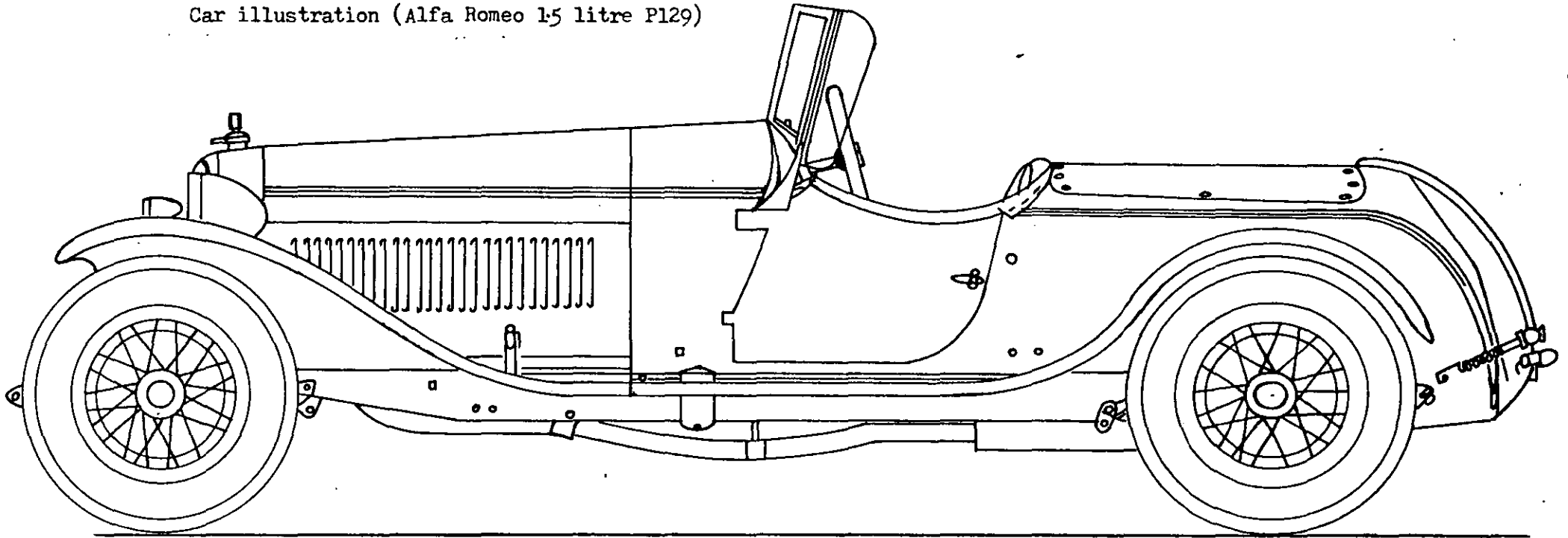
You will need:

An A3 sheet of paper and all your drawing
equipment, including a technical pen or
paints. Research the colours of the car
by looking up this car in a book on the
history of cars.

Drawing

1) Centre the drawing to your paper. Draw a ground line
and measure from the centre of one wheel to the other
and draw in the wheels. Study the pattern of spokes
in a wheel.

2) Draw in the horizontal lines; use a french curve
for the rounded shapes.

3) Illustrate your drawing showing rounded tones of light
and dark.

4) Title and frame your drawing.

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Drawing activity: Observational and imaginative drawing

Theme: Vehicles

Subject: Draw the aircraft to a suitable scale.

Starting points

What sort of aircraft is in the picture? Research as much as you can

about the aircraft. What information is given to you in the picture?

Drawing Strategy

The aim of this exercise is for you to organise and carry out a complex

drawing requiring both mechanical and freehand skills.

Make a pencil drawing and then either use a technical pen or illustrate

the aircraft. Make your drawing precise and clear, work out where shadows

and reflections occur and show what different materials can be seen in

the plane. Keep your drawing in proportion by checking the relationship

of lines and the directions of lines.

Where could this type of drawing be used? Would it occur before or after

the plane was made?

Summary

Are you satisfied with your drawing? Consider the other examples offered

in this section.
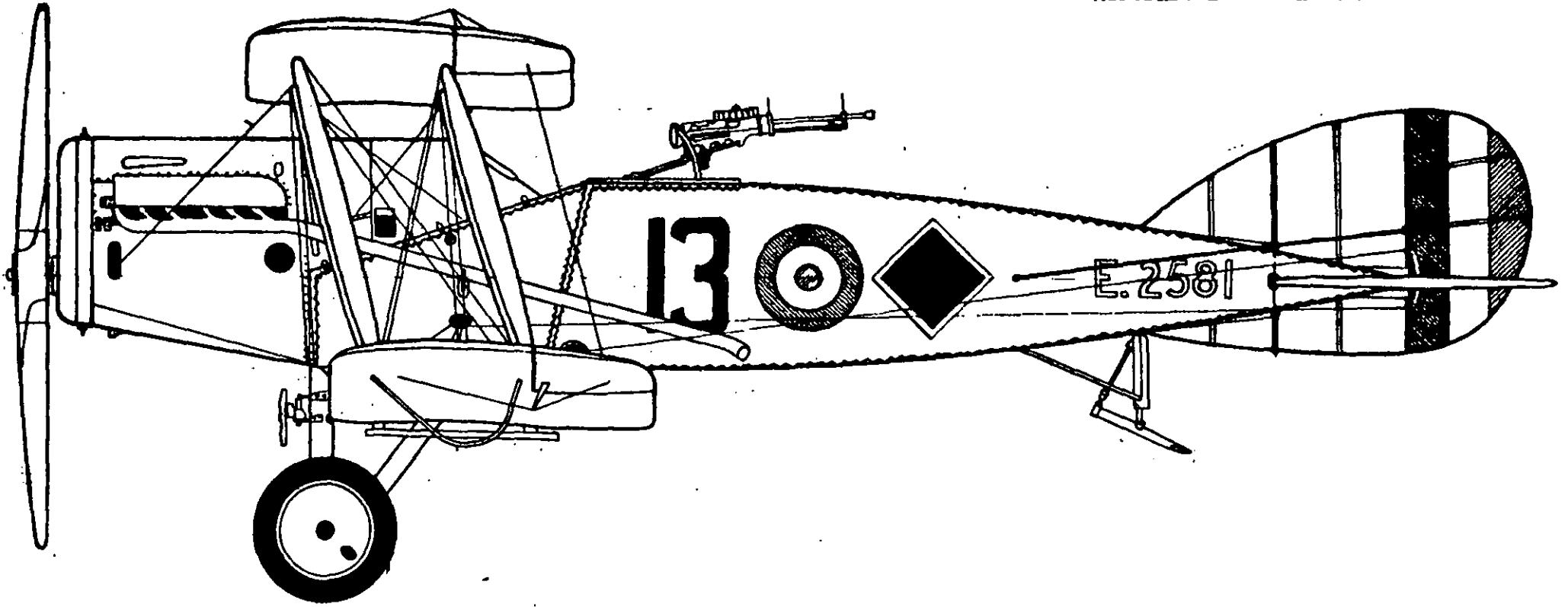
You will need:

All your drawing equipment and especially
a technical pen. Research the colours and
markings of this aircraft.

Drawing

1) Decide on your own starting point.

2) Illustrate your drawing.

3) Frame and title your drawing.

Drawing activity: Observational and imaginative drawing

Theme: Vehicles

Subject: Using a glossy photograph of a car, make an enlarged drawing
            of part of the car and, or a full drawing of the car.

Starting points

Study your photograph and a real car as well. Make sure you have a clear

photograph. What shape is the car? What sort of car is it? What distinctive

features can you see?

Drawing Strategy

The purpose of this drawing is for you to use different pencils to create

different tones and to use all your drawing skills. Create a chart of

different tones. Work out what is black, white and varying shades of

grey in your picture. Later on you can try this same idea but with

coloured pencils or combinations of pencil and colour.

Find a small detailed part of your car and draw a grid of squares to

a suitable size over this detail. Enlarge the grid and make a detailed

tonal drawing. You could use this idea to draw the whole car. Experiment

with different pencils for different tones. Draw the large shapes first

and then fill in details.

Can you apply these ideas and effects to other sorts of drawing? If so,

where and when?

Summary

What is it that creates dark and light? Are there any lines in your

photograph of a car? Have you drawn in shadows and reflections? Is your

drawing in proportion? What shape are the wheels?

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Drawing activity: Observational and imaginative drawing

Theme: Fantastic objects

Subject: A fantastic space ship

Starting points

What is a space ship? How does it work? Is it real? What are its

technical specifications? Where does it originate from? Collect examples

of this type of drawing.

Drawing Strategy

The idea of this activity is for you to create and draw something

unreal and totally imaginary. However, it should be convincing. Show

your space ship in action and in space.

Choose what ever drawing medium you think you need. Try to make it

appear as a solid object and consider how you might model a space ship.

Where are drawings like this used? Do they have any purpose or function?

Summary

Are you convinced by your drawing?

<u>Drawing activity</u>:   Observational and imaginative drawing

<u>Theme</u>:   Cartoons

<u>Subject</u>:   Sketch and draw a cartoon car which has many special features

of your own invention.

<u>Starting points</u>

Think about as many crazy devices as you can to be in your car. Make

several sketches. Collect examples of this sort of drawing.

<u>Drawing Strategy</u>

The purpose of this drawing is for you to create a humourous, crazy

cartoon car which 'appears' to work.

Choose what ever medium you prefer. Traditionally, these drawings are

black and white and produced by felt pens. However a fully illustrated

cartoon can be very effective.

Where are cartoons drawn and used?

<u>Summary</u>

Did anyone laugh at your car?

Drawing activity: Observational and imaginative drawing

Theme: Cartoons

Subject: Invent a cartoon character and a joke or short story which

happens to your character.

Starting points

Start by inventing a character. Put it in a situation. What is a

visual joke? Think of an example of a visual joke.

Drawing Strategy

The purpose of this drawing activity is for you to create a 'visual joke'.

Do not use words if you can help it.

Choose your own style and medium. A cut-out character can be a useful

tool in working out movements.

Where would drawing like this be used?

Summary

Did anyone laugh at your joke? Did you use any illusions in your cartoon?

<u>Drawing activity:</u>   Observational and imaginative drawing

<u>Theme:</u>   Imaginary ideas

<u>Subject:</u>   The creation of effects to show by drawing the meaning of the

following words: happy, sad, tall, thin, fast, slow, hot,

cold, silly, etc.

Starting points

Use appropriate media and effects of your own choice to describe the

character and meaning of a word like happy. This may be pictorial, a

cartoon or a picture based on the letters of the word.

Drawing Strategy

The purpose of this drawing activity is to use drawing to explore a visual

meaning for common ideas. However the meaning of 'happy' will always be

open to many points of view. The aim of this drawing is to find something

which will capture the essential meaning of common ideas.

Summary

Does your drawing capture the essential idea behind the word.

<u>Drawing activity:</u>   Observational and imaginative drawing

<u>Theme:</u>   Imaginary ideas

<u>Subject:</u>   Metamorphic drawing

<u>Starting points</u>

Take an object and, by drawing, change its form into something else.
You will need to make general drawings showing the major changes from
one object into another. Look closely at an object, for example, a piece
of bark and see if it conjures up or suggests the shape of something else.

<u>Drawing Strategy</u>

The aim of this drawing is for you to explore changing shapes in the
manner of an animator in the production of a cartoon. This may be a
sequence of drawings or one drawing combining many ideas. A further aim
in this drawing is the creation of something mysterious and unusual.

