

C.D.T. What's Missing?

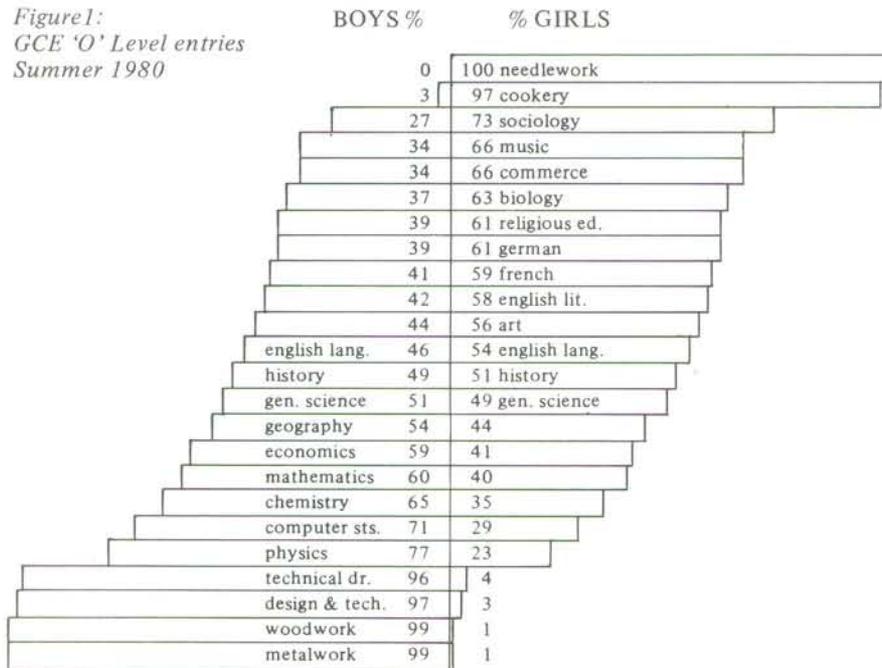
What's missing from CDT? A glance at the entries for workshop-based courses at GCE 'O' level or CSE in 1980 (Table 1) will confirm that it is the girls.

	'O' Level		CSE	
	Boys	Girls	Boys	Girls
Design & Technology	8,929	279	—	—
Woodwork	14,981	201	59,850	1,365
Metalwork	12,932	83	59,116	586

Table 1. Entries to 16+ Examinations – Summer 1980

In the 'league table' for 'O' level subjects (Fig. 1), workshop and home economic courses show the strongest sex differentiation (Gate 1981).

Figure 1:
GCE 'O' Level entries
Summer 1980



When secondary pupils were educated largely in single sex schools this was only to be expected, as boys' schools were not provided with facilities for cookery and needlework and girls' schools had no woodwork or metalwork rooms. But in spite of the massive change to mixed schools which accompanied comprehensive reorganisation of secondary schooling, and the passing of Equal Opportunity legislation, little has changed in the participation of boys and girls in 'craft' subjects at this level.

What happens lower down the school? The HMIs (1979) reported that in years 1-3 '... differentiation by sex in the craft subjects occurred in practice if not by design in something over 65% of the 365 (sample) schools'. A survey carried out by the GATE project (GATE, 1982b) shows that it is a minority of mixed schools that provide a common

curriculum in craft to boys and girls in these early years. In a few differentiation into 'boys' craft' and 'girls' craft' still operates, in others a determined young person may obtain access to the 'non-traditional' area. But the majority offer short 'taster' courses in each separate craft followed by choice among options after one or two years. This unlikely to be accompanied by major counselling and girls, not unexpectedly, choose cooking and needlework in large numbers, thereby preempting their choice of CDT subjects in the fourth and fifth year. Missing from CDT is a conviction that this curriculum area has something of unique value for all pupils.

I write as a science educator who has for many years sought ways to develop a sense of competence in young people through science education. My conclusion is that this is difficult. Many of the ideas of science included in the 11-16 curriculum are beyond the reach of young people at this stage of development. Even the brightest operate largely as disciples with a tenuous grasp of meaning. Later, in the sixth form, a few may develop a greater autonomy, especially if time and space is made for individual project work. But for the bulk of pupils up to 16+ the science curriculum does little to develop the problem-solving, decision-making skills that a sense of competence requires. Another way of putting it is that to exercise decision-making in problem-solving context in science requires the handling of sophisticated concepts at a formal level of operating and only a small proportion of pupils in the 11-16 part of a school are able to achieve this. Moreover, a survey of science teachers in 1972 (Harding 1975) showed the outcome of science education they valued most was 'learning the facts of science'.

However, in workshop-based courses, using materials such as wood, plastics and metal, it is possible to design activities which enable the development of skills in problem identification and in solution search, design, development and evaluation. These skills are not so readily practised in Home Economics courses.

