The Use of Food in Primary Design and Technology

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During the past four terms I have worked extensively with primary colleagues, supporting their attempts to implement the Design and Technology Orders. In particular we have considered the potential of food as a material for children's designing and making.

Here I will be trying to explain why I believe that food has a place in primary design and technology, and also why it presents particular, but by no means insurmountable problems.

The Design and Technology Orders state that at each key stage, children should be given opportunities to work with a range of materials, including food. My own interpretation is that this does not mean the baking activities which have traditionally taken place in the primary classroom. These are usually led by a parent or other helper, under whose instruction the children participate in the production of, in the main, buns and biscuits. Baking can be an enjoyable group activity, which may pass on some food handing skills; but it will not play a large part in the development of technological capability. Instead, I think, we should be helping children to view food in the same investigative, creative and discriminating way that we expect them to regard other materials.

My own school is for children with learning difficulties, and there, as in all similar schools, great importance is placed on developing the skills of communicating and making choices. Pupils of all ages and abilities can practice these fundamental skills when they taste, handle and select food, hence we are more likely to find examples of this aspect of Design and Technology in Special Education than in mainstream. The difficulty here is convincing some teachers that their children are in fact designing when they decide how to decorate the cakes for their class party.

Home economics has always played an important role in health education; by continuing to teach relevant nutritional information together with appropriate skills and by encouraging positive attitudes towards Food through D&T activities, we will assist children to make informed decisions about their diet. By asking them to question assumptions and traditional practices we can help our pupils to make considered responses to developments in food technology and to the avalanche of sometimes conflicting information that the media hurls at them.

The chief message we should be promoting is that at all levels we have choices to make with regard to food; and that these decisions will have a direct and telling effect on our health and hence our lives. In the main, young children are not often in a position to make these choices; in school we can provide opportunities and encourage more receptive and open-minded attitudes to eating.

In my experience, most children, and adults too, have preferences and aptitudes for working with different materials. If we restrict opportunities for designing and making to the ones that we prefer, or find easiest to manage, we are at best discriminating against some children, and at worst penalising them when we assess their capability.

This is particularly important when we consider gender issues within the curriculum, as subliminal messages can easily be promulgated by the school's attitude to different subject areas. Generally I find that the children I work with are refreshingly unbiased in their view of male and female roles; the more reason for teachers to avoid inadvertent stereotyping.

In Key Stages 1 and 2, very often the children design and make models of their ideas, not just for investigational purposes, but because within the restrictions imposed by the materials they are using and by their own lack of expertise, they are unable to make a real outcome. Food is the chief exception. With support, a child in a Reception class can design and manufacture a product which meets very strict criteria in terms of edibility, appearance and fitness for purpose.

We all know the children who regard planning as an obstacle that delays their enjoyment of what they perceive as the important part of their activity — the making. If, with food, the outcome is real, then so is the incentive and requirement to plan carefully and to record each stage of development. This will ensure that the correct ingredients are obtained, a satisfactory result is produced, and future replication is possible. How frustrating to have designed and made the perfect samosa to find that you have only a vague recollection of the combination and spices you included!

As a basic requirement for existence, food plays such an important part in our lives that it surely cannot be ignored by design and technology, concerned as it is with the

identification of needs and with responses to them. Children of all ages and abilities share many experiences related to food, and can appreciate its relevance to their own life, and hence to that of others.

Paradoxically, it is this very familiarity which may lead some people to form the opinion that work with food somehow lacks academic respectability. I believe that this attitude is one of the main reasons why we see so little use of food within design and technology.

However, even for the convinced and enthusiastic teacher, the use of food does appear to pose particular problems, most of which relate to issues of resourcing and classroom management.

The Food Safety Act of 1990 has raised the profile of food hygiene to such a degree that a great deal of confusion and misinformation now exists. As with any new legislation, it will take time for the full implications of the Act to become apparent, but it seems unlikely that the average primary school teacher need have any concerns beyond those which a responsible and well-informed adult would normally bring to the preparation of food for and with young children. Unfortunately, my experience is that these standards do not always apply to baking sessions, and if the Act causes schools to look critically at their practices, this will be no bad thing.

My own LEA has worked with representatives of the Regional Environmental Health Officers to develop guidelines, at present in draft form, for use in primary schools.

As baking activities are already funded in most schools, I am not persuaded by the argument that designing with food is financially prohibitive. Since the object is not to feed the entire class, or to provide each child with a tin of buns to take home, the pupils can work with very small quantities, and in any case need to learn that food is not a resource to be wasted. Relying on parental contributions, or even worse, the good will of teachers, to provide essential resources can serve only to reinforce the notion that food is less important than construction, graphics or textiles materials, I would encourage teachers to identify opportunities for food activities within their topics, to ensure that these appear in their planning documents at the beginning of the year (or whenever bids for resourcing take place), and to be positive about the contribution that will be made to the curriculum.

