

Design and Technology and the Challenge of Refugee Children

Abstract

This paper describes the development of a learning resource which is intended to introduce pupils with English as an additional language (EAL) to design and technology. It is designed for children who have very little written or spoken English, and the activity may be located in any of the material areas in design and technology. The resource will be used by pupils from Year 7 up to Year 9.

The school context

The school in which this learning resource will be used is a multicultural secondary school situated in the London Borough of Hounslow. With its close proximity to Heathrow airport, the school has a large transient population of pupils who have recently arrived in the country from all over the world. Many of these pupils are refugees. The previous amount of schooling these pupils will have received varies considerably. At one extreme the pupils may have no previous school experience and at the other, they may have been well educated in their home country.

The school has a strong English as an additional language (EAL) department, which provides various levels of support for pupils, ranging from full withdrawal from the mainstream curriculum, to in-class support. The school policy on EAL pupils is to gradually return them to mainstream lessons, starting as soon as possible following their arrival at the school. As design and technology is perceived as an 'easy' subject, because it is 'practical' in nature, this is one of the first subjects pupils are taught in the mainstream. Clearly this perception does not represent a true picture of the subject, as the range of activities in which pupils are involved varies enormously and it is difficult, if not impossible, to equip a pupil with the appropriate theory to support their work, if they do not have access to the language. Added to this problem is the fact that the pupils do not all arrive at the school on the first day of term, but rather in any week of the year at fairly frequent intervals. As most of the work in design and technology is taught through projects, which last for a number of weeks, pupils could be arriving at any stage of the 'design process' from, researching the task, to carrying out practical work and evaluating their ideas.

The present situation

At present, pupils arrive in the classroom and are given the same task the remainder of the class are working on, but with a reduced requirement for written work. For example, if the rest of the class were designing, the EAL pupil would be shown another pupil's work and asked to produce some of their own ideas. This work would differ from the rest of the class because they would not be expected to add detailed descriptive or evaluative notes to their work. Alternatively, if the class were making their projects, the pupil would be shown how to use some basic equipment, asked to produce a quick design and then they would start practical work. The success of this approach has varied considerably, but even in the best case scenario, pupils are left with a very limited understanding of what they are doing and it is often difficult to give them enough attention, to help them to keep up with the rest of the class. It is also difficult in this situation to make an accurate assessment of the pupil's ability, due to the limited range of activities in which they have participated.

Typical problems arising for EAL pupil during designing:

- they don't understand the task and simply copy whatever their neighbour has drawn
- it is more difficult for them to draw on theoretical support for their designs
- they may understand the task, but probably not the materials we have to work with
- they are frequently unable to develop their ideas beyond an initial sketch.

During making activities, many of the EAL pupils achieve more once they have seen what other pupils are doing and have grasped what they are expected to do. At this stage however, if the pupils still do not understand what is expected of them it can be very frustrating and they may give up and try to simply help another pupil, instead of producing their own product.

Whilst not wishing to return pupils to their withdrawal groups, it is clearly necessary to find a more satisfactory solution to these problems. Ideally, one which will allow pupils to develop some key skills for design and technology and also develop some subject specific vocabulary at the same time.

Issues arising from the refugee status of many of the pupils

When developing a resource of this nature, it is essential to take into account the fact that many of the pupils who will be using it are refugees. It must be carefully planned to work

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to the pupils' strengths and avoid issues which they may find upsetting, either for cultural reasons or as a result of the experiences which led to them becoming a refugee.

The way in which the resource is constructed needs to acknowledge the fact that the level of previous education the pupils have received will vary considerably.

"The first experience of school for any child can be daunting, bewildering and at times overtaxing. How much more difficult and stressful for a Somali child with no previous formal education, little or no English and limited experience of urban life to be suddenly exposed to the life of a British school?" (Kahin, M.H. 1997: 72)

Whilst this example refers to Somali children, it is likely to be true of many of the pupils by whom the resource will be used.

"In cases where pupils did attend school in their own country, the system would have been very different. Most lessons would have been tightly controlled and teacher-led and the teacher/pupil relationship would have been considerably more formal. As a result, pupils may feel confused and intimidated by lessons in design and technology where pupils are expected to move around and make use of a wide range of equipment.

