

Design at Manor High School, Leicestershire: A Second Year Project

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Manor High School is a middle school in the Leicestershire plan catering for pupils between the ages of 11 and 14 years. Indeed it was one of the first to be specifically designed for this particular age range. Flexibility or organisation, allowing for modern teaching techniques, is due partly to the provision of spacious open-plan areas. The present number on roll is 650.

The Design Department consists of six main material areas and involves six specialist subject staff: Homecraft: Fabrics: Art and Graphics: Metal: Wood and Plastics: Ceramics. Each pupil in each of the three years spends approximately 1/7th of his time in the Design area. This time is divided into 5, 55 minute periods per working week (a seven day working week is in operation). There is great flexibility of organisation within the department, allowing both individual teaching groups and integration between all or part of the material areas.

The first year is based on materials and ideas. Experience is gained in the use and properties of materials, the aesthetic concepts, such as pattern, shape, texture, and the introduction of simple decision making.

In the second and third years the emphasis changes and intensifies. This sees the introduction of a simple methodology to

promote the decision making and investigatory skills of the individual. Changing situations to meet individual and social needs. Allowing pupils to make decision which affect themselves, their family, their environment.

This simple diagram explains the progression and the relationship between the emphases of the work in the second and third years.



We provide situations which give experience of working as a designer — a decision maker. This then progresses to the role of the Designer/Maker and the relationship between Designer and craftsman. This involves individual and group project work. Consumer Education and Environmental Design follow later in the course, highlighting the role of the user and observer.

Due to the compatibility of the wood/plastics and metal areas, these, quite naturally, follow a similar syllabus. The organisation is shown below.

	1st Term		2nd Term		3rd Term
2nd year	Introduction to Design	Individual design and practical project.	Ergonomics project	Individual design and practical project.	Design in Industry.
3rd year	Individual design and practical project.	Consumer Education	Individual design and practical project.	Environment design	Individual design and practical project.



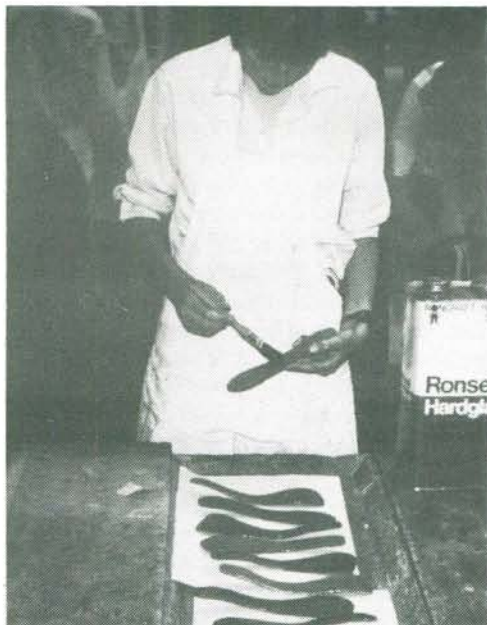
A meeting in progress. At this point doubts had been cast on the quality of finish of perspex salad tongues. The discussion led to the problem being solved and changes in the production process implemented.



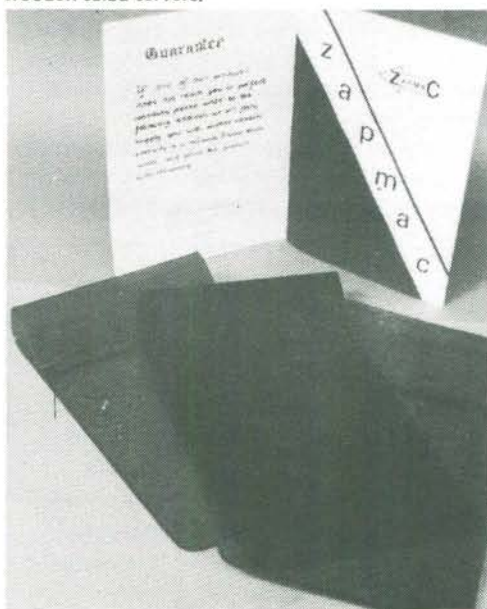
The idea for a table skittle game was a good one, but the packaging of the individual pieces proved a difficult problem to solve.



The company brochure containing records of planning, organisation and details of the factory unit being produced in the art area.



The final stage in the mass-production of laminated wooden salad servers.



Note pad holders made in perspex. Packaging was not considered necessary.

This gives an indication of the basic planning of work within the two areas, but is not necessarily rigidly adhered to.