To an observer, the CDT curriculum is in the process of changing from one concerned chiefly with a finished product (and therefore the development of practical skills) to a concern for the design process which involves the problem-solving skills referred to above. It is through the latter that the CDT department can contribute uniquely to young people's development and girls are missing out if, through whatever process of selection, they do not participate fully in such workshop courses.

However, if 16+ examination syllabuses and assessments are examined, it is clear that only a few place significant emphasis on design skills (GATE, 1981). Of the 75 (29 'O', 46 CSE) workshop based courses currently examined only 13 'O' level and 1 CSE syllabuses include a statement about the design process or attempt to assess problem-solving skills (see Figure 2).

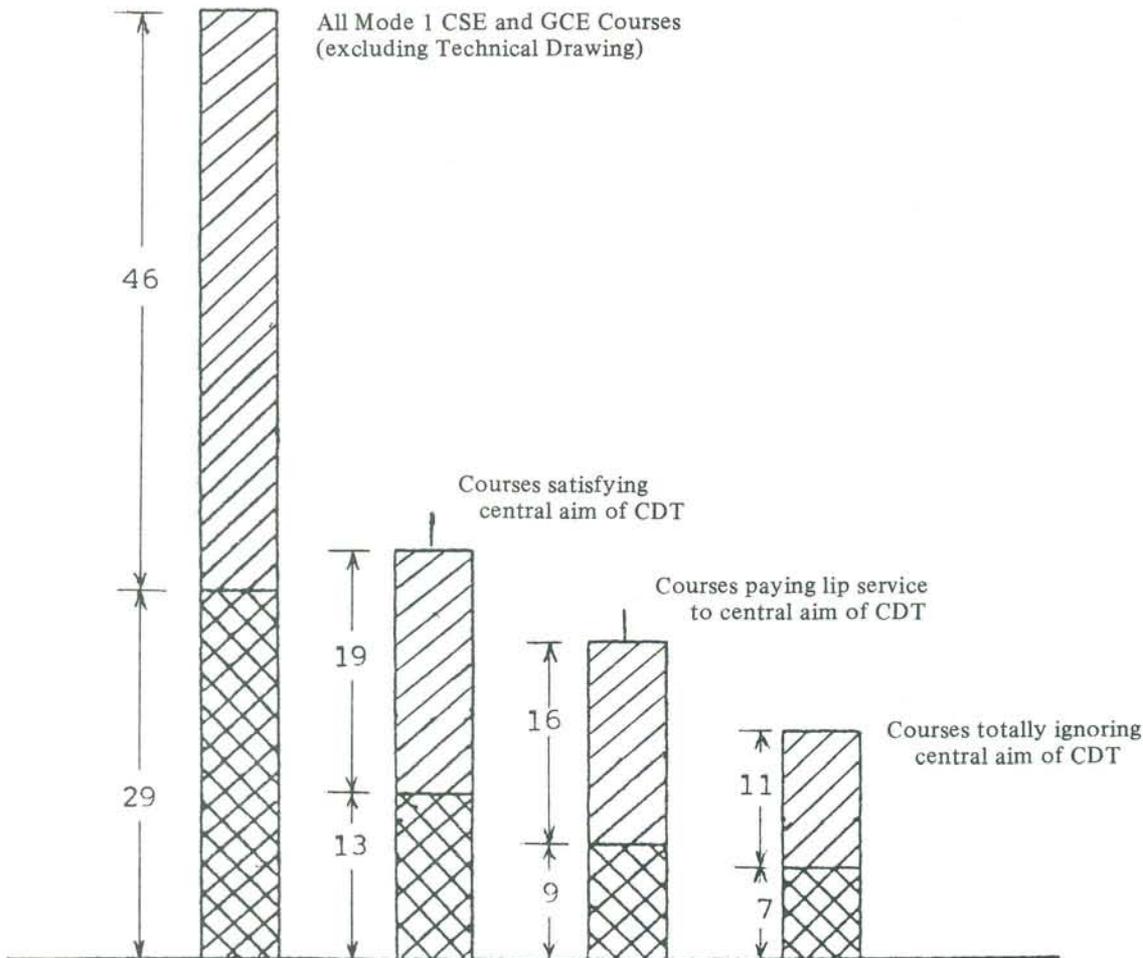


Figure 2
The match/mismatch
between the central aim
of CDT and CDT
examination courses

On the other hand, in the carousel-type arrangement of pupils moving round workrooms that many schools adapted in part, or the whole, of the craft curriculum in the first three years, little time is allowed for design skills to be practised. The 'tasters' frequently confront pupils with 'set pieces' which introduce practical skills and processes, but contribute little to competence in the wide sense.

Many CDT courses then, in years 1-3 and in years 4 and 5, are missing the essential orientation that makes them central to the curriculum for all pupils. It is only when they provide, at various levels appropriate to the differing abilities of individual pupils, the challenge of problem-solving and decision-making that girls are deprived if they do not participate in them.

References

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