<u>Summary</u>

How much did the media you used help you in the changes that you imagined
and drew? What was in the original object which made you think of the
changes you made? How mysterious is your drawing?

Drawing activity: Observational and imaginative drawing

Theme: Imaginary ideas

Subject: A scene from a story or poem

Starting points

Read a story or poem of your choice and find an incident in it which
would make a picture.

Drawing Strategy

This is essentially the use of drawing to design and form a picture based
on a scene from a story.

Summary

Did you design your picture before you completed the final work? Are the
images used your own or are they based on another artist's? Does your
picture describe the incident better than words?

iii) Drawing symbols, signs and patterns

A) Introduction

In this section I am aiming to introduce you to some of the ways in which
we can use drawing to form and design various two-dimensional images.
This is often called 'graphic design'. The same principles apply to
this type of drawing as in the design-by-drawing of three dimensional
objects. Remember, the images which you create usually have a working
context. For example, a sign showing directions needs to be placed in
the most appropriate place for its effective use. Signs are designed to
put over a literal message.

You will need to think carefully about the information your image will
communicate. This information may be about objects, events or ideas.

Examples of graphic design include programmes, posters, advertising
literature, packaging, letterheads, symbols, trademarks, signs, logograms,
typefaces, television and film titles, as well as the layout and designs
of diagrams. Patterns may be used aesthetically or functionally.
We may learn the meaning of some signs or we may understand naturally
their meaning because it is visually obvious what is meant.

An important question in understanding symbols and signs is 'how is it that
something can represent anything?'

At times your drawing will represent the object, action or idea of
something as it does in observational drawing. But there are many examples
where an impression or suggestion of something may give a 'clearer' idea
of what is happening or what needs to be said in a picture.

You will need to think clearly of the most important aspect of information
to be conveyed in your designs. This is often called finding the 'image'
of an idea or product.

Your designs will also include words, which are an important compositional

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feature of graphic design. The choice of a letter style needs to suit the message being put over. The term layout is often used to describe this type of image making and drawing. There is plenty of originality and research in this form of drawing.

The art of designing information graphics is concerned with producing an overall image which communicates clearly and is easily understood, memorable and recognisable. Consider drawing a picture which can give a new or unusual insight into something that has happened.

B) A list of drawing subjects and themes for drawing symbols, signs and patterns

	Theme	Subject
1)	Patterns	three geometrical purposes
2)	Motifs	the design of motifs
3)	Optical illusions	designing an optical effect
4)	Lettering	designing a letter style
5)	Graphic design	designing a sweet wrapper
6)	Graphic design	front page of a programme
7)	Logograms	designing logos
8)	Livery	designing livery for a vehicle
9)	Diagrams	designing diagrams

C) Particular examples of drawing symbols, signs and patterns

Drawing activity: Drawing symbols, signs and patterns

Theme: Patterns

Subjects: Drawing geometrical patterns

i)   Squares and octagons

ii) Pentagon

iii) Spiralling twelve squares

Starting points

Consider that your drawings of patterns should be precise and accurately drawn. How and where can patterns be used?

Drawing Strategy

The reason for exploring the given patterns is for you to experience drawing a precise image. More importantly, you should develop your basic patterns into designs of your own. Interpreting patterns by adding more lines, subtracting lines or joining different shapes is a useful exercise. How you use colour for your designs is another skill you can develop in this activity. Be logical in your interpretation of different shapes.

Use technical drawing equipment for all the examples. If your first drawing is not successful then start again. Do not make your lines too heavy. Look carefully at the different ways of drawing the patterns.

Where could your patterns be used? Was drawing a good way of producing a pattern of that type? How did you choose the colours you used?

Summary

How effective are your patterns? How logical have you been in interpreting your pattern? Explore and generate ideas about new designs and patterns.

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Drawing a geometrical pattern

1) Squares and Octagons
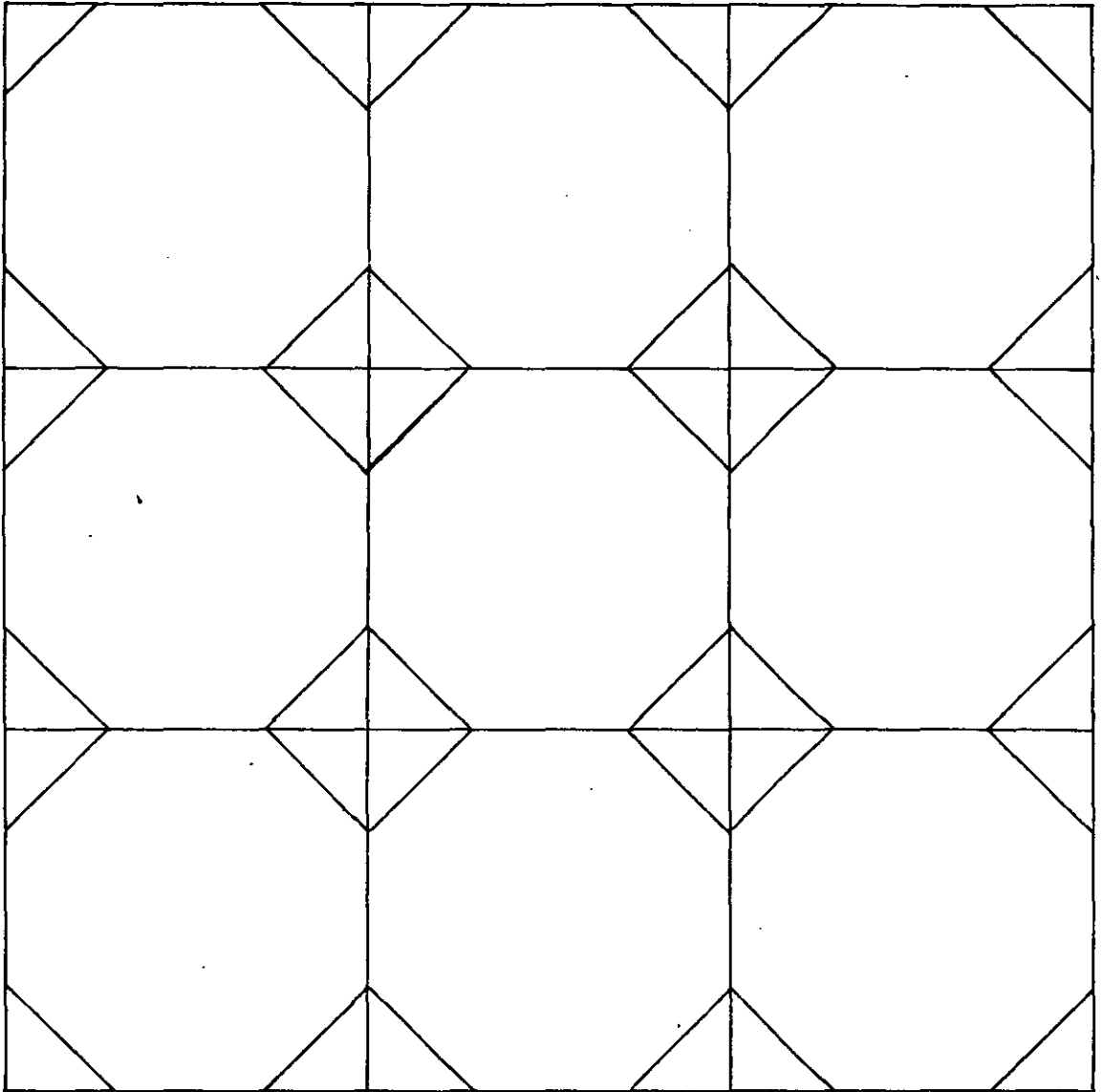
You will need:

An A3 sheet of paper, pencils, technical drawing equipment and coloured pencils. Make sure you use a compass, 45° set square and tee-square.

Draw either more octagons or one large octagon.

Drawing

1) Draw a square 24 cm central to the A3 sheet of paper

2) Divide this square into nine squares.

3) Draw an octagon in each squa

4) Look at the shapes in shapes

5) Draw your patterns by adding or subtracting lines within the basic   of squares and octagon.

6) Choose a set of colours to illustrate your patterns.

Look for the shapes in the shapes

How many △ 's or ▢ 's are there in each of these patterns.

Make a sketch of each type of shape which occurs.
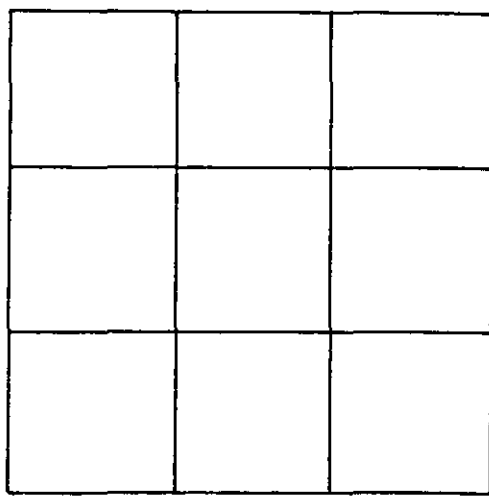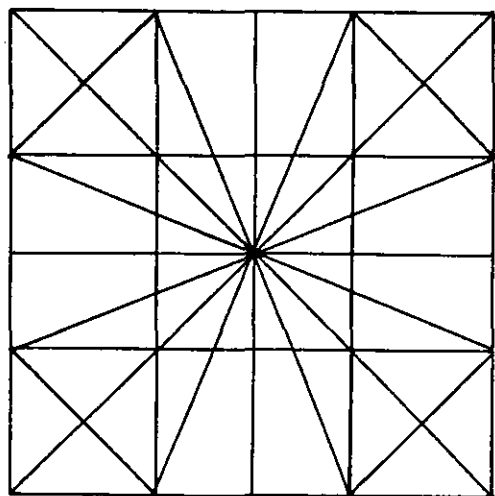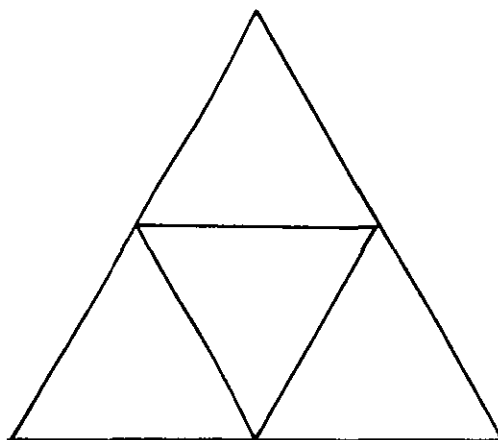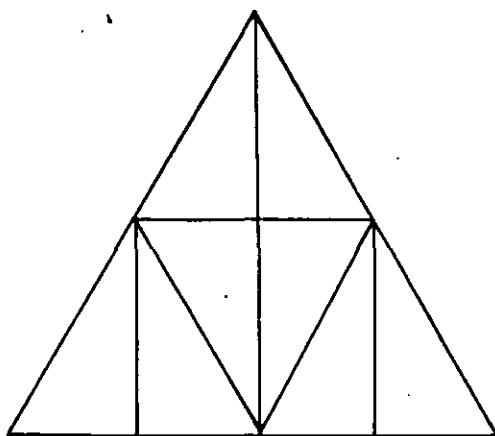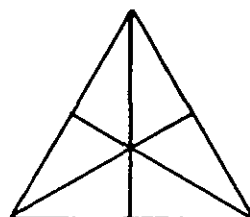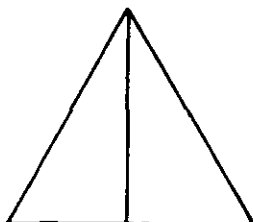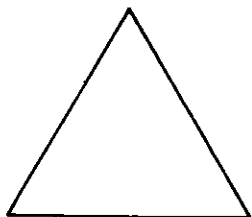
Drawing a geometrical pattern

