Case studies of food activities within design and technology

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Abstract
The paper describes a collaborative project between four LEAs and NCET to study food activities within design and technology.

The intention of the project is to produce a booklet for schools which describes work at four or five schools (one at each key stage) and which explores in depth the issues of: goals, effective starting points and contexts, links to other aspects of design and technology, concepts developed and the progression of these through the key stages, skills, resource requirements, organisation, assessment, storage, display and equal opportunities.

The paper will be an 'interim report' of the project and will also present the group's initial thinking on other issues such as: how can we recognise design and technological activity? How can we help parents, helpers and governors to appreciate the implications of the changes and support design and technology work? What are the implications for classroom layout and design?

This paper describes a collaborative project between four LEAs and NCET to study food activities within design and technology. The aim of the project is to produce a booklet for primary and secondary schools and initial teacher training institutions which promotes well-considered food activities within design and technology.

Booklet Plans

This paper is being written (June 1991) while the work on which the case studies will be based is still in progress and prior to detailed discusions between the writers. Consequently this account is tentative; at the DATER conference we will be able to tell you what really happened! Our present plans for the booklet are that it will contain sections on:

What makes an activity 'design and technology'?
Case studies of work in schools at each key stage
Ideas on workshops for parents, helpers and governors
Classroom layout and organisation
Progression in design and technology and food activities within this
Resources for work with food

The case studies will make up a large part of the booklet. As well as a narrative account of the activities, each case study will address issues such as: an overview (teacher planning, starting points, goals, assessment criteria, links to other aspects of design and technology and across the curriculum), national curriculum programmes of study (contexts, outcomes, specific 'strands' within

the programmes of study), media specific issues (concepts, skills, resources), other issues (teaching and learning styles, organisation and management, recording, methods of assessment, storage and display, multicultural aspects, special needs, equal opportunities) and an evaluation of the activity (what the teacher(s) in the case study school thought, future plans).

What makes an activity 'design and technology'?

It is likely that this section will re-iterate the message in the statutory orders and non-statutory guidance that design and technology activities necessarily involve:

a balanced coverage of all four attainment targets
use of one or more 'media areas' (food, textiles, construction and graphics)
experience of each of these media within a key stage and
pupils designing a range of artefacts, systems and environments.

Case studies of work in schools at each key stage

The five schools on which the case studies will be based are as follows:

Key stage 1 – Knowle CE Infant School (Solihull)

This case study will be based on work at the school during the Spring 1991 term with year 1 children. This was a whole term cross-curricular topic on the theme of 'Food'. There were extensive science-related activities (health, hygiene, observing changes in food materials on cooking). One major activity within the topic with a strong design and technology and maths 'bias' was based on a visit to the local Tesco's; the children re-created the supermarket in the classroom and were involved in environmental design and also extensive practical number and language work involved in 'buying' food from the shop. Some of the activities in the shop have been captured on video.

A mother of one of the children came in and cooked Indian food. There were also activities which, while not 'holistic' design and technology work in themselves, were designed to build skills (such as finding out about food labelling, investigating which foods were popular, handling food materials) which could later be used in complete activities.

Key stage 2 – Newfield Park Primary School (Dudley)

A class of year 1 and 2 children were engaged in a topic on 'Communication'. As well as other curricular areas addressed within the topic, a major element involved the pupils in evaluating existing high-energy cereal bars and going on to produce their own bar/biscuit, together with associated packaging and promotional material.

The pupils investigated recipes for similar products eg flapjack, tried these out and adapted them to produce their own. They conducted a survey of preferences in the class looking at criteria such as taste, price/value, ease of eating. They looked at existing packaging and promotional strategies – names, wrappers, posters, cartoons, TV adverts, before going on to develop their own. IT was used to support both the survey work (using the Grasshopper data base) and the production of promotional material (word processing and graphics packages).

The pupils used a simple 'prompt sheet' to evaluate the extent to which:

I think I worked well through all the lesson.
I was tidy in my practical work.
I helped my partner / group.
I followed instructions.
Today's lesson would have been better if . . .

The school has also planned and organised a workshop for parents, particularly parent helpers (of which the school makes extensive use) to raise understanding of design and technology generally. In their first workshop the emphasis was on general issues related to practical work – why and how do we do it and safety. One interesting and encouraging outcome was a request by parent helpers to be involved with teachers in the planning stage of design and technology activities.

