

One of the ever present considerations of the teaching of design subjects is the problem of recognition, standing and status in the eyes of students and colleagues and of industry and other institutions (notably the universities). Always a preoccupation it is all too often a divisive force between teachers who would be better served by co-operation and recognition of their common conditions. The past years have not seen a significant easing of the situation: the obduracy of the universities, escalating staff shortages and the disappointing lack of recognition in the Finniston Report are but recent causes of concern.

Yet two new publications have just brought important and authoritative strengths to the cause. Together they assemble compelling examples of good practice and present a cogent set of arguments. They put into words – compelling words – what is well known to readers of *Studies in Design Education Craft and Technology*: that work in the design subjects compares favourably with the intellectual demands of any other subject in the curriculum and that both young people and their teachers in a wide range of schools are capable of responding to these demands in ways that can only be described as outstanding.

In *Craft, Design and Technology in Schools* a team of Her Majesty's Inspectors attempts to describe pupils' experiences of designing and making in a selection of schools in England. In the first instance possible examples of good practice were identified by specialist local Education Authority Advisers; additional suggestions were made by HMI. During the autumn term of 1977 the team visited 130 schools throughout England. From these thirty were selected as possible case studies and were revisited by HMI, working pairs. A final selection of twelve schools was made in the summer term, and photographs of work in progress were taken during final visits.

The review set out to answer two main questions which are of interest to a much wider audience than teachers of CDT:

'What is good about the work of this department?'
'What makes it so?'

The team looked at a variety of types of school and a variety of aspects of designing and making. They did not go into school workshops armed with a set of criteria against which 'good practice' might be measured. Instead they looked for intensity of interest and depth of pupils' involvement and for quality of thinking, communication and execution.

Typical of the style of the report is the account of work in an 8-12 middle school of 230 boys and girls, in the suburbs of a large manufacturing town. 'Pupils continually sketch their work, always being encouraged to think and to talk about various solutions to a design problem. The team's visit coincided with the setting of a design exercise for younger pupils which did not lead on to making. Pupils were asked 'to design a post person's bicycle'. The boys and girls thought and talked about the

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criteria which such a bicycle might need to satisfy. Their solutions were sketched, and discussed still further. Older pupils are expected to work on a functional object of their own choice. They carefully plan the sequence of making, forecast what materials they will require, and are expected to anticipate the need to acquire new skills. Some their products were complex, large but practical solutions to problems. For example, a go-kart was under construction. It was no 'orange-box', but a solidly constructed, well thought-out vehicle. Also under construction were large tool-boxes, occasional tables incorporating tiled surfaces, stool made from offcuts of manufactured board. All the projects could founder on the rocks of boredom or sheer difficulty were it not for a sound basis of practical skill, good designing and good workshop planning.'

Or in a large comprehensive school serving the suburb of a major manufacturing city we read:

'The schemes of work all emphasise that the striving for excellence in execution must go hand-in-hand with the ability to design. One attainment must not outpace the other. For example, a typical 'design brief' was to design a small hacksaw to cut small section metal, wood or plastic. The hacksaw had to hold a blade secure and allow it to extend to various lengths beyond the end of the handle. The brief was accompanied by a list of considerations – 'Will the holder and handle be in one unit or will it separate? If so, how will the holder and handle be joined together? When pressure is applied, the blade will tend to push upward. How can you overcome this problem?'

Pupils were also given some pictorial suggestions and ideas for materials and methods of construction. The approach to the project was always discussed with groups of pupils and with individual pupils as ideas began to be drawn. Although such briefs formed the basis of the work, teachers occasionally felt the need to give a common, prescribed craft exercise in order to teach a particular skill or process, or to consolidate earlier learning. For example, it is deliberate policy to include the formal and traditional task of making a tool from a given drawing. The fourth and fifth year practical options include work with concrete, basic building skills, home maintenance and home management. There is vehicle technology, model engineering and silversmithing. But the work begins to develop in another dimension – that of looking at design problems in a social rather than a personal context. For example, a set of bending jigs has been devised and made by fifth-year pupils for use in school workshops. A group of boys and girls were designing and making toys. Another group had designed and made a rugby scrum simulator for the school. A fourth group had taken a problem from local industry – to support, without final distortion, sheets of glass which were passing through furnaces for heat treatment.

