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MULTICULTURAL HORTICULTURE

the educational use of plants in a multicultural society

Introduction

Plants and their products are of fundamental importance to the human existence. However, modern urban lifestyles have led to a gradual isolation of people from natural environments, agricultural activities and the role of plants in general.

At the same time world societies are increasingly becoming more interdependent, these societies themselves often being multicultural and multilingual.

If the role of plants in education is to have an active and meaningful contribution within this modern context, strategies need to be used that introduce plants to children in a variety of interesting and dynamic ways. These methods must also take into account the individual experiences that children from multicultural societies can bring to the subject.

In multicultural societies, such as exists in the Outer London Borough of Ealing, diet is often a powerful cultural symbol, with certain plant food properties and their associated "heritage language" persisting throughout the life of an individual. This experience needs to be supported and celebrated in education and society at large.

Food can also traverse cultures, especially when it has become highly processed and packaged. Many processed plant products such as coffee, tea, sugar, originate from plants growing in tropical countries, usually countries poorer than those of Western Europe. Working with tropical plants and growing them successfully can provide powerful triggers for learning, leading children on to enquire such things as: How does the plant grow? Where does it usually grow? Who grows it? How is it processed? Who processes the product? Who consumes it? Is the trade in this product equitable and just?

This workshop explores ways in which plant resources at Norwood Hall are used with 5 - 12 year olds to support education in a multicultural society and an interdependent world.

Background to the workshop

One of the skills in teaching is to make the curriculum as accessible as possible to the children we teach. One of the joys of teaching is when we can acknowledge to ourselves that we are achieving some success in this endeavour.

If we consider the accessibility of the curriculum in multi-ethnic and multilingual classrooms, there are two main hurdles that can impede that accessibility - language and culture. Of course, these are by no means exclusive to children from ethnic minority backgrounds. With this in mind it is worth considering the following questions.

Language
Is adequate support being given to meet the specific language demanded of each subject in the curriculum? Is adequate support and provision being given to bilingual children in their first language?

Culture
Does the curriculum start by reflecting the true nature of the society in which it operates? Does it go on to expand the horizons of all the children, reaching out to a global dimension? If the curriculum is set in an alien context, how accessible can it be?

These questions are pertinent to the way in which plants and animals are used at Norwood Hall.

Norwood Hall
Norwood Hall is an institute of horticultural education situated in Southall in the London Borough of Ealing. Although its funding situation is about to change, at present approximately 50% of its work is based in the Department of Amenity Horticulture and involves the running of further education courses in amenity horticulture. The other 50% of its work is based in the Environmental Education Centre and consists of supporting environmental education in primary and secondary schools within the four Outer London Boroughs of Ealing, Hounslow, Brent and Richmond upon Thames. The Environmental Education Centre staff run courses for teachers, host school visits to

Norwood Hall and visit schools within its catchment area. The map gives a good indication of our facilities, which are used mainly to support environmental education across the curriculum and throughout the age range.

Language support

Given the nature of the community Norwood Hall serves, language support for English and other community languages has to be a major element in our work. (See table below.)

Schools language surveys

Table 1.

