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Global contexts for Design and Technology

Martin M C
Intermediate Technology

Abstract

The Design and Technology National Curriculum has been in place for an academic year. Having tackled familiar subjects, teachers are now looking at how they present contexts unfamiliar to pupils and themselves. The requirement to look at Design and Technology from 'other cultures' (Global Contexts) provides a particular challenge.

The Education Office of the international development charity Intermediate Technology has, during the last three years, been working closely with teachers on the development of strategies to present such contexts. The schools involved have included Primary, Middle and Secondary as well as those in the state and independent sectors. The work has proved interesting and highly motivating for pupils and teachers alike.

Global contexts

What do we mean by Global Contexts ?

A Global Context is one which is set in another part of the world and makes use of detailed visual and written information. Examples of such contexts have included:

- i) Woodburning and cooking stoves (Sri Lanka)
- ii) Transport of goods and people in rural areas (Andra Pradesh, India)
- iii) Small scale fabric dyeing and printing (Bangladesh)
- iv) The life of a blacksmith/businessman (Malawi)
- v) Barefoot vets and their associated work (Gujarat, India)
- vi) Food processing (particularly vegetable proteins in Malawi)

All of the above contexts allow for some reflection upon examples in Britain and the drawing of comparisons. In doing so pupils will be addressing many value issues.

Values

When dealing with the unfamiliar it becomes necessary to look quite closely at value judgements and consider the perceived needs of others.

"...Education must, therefore, highlight the significance of values and respect their cultural and personal diversity."
(Baynes in Thistlewood (Ed) 1990, p 55)

For such decision making and the necessary discussion involved, it is important to be as informed as possible. This becomes more difficult as the contexts becomes further removed from the classroom and school environment. There is a danger that pupils and teachers will slip into generalisation and make assumptions unless relevant information is available.

What strategies can teachers then use to ensure that informed value judgements can be made ?

Strategies

All of the following strategies have been successfully tried in the majority of schools listed. Teachers who did not adopt such strategies first time round are all agreed that they are central to the planning and delivery of similar projects.

1. A well defined context

All teachers involved, without exception, agree that it is essential to have a well defined context set in a particular country and region. One example of this was at Newbold Grange High School, Rugby where year 9 pupils studied the life of the Tambala family in Malawi and then investigated the processing of groundnuts and pulses. This then lead to the planning, designing, making and evaluation of a nutritional meal using ingredients that would be available in Malawi. (An audit of the project in terms of attainment targets, written by Susanna Krume, a Home Economics specialist, is given in the section titled 'National Curriculum').

'The pupils investigated foods that were unfamiliar to them and related their use for a meal for the Tambala family.' ... "I found the approach exciting and satisfying - I can't wait to do it again!"
Susanna Krume

An understandable concern with this is 'surely such focusing limits the possible learning activities'. All our experience indicates that this is certainly not the case. Take the example of woodburning and stoves in Sri Lanka.

The focus was a particular potter in central Sri Lanka and in particular her cooking requirements. Potential investigations for Design and Technology identified by pupils and teachers included:

Transportation of fuelwood and other fuels.

The efficiency of the cooking stove.

Layout design of the cooking area. Type of cooking required, balance of

diet.

Marketing of a fuel-efficient woodburning stove.

Investigation of all of these led to a wide range of artifacts, systems and environments made in a variety of media. It is therefore clear that such focusing does not limit outcomes, and is therefore not prescriptive, but gives pupils and teachers a firm base from which to start.

2. Criteria of appropriateness

It is of particular importance that pupils working on Global Contexts develop criteria to measure the appropriateness of their initial design ideas and their final outcome. It is of equal importance that pupils (and teachers) realise that the people, whose way of life they are observing, may have different criteria by which they would judge the appropriateness of 'solutions'.

It is therefore important that pupils are not given the impression that they can 'solve the problems of the Third World'.