They may feel lost or insecure in a class where the teacher does not direct or monitor every stage of the lesson. The range and profusion of equipment in the school may seem overwhelming and intimidating." (Kahin, M.H. 1997: 73)

With this in mind, the resource should probably allow the pupil to stay in one place throughout the lesson. In addition, it should not involve the use of a large range of equipment. This will hopefully allow the pupil to feel more confident and secure when tackling the task.

Cultural transition

In addition to the differences in the pupils' previous school experience, they are also being faced with large differences in culture between their own country and England. The way in which they deal with this varies. In some cases pupils may wish to integrate with the new culture so that they 'fit in' and in others, they might become more traditional and hold on tightly to their cultural identity.

"They may become more traditional or they may become aggressively British. The best adaptation involves being able to keep links with both the new and the old culture and making a bridge between the two." (Melzak, S. 1992: 3)

In order to help the pupils to make this bridge between the two cultures, the project could have a cultural emphasis. This would also serve to tell the pupils that we value them and their past, an issue which was found to be important to Eritrean refugees in Swedish schools. They said they liked teachers who asked them about themselves because the acknowledgement of their differences made them feel 'valued'.

"This made them feel their past was valued and they were recognised as being different from Swedish pupils. They liked initial questions about 'safe' areas such as their school in Eritrea, language, food." (Melzak, S. 1992: 5)

Similar 'safe' aspects of the pupil's former life could form the focus of the task. They could be asked to produce something which represents their home or school, or tells us something about their culture for example, what they eat, or their language.

In writing about the integration of refugee children into the classroom, Jill Rutter, education officer at the Refugee Council, supports the view that it is helpful for refugee children to tell us about themselves. She suggests that the creation of autobiographical work is very useful to help refugee children deal with their circumstances.

"Children can be encouraged to write about themselves, their home country and present circumstances. They can make a scrapbook or picture book about themselves. Such autobiographical techniques are frequently used with refugee children as a way of helping them to develop understanding of complex events and feelings." (Rutter, J. 1994: 96)

Clearly issues of home will have to be approached carefully and sensitively, but the use of such techniques may provide a useful introduction to the school, whilst also helping the children to come to terms with their situation.

The use of graphics as an introduction to design and technology

Whilst research has shown that autobiographical writings and scrapbooks are a useful technique to use with refugee children, this would not be a typical design and technology activity. However, a similar type of exercise could be achieved through the use of graphics. This would be a useful approach in terms of making the resource equally accessible to pupils of all nationalities and is also appropriate with regard to the development of basic skills in design and technology, as graphics form part of the basic language of the subject. As such, skills

developed in this introduction to the subject would be of great use at later stages in the pupils' work in design and technology.

Graphic language

To allow for easy communication of the task, the resource itself should be presented to the pupils in largely graphic form. The pupils should then be required to create a graphic product. One reason why this would be a suitable format for all EAL pupils regardless of previous educational experience, would be that research has shown that children acquire graphical ability before the ability to write or use number.

"...it has been observed that graphical talent in young children appears to be more spontaneous than writing or number." (Cross, A. 1986: 106)

Therefore, most pupils would be able to respond to the task at some level and at the same time develop some valuable skills and understanding which would be of use to them in future work in design and technology. Indeed, research into the field of 'graphicacy' or the use of graphic language has shown that the use of graphic communication can often lead to increased understanding about a subject.

"... many examples of instances demonstrated by children's drawings which show that the medium is instrumental in gaining conceptual understanding." (Cross, A. 1986: 106)

In addition to the use of graphic symbols and drawings, pupils could be encouraged to develop a wider range of modelling skills.

"Modelling of thoughts, ideas or images is essential for developing, clarifying, expressing and communicating ideas with oneself and with other people. Taking the images that have been modelled inside the head to a point outside the head makes them more accessible for oneself and others to predict, to test, to confront, to transform and to appraise. What is expressed by modelling is a result of images in the mind, these are influenced by what can be expressed by modelling outside the mind." (Murray, J. 1994: 85)

The development of modelling and design skills would therefore be of use to the pupil both in the completion of the current task, and for future tasks in design and technology. When designing the task which the pupils will complete, there should therefore be a requirement for the pupil to demonstrate a range of different modelling techniques and not simply graphic symbols. This will allow the pupil to develop the widest range of

possible skills and the teacher to develop a more complete picture of the pupil's abilities.

