

# Design Education: What's the point?

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The Department for Education and Skills recently funded the National Society for Education in Art & Design (NSEAD) and the Design & Technology Association (D&TA) to run a seminar on the present state and future of design education. As the D&TA/NSEAD background paper for the seminar showed, all is not well with design education. Torn between art and technology it is no longer a major focus in schools. Does this matter and if so why?

Clearly those who came to the Royal College of Art on 11 July thought it mattered. The Rector, Sir Christopher Frayling, put the situation in an historical and economic context. I attempted to identify 'the essence' of design education and David Prest reported from Cornwall, one area of the country where design is alive and well in both primary and secondary schools. It rapidly became clear that there is more than one argument for design education and even that some of the arguments appear (at first sight) to be contradictory. In a crowded curriculum, what are the key arguments that will persuade heads, governors, parents and – most important – young people that design is worth studying?

I believe there are four arguments that are particular to design plus one that design shares with other practical, creative subject areas such as art, technology, music and drama.

Design education emerged in the 70s and 80s and much of the work done then has stood the test of time. However, society and the world of education have changed dramatically. Significantly, many of the changes serve to make design and therefore design education more important.

## Key changes since 1980 include:

- the steady growth of consumerism;
- the threatening environmental crisis;
- the growth of new ways of communicating – and so learning – using digital media;
- changes in the economy and the means by which wealth is created;
- changes in children's culture and the way society regards children.

These developments in the socio-political realm have been complemented by extraordinary progress in cognitive science and neuroscience. Work in these fields throws new light on the nature of 'designerly' thinking and on the personal, social and economic importance of these thought processes.

What cognitive science has done is to show conclusively that designerly thinking and action are features of the mental activities of all humans. It has settled the argument between two apparently contradictory views of design.

1. That design is highly specialist, complex and esoteric – that particularly the act of designing is something which people can do only after a long apprenticeship.
2. That design ability, like language ability, is something that everyone possesses at least to some degree.

We now have to accept that these two views are in fact complementary. The highly complex skills of the professional engineer, fashion designer or CGI artist are simply the specialist development of abilities and understandings that we all have.

The design education 'movement' always took the broad view and in doing this they were building on a distinguished tradition that included William Morris, W R Lethaby and Eric Gill. Much of my own work has been concerned with looking for evidence of latent designerly thinking and activity in young children. It is now clear that babies very quickly become aware of their environment and want to engage with and even control it. In early play, the role of objects and play 'things' is important. Many classic children's games involve building worlds of people and things that echo the adult environment but which have to be 'created' using imagination and physical 'props'. Pretend shops, houses, vehicles, streets and imaginary places all feature in the mental world of children by the time they reach primary school.

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Children use their first drawings as a flexible way of modelling. Early mark making leads on not only to art but also to symbolic meaning, written language, numerical notation, diagrams, maps and plans. Children's engagement with materials such as paper or clay is exploratory, curious and experimental. It turns out that design capability and what we might call a 'designerly attitude' is very evident in the activities of four and five year olds.

Evidence of universal design ability also comes from evolutionary biology. The evolutionary story lays great stress on humankind's 'general purpose intelligence' which enables us to deal with unexpected events. Within the general framework of intelligence there are also quite specific abilities which seem to have arisen first from our remarkable binocular colour vision and from our ability to coordinate hand and eye. These include the first technologies but also our ability to imagine alternative futures and to take social and technical steps to bring about change. It is this momentous design ability that has brought us to the point where we have become responsible not only for our species future survival but for the survival of the whole planet.

The arena for design activity is material culture – aptly described as products, places and images. It is designerly thinking and action that shapes the future of our made world. It happens at every level, from engineering and architectural offices, through fashion design and film studios to the individual householder creating a setting for family life. It is ubiquitous in its impact.

It might be thought that design is therefore about material things. This is not the case. It is also about people. The made world only has meaning in the context of human ideas, aspirations and values. Designing a product, a place or a message is also to design some aspect of human behaviour.

The function of a designed thing always has two complementary aspects – its physical performance and material reality – and its meaning in the lives of those who make and use it. This meaning can

be economic, strictly practical or deeply spiritual and aesthetic.

Very often a design will play all of these roles and many more.

Design activity is directed towards the future. It is, therefore, important to understand how designers (and 'ordinary' people acting as designers) can envisage future things and behaviours and act to bring them into existence.

The key is to be able to imagine them. It was Bruce Archer's great contribution to identify design activity with a particular aspect of the human mind – its capability to deploy cognitive models that 'imagined' past, present and future. Bruce described what designers do as 'seeing in the mind's eye'. In fact, they not only see but also handle all the other sensory inputs, imagining, for example, the texture of a future wall, the sounds in a future concert hall or the odours to be extracted from a future kitchen.

To help them develop, capture and communicate their internal models, designers have over the centuries invented a whole range of external modelling media – drawings, plans, maps, three-dimensional models, mathematical formulae, storyboards, rough lash-ups, highly developed prototypes, computer programs and many others.

The interaction between the inner world of 'imaging' and the external world of physical models is dynamic. The external models show designers more about what they are imagining. They verify and extend; they feed back into the mind and can change what is imaged. They are a medium for speculation and communication

External models are also a key to organizing the social action necessary to bring the designers' proposals into reality. They are a medium for sharing with others, for gathering their views and for working together.