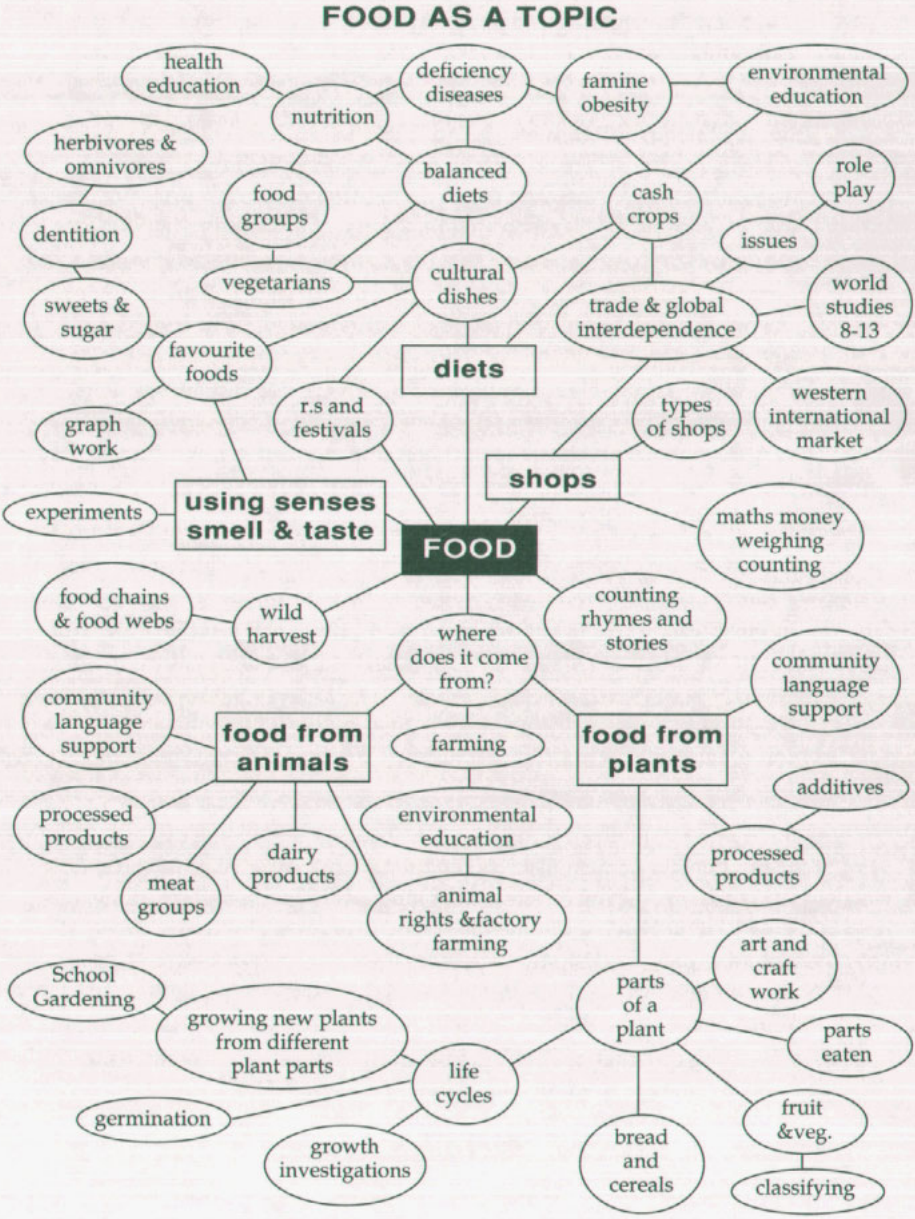
Pupils speaking at least one language other than English in their homes.

District	Percentage	Date
Brent:	35.3%	(1983)
Ealing:	41.7%	(1986)
Hounslow:	34.1%	(1988)

Surveys were made of all pupils attending nursery, primary and secondary level schools. Four major South Asian languages predominate in the surveys - Punjabi, Gujerati, Urdu and Hindi.

One of the ways in which we operate is to run half-termly topic themes for primary schools. Visits have to be booked in advance. In the first half of the Autumn Term, the topic is usually "food". A compulsory pre-visit course for teachers precedes every topic. The topic web produced for the teachers' pre-visit course on "food" shows some areas where a global dimension can be introduced (see topic web -Food as a Topic, opposite).

During the food topic the vegetable gardens and the tropical economic house are two popular areas for school groups to visit. In both areas the plants are labelled multi-lingually. One worksheet, used in conjunction with a visit to the vegetable garden, asks children to label their drawings in English and Punjabi (see worksheet "Vegetables", page 134).


FOOD AS A TOPIC
FOOD
diets
shops
using senses smell & taste
food from animals
food from plants
where does it come from?
health education
nutrition
deficiency diseases
famine obesity
environmental education
herbivores & omnivores
food groups
balanced diets
cash crops
role play
dentition
issues
vegetarians
cultural dishes
sweets & sugar
trade & global interdependence
world studies 8-13
favourite foods
graph work
r.s and festivals
types of shops
western international market
experiments
maths money weighing counting
food chains & food webs
wild harvest
counting rhymes and stories
community language support
community language support
farming
processed products
environmental education
additives
processed products
meat groups
dairy products
animal rights &factory farming
School Gardening
growing new plants from different plant parts
germination
life cycles
growth investigations
parts of a plant
art and craft work
parts eaten
fruit &veg.
classifying
bread and cereals