Key Stage 3

There are two schools contributing to the work at Key Stage 3. This is deliberate. We were anxious to include one school which, until recently, had not done any practical work with food, as well as a school at this key stage where there was more experience.

West Hill High School (Tameside) is an all boys school. They were concerned to incorporate food activities within design and technology though there was no staff expertise or suitable equipment. The approach they have adopted is a pilot project with a part-year group and a CDT teacher learning and working alongside an advisory teacher. They are using two mobile food preparation units (produced by Plaswood) in part of an existing graphics area. With the restricted facilities available it is impossible to provide the entire year group (year 7) with access to food preparation facilities. The approach adopted has been to provide two of the five design and technology groups with access in one project and rotate the access in subsequent terms. The projects have been selected so that food-related activities can readily integrate with other work (principally with resistant materials). An equivalent strategy has been adopted by the school to support work with textiles.

During the preset term the theme of 'Coach Travel' was introduced with a visit to a Coach Museum in Manchester. The visit and subsequent brainstorm session with half the year group were videoed. The theme lead to a wide range of work (environmental design of garage facilities, aids for disabled to improve access to coaches, coach logo design – applied to fabrics). The work with food used, as its starting point, the need to provide a simple, easily prepared snack for passengers on a long coach journey.

The pupils were involved in nutritional analysis of 'snack meals' with IT and food preparation with the mobile facilities.

In seeking to build on and extend the work the school is dependent on the LEA's support programme for technology facility provision since it urgently needs a larger hygienic area and continuing advisory teacher support to help its staff training programme.

St Wilfred's RC High School (Sefton) is a coeducational comprehensive with two experienced teachers responsible for food work. Work is coordinated with CDT but movement of pupils between the two areas is difficult because of the school's geography.

During the Summer term work in the food and (adjacent) textiles areas is on the theme of 'Holidays'. The year 7 pupils started by discussing and preparing a display on their last year's holiday. This lead on to class brainstorming on how food can contribute to enjoyment of holidays and small group planning of avenues for further development. The teachers alerted pupils to ideas generated in the brainstorm which, while entirely sensible, staff had earmarked for detailed work in later projects.

The school uses negotiated Records of Achievement. It is seeking (in collaboration with other schools in the authority) to integrate these with national curriculum descriptors of statements of attainment. The difficulty that they are finding is that the language of the national curriculum attainment targets is incomprehensible to year 7 pupils and their attempts to simplify it lead to significant changes in meaning.

Key Stage 4 – Hyde High School (Tameside)

Hyde High School is unusual in that there is substantial experience, over the 11 – 16 age range, of collaboration between art and design, business education, CDT, home economics and IT. This arose from TVEI work which lead to the development of a Mode 3 Technology GCSE by a consortium of schools.

The school has a learning support unit for profoundly deaf and partial hearing pupils who are integrated with main stream pupils.

The work to be described in the case study is a module on food technology within the GCSE which involves the evaluation of an existing food product

and then, based on this, the development of an improved product.

Classroom layout and organisation

Our initial plan is to provide suggestions for changes required for both 'traditional' home economics areas and schools with inadequate or non-existent food provision.

This will lead on to a discussion of health and safety requirements, the need for flexible/multi-purpose facilities to support planning as well as making, the need for a range of equipment to support realistic pupil choices and the need for food and equipment testing facilities.

NCET has been exploring with equipment manufacturers the production of mobile food preparation units for use in areas which lack static facilities and details of these will be given at DATER if the development work currently being undertaken comes to fruition.

There will be consideration of the necessary changes in approach, teaching and learning styles and their implications for classroom organisation and layout (increased pupil decision-making, group work, differing tasks occurring simultaneously etc).

Progression in design and technology and food activities within this

The issue of progression in design and technology is difficult in itself. The issue of progression in food activities is made especially difficult by the fact that the national curriculum design and technology programmes of study statements give no guidance on food-specific knowledge and skills.

We are preparing an outline scheme of progression in food activities which relates to general progression in design and technology (across all media areas) and to the progression in food-related knowledge spelled out in the science national curriculum orders.

Resources for work with food

There is, of course, a vast range of books, pamphlets, materials, equipment and software related to food – far too much to list in even the whole of the planned booklet. The strategy that will be adopted will therefore be to give information about sources of information and support, together (possibly) with a highly selective sub-set.
At the DATER conference we will be in a position to provide information on when the booklet will be available and where from, as well as fuller details of all the work currently in progress.