ii) Pentagon
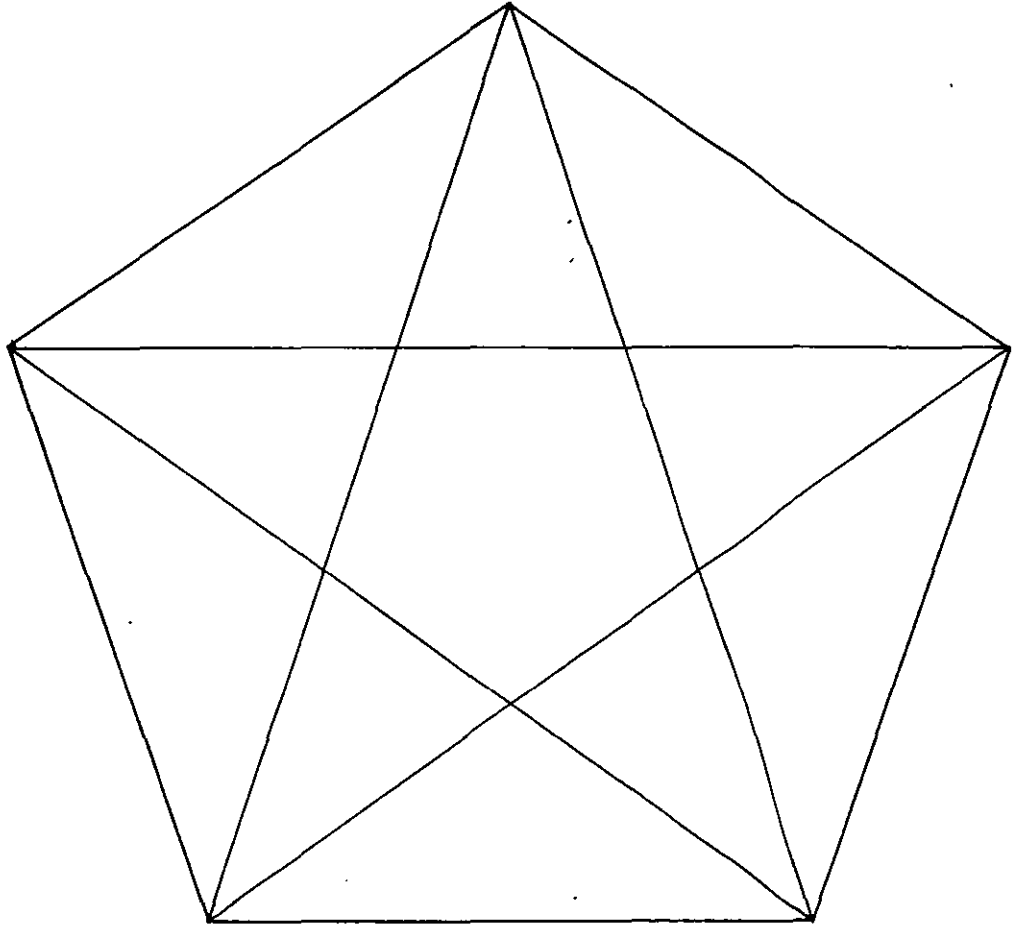
You will need:

An A3 sheet of paper, pencils,
technical drawing equipment and
coloured pencils. Make sure you
use a protractor and compass.

Drawing:

1) Draw a pentagon with sides
measuring 16 cm centred to the A3
sheet of paper.

2) Draw your patterns in patterns
within the pentagon. How many
pentagons can you make in this shape.

3) Choose a set of colours to
illustrate your pattern. Try a
fine brush and coloured inks for
this design.

Drawing a geometrical pattern

iii) Spiralling twelve squares
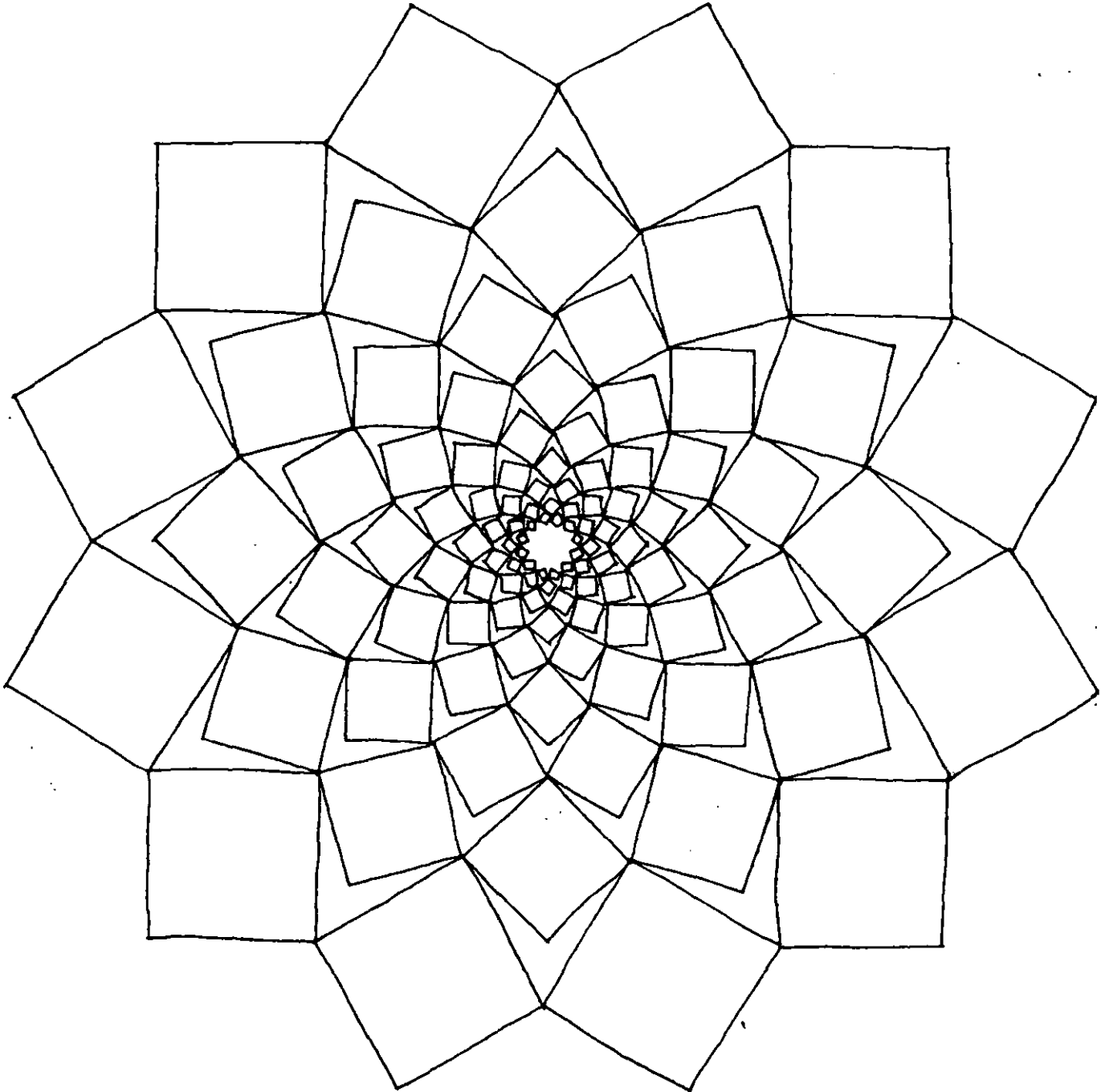
You will need:

An A2 sheet of paper, pencils and technical drawing equipment. Make sure you use a compass and 30/60 set square.

Draw nine spiralling squares. Compare the length of the side of one square with the diagonal of the next. What do you find?

Drawing:

1) Draw a circle, radius 10 cm in the centre of your paper and divide it equally into twelve.

2) Draw a circle, radius 10 cm on each of the twelve divisions on the circumference of the centre circle. See if you can find the outer ring of twelve squares.

3) Divide the first circle into twenty four and find a way of drawing the next ring of squares. Use this technique to finish the pattern.

4) Illustrate your pattern using a colour ring.   58

Drawing activity: Drawing symbols, signs and patterns

Theme: Motifs

Subject: Design and draw a motif and use it to generate various patterns

    i) Triangles

    ii) A bird, for example, a Toucan

Starting points

What is a motif? What type of pattern can a motif create? Manufacture many of the shapes in paper or card and arrange them in a motif.

Drawing Strategy

Use a card template to draw out the motifs you design. The purpose of this activity is for you to explore what a motif is and how patterns can be generated by them.

Draw and illustrate your motif and patterns using coloured pencils. Fill your sheet of paper with your design. How does your motif fill the spaces on your paper?

Where would a motif be used?

Summary

How many different ways can a motif be used? Is there an answer to this question?

Motifs using trianges

Shape 1　　　　　　　　　Shape 2
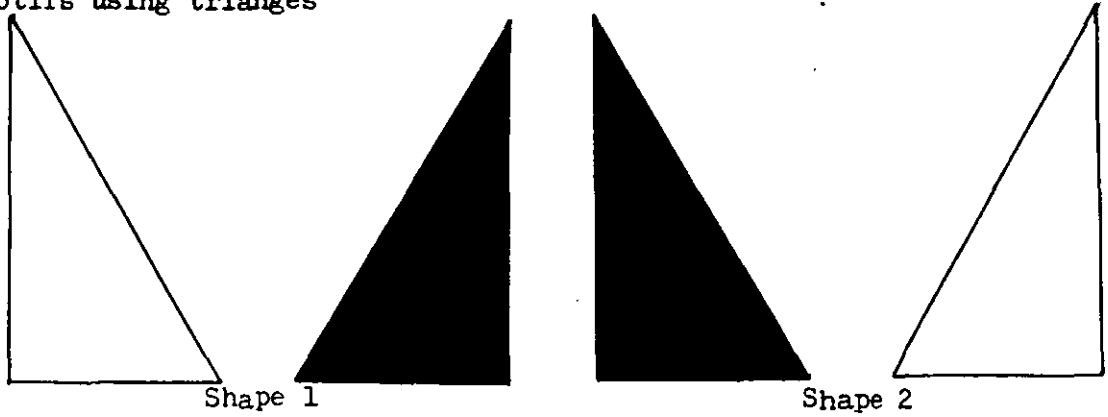
You will need:

An A3 sheet of paper and a sheet of strong but thin card, pencils, colours, a scapel or scissors and some technical drawing equipment as well as a board to cut on.

A motif is a consistent feature or dominant idea or shape in an artistic composition or ornament.

Drawing:

1) Draw and cut out the two types of triangle. Each triangle should have two colours, one on each side. Make about twenty shapes and use them to form different mosaics.

2) After you have experimented with different mosaics using the triangle motif, draw and illustrate the most interesting design you have found.

Use the triangles to form other motifs. How many different shapes can you make and how could you describe these shapes?
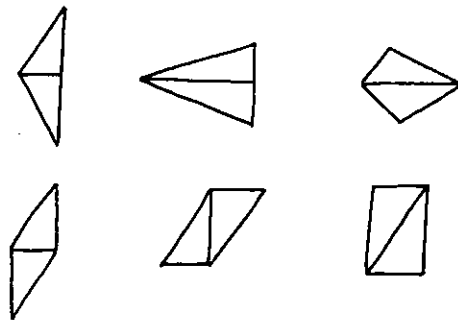
Consider forming other shapes and generate your own designs.