There are three good pedagogical reasons for using this bilingual worksheet:

1. In previous years, where worksheets asked for English labels only, quick witted children were able to label their drawings merely by recognising the sketches, with no compulsion to visit the plants. The function of the activity is for the children to visit the growing plants and to observe, for instance, that the orange edible bit of a carrot is a root that grows underground and that it also has a mass of green leaves sprouting out of it. Many children growing up in urban areas do not get the opportunity to see food plants actually growing, and consequently their knowledge of the origin of food can only be traced as far back as the supermarket! Therefore, if the children are not Punjabi speakers, they have to walk around and search to find the plant and its label. Any language could have been chosen for this exercise but Punjabi was chosen as it is the second most widely spoken language in the community after English.

2. For those primary children of Punjabi speaking backgrounds, the home register for food might well be in Punjabi. So here was an opportunity to reinforce both English and Punjabi vocabulary for food plants. Seeing one's community language supported so naturally on something as prestigious as a coach trip away from school and the home community, on a visit to a garden, can also do a lot to enhance a positive self-image for ethnic minority children. Sadly it is something that happens all too infrequently.

3. By using phonetic translations, teachers and students can all join in using Punjabi names. This can be used as a positive platform to elicit from other non-Punjabi speaking bilinguals what names are given to food in their language. Once again, by supporting bilingualism on a school trip we are helping to portray the community as it really is, ie. a multilingual one, and in so doing, we also contribute to helping all pupils grow up with a healthy and positive attitude towards learning and using other languages, eg. French or German. This point was unfortunately missed on one visiting teacher who had erased the instruction to label in Punjabi. When asked why, she commented "Can't you see, my children are all white!"

If the aim of the visit had been to develop literacy skills in Punjabi, then the Punjabi script would have been used. A balance has to be struck to avoid putting too much information on labels and in this case, where not many young children can read Punjabi script, it was decided to omit it.

A load of green leaves

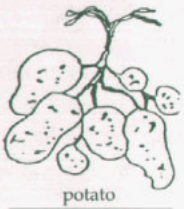
When plants are not in crop in the economic glasshouses, the coffee, cocoa, bananas, pineapples, etc. can be viewed as just a load of boring green leaves by some children. This makes labelling very important and here again, we use multilingual labels (see adjacent diagram of plant label). Even when students are told that they are standing next to a cardamom bush with pods on, it doesn't mean much to them. But when Hindi, Urdu and Punjabi speakers discover that it is also called "ilaichee" eyes light up with recognition, heads nod and an explanation is given of its uses in the home, both culinary and medicinal.

Cash crops

Potted plants grown in school classrooms from seed or cuttings can be used as good triggers to introduce or sustain particular topics involving cash crops. Grow a plant successfully and pupils become more interested in matters to do with it. "What are its products and uses?" "Where does it usually grow?", "Who grows it?", "Who benefits most from the trade?" etc. Both ends of a chain can be established, the

VEGETABLES WORKSHEET

Find these vegetables and label the drawings in English and Punjabi

 sweetcorn makhi	 tomato tomaata	 leek shoutha ghandaa	 beetroot chakandar
 lettuce salaad	 celery celery	 carrot gaajar	 potato aaloo
 rhubarb rhubarb	 runner bean phalian	 Rat-tailed radish moongrai	 marrow khia
 onion ghandaa	 spinach palak	 Brussels sprouts shouthee bandgobhe	 Kohl Rabi gaaht gobhe

student as a consumer and the plant as a primary product growing in the soil.

To help teachers grow plants successfully in schools, Norwood Hall runs very popular short courses on "Plant propagation in school classrooms". If cash crop plants can be grown successfully in schools, the relationship between the plant and the student can then be developed more imaginatively as shown below:

Cash Crops

Its environment	The Plant	Its life cycle
History	Uses	Local and traditional/ multinational
How? At what cost?	Cultivation and Harvesting	Where? By whom?
	Transporting	
	Processing	
	Retailing	
	The Consumer	

Multinational corporations dealing in tropical cash crops and organizations such as the London Coffee Information Centre and the Tea Council often produce, free of charge, very glossy educational material on tropical crops and their products. Much emphasis is placed on what happens during the processing and retailing of the product once it has arrived in the UK as an unprocessed product. The information about its cultivation often portrays an image of the "hapless happy picker".