The project

In addition to the requirement for the resource to be representative of the type of work carried out in design and technology, and the need to be sensitive to the experience of refugee children; there are three central issues to be considered when planning the content of a resource of this nature.

1. first, the task must be fairly simple to explain to the pupils, given their limited access to the language,
2. second, the resource must be easy to store and readily accessed if an EAL pupil joins a lesson
3. third, the project must be suitable for use in any material specialist room.

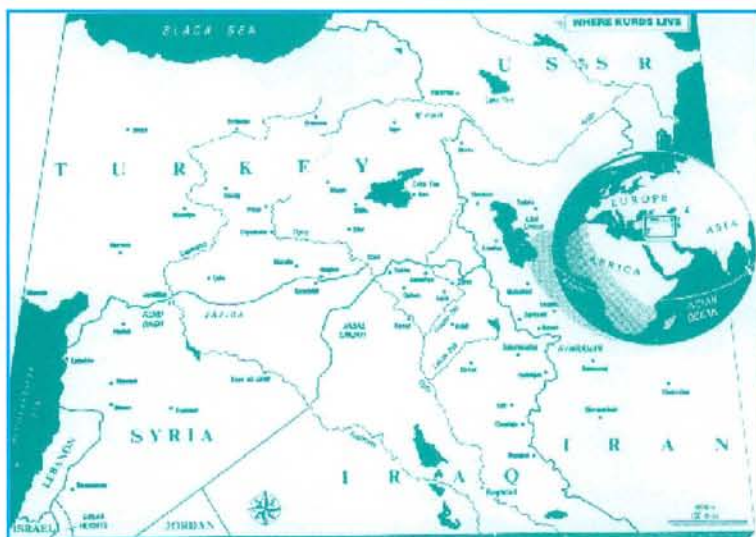
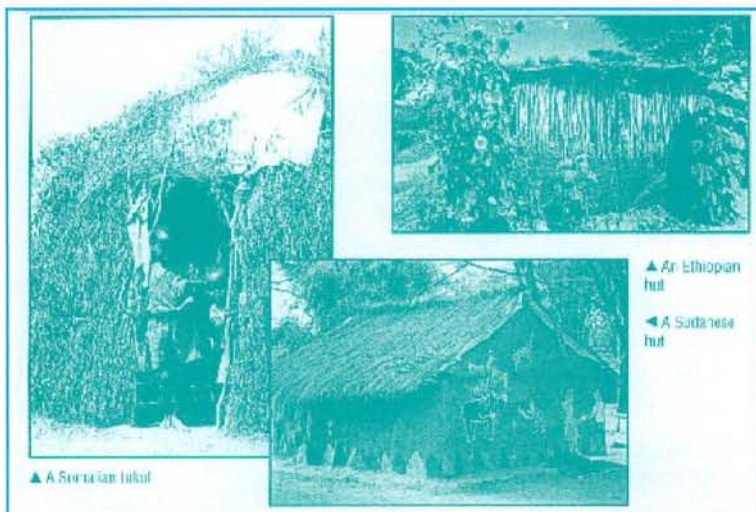
Taking into consideration the recommendations of those who have worked closely with refugee children, the project will be largely autobiographical in nature. It will provide pupils with the opportunity to express those aspects of both their past and present life which are important to them.

In addition to the use of simple drawn images, the pupils will be asked to model some of their ideas in three dimensions. This will allow for the development of the more complex skills which will be of use to them throughout their work in design and technology. It will also give the pupils an opportunity to express themselves in a variety of ways, making the task both more interesting and challenging.

The task will be as follows:

- Produce a picture or model, which tells me about you and your life.