Motifs using a bird shape
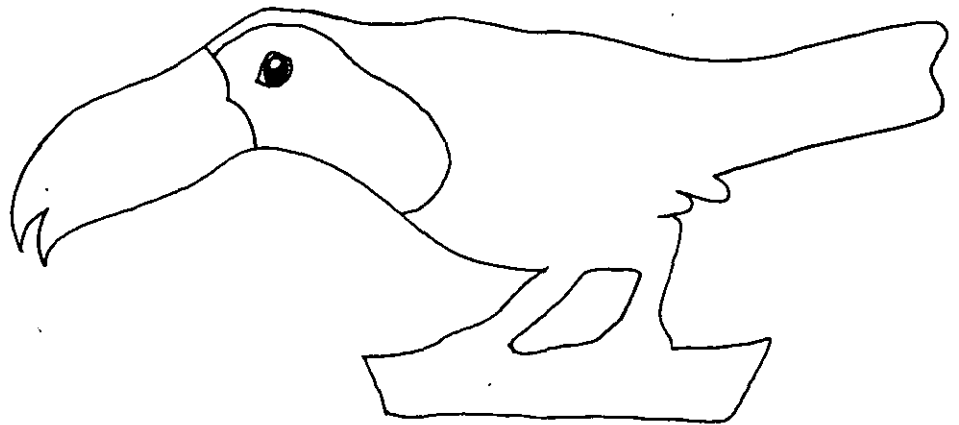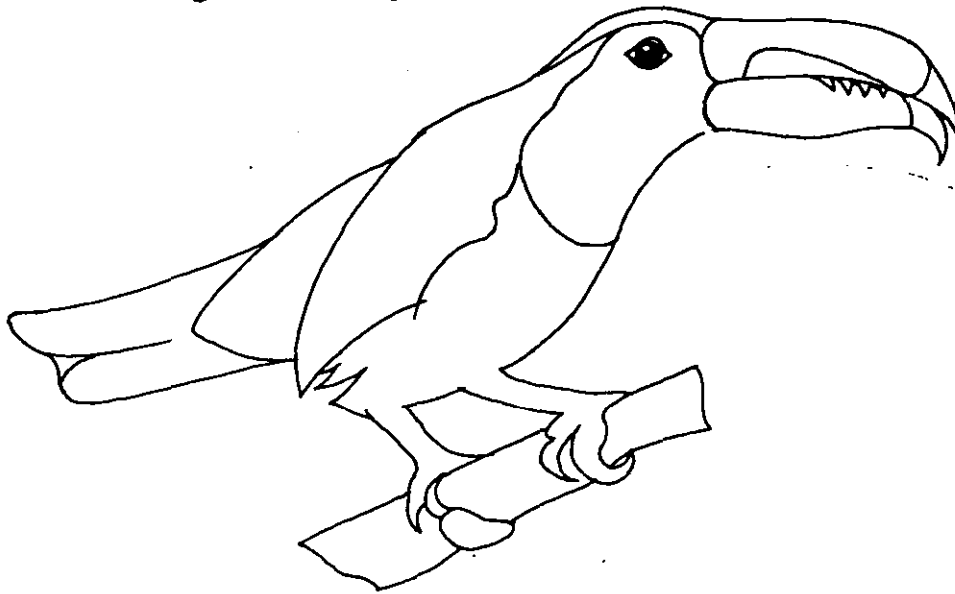
You will need:

An A3 and A4 sheet of paper, thin, strong card, pencils, inks, a scapel or scissors, some technical drawing equipment, a board to cut on.

Drawing:

1) Use a picture of an interesting bird to make a series of sketches, about the size shown. Reduce the drawing to basic shapes.

2) Make a template of the shape in card and use it to draw out a pattern. Try overlapping the shapes as well as generating different shapes using the motif.

Drawing activity: Drawing symbols, signs and patterns

Theme: Optical illusions

Subject: The design of an optical effect

Starting points

For your first attempt at this exercise, use either a square or a circle
and break the shape into an interesting set of shapes. You will need to
experiment with several shapes before you can start a more complete work.
What is an optical illusion? What is high contrast? Collect examples of
optical illusions.

Drawing Strategy

The purpose of this drawing exercise is for you to design a pattern which
can be illustrated in black and white. Your pattern should appear to
move or create an optical illusion. You will need to create a precise
drawing.

Use basic technical drawing equipment. Experiment with regular and
irregular shapes. Use a technical pen and a fine brush to create the
high contrast effects. The quality of your line drawing is crucial to the
success of this design.

What do optical illusions tell us about drawing?

Summary

How effective is your illusion? How much movement have you created?

An optical effect
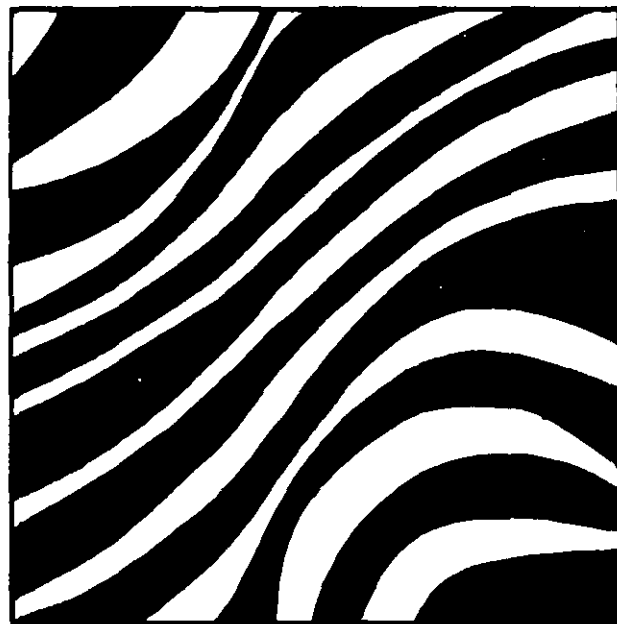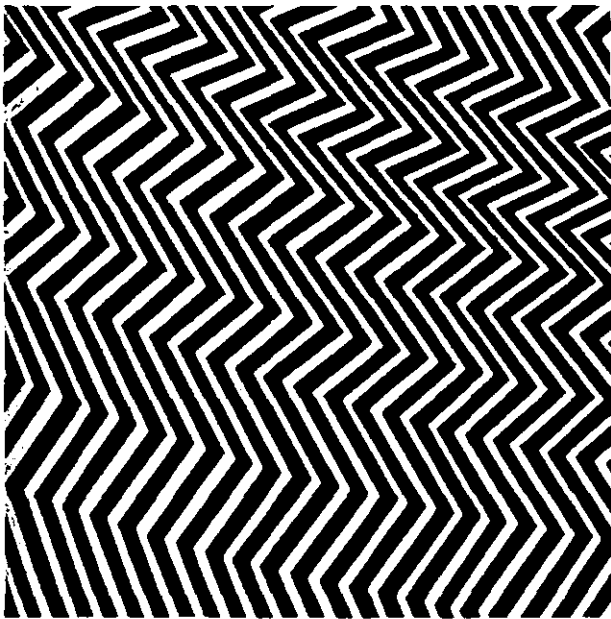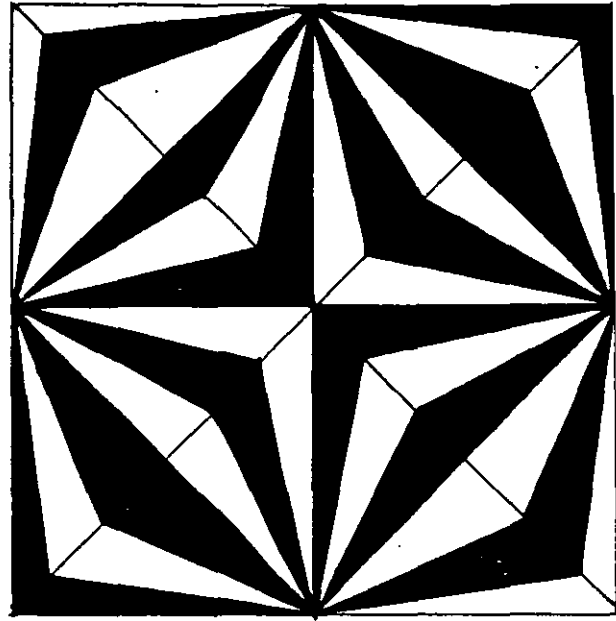
You will need:

Pencils and technical drawing
equipment, technical pens and
black ink, compasses, pen compass
and A2 paper as well as a fine
brush and ink pot. Use freehand
or mechanical drawing.

Drawing:

1) Draw up several squares 15 cm squar
into which you can work out some ideas.

2) Draw a large square or shape
centred on an A2 sheet. Use your small
squares either as a part or a whole of
your pattern.

3) Block in the alternate areas black
and white using a pen and brush. Brush
the large shape and finish off with
the pen.

4) Mount your final optical effect.

<u>Drawing activity:</u>   Drawing symbols, signs and patterns

<u>Theme:</u>   Lettering

<u>Subject:</u>   Design a letter style to suit the meaning of a word.

For example, crunch, fall or wild, quick tough, cool, happy, truck

Starting points

Consider the meaning of the word. How many meanings does the word have?

Make some sketches of ideas associated with the meaning of your chosen word.

Drawing Strategy

The aim of this activity is for you to use drawing to work out what a

crazy word may look like. Use any techniques you like, but make your

final word have an overall unity.

Where could a design like this be used?

Summary

How effective is your design?

Drawing activity: Drawing symbols, signs and patterns

Theme: Graphic design

Subject: The design of a chocolate bar wrapper

Starting points

Write down all the main items of information which a sweet wrapper should

have. Make notes of its name, tradename, price, general information about

the product as well as the ingredients of the sweet. Collect various

examples of wrappers.

Drawing Strategy

The purpose of this drawing activity is to bring together the design of

a product as well as the graphic design of its wrapper. There are at

least three main areas of design for you to consider. They are the name,

its letter style and colouring, the chocolate bar itself and the wrapper,

how it wraps and its overall colouring.

The lettering for the name of the product can be started in the manner

shown in the diagrams. The lettering style should suit the name of the

sweet. The bar of chocolate should be designed to show its shape, size,

texture, both inside and outside. The wrapper should be a full size

precise drawing, illustrated and lettered clearly. You should also

design how your sweet wraps, and a model may help you here. Experiment

with ways of folding and wrapping a bar of chocolate. Remember all your

drawing techniques from observational drawing.

Would your wrapper be noticed on a sweet counter? Would people be

attracted to your product, by name?

Summary

How real is your design?

65

Designing a sweet wrapper

You will need:

All your drawing equipment especially
felt pens and soft pencils. Work out
the information for your wrapper by
listing:

1) The name of your product. Do
this by word association for example,
plonk, zonk, clonk.

2) Use your name as the tradename.

3) The ingredients of the sweet
(your favourite).

4) The size, shape and type of
sweet bar.

5) The method of wrapping. Use a
block of wood to practice ways of
wrapping a bar of chocolate.

6) A price and other written
information which should be put
on the wrapper.

7) Analyse different wrappers.

Drawing:

1) Start with designing the name
of the sweet by writing it in
your natural handwriting. Work out
a colour scheme for the word.

2) Make sketches of the chocolate
bar, showing its outside textures
and its inside ingredients.

3) Lay out the full size of the
wrapper. Work out where all the
designs and words will be.

4) Design a colour or picture
theme for your wrapper.

5) Make a full size technical
drawing of your design.