Quotes from the Teacher's Handbook. Cocoa and Chocolate, Rowntree Mackintosh Ltd.:
"(i) Village Life. The people in a West African cocoa farming area live in small villages.... Those not cooking (in the evening) may make baskets or shape hoe and axe handles while children fetch water for cooking and washing. Afterwards is the time for talking, hairdos, and playing draughts."
Such a stereotypical presentation patronises the cocoa farmers themselves and is demeaning to the pupils in UK classrooms who may

have originated from similar geographical regions. If such material is to be used, it must be questioned and contrasted with other resources that help to portray a clearer picture of the realities of producing and trading tropical cash crops. In the World Studies 8-13 Teacher's Handbook, the chapter on unequal trade is a useful resource to this end; so too is "Whose Paradise? Tea and the plantation Tamils of Sri Lanka" by the Minority Rights Group.

The banana in the curriculum

In many places around the world where the banana plant is grown, people have found uses for nearly every part of the plant. The banana has tremendous cross curriculum potential in primary and secondary education. The World Studies 8-13 Teacher's Handbook demonstrates how it can be used in humanities teaching, but it also has tremendous potential in problem solving science. For instance, a large percentage of the fruit is water. That water fell as rain from the sky in a tropical rainstorm. The banana has captured that water. The student has bought the banana. "Could we calculate the percentage of water in the banana?" "Could we find a way of separating and collecting the water from the banana?"

Plant Part	Use
The fruit	Food. The skins can be burnt and ashes used for making soap
Male flower head	Cooked for food
Leaves	Roofing material, religious use
Leaf bracts	Paper making
Stem	Floats for raft making
Fibres	Rope making

This year a local school collected Norwood Hall's banana plant after it had fruited. The plant was taken back to the classroom to be used as a focus for maths, science, geography and religious education.

Similarly, the sugar cane was collected by a school and pupils tried to extract the sugar from it. Cuttings were propagated and many stories

about sugar cane were exchanged by the students. In one case, a child's father, who had been a sugar cane farmer in Bangladesh, was invited in to tell stories of his experiences. It is doubtful if this rewarding event would ever have happened if the living plant material had not been the focus of classroom activity.

The leaves from Norwood Hall's sisal plant can be harvested and the fibres extracted. A couple of leaves can provide enough fibres for a whole class of students to use, to compare tensile strength with other natural and synthetic products and used for making ropes.

Norwood Hall is not the only local source of plant material. Asian greengrocers and health food shops are treasure troves of resources for germination and propagation investigations. With a little skill and a good compost, unroasted fresh peanuts, brown rice, unroasted fresh coffee beans, tamarind seeds will all germinate on a warm window-sill or in a thermostatically controlled propagator. Cocoa, yam, ginger and sweet potato will also spring into growth quite easily if planted in moist compost in a warm sunny room.

Such plants will need loving care if they are to survive long term in the harsh environment of most classrooms. It is perhaps better to aim for short term survival for as long as the topic lasts, and then distribute the plants to caring homes.

Conclusion

To conclude, it is worth recapping on the approach that Norwood Hall takes in catering for visits by school groups. Our attempts to make visits relevant and appropriate to the needs of the community can be summarised by a series of questions that we try to address.

Making visits relevant

- How appropriate is the language used, in worksheets, on labels, etc. compared to the language skills of the visiting children?
- Are the many languages at work in the community reflected in the work of the gardens, or does English dominate?
- What is the "cultural perspective" for activities? Do they focus on the "exotic" or upon sharing diverse experiences?

To ensure that these challenges are met, a set of guidelines are followed:

Guidelines to cater for school visits

- Teachers are trained to work with plants.
- A flexible labelling system is used in the gardens and glasshouses.
- Multilingualism is celebrated.
- A "hands-on" policy with plants is operated as much as possible. Children are allowed to touch plants and take samples back to school.
- It is acknowledged that children have a diversity of experiences. They are encouraged to share knowledge and not become merely the receptors of knowledge.

References

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Fisher, S and Hicks, D (1986). *World Studies 8-13: A Teacher's Handbook.* Chapter 4, pp. 54-65. Oliver & Boyd, UK

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