**Design education must therefore attempt to foster people's ability to imagine, to externalize, to act socially, to construct and learn from experience. This entails encouraging design awareness as well as design ability.**

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**Design Awareness** = knowing **about** design

**Design Ability** = being **able** to design

These two are intimately linked together in designerly thinking and activity. They relate directly to the two essential themes in design education:

## **Why are things the way they are?**

Understanding the past and present and

## **How can things be improved?**

Speculating about the future

These themes have existential significance. Answering them requires reflection and a consideration of personal, social and spiritual values as well as practical action. In fact, design links values and action in a unique way. Consider the broadest context of questioning implied by the idea of making an 'improvement'. A twelve-year-old might find themselves speculating very broadly:

- What is the world like?
- What am I like?
- How did the world come to be the way it is?
- How did I come to be the way I am?
- How can I investigate the world and understand it better?
- How can I express what I feel and know about the world?
- What do I value? Why do I like what I like?
- Can the world be made 'better'?
- Is 'better' being more like what I like or do I need to find out what other people think is 'better'?
- Do I need to work with other people to improve the world? How can I work with them?
- When working on my ideas, what can I learn; can I improve myself while also improving the situation?
- How can I express or represent my ideas so that I understand them better and can share them with others?
- How can I make my plans become a reality?

- What tools and materials can I use?
- How can I use them?
- Must I change my plans because of what I know about tools and materials?
- Is what I have made a success?
- What do I mean by success?
- How do I find out if it is a success?
- Whose judgement is most important in deciding if it is a success?
- What have I learnt from trying to change the world?
- Have I changed as a result?
- What do I value?
- How do I want to live?

Clearly the majority of these questions cannot be said to be only the concern of design. Many are shared with philosophy or ethics, others with art or craft or technology. But a number can only be dealt with by design. The linkage from introspection and values, from an understanding of the world as it is, to the decision to act and to grasp that we are changed by acting, is at the core of what design has to offer as an educational experience at any level.

Writing 21 years ago, I put forward a series of 'basic assumptions' that would underpin the role of design education in the curriculum. I would stand by them today.

1. Design awareness and design ability are inherent capacities of all human beings. They can be developed by education.
2. The primary aim of design in general education is to develop everybody's design awareness so that they can:
  - enjoy with understanding and insight the man-made world of places, products and images;
  - take part in the personal and public design decisions that affect their lives and the life of the community;
  - design and criticize design at their own level for their own material and spiritual needs;
  - bring an understanding of design into their work.

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3. Design awareness implies an understanding both of how the environment was shaped, 'why things are the way they are', and how it can be shaped in the future 'how things might be'.
4. Design is about values and valuing. It is concerned with the question 'how do you want to live?' Education in design must, therefore, highlight the significance of values and respect their cultural and personal diversity.
5. Design is about compromise. The man-made environment shows the influence of many different pressures: economic, social, technical, aesthetic, moral, political. Finding the best balance between them is itself a valuing activity in which design has to propose the most inclusive and potentially enhancing of a range of possibilities. It is up to education to give a direct experience of this work of debate, compromise and resolution.
6. Design studies will seek to develop those human skills that are fundamental to design awareness and design ability. It is typical of design that it depends on coherent and purposeful interaction between perceptual, analytical, propositional, communicatory, technical and manual skills. These will need to be developed in harmony.
7. In addition to language and number, the development and communication of design concepts depends on 'imaging' and modelling. This is the human ability to make and use sketches, drawings, diagrams, plans, scale models, mock-ups, prototypes and the like to represent, shape and evaluate what is and what might be. Design studies will foster people's skill in using these media for thought and action.
8. The secondary aim of design in general education is to provide the seed bed from which will come the range of future professional designers – planners; architects; technologists; engineers; industrial, fashion and graphic designers.

Brief though these are, we might need something even shorter to push the argument with busy people. We could also be a little

opportunistic and spin our case so that it relates directly to some of the toughest problems now facing our society. Fortunately, we would be right in so doing: design education is sharply relevant to much of the current political, economic and social agenda.

1. National competitiveness demands that we encourage and develop the design skills of people at every level of business and government.
2. The complex world of modern consumerism makes it essential to equip young people with 'life skills' so that they can cope independently. Design skills and awareness are essential components in the consumer's tool-kit.
3. The threatening environmental crises mean that we must develop our skills in imagining alternative futures and bringing them into being. Working in a 'designerly' way at school is the best possible preparation for dealing creatively with the future.
4. Design activity supports personal development and provides people with intellectual and practical tools to enable them to take control of their own and their community's environment. It is, therefore, a direct contributor to an active democracy and a responsible community.

Finally, I would argue that design education and particularly design activity within education can help to re-balance schooling which has become excessively knowledge-based and uncreative. Along with art, music and drama, design activity provides a medium where children and young people learn by doing. In these fields they make: it may be a play, a pot, a design but the essential point is that theory and practice are reconnected through creative action. Doing and knowing are bound up with one another. This is energizing for young people but it is also realistic and relevant to the wider world beyond the school gates.