6) Make several three dimensional
drawings of your chocolate and
illustrate your bar.

<u>Drawing activity</u>:   Drawing symbols, signs and patterns

<u>Theme</u>:   Graphic design

<u>Subject</u>:   The front page of a programme, for example, a football programme.

Starting points

What is the function of a programme? How many types of programme are there? What information is usually communicated on a programme cover? Collect examples of the programme in which you are interested as well as photographs depicting the sport or entertainment appropriate to the cover.

Drawing Strategy

This exercise will give you experience of designing using pictures. You will need to consider the overall shape of the programme (why is a rectangle always used?) and the way in which your pictures and words are spaced and arranged. Lettering is an art of its own so think carefully about the words you use and the style of letters.

Sketch several examples of your design before you work on the final cover. Work out the background shapes and use colour at this stage or stick down your main pictures to lay out your design. Look at all the different items of information you are communicating as shown in the diagram with the notes and create an overall unity to your composition of shapes and colours. Use rub-down letters for your main titles, but plan every position of every letter and word.

Does your programme stand out in a crowd?

Summary

How does drawing help in graphic design?

67

<u>Drawing activity:</u>   Drawing symbols, signs and patterns

<u>Theme:</u>   Logograms

<u>Subject:</u>   The design for a logo

    i)   A funny badge

    ii)   For peace

    iii)   A symbol for British Oil

    iv)   Anti-pollution

<u>Starting points</u>

What is a logogram? Where are they used? Why are they so important

today? Collect examples of badges and logos.

<u>Drawing Strategy</u>

You will need to have thought of an idea for your badge or logo. Once

you have an idea, sketch out your first thoughts, especially with a view

to simplifying your image. Design a shape for the badge or logo by

experiment.

How the various shapes relate to each other is very important in the

design of a logo. Coloured inks and a fine brush are especially useful

for this task.

Explain where and how your design can be used?

<u>Summary</u>

Does your badge or logo work?

Drawing activity: Drawing symbols, signs and patterns

Theme: Livery

Subject: The design of livery for a van or aircraft

Starting points

Why are vehicles given colours and signs? Collect examples of livery designs on vehicles. Use your own name or country and design your own livery for either a van or an aircraft.

Drawing Strategy

The purpose of this drawing activity is for you to use design to create an overall image.

Draw the vehicle to a large scale, after sketching out your basic designs, add your main colour scheme and logos to the drawing. Laying out your design and fitting it in the shapes and spaces on the plane are important to this activity.

How effective is your design?

Summary

How subtle is your design?

Aircraft Livery
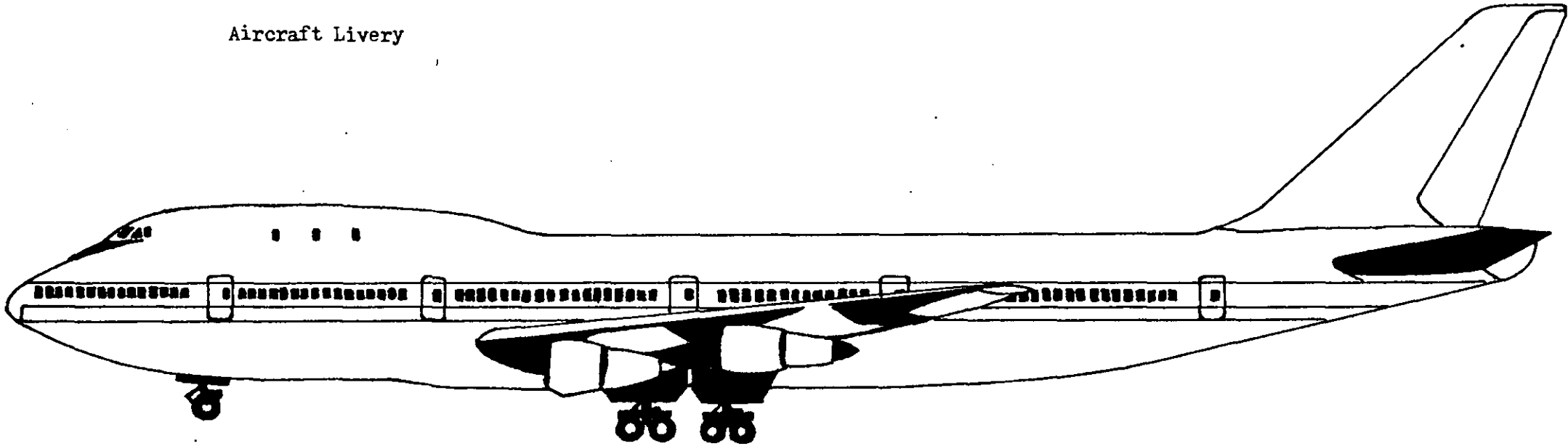
You will need:

Pencils, technical drawing equipment
including french curves and A2 paper
and coloured pencils.

Drawing:

1) Make an enlarged drawing of your chosen
aircraft on an A2 sheet of paper.

2) Design your colour scheme and markings
and badges.

3) Illustrate your drawing.

70.

Van Livery

71
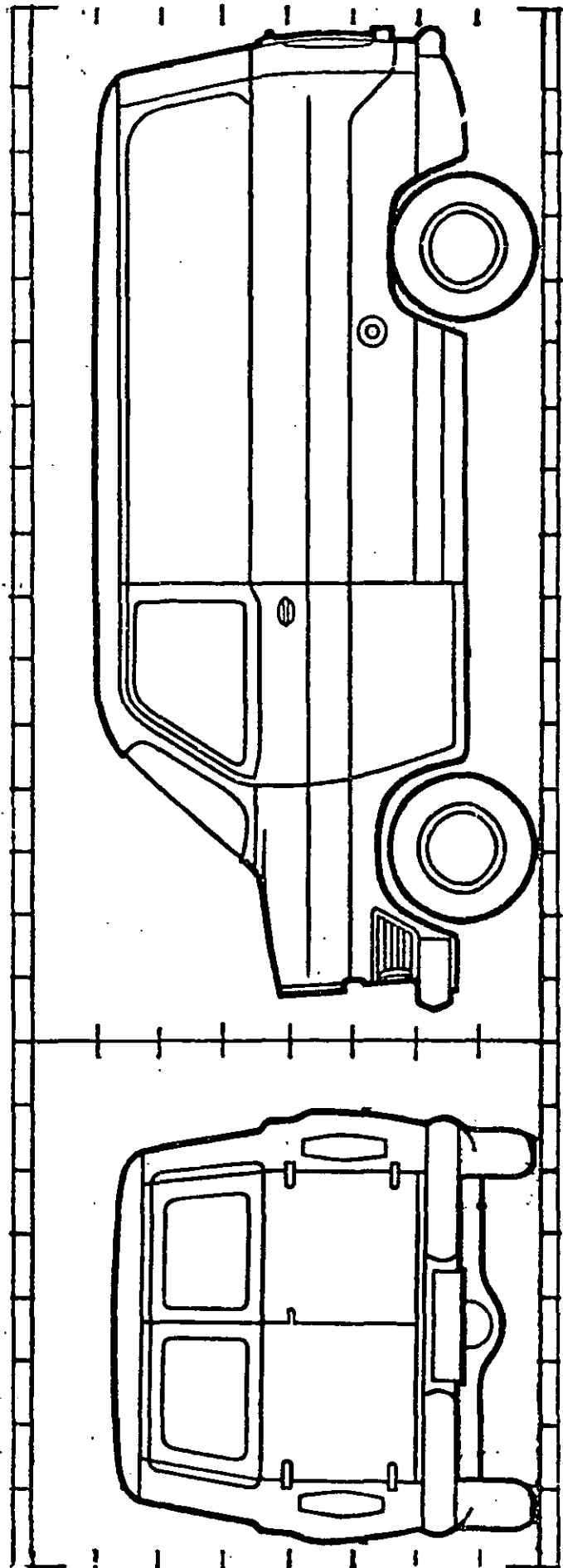
<u>Drawing activity:</u>   Drawing symbols, signs and patterns

<u>Theme:</u>   Diagrams

<u>Subject:</u>   Designing a diagram

        i)   Using statistics

        ii)   How to put something together

        iii) How to analyse a problem

Starting points

What is a diagram? What types of diagram do you know about? What do
diagrams do? Look carefully at the data given to you and decide what
is the most important information contained in it. Design a visual
display of this most important information contained in it. Design
a visual display of this most important idea.

Drawing Strategy

This is a very important drawing exercise because you will need to
develop a special style of drawing to show the main point of information
contained in your brief.

The graphic form should be entirely your own choice. Create a sense
of unity in your design.

Where could you most effectively use your diagram?

Summary

Do people understand the message of your diagram?

Designing a diagram using statistics

In Britain over the last few years FIREWORK INJURIES have been:	
1978	953 Hospital casualties
1979	745 " "
1980	555 " "

You will need:

All your drawing equipment.

Drawing:

Draw and design a diagram
after sketching out your ideas.

Designing a diagram putting something together

Acquire a television aerial plug and a small length of aerial cable.
Make sure you know how to wire a television aerial plug.

You will need:

All your drawing equipment especially
pens.

Consider using pictures of hands in
your diagrams.

Drawing:

1) Make sketches of all the
parts of a t.v. aeriel plug.

2) Show both the inside
and the outside of the plug
correctly used.

3) Use a technical pen for
the final diagram.

Analysing a problem

GREY

West and east Pacific. Originally 20,000. Now 10,000-12,000. Not sighted for many years.
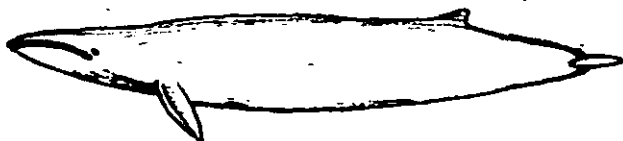
BLUE

Antarctic, north Pacific, north Atlantic. Originally 200,000. Now 6,000.
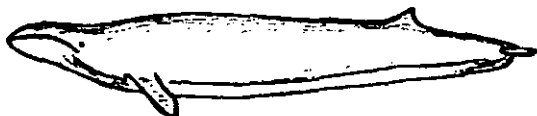
FIN

Antarctic, north Pacific. Originally 420,000. Now 92,000.
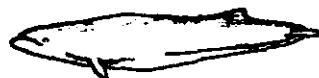
SEI

Antarctic, north Pacific. Originally 220,000. Now 125,000.

HUMPBACK

North Atlantic, north Pacific, Antarctic. Originally 50,000. Now 5,600-6,300.

GREENLAND RIGHT

North Atlantic. Originally 11,000 Now 30-40.

SPERM

North Pacific and other warm waters. Originally 290,000 in north Pacific Now 170,000.
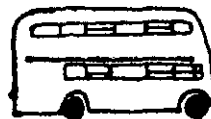
London bus reproduced to same scale.

You will need:

All your drawing equipment.
Lay out and illustrate a diagram which communicates the significant information to be found in this data on whale population.

Drawing:

1) Make sketches of your idea

2) Illustrate your final diagram.

iv) Design-by-drawing

A) Introduction

In this series of activities, I am aiming to introduce you to some of the ways we can design-by-drawing. I have chosen to consider two main areas of design-by-drawing where you can find ideas and information for yourself and communicate information to other people.

i) Communicating information to yourself through sketching, observing and noting ideas and facts. This represents the private drawings one might make.

ii) Communicating information to other people through more polished drawings and proposals, which may include technical drawings and details. These are the public drawings we might make.

The information that can be found for designing will depend on you and your design task. There is no one way to design or to use drawings. Generally, you will explore 'what your design will look like' and 'how it might be used'.

