

Accessible or Merely Available? CDT for Girls



Increasingly, pupils, staff and governing bodies are becoming aware of the opportunities for learning through Craft, Design and Technology activities. Facilities are now being made available in schools where previously none had existed, yet the full Craft Design and Technology experience remains inaccessible to a large percentage of pupils, as illustrated by the very small percentage of girls following examination courses.

Research findings have stressed the importance of the physical environment for CDT activities; the nature of the projects being set; the content of available resources; the language being used both during demonstration lessons and general teacher/pupil interactions. Interaction between pupils also influences perceptions of the subject area. Many pupils, mostly girls, receive the message from the media that CDT is not for them. The poster, for instance, proclaiming 'Woodwork is for you' and showing a large, obviously masculine hand using a plane, or the phrase in an examination syllabus '... may discuss a candidate's work with *him* if necessary'. If this is further reinforced by unthinking comments or even sexist language, certain pupils will feel unwelcome however interested they may be. In making accessible to girls the learning experience offered through CDT, teachers have to ask questions about the physical experience offered through CDT, teachers have to ask questions about the physical environment of CDT activities. My experiences in setting up a new department in a newly amalgamated girls' school were founded on my underlying concern that opportunities for learning and growth offered in CDT should be totally accessible to all pupils. *Accessibility* is the keyword in the philosophy of Craft Design and Technology department at Elizabeth Garrett Anderson School.

Setting up the department — aims

As the newly appointed Head of Department, I initially saw my role as an observer, defining the needs of the pupils in relation to Craft Design and Technology, as a first stage in establishing the ethos of the department. This included close liaison with the Science and Art Departments as the two departments principally engaged in designing and technological activities. The first year pupils were very open-minded about the subject area as they had little to base a judgement on. In many ways working on a theme of communication, which complemented the Integrated Studies course, may have reminded them of their experience of project work in primary school as they sat around one large table and worked together making name badges, working through a design process which became common to all their CDT projects. Throughout the year, each project was followed through with an emphasis on design work, planning and modelling and I had no difficulty in getting the pupils to work this way. Starting with virtually no facilities and



equipment may have made the pupils more appreciative as these started to arrive. Each new project was greeted with enthusiasm.

The arrival of the computer caused some excitement because I borrowed a digitiser which enabled pupils very quickly to produce drawings both on the screen and printed out. When the Graphics Technology room was complete, pupils were eager to help move in. Pupils easily transferred knowledge and skills from one project to another, one material to another. The new subject excited interest among all pupils. During the first term many older pupils came visiting, curious about the 'new subject' and wondering why they were excluded. Being on two sites with first years on only one side made Craft Design and Technology clubs impossible to offer equally. At the time the third years were making their option choices, I travelled between the two sites explaining what the subject area had to offer in the way of examination courses, feeling as if I were running a 'road show'. The option booklet available from the ILEA Equal Opportunities Unit, *What's this design and Techlogy?* was very useful. Produced by GATE working party, it has photographs of girls playing a prominent part in CDT activities. We are now running two full courses in Graphical Communication in the fourth year, one on each site.

By identifying what CDT has to offer pupils and staff we managed some liaison with other departments last year. Computerised mural design with a second year Art group, for example, as well as more conventional topics shadowing with the Art and Science departments. From these observations and my previous experience of teaching CDT at girls' school I have evolved the following aims for the discipline.

- to develop designing skills in the pupils to help them exercise their curiosity.
- to enable pupils to formulate their ideas and express them;
- to develop in pupils the ability to relate function to design — finding out and making things work;
- to provide situations where pupils can test, evaluate and ultimately take responsibility for their own actions.

Young people are growing up today with technology as an everyday experience. CDT should therefore help pupils understand and appreciate the world in which they live; help them understand technological language and concepts; and help them enjoy using modern processes and materials as well as learn traditional craft and skills.

Anti-Sexist CDT

Pupils will have experienced sex-role stereotyping before entering secondary school in toys and games and in activities which give children experience of using machinery or constructing mechanisms. Craft



Design and Technology departments have a vital responsibility to: develop pupils' confidence in 'tinkering activities'; provide a safe and stimulating environment for working; create a welcoming atmosphere; and provide resources and materials which positively affect pupils' perception of CDT.

Because pupils have varied social and cultural backgrounds, projects should provide opportunities for pupils to develop their own interests through individual and group design work and encourage personal research and input into projects. With mixed ability teaching groups it's important to ensure that individual pupils can progress at a pace suitable for them to build up pupils' confidence in skills; and to develop in pupils a habit of being safe to reinforce this confidence.

Computer project

Computer drawing was an 'on-going' project as only groups of two could use the computer at one time. My aims were to introduce computer drawing as another drawing technique which could be used alongside other media. I also wanted pupils to be confident in using the computer, to achieve successful results quickly, and to take away any misconception about the use of computers.

I asked the pupils to first design their computer drawing on paper. This was attached to the graphic pad of the digitiser by means of a plastic sheet. Pupils then traced their drawing by using the probe and instructions e.g., they could create rectangles, circles, join lines, draw arcs, and draw freehand painting with a range of colours when the drawing was complete. After an initial demonstration, pupils took about twenty five minutes to complete this. This applies to examples submitted to Ms. Adams. Pupils became accustomed to the computer being there and came to see it as a tool for drawing. While the computer was being used the rest of the group were learning to model with card as another form of drawing.. Pupils have since asked to use the computer for their design work in other projects.



Vehicle project

I asked pupils to design a vehicle in the form of an advertisement with the aim of taking them through the design process from identifying a task — through making orthographic and isometric drawings of it, to cutting lists and modelling it from balsa wood. They were asked to design a vehicle different from anything on the market, give it a name and communicate on a poster what was different about it. Needless to say they came up with and produced some extraordinary names! The project was enjoyable. It consolidated many of their graphical skills and introduced a limited (but not limiting) experience of working with wood.



The playground project

The final project of the summer aimed to encourage group discussion and division of tasks, since much of their work had been individual. It was interesting to see how differently each group coped, from initial planning, drawings and cardboard models through to the final models which were mostly made from balsa wood. We talked about safety mechanisms and materials and the pupils researched very willingly!

As part of the pupils' overall assessment, I asked them what they had learnt from the projects.

The way forward

CDT at Elizabeth Garrett Anderson School is now developing fast with the appointment of the Deputy Head of Department. The two lower school years are being taught, as well as the two fourth year examination groups. We now have an engineering/technology workshop, and by the New Year there will be a multi-material workshop in addition to the graphics/technology room. Soon a technician will be appointed. Next year, CDT will be offered to the first three years plus a combined Science and CDT course in Technology for fourth years. Later this year we hope to offer clubs for third years.

Accessibility however is not just the provision of facilities, tools and equipment. With the provision of computer control of buggies and lathes, with construction kits; with closer liaison with science work in the first three years to create valid designing, making and testing situations and a sensitivity to the needs of the pupils within the community I believe that Craft, Design and Technology is a vital part of children's learning experience.



Below: Large switches to help handicapped children operate commercial toys are demonstrated by their inventors from Davenport School, Stockport, (left to right) Nigel Robinson (15), Shelley Bates (16), Lynne Bennett (16), Debbie Cunningham (16) and Iain Blackshaw (14), who have reached the British finals of the European Contest for Young Scientists and Inventors sponsored by Philips Electronics.