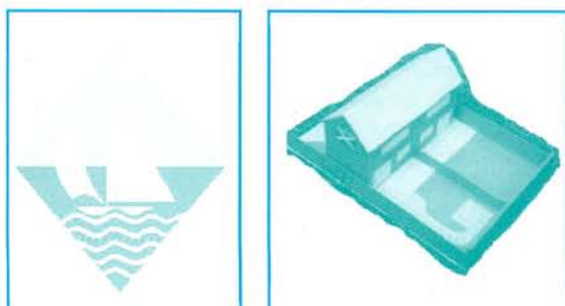
In order to support the pupils in carrying out this task, they will have access to a resource file which will contain a wide range of visual imagery including; drawings, maps, photographs of people and places, samples of fabrics etc. which are representative of a wide range of countries and cultures. It is hoped that with these visual stimuli, the pupils will recognise something which is familiar to them and it will thus provide them with a starting point. It is very important that the images are carefully selected and do not represent anything which may be upsetting to the pupils but rather, emphasise the positive aspects of life in countries around the world. Some examples of the type of imagery which could be included are shown above (Figures 1 and 2).



Above: Figures 1 and 2.



Figures 3, 4, 5, 6.



Images which would be included in the resource file

Also included in the resource file will be a simple explanation of the task in writing, with visual cues, to aid explanation (Figures 3, 4, 5, 6).

Produce a picture or model which tells me about you and your life.

To accompany this explanation, there will be examples of possible outcomes. This will take the form of a series of design proposals which show the development of a design through four stages. Each design will have simple annotation, identifying good and bad points of the idea. It is hoped that this will encourage pupils to try out a number of alternative designs and to produce their project using a range of graphic media.

To further aid explanation, the designs will be graded using a system of smiling faces, indicating the progressive improvement of the ideas. This use of graphical symbols should again simplify the explanation process.

The chosen subject matter for the example designs is a typical British house. This will allow the teacher to describe the project to the pupil by identifying the design as their home. They can then ask the pupil to describe their home in their country of origin, as a starting point for ideas for the project.

The first design is a simple two dimensional drawing of a house which is made using different colours of paper. The picture gives very little information about the house or its inhabitants and would not take long to produce. This design therefore achieves a low grading, with an unsmiling face (Figure 7).

In the second design, the house is drawn again but this time in three dimensions, allowing the inclusion of some detail about the surroundings. Whilst some use of mixed media is made, there are areas where the drawing is untidy because the background is showing through whereas in reality it would be hidden. This design achieves a better grade with one smiling face (Figure 7).

In the third design the picture is very similar to the second design, but more detail has been added and better use has been made of coloured paper to mask areas which should not be seen. As a result, this design achieves two smiling faces (Figure 8).

By the fourth design a large jump has been made to the creation of a full three dimensional model of the house and its garden. Whilst this would not necessarily be the next step in terms of complexity, it opens up new possibilities to the pupils. In this

design considerably more detail is included, and a national flag appears on the side of the house, telling us a little more about its inhabitants. This design scores four smiling faces to indicate clearly to the pupils that a three dimensional modelling approach to the project is highly valued (Figure 8).

By talking the pupil through each stage of the design and pointing out the smiling face grading each has been awarded, they will hopefully understand what they have to do and be able to make a start on the project. Whilst they are carrying out their work, the smiling face grading system should be used to indicate to the pupils how well they are doing.