Information about what your drawing may look like can concern its 'form' (aesthetic and functional), its structure, its size, its number of parts and the proportions of the size of parts, how it can be assembled, its construction or manufacture, materials used, textures of surfaces, colours and all the organisational needs and requirements of making.

Information about how it can be used can concern how, when and where it works and who will use it, as well as considering all the organisational needs of its use.

At every stage of designing, each of these points of information can be changed by drawing because drawing in design is a method of organising the making of things. This method enables new forms to be devised and to be tested in a modelled form before the process of production. How reliable these drawings are in describing how people will use the   75

product is another problem. Drawing helps us to organise making things but it cannot always show us how things will actually be used or whether people will like them.

Designers must possess vivid and powerful imaginative faculties, since they are dealing with objects and ideas in their minds. They are dealing ultimately with a precise description of an object which does not yet exist.

The designer, therefore, has not just the ability to think in images, but also the ability to manufacture and respond to them. A designer needs to 'think in terms of drawing'.

In designing, man uses his abilities to 'relate' to the materials of his environment, and in this process he invents tools, which are constantly being developed. Drawing is a tool in this respect and it has been developed in many forms throughout man's history. Also, anything man makes ultimately reflects man himself.

B) A list of drawing subjects and themes for Design-by-Drawing

	Theme	Subject
1)	Drawing and modelling	Science fiction monster
2)	Drawing and making	A model car
3)	Technical drawing and a proposal for design	Designing the body style of a car
4)	Reading drawings to help in making	Making a boomerang
5)	Reading drawings to help in making	Making a kite
6)	Reading drawing and producing design drawings	Designing a torch
7)	Drawing to making	Modular shape design
8)	Imaginary design ideas	Design of a super football stadium
9)	Drawing to making	A system of control, a robot's arm
10)	Drawing to making	A cushion
11)	Drawing to making	A key ring
12)	Drawing to making	A mechanical insect
13)	Drawing to making	A photograph frame
14)	Promotional drawing	A technical graphic image promoting a personal design.

C) Particular examples of Design-by-Drawing

<u>Drawing activity</u>:   Design-by-Drawing

<u>Theme</u>:   Drawing and modelling

<u>Subject</u>:   A science fiction monster for a television programme

<u>Starting points</u>

Read the extract from a Dr. Who script which describes a monster. Make
a list of all the words describing the monster. This information is
usually all a costume designer receives for a television programme.
Work out, in your own mind, what the monster looks like and make several
sketches of your ideas. Sketch the main features of your monster. Then
think about how the monster will work in the programme. Does an actor fit
inside a costume.or is there some other way of creating the monster.

<u>Drawing Strategy</u>

The purpose of this activity is for you to design your own idea of a
science fiction monster given a brief description of the monster. Most of
your drawings will be personal. They are helping you to decide what your
design looks like. Think of as many fantastic features as you can.

Shapes, lines and colour are important in this drawing exercise. Sketch
in any medium. Try sketching with a fine brush and paints as well as
pencil or even Biro. Draw the main features of the monster, its head, body,
arms and legs, (if it has these parts?) Remember to use your knowledge
of drawing things to look real and solid, especially different textures of
skin, scales, fur or something unusual. Also, make detailed drawings of
the monster's head, so that you can make a papermache model of the head.

Discuss the various monsters you have seen in films and on television.
Consider how they are designed and made.

Summary

You should now be able to see how to use sketching to help you to work out your ideas about what something could look like. How many times did you change your mind? Did your drawing and ideas improve?

A science-fiction monster from an imaginary Dr. Who story.

The Nargon

A control centre filled with electronic gubbins.

A panel slides open. Soldeed enters, nervously, and stands before the desk.

There is movement behind the curved screen at the back of the desk and then the Nargon appears.

He is a terrifying creature, with huge powerful shoulders and a great glistening head like a huge mechanical bull. Two long pointed horns curve from either side of the beady eyes.

Drawing activity: Design-by-Drawing

Theme: Drawing and making

Subject: A model car propelled by a small battery powered motor
            and elastic band

Starting points

Use sketching and drawing to design how your model will fit together and
work. You will need a kit of parts and access to a workshop and basic
tools. The constructional element of this modelling is designed for you
to use the basic craft techniques of sawing, drilling and forming. The
main parts of your model should include a motor, a battery, an elastic
band, wheels, axels, a chassis, a drive wheel and any other component
you think you will need to fix together your design.

Drawing Strategy

This design project requires that you use drawing to organise how you
will make your model. Firstly you will need to know how your model will
work. How does the motor power the vehicle? How many wheels do you need
and so on? Make sketches of all the important working and moving parts.
Also make drawings of how things will fit together and very importantly,
the exact position of parts to make your model work properly.

Use a pencil for your sketches, but also carefully lay out your paper so
that you can make clear notes of all the different things you will have
to think about. You should use three-dimensional drawing and possibly
front view, end view and plans. A plan view may be very useful. Then make
your model from your drawings. Make sure you can read your drawings.

This type of design-by-drawing activity provides a fairly common experience
of how to organise the making of something. In how many ways have your
drawings and sketches helped you? Did you really need drawings for this   80

exercise? Did anyone else need to read your drawings; if so, why?
What sort of drawing was most useful to you?

Summary

How would you judge the quality of your drawings? Were they clear and
easy to use? Does your model look like your drawings; if not, why not?

<u>Drawing activity:</u>   Design-by-Drawing

<u>Theme:</u>   Technical drawing and a proposal for design

<u>Subject:</u>   Designing the body style of a car

<u>Starting points</u>

There is no one way to design a car. Since a car is a solid object it is
usually designed by modelling, as much as anything else. However, sketching
and drawing of initial ideas **play** an important part in the design of a
car's style. Discuss the type of car you are interested in, the conditions
under which it will operate, the number of people who will use the car and
how people will generally use the car. Consider also some of the basic
technical problems of fuel economy, performance, layout of engine, placing of
passengers and luggage and road holding. Make careful notes of all
your ideas and specifications. Your drawings are a proposal for how a car
might look.

<u>Drawing Strategy</u>

The purpose of this activity is for you to explore the problems of car
styling and to use your experience and imagination in your design drawings.
Also, there are many drawing techniques which you can explore in this
exercise.

There are several drawings that you can make. Make lots of sketches, good
and bad, which show your thinking and changes of mind. Use a thick felt pen
for quick impression sketches. Structure some of these first drawings on
an existing car. Work out the front view, end view and plan of your car
and make a full orthographic drawing in pencil. Use all the technical
drawing equipment in this exercise, especially French curves. These views
can be illustrated in ink or colour. Use a technical pen where possible.
Produce a three-dimensional stylised drawing of the whole car and a few

main features of the car.

What would be the next stage for your car design? What types of
drawing do you need before, during and after making something?

Summary

Do your drawings have impact? Are they convincing? Present them for
exhibition by making a display of all your work.

Drawing activity: Design-by-Drawing

Theme: Reading drawings to help in making something

Subject: Making a boomerang

Starting points

Read and study the drawings and notes about a boomerang. Do you have

enough information? Check that you have the right materials and tools.

Drawing Strategy

The aim here is for you to read a set of drawings and to take action

from them. You will need to organise what you need and what you are doing.

Make a full size drawing on paper of your boomerang using the full range

of technical drawing equipment. Once you understand the drawings, mark

out your material so that you can begin to form your boomerang. When you

have made and tested your boomerang, draw several boomerang shapes on

paper and design a pattern for it. What paint could you use for this and

how will you paint your boomerang? Make your design abstract.

Did you find the drawings useful? Could you work out what they all meant?

How could you improve on these design drawings? Would you prefer written

instructions?

Summary

Can you read a set of drawings and understand what you see? Does your

boomerang work? Did you make any other drawings to help you?

A wooden boomerang

You will need:

Your drawing equipment and a sheet of A3 paper.

Materials:

Plywood (6 mm or 8 mm) X (40.6 cm x 15.24 cm). Craft skills of using a coping or fret saw, a rasp or spokeshare and glass paper to form the shape of the boomerang.

Drawing:

1) Draw the boomerang full size.

2) Draw the boomerang onto your wood.

3) Mark on the portions of the cross section shapes.

4) Decorate your finished boomerang with a pattern.

RH

B ◄━━ A   D ◄━ c   F ◄━ E

H ━ G   J ━ I   L ━ K

N ◄━ M
RH
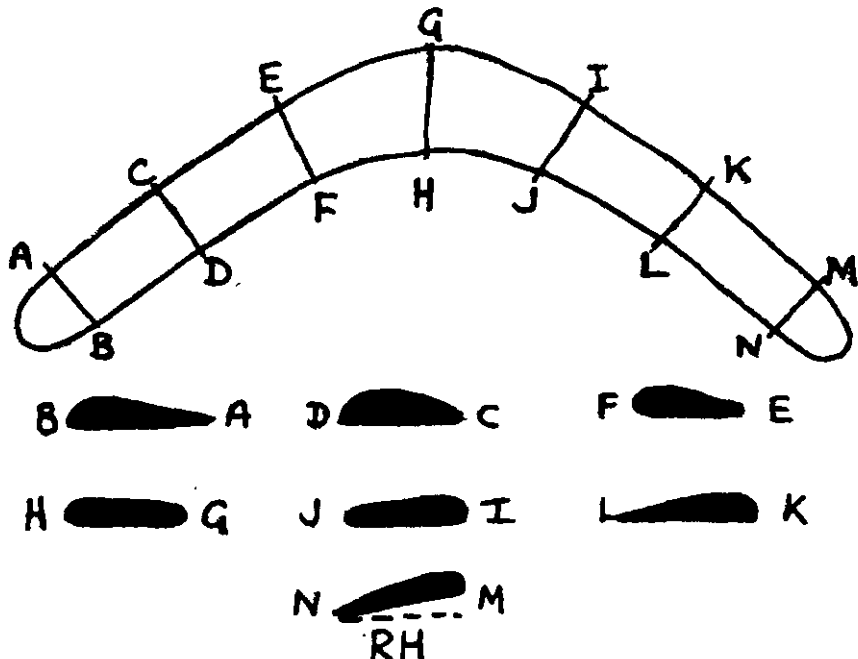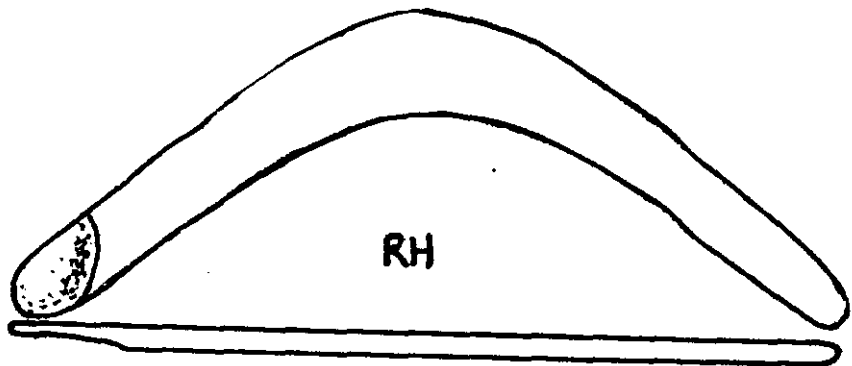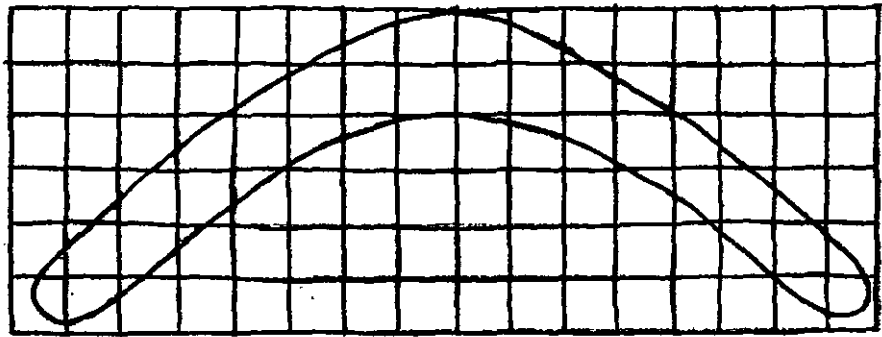
Drawing activity: Design-by-Drawing

Theme: Reading drawings to help in making

Subject: Making a kite

Starting points

Read and study the drawings and notes about making a kite. Do you have
enough information? What sort of information is in the diagrams?
You should be able to list many examples. Can you list the materials
and tools you will need?

