

PRACTICAL SKILLS

The projects have been arranged in such a way that practical skills are introduced at what we feel is the appropriate level. They are then developed through practice, as and when the child works on further projects.

It is important that we remember that just introducing skills is not enough. Skills are acquired through repeated use. If the class works on only one technology project a term, and a wide range of technological experiences has to be provided, including food technology and fabric technology for example, the children will not reuse some skills until the following year. This is too long a delay.

There would appear to be two distinct ways to tackle this problem.

One way would be to plan a much narrower course. This would mean focussing on less skills in order to achieve a sensible progression within those skills. This might mean concentrating on food technology for a whole year at the expense of other areas.

The second way would be to organise many more technology projects in any given time, spending less time on each one. Projects would need to be more compact, but then it would be possible to begin something new every few weeks.

It would be possible, however, to combine the best features of both of these approaches to create a third way. This would involve a fully developed 'design' project each term being complemented by a regular, perhaps weekly, 'making' session. The artefacts made could be very simple and quick to make, but would be chosen to exercise specific practical skills. We would envisage a practical corner of the room where children could spend time, throughout the week, building small models. This would create the situation where each child would regularly cut and fold, score and glue, drill and shape, and be pleased with, and proud of, the results.

Many of the projects provided for younger children could be used by older children to develop their practical skills. We would expect, of course, a higher degree of craftsmanship, and a more independent creative approach, from Primary 7 pupils. Below is a short list of possible activities.

Card Boxes - All boys and girls would benefit from regular short boxmaking sessions. This shouldn't be seen as a tedious exercise but a way of providing attractive, perhaps amusing, and useful artefacts. Boxes for pencils, crayons, beads, cards, sweets, coins, gifts, etc. Stiff, plain and robust boxes and delicate pretty and fragile boxes - the range of possibilities is immense. Look up the 'Boxing Clever' pages and some of the projects that utilise the system. The 'Barrow' worksheet shows a simple way to make a card tray.

Whichever choice is made there will be lots of cutting, scoring, folding and gluing to be done.

Paper Puppets - A simplified version of the 'Rod Puppet' could be constructed, using coloured paper or card, in little more than half an hour. The other half could be spent decorating the newly created character.

Ships & Trucks - Intended for infants these projects are still popular with older boys and girls. (*The ships are particularly popular with teachers on in-service courses!*) The very simple system can be adapted to make a variety of toys - you're certainly not limited to ships and trucks.

Desk 'Furniture' - The pencil holders can be made in five minutes, but there's a great opportunity to design and make 'novelty' versions. Imagine one that winks when you put a pencil in its mouth!

DESIGN SKILLS

All the suggestions shown above could be used to exercise design skill. You don't need a ten week project every time.

The best way to develop design skills is to arrange that children, particularly in the early stages, are faced with one design problem at a time. Ask the children to design a crane and you present them with many related problems. Size - scale - materials - adhesives - shape - cranks - pulleys - hooks and cables - wheels - turntables. It can be overwhelming. We prefer to give the children almost all the answers. First we make sure that they make a crane that works, then we suggest that they design some improvement, or refinement, or addition to the crane.

Progression is achieved, over time, by reducing the help and increasing the number of problems to be solved.

Simple tools - Model makers often find that they need to design and make special tools to deal with awkward tasks. It might be a clamp that's needed, to hold parts of the model together while the glue is setting. Perhaps a stand (or a hanger) would help to hold a model away from the table while the paint dries. A glue spreader to reach into a narrow space might be useful. The children should be encouraged to recognise similar problems when they are building their models, and to find simple solutions.

Why not try 'fun' design problems and encourage whimsical solutions? The designs don't have to be made, it's an exercise in creative thinking - not to be limited by 'construction' constraints. Encourage the Heath Robinson approach to engineering design. A weighing machine for bubbles? A UFO detector? A cup-of-tea cooling fan?

Find your copy of 'Environmental Studies: Technology. Guide for Teachers and Managers', and open it at page 58. There you will find what is described as 'a useful summary of progression in technology education'. That's exactly what it is. When you are planning your technology programme, have that page displayed where you can see it, and refer to it frequently.