Throughout the whole of the two years we have a series of integrated projects interspersed with individual design briefs, usually leading to practical solutions.

The provision of a wide variety of working situations is of great importance. From those which allow freedom of choice and opportunities to explore and express personal interests to those which exert strict constraints, from working individually to working in groups. Allowing pupils to experience as many materials and practical techniques as the time allows.

One such project has developed to its present form over a period of four years and usually takes place in the third form of the 2nd year.

Design in Industry

It was felt that as much of the emphasis during all three years was concentrated on individual projects and that the learning situation was mostly on a one to one basis — individual pupil and teacher contact — that pupils would benefit from working as part of a group to achieve a common aim. That their ways of thinking should not be influenced by their personal needs, the restrictions of materials and their own working situation, but by the needs and aspirations of others and the provision of realistic constraints which would not normally affect them as individuals.

It is rare that any ideas are completely original, most are a development of something that has gone before. So it was with this particular project. It was a development of something with which I had earlier been involved, reinforced with work by other pupils and teachers at other schools.

The organisation of the project was not particularly difficult. The relationship between staff is excellent, but due to time-tabling difficulties, work was confined to

three areas, Wood/Plastics, metal and Art/Graphics.

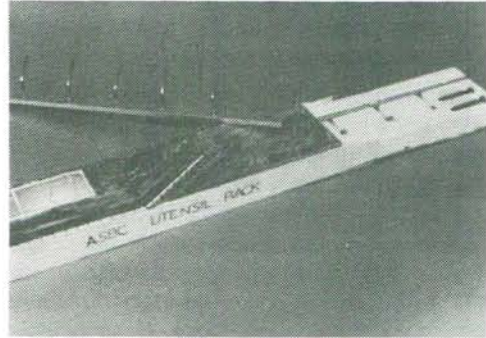
Ten groups were formed comprising of approximately 7 pupils, this varied slightly due to some leaving to do Homecraft and Fabrics. The groups were not allowed to form themselves but were compiled by staff in an attempt to make the groups as equal in ability as possible — and to avoid the accumulation of a few incompatible individuals within one group. Each group was named a 'factory unit' as part of a large company — Manor Industrial Holdings Ltd. — hardly original but effective. Each factory unit was provided with materials and equipment to carry out a specialist production process. For example one group would specialise in the moulding of acrylic plastic, another in wood laminating techniques, another in aluminium casting and so on. Ten factory units were formed each with different materials and specialisms.

The initial brief is simple. To design, mass produce, package and market a number of identical articles. It is important to point out that this project was carried out by pupils in their second year (12/13 years old), that they have a limited experience of practical skills and that they have spent a relatively short period of time in each practical area. The project was not meant to be, and never could be, an attempt to stimulate conditions within the manufacturing industries, but as experience in working with other individuals towards a common aim. Also to give experience of mass-production which might lead to greater understanding of its possibilities and its social problems.

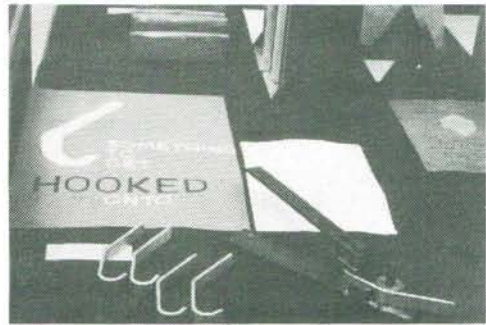
The introduction to the project was given in a series of talks and discussion sessions pointing out the requirements of the brief and possible methods of organisation. Each group was given a list of articles previously prepared by a 'Market Research' survey. They first had to choose a number of articles, produce sketches and models, and