Drawing Strategy

The purpose of this activity is for you to read and understand drawings
to help you to make a kite. Later on you might design and make your
own kite. Perhaps while you are making this kite you will find a better
way of making something.

Do you need to do any drawing?

How useful were the diagrams?

Summary

Does your kite fly?

The Eddy Kite

You will need:

Your drawing equipment for marking
out the materials to be used in your
kite.

Materials:

Two lengths of 6 mm dowel
(82 cm and 80 cm); 10 cm length
of 9mm   plastic hose, small
offcuts of plywood, strong line,
a plastic bin liner or 250 gauge
polythene sheet.

Craft skills involve using a hand
saw, scissors, stapler and a vice.

Drawing:

1) Read all the diagrams.

2) Mark out your materials.

3) Construct your kite.

4) Measure and correct the
bridle of the kite to find the
best angle to fly the kite.

Preperation and assembly

820

800

180
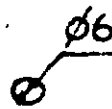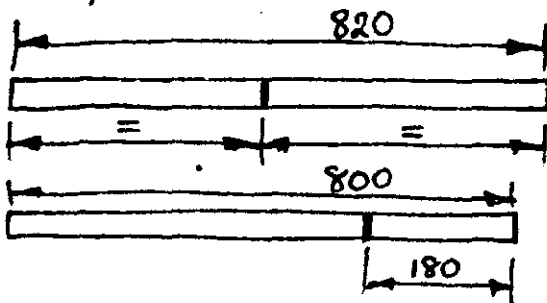
ø6   Mark each dowel
Dimensions in mm

ø9mm   Hose

Saw cut at
each end of
each dowel.

50
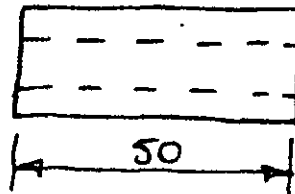
Two off.
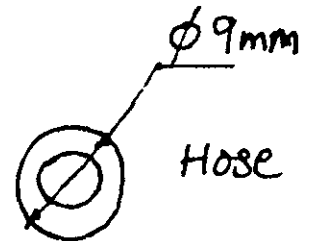
Cut a slice out of one side of the hose

180
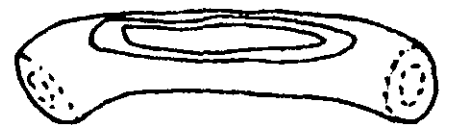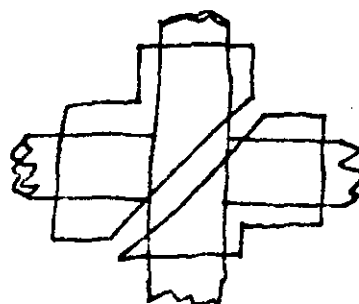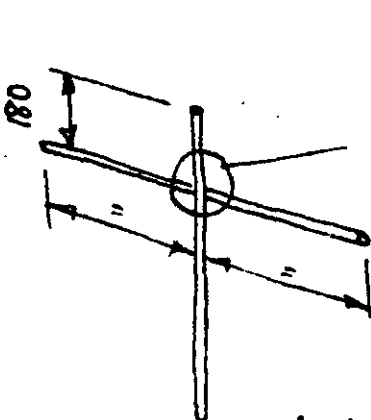
Joining the spars with two pieces of hose

87
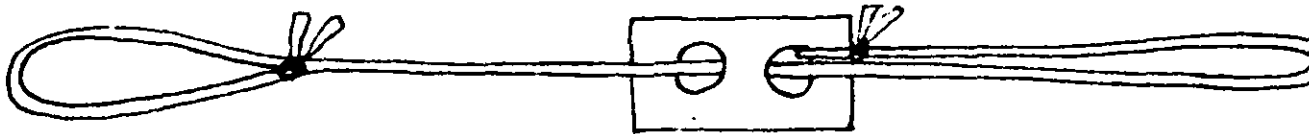
The sliding guy.

Forming the bow with a sliding guy
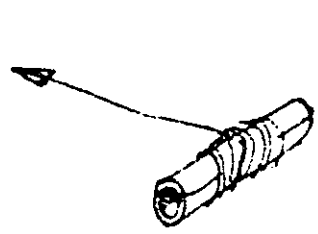
Two small holes

30

6
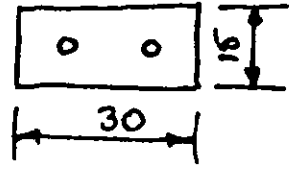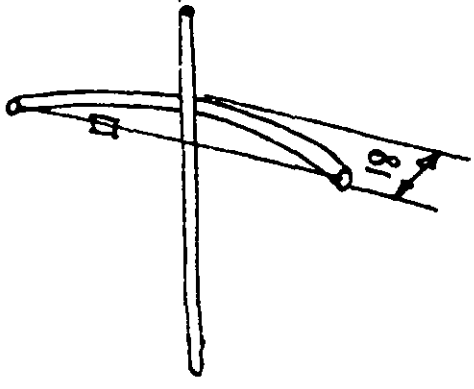
Bow string 1 metre long

Use 2·5 metres of line to form the
kite shape. Start from the top
and ensure the kite is symmetrical
Use elastic bands to hold the
line in place in the groves.
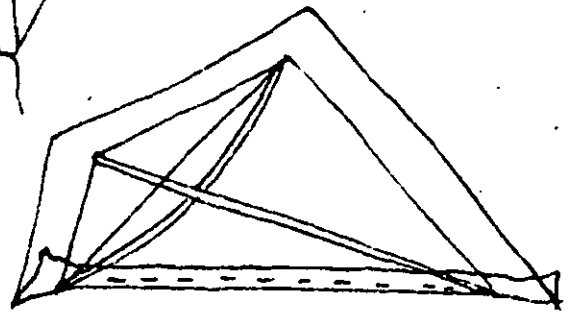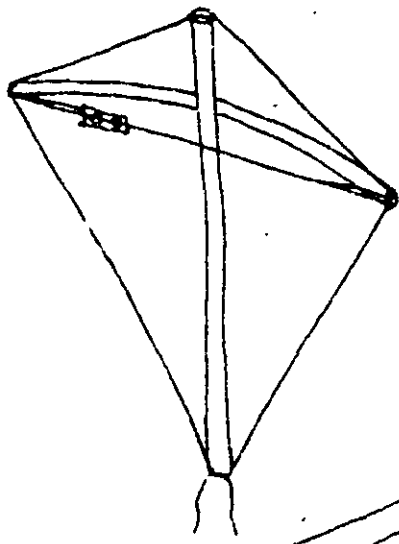
Staple the polythene
sheet over the the
line making the kite
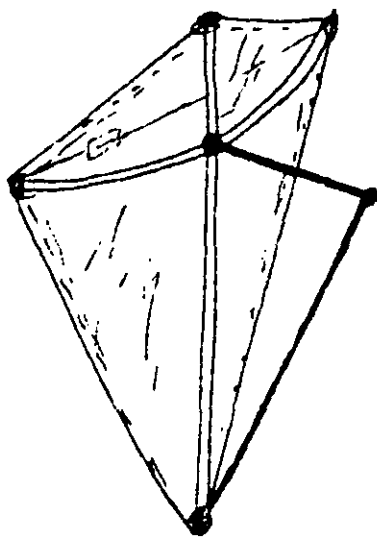
The bridle

A tube to
wind the
line onto

<u>Drawing activity</u>:   Design-by-Drawing

<u>Theme</u>:   Reading drawings and producing design drawings

<u>Subject</u>:   Designing a freestanding torch by drawing

<u>Starting points</u>

Read and study the design brief and the notes given. Consider the function

of a freestanding torch. Where would it be used? There is a lot of

information which you need to show in your drawings. You are designing

what the torch will look like, how it will work and where it will be used.

Make careful notes of your ideas. Change any of the given components.

What materials would your torch be made of?

<u>Drawing Strategy</u>.

The aim here is to use drawing in its widest sense. To sketch and design

the outside view as well as the internal workings. Your torch must work.

Use the full range of drawing equipment and methods of illustrating.

You should produce sketches, stylised 3-D drawings, working diagrams

and sectional views in orthographic projection. Use line, tone and

colour in your drawings.

Who would use the type of drawings you have made?

<u>Summary</u>

You have completed a complicated task. Do your drawings explain clearly

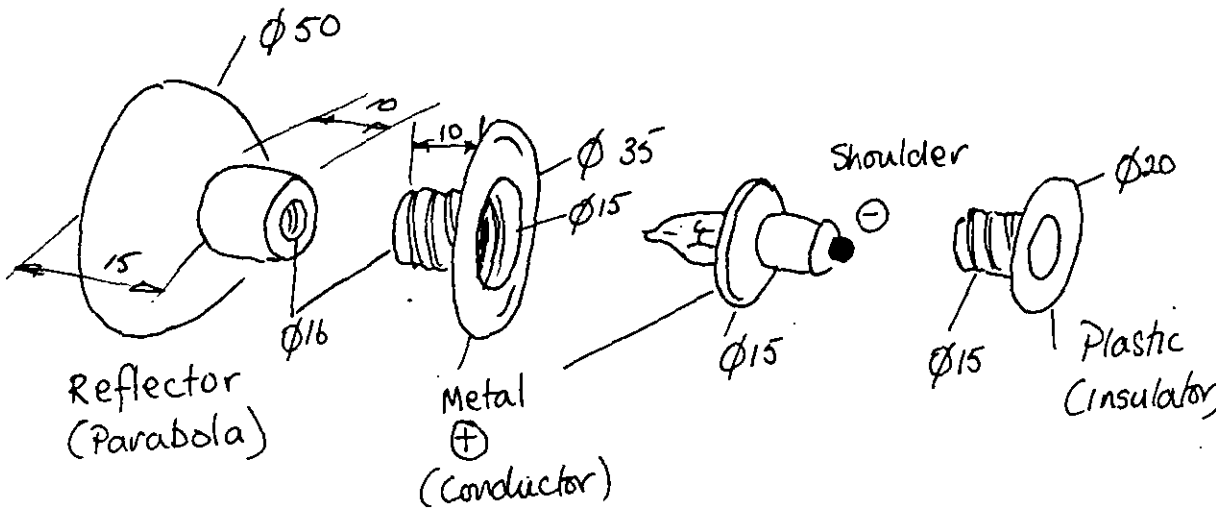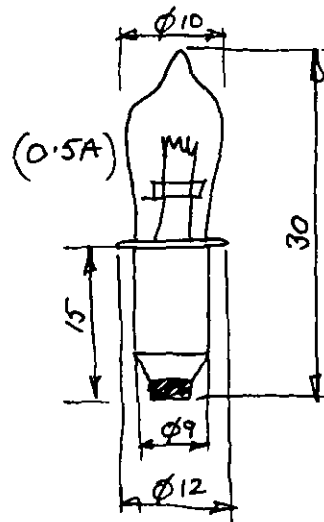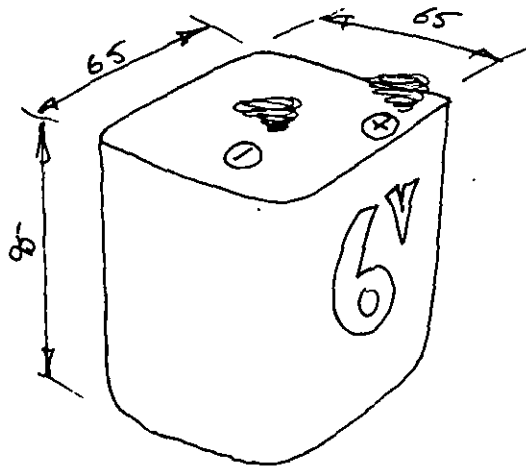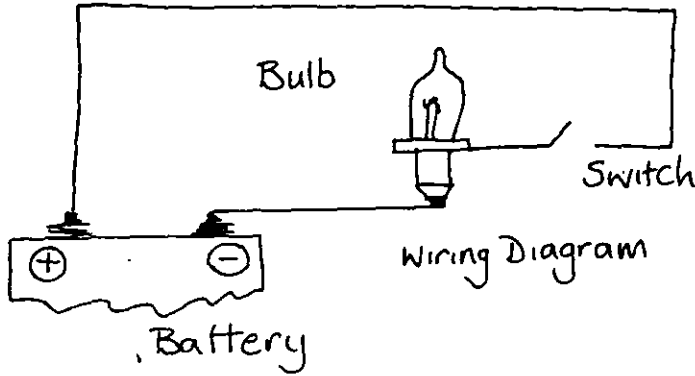how your torch will work and what it will look like?