Evaluation criteria developed by pupils include:

Materials should be available nearby.

Local people can fix it. The design should be environmentally friendly.

It should look nice to the people using it.

Local people should be able to build it.

People can afford it.

3. Co-operation with other departments

It is due to the very nature of such project work that co-operation with other departments is seen as very important. Real-world situations do, after all, involve many subject disciplines. Mr Thomas of Penglais School Aberystwyth, during discussion of a possible re-run of the Blacksmith/Businessman project said:

" I would definitely involve other departments, such as geography, so that pupils can have a greater understanding of the situation".

4. Drawing comparisons

An important strategy is the drawing of comparisons between the Global Context and pupils' experiences. This can start to make the unfamiliar seem familiar and build upon previous knowledge. In addition it brings life to the value issues embedded in all design work.

"The whole essence... lies in constructing a framework of learning so that when children are confronted with a problem there are 'luminous familiar spots from which helpful suggestions may spring'."

(Kimbell 1982, p 15)

National Curriculum

Some of the projects undertaken were pre-National Curriculum and dealt with issues that now appear in the statutory orders, most notably social and environmental issues. The contribution to the National Curriculum that such work can make should not be underestimated. Schools linked their work to the programmes of study and attainment targets and found that large areas of Design and Technology could be delivered. The following table gives an impression of the degree to which such 'global contexts' can deliver the National Curriculum.

Plan and prepare a Malawian meal: Newbold Grange, Warwickshire. Audit for Attainment Targets

| AT | Level | Description |
|----|-------|--|
| 1 | 4a | Investigate country |
| 1 | 4b | Interview people, discussion |
| 1 | 4c | Understanding a Malawians view |
| 1 | 5b | Recognise constraints to help planning |
| 1 | 6a | Identify needs required in Malawi |
| 2 | 3a | Selecting from information gained |
| 2 | 3b | Apply knowledge to planning meal |
| 2 | 3c | Information gathering about Malawi culture |
| 2 | 4c | Use of foods and shopping |
| 2 | 5e | Plan of action produced |
| 2 | 7c | Criteria applied to planning meal |
| 3 | 3a | Constraint of time influenced meal type |
| 3 | 3b | Resources - food equipment |
| 3 | 3c | Type of equipment used (e.g. 3 stone fire) |
| 3 | 4a | Minimise waste of ingredients |
| 3 | 4b | Working as a team |
| 3 | 4c | Used equipment appropriate to country |
| 3 | 5a | Identify stages during planning |
| 3 | 5b | Investigated then used knowledge for meal |
| 4 | 3a | Evaluation by self and group |
| 4 | 4b | Reflect on decisions made |
| 4 | 4c | Discuss use of pestle and mortar |

It is essential to remember that there are many important issues that pupils should be introduced to 'beyond the National Curriculum' and that work of this nature can address them. Indeed it is very much the case that a project of this kind 'reaches parts that others cannot reach'.

Global Contexts for all!

The requirements of the National Curriculum for pupils to look at and appreciate design in other parts of the world could ensure that similar projects are taken up in all schools. What is required therefore are accurate and relevant sources of information and the support service to help teachers tackle the unfamiliar. The need for a real understanding of other parts of the world and the lessons we can learn from that have never been so great. The right to follow such courses has been written into the curriculum. What is needed is the will of all educationalists to make it happen.

Schools involved

Helsby Secondary, Cheshire. Channing Secondary, Highgate, London. Solihull Primary, West Midlands. Newbold Grange Secondary, Warwickshire. Putney Secondary, London. Bloxham Middle, Warwickshire. Penglais Secondary, Dyfed. Harris Secondary, Warwickshire.

References

Baynes K, (1990) 'Defining a Design Dimension of the Curriculum' in Issues in Design Education Longman/NSEAD

Kimbell R, (1982) Design Education Routledge and Kegan Paul

Thistlewood D (ed), (1990) Issues in Design Education Longman/NSEAD