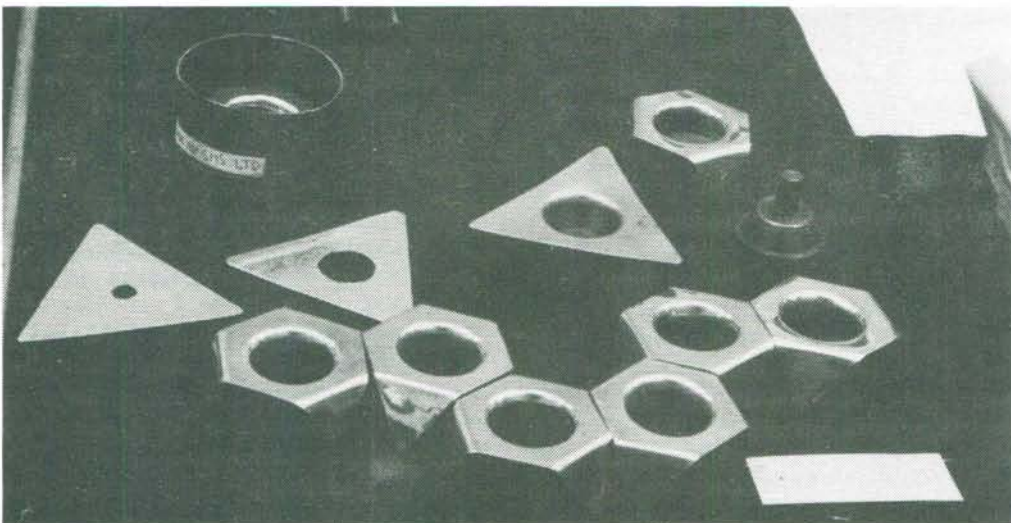
The factory changed their initial brief and included perspex as well as aluminium sheet in their specification;



A kitchen utensil rack packaged in polystyrene.



Before mass production could commence this bending jig had to be made.



Aluminium 'egg cups' boxed and sold in quantities of six.

then to decide which they felt to be most suitable. Each factory manager (group leader) was responsible to the Directors (staff) for the organisation of their factory unit. The decision having been made a prototype was produced and from this plans drawn up for mass-production of the article. Emphasis was put on efficient use of labour, time and

MANOR INDUSTRIAL HOLDINGS LTD.

You are a newly set up factory unit within this company.

Your equipment and materials are listed on a separate sheet.

Your aim is to develop an article for production in your factory. The Market Research Department has compiled a list of three suggestions you have to develop.

- 1) Working as a team, produce drawings and models of some suitable articles. Select the most suitable.
- 2) Develop methods of manufacture and make a prototype. Make modifications where necessary.
- 3) Make a production plan to enable you to complete your article by the contract closing date using labour and machinery as efficiently as possible.
- 4) Divide your team up as you wish to complete the following tasks:
 - a) Devise some means of packaging if necessary.
 - b) Calculate the selling price of your article.
 - c) Produce a brochure which describes your company, the article you are producing, and includes a neat record of all of your work.
- 5) Produce a small number of articles ready for marketing.

Materials and Equipment

Your firm specialise in Acrylic plastics.

The materials you have available are sheet perspex P.V.C., and Styrene.

You have a strip bender, electric heater, oven, polisher and the use of hand tools in the wood and metal areas.

Mould making materials and adhesives are available.

If you require any additional tools or materials you may ask if they are available. Keep a note below of any extras used.

Market Research Recommendations

- Salad tongs
- Letter rack
- Telephone notepad holder

materials. A completion date was set. Any factory not fulfilling its contract was deemed to have lost its investment and be made bankrupt.

As the weeks continued discussions on planning, the needs for packaging, organisation of people, monitoring of work patterns took place. Packaging was produced if deemed to be necessary. Visual and written materials were produced recording work progress. Records of how and when individuals worked — or did not work — were made in an attempt to analyse the work patterns and organisation of each group. This was an exercise in graphic communication of evidence which later could be analysed by the 'workers'.

The initial brief for one factory unit is shown below, it is one that shows the specialist area to be in plastics.

To give detailed accounts of the progress of individual groups would be of little value, because the organisation and aims of the project have already been outlined. However illustrations of some of the responses to the brief provide an indication of the manner

in which the work was undertaken by the pupils.

On completion of the project each factory unit had to evaluate their position. Some had managed to fulfil their contract, some had not. What were the reasons for 'success' or 'failure'? Was the non-completion of the project necessarily failure? What differences in approach and organisation would they implement in future? How could they overcome the difficulties they had encountered? The answers to those questions are of fundamental importance. The point was made previously that learning stems from experiencing situations, and that different working situations should be provided, hence an opportunity to analyse the different aspects arising from the project is a valuable exercise for both staff and pupils.

This project is appropriate to this particular school and working situation. It may not be suited for inclusion within another syllabus or working situation, but it should be viewed as part of an overall attitude towards education within Art and Craft subjects. It gives pupils an opportunity to work in areas they would not normally do so. It allows them to use materials and techniques that cannot be easily included within individual projects. It generates an enthusiastic response from the pupils who exert immense effort and gain enjoyment from their design work.

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The issue for February-March 1976 (20 pages) contained articles on school flights, airships, G.C.E. examinations in Air Navigation, and careers in Aircraft Engineering.

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