Torch design

You will need:

All your technical drawing equipment.

Bulb

Switch

Wiring Diagram

Battery

Reflector (Parabola)

Metal ⊕ (Conductor)

Shoulder

Plastic Insulator

Drawing activity: Design-by-Drawing

Theme: Imaginary design ideas

Subject: Design of a super football stadium

Starting points

What is a stadium? What are present stadia like? Consider the following
imaginary press statement:

> "Within twenty years British Football will be dominated by an elite
>
> of perhaps a dozen clubs playing in super-stadia, replete with such
>
> amenities as synthetic turf, dome-roofs, escalators, all purpose
>
> leisure centres and shopping complexes... Nobody will ever get
>
> wet and no game will ever again be cancelled through snow and ice."
>
> (Daily Blab 1982)

Drawing Strategy

The purpose of this exercise is for you to use your imagination to
make some design proposals for a super-stadium. Use the ideas in the
press cutting and research, for example, the layout of football pitches
and how people can watch a game in comfort and peace.

Make sketches and three-dimensional drawings to show the layout of
your stadium. Plan your building to work in many ways and show your
ideas in diagramatic form.

What type of drawings have you made? What sort of information are you
communicating? Who would be interested in your proposals?

Summary

Did you find any new ideas or novel inventions in your drawings?

Theme: Drawing to making

Subject: Modular shape design

Starting points

Your design brief is to make a shape which will fit the same shape in many ways so that a modular construction can be formed.

Drawing Strategy

Use drawing and cardboard templates to design your shape. Test your ideas before making a set of shapes.

Summary

How effective was your modular design? Did you see any use for your design or does it stand in its own right?

Drawing activities: Design-by-Drawing

Theme: Drawing to making

Subject: A system of control, for example a robot's mechanical arm

Starting points

Your design brief is to make a mechanical arm, using very basic materials,
so that the arm can pick up and move small objects. This arm may be
a feature of a robot which has other 'powers'.

Drawing Strategy

Consider whether you need to use drawing at all. If you do use drawing
how will it help you to make your design work?

Summary

What are your conclusions about using drawing for this type of design
problem?

Drawing activity: Design-by-Drawing

Theme: Drawing to making

Subject: Design a cushion which will use applique as its main feature

Starting points

Design a cushion which will be 45 cm square so that the top face will be made up of an applique design based on a pattern. Use the idea of a square pattern and break up the main square with either a regular pattern or irregular pattern.

Drawing Strategy

Draw at least six small squares to test your ideas and then draw your design full size. Use cut out paper to see how shapes overlap and how the various colours will work together. Incorporate lines as part of your design which can be made by a sewing machine.

Summary

How helpful was drawing in your cushion design?

Drawing activity: Design-by-Drawing

Theme: Drawing to making

Subject: A key ring

Starting points

Your design brief is to make a key ring from a piece of perspex 45 x 10 mm.
The aim is for you to design and form a shape for your keys. Find a
bunch of keys and think about how you use keys and how you carry them.

Drawing Strategy

Drawing is very important in this design exercise, becuase you will
be making a three-dimensional form from a two-dimensional drawing.

Sketch shapes and then distort them into more interesting shapes. Begin
again with a more irregular shape. The aim is to produce a shape that
needs to be formed, bent or drilled so that you can develop your basic
craft skills and understanding of materials. Use cut out templates of
paper to help you to develop your ideas. Sketching is very important
in this exercise. You will need to produce a large number of ideas.

Use a full size illustrated drawing to help you make your key ring.

Summary

Is your shape a pleasing one? How does it handle?

Drawing activity: Design-by-Drawing

Theme: Drawing to making

Subject: A mechanical insect, bird or animal, enamelled and mounted.

Starting points

Find a photograph or drawing of an animal that interests you, for example, a Lapwing. Consider the character of your animal and how you can capture its form by drawing.

Drawing Strategy

The purpose of this drawing is for you to change and use an image of an animal. You should make a detailed drawing of the bird and then abstract the main shapes and form for your design. Look carefully at the textures, patterns and shapes which make up the bird.

Draw and illustrate your design, working out carefully the different shapes which fit together and the shapes and colours on top of each other. Make paper templates of your shapes. Design the background onto which you can fix your design. Work out the enamelling process you are going to use, so that your shapes and colours can be organised properly.
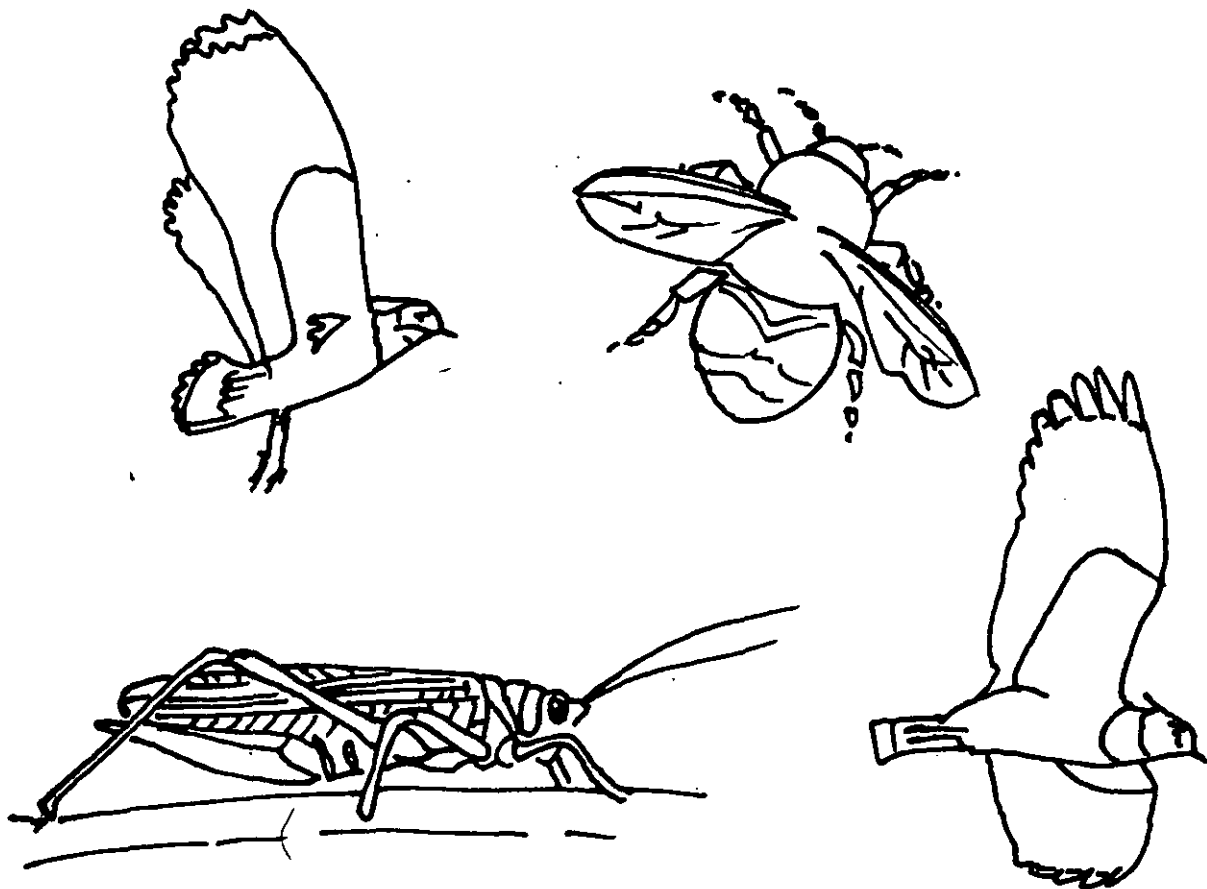
How useful was sketching and drawing to your final design?

Summary

Do your design drawings resemble your final work?

A mechanical insect

This may be a direct interpretation of the animal or a more fantastic
or imaginative exercise.

You will need:

All your drawing equipment and A3
sheet of paper. A collection of
photographs or actual animals from
which to make line drawings.

Materials:

A small piece of copper sheet
and enamelling equipment.

Craft skills:

Cutting and forming the copper
shapes to form a jigsaw of the
animal. Enamel the shapes and
mount them on a piece of wood
using an adhesive.

Drawing:

1) Draw your chosen animal or
insect showing the basic shapes.

2) Break down these shapes into
main areas which can be cut out.

3) Work out the colours you wish
to use.

4) Design a way of backing and
mounting your work.

Drawing activity: Design-by-Drawing

Theme: Drawing to making

Subject: A photograph frame

Starting points

Design a photograph frame to be made of clear perspex, which will require
you to use bending and forming techniques for perspex. The frame must be
freestanding. Collect a photograph which you would like to display and
take measurements of it.

Drawing Strategy

The purpose of this drawing activity is for you to design a picture frame,
taking into account the craft techniques you will need to use and
understand.

Sketch the shape and size of your frame. Make several three-dimensional
drawings showing how it will hold a picture, how it is bent and how it
will stand. Line drawings are useful here. Also, make templates of paper
to experiment with shapes and the standing position. Make technical
drawings of the three main views of your design.

Did drawing help you to find the shape you wanted?

Summary

Does your frame work well?

Drawing activity: Design-by-Drawing

Theme: Promotional drawing

Subject: A technical graphic image promoting a personal design

Starting points

Find something you have designed or would like to design and draw a series of technical graphics promoting your idea. Study examples of this type of drawing.

Drawing Strategy

Use all your knowledge and skills of drawing to promote an original idea.

Summary

How difficult was this drawing exercise considering that all the ideas had to originate from you? Has a structured drawing course helped you?