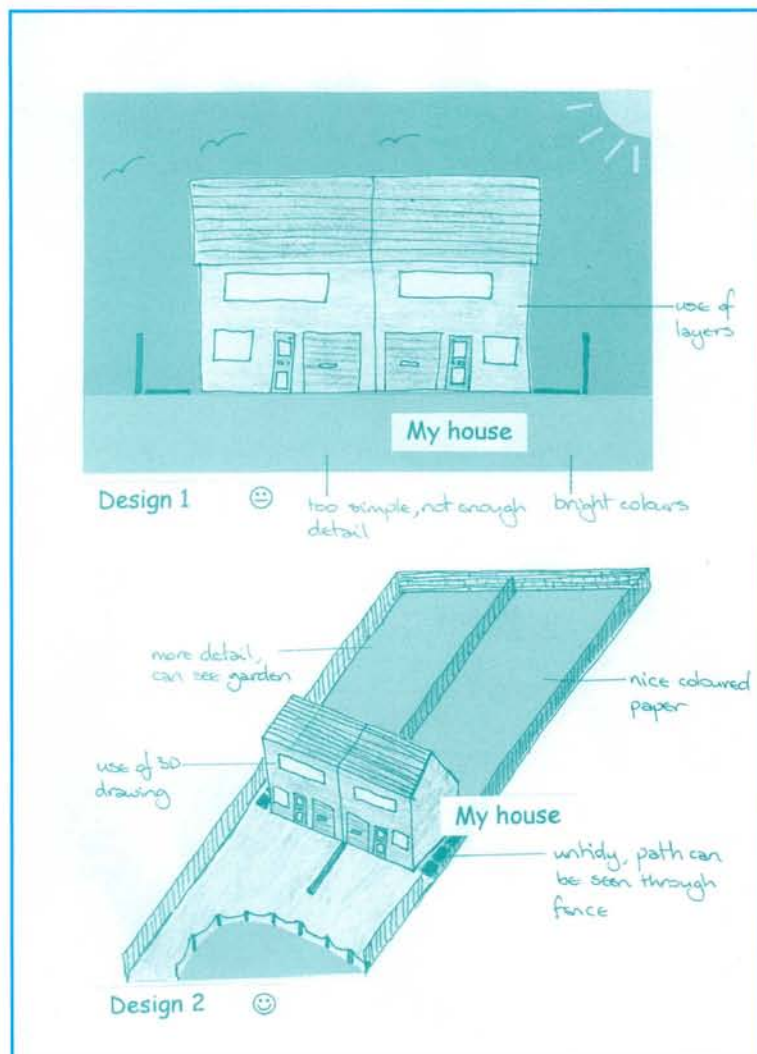
Once the project has been used a number of times, photographs of previous pupils' work will also be included in the resource file, to provide additional inspiration for the pupils and to make the explanation of the task easier. In addition to the resource file, the pupils will be provided with a set of materials and equipment with which to produce their project. The set of materials should be kept in a box or folder, to make storage of the resource easy. The set will include: a range of types and colours of card and paper, string, paper fasteners, elastic bands, pipe cleaners, coloured pens and pencils, glue, sellotape, scissors and a ruler. It is important to provide each pupil with their own set of equipment which they are not expected to share with others. This will both allow them to concentrate on the task, and remove any anxiety about having to ask other pupils to borrow equipment.

Anticipated outcomes

Easier transition into the curriculum

By providing a stand-alone project for the new pupils to work on, the initial confusion of starting in the middle of something, and the associated anxiety which this may cause, is removed. Also, the project does not require the pupils to move around the classroom, or to use a wide range of new equipment, and therefore provides a calmer, and possibly less confusing, introduction to the new environment. Additionally, for pupils who have varying levels of experience of the kind of work carried out in design and technology, this task will provide a focused and achievable introduction to the subject.

By setting a cultural context for the project, the pupils are provided with an opportunity to work in a context which is familiar to them. This may make it easier for them to think of initial design ideas. It will also allow the pupils to express their cultural identity and tell the teacher something about themselves and their life. As previously stated, in the case



of refugee children, working on the project may also help them to come to terms with their present circumstances.

In practical terms, the scale of the project should mean that the pupil will require less individual help, following the initial introduction to the project. This is an improvement for both the teacher and the pupil. For the teacher, because it will mean they can divide their time equally between all the pupils in the class, and for the pupil because it means they will not waste a lot of time waiting to be shown how to do the next task, becoming increasingly frustrated as they do so. Clearly, in some cases the pupil may be insecure about their own ability and will need lots of encouragement, but this is no different from other pupils in the class who have been in the school for a longer time.

Acquisition of essential skills

By providing a clearly defined task for the pupils it is possible to encourage the development of specific types of skills. These are designing skills, graphical skills and

Figure 7:
Development of
house drawing, with
Smiling Face grading
system.