These problems, and others such as aids for hospitals, the handicapped, the very young and the old, all required pupils to observe accurately, to record data, to communicate with a variety of people, to invent, to sketch, improvise or experiment, to model and to plan (in the sense of working out the sequence of operations), and to take into account the demands of their work upon available time, equipment and space'.

But perhaps the most valuable feature of the report is a 56 item checklist in which some of the ingredients of good practice are tabulated. These include items on: aims and implementation of curricular development; balance and progression of course content; liaison; display, housekeeping, safety and ancillary help in the workshops.

The Design Council report, *Design Education at Secondary Level*, produced by a Design Council Working Party under the chairmanship of Professor David Keith-Lucas also seeks to show both educationalists and the public that intellectual rigour is as central to the design process as it is to the study of traditional science and art subjects. It notes that: 'Designing is the process of seeking a match between a set of requirements and a way of meeting them or finding an acceptable compromise'. It demands inventiveness, analysis, practical knowledge, judgement, communication and a considerable amount of 'visual literacy'. These basic elements, of value to everyone whatever their role in life, are seen to be the foundation of design education. Yet 'All too often the spark of originality and the urge to make have been neglected and submerged in the requirements of the traditional education system, yet they are precious not only to the individual who wants to become a designer, but to all of us as we grow up in a society in which people produce and use a wide variety of manufactured products.

The report gives particular attention to the way design should be examined. Individual creativity, although difficult to examine, is of such importance as to merit examining boards reaching agreement. Proposals in the report recommend that design should be examined in its own right, as it already is by some examining bodies, and that such examinations should be fully accepted as valid entry qualifications for higher education.

Realistically the report notes that before design education takes its rightful place as an essential part of the school curriculum there are many obstacles to be overcome, not least the problems of too few

design teachers and a lack of facilities. Like the HMIs The Design Council's team does not prescribe a syllabus but it does identify the principles on which good design education in schools should be based, and makes a number of recommendations for future action, reached, after wide consultation with over 300 individuals and organisations who responded to a consultative document published last year. These include:

It is important to ensure that each student is introduced to all the major elements of the design experience, irrespective of the specialisation or project chosen.

It will be necessary to convince parents, teachers and others of the importance of design education so that they regard it as an essential component of secondary education.

It is essential that the special schemes that allow suitably qualified people from industry and the services to receive training and enter teaching, should be continued.

Close collaboration is desirable between the teachers of art, CDT, home economics, sciences and the teachers of other subjects that can contribute to design education.

Design ability cannot be assessed wholly by written examinations of the question and answer type. Candidates at 'A' level should take one design-based project to considerable depth. This project and its realisation should be assessed and might qualify for as many as half the total marks awarded.

A pass in a design 'A' level should be equally acceptable and carry as much weight as any other 'A' level for general entry requirements. Such an 'A' level should become a preferred entry qualification for all design-based undergraduate courses.

Employers and educationalists should be encouraged to accept success in a design examination as evidence of ability and attainment that is not provided by examinations in other subjects. It is not a substitute for any particular science, technology, art or craft. Its validity rests upon the intellectual rigour of the whole activity rather than upon the precise subject matter of the candidate's project.

A national body should be set up to bring together the many interests in design education and its application to life and work; and to co-ordinate the work that will be necessary for the effective furtherance of design education.

The availability of these two documents gives us both evidence and argument. Let us use them to good effect on those who still have doubts about the relevance and efficacy of the design subjects in the schools of our technological society.

References

- Craft, Design and Technology in Schools*, London: H.M.S.O., £1.95.
Design Education at Secondary Level, London: Design Council, £1.50.