Excellent activities can take place using a limited amount of equipment, and although a cooker is highly desirable, it is possible to provide exciting and valuable experiences without one, for example, salads, sandwiches and breakfast cereals. It is much less easy to argue the attractions of work with food with a teacher whose classroom has no water. The options are to bring the water in or take the activity out.

This latter course of action is one that frequently occurs, less as a result of deficient mains services than of school geography and general shortage of space combined with a paucity of resources, and of course, tradition. Typically, an adult helper removes a group of children and they collaborate to follow a given recipe, generally for no particular purpose. Using food within D&T requires that the children are encouraged to make decisions and respond to difficulties and this in turn means that their work, though it must always be safe and hygienic, may not conform to adult preconceptions. The purpose of activity, and indeed the nature of D&T must be shared with the helper if they are to exchange the role of instructor for that of facilitator, enabling the children to realise their designs.

A helper can be invaluable in relieving the teacher of tasks such as shopping, monitoring supplies and equipment, and generally reducing the time spent on preparation. In my view, any means the teacher can employ to provide children with food activities are worthy of consideration. One such method, when giving children early experiences, is to provide a ready prepared basic mixture, for example bread dough, to which further ingredients can be added, it can be shaped and formed, and then baked if appropriate.

Such early experiences as designing with basic recipes or making simple items such as sandwiches and salads, give confidence as well as allowing children to develop practical skills and to build up a vocabulary of food words — names of ingredients, terms used in recipes, and adjectives to describe taste, consistency and texture. I believe that these early experiences provide a foundation, after which children can more easily progress towards linking individual dishes to form meals and following recipes independently.

Some teachers feel that their own culinary skills are inadequate for them to be fully in control of the subject. It is very important to realise that progression will occur more through the complexity of the task (for example, the number of parameters), the context within which the children work, and through increasing independence, than through the acquisition of complex manipulative skills. Our major concerns should not be to train young chefs.

I will give some examples to illustrate this progression, and to show how I see food contributing in practice to design and technology. I recently worked with a group of children in a Reception class, who were using the story of Jack and the Beanstalk to consider the topic of growth. They designed and made biscuits for the Giant's wife to give to Jack.

The children were presented with ready made biscuit dough, and a selection of possible additions, such as cut peel, chocolate chips, walnuts which were tasted, discussed and identified. A variety of cutters was displayed, and the children invited to select ingredients and cutters to design a biscuit that would be enjoyed by Jack. The method of incorporating the extras was left to each child to decide, and I don't provide rolling pins at this age: a better awareness of consistency is achieved by hands-on experience. The children were encouraged to plan their work, and the whole class took part in the final evaluations. This was a very simple, closed activity, the only constraints on the children being the availability of ingredients and cutters.

A Year 2 class, working within the topic of food were given the task of helping Farmer Parsnip to persuade consumers to buy more of his vegetables. They did this by adapting a coleslaw recipe to include other vegetables, and then compared their product to a commercial version. They also thought about ways of displaying and advertising the vegetables. These children were shown how to use sharp knives safely, and picture clues could have replaced real foods: another aspect of progression.

The local environment was the theme of an extended project with Year 4 children, who looked at catering provision in their immediate locality, and in particular a pizzeria. A take-away pizza was ordered and sampled, menus and packaging investigated, and popularity surveyed. Some of the class considered ways of maintaining sales of pizzas at Christmas, devising festive toppings and appropriate shapes. Work on the differences between commercial and home production included looking at labour saving equipment and costs and pricing.

An on-going activity in the context of the community is linking Year 6 children with their local hospital. Enquiries about possible involvement coincided with a wish on behalf of the catering manager to update the menu on the children's ward, together with the system by which young patients choose meals, and the information pack which they receive before admittance. This has presented a number of opportunities for the children to meet real needs. The research and development work that this is generating is of a very demanding nature, and severe constraints have been imposed, related to costing, nutrition, presentation and so on.

If primary schools are finding difficulty in using food as a material with Design and Technology, it may be because very little written material is available to help teachers move away from baking. In Humberside, our Primary Food courses are constantly over-subscribed, and many schools are requesting staff workshops. We find that most teachers have not themselves tried to use food in a creative way, an so find it difficult to imagine how this might be done with children. After experiencing this approach, they have a better understanding of its potential and of some ways of implementing its use in the classroom.