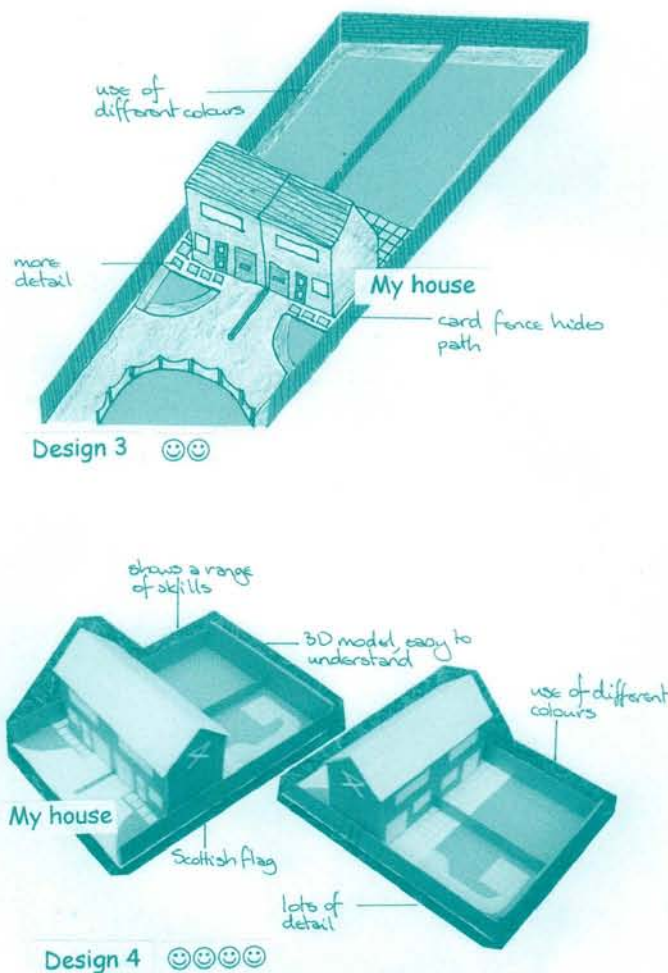


Figure 8:
Development of
house drawing, with
Smiling Face grading
system.

modelling skills, all of which are essential requirements for successful work in design and technology.

Throughout the project it will be necessary for the teacher to monitor the range of skills which the pupil is using and to provide guidance about how to progress, in order to maximise the learning potential of the project. In some cases this will involve the teaching of a specific skill, which will allow the pupil to move on to the next stage of the development of their ideas.

In discussing their designs with the teacher and other pupils, it is hoped that pupils will acquire some basic subject-specific vocabulary. It is also hoped that they will be able to use this vocabulary to start producing some simple annotation on their design ideas, based on the suggestions given at the outset of the project. This is very important in terms of the development of their design ability because, in the case of pupils designing in their own language, almost all design graphics

are annotated, allowing them to express more information about the designs and as a result, to identify areas for further improvement and development.

Assessment of the pupil's ability

An additional expected benefit of the pupil completing an entire project is that it should allow the teacher to make an assessment of the pupil's overall designing and making ability. This is very important in terms of assisting the pupil to progress at an appropriate rate in future work.

Conclusion

The initial situation which inspired the development of a new teaching resource was the arrival of EAL pupils at an early stage of their learning of English, into the design and technology classroom. The problems which were identified were:

- the limited language skills of the pupils
- the fact that the pupils often arrive in the middle of a project
- the fact that pupils could be located in any of the material specialist areas
- the pupils' varying levels of previous experience in design and technology
- the fact that in the case of refugee pupils, the design and technology classroom may be an intimidating environment, with the proliferation of equipment and the requirement for pupils to move around during a lesson.

I feel that the project which has been developed has the potential to overcome most of the above problems as follows:

- the use of graphics to both explain and carry out the task, helps to overcome language difficulties
- the stand-alone nature of the project allows it to be started at any point in the school year and last for varying lengths of time
- the resource is compact in size and can be easily stored in each material specialist room, and it will contain all the materials and equipment which the pupils require to complete the project
- the complexity of the project and the skills required can vary according to a pupil's abilities. The project also allows the pupils to develop new skills which will be of great value in their later work in design and technology.

- the project can be carried out without having to move around the classroom, or use a wide range of equipment.

The project should therefore greatly ease the current problems, however, an additional, new problem which may arise from the use of this learning resource is that the pupil will feel even more isolated in the classroom than they would with their language limitations alone. They may feel that, rather than being 'special' because they are allowed to do different work, they are simply 'different' and not really part of the mainstream, as they had expected. The fact that they are working independently may also reduce the amount of social contact they have with other pupils in the class and as a result, the language development which could have occurred.

Overall, however, I feel that the potential benefits of this project outweigh the potential problems and that it will provide not only a very valuable learning experience for the pupil, but also a more manageable situation for the teacher.

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