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The development of a design and technology website for primary teachers

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Abstract

This paper describes the development of a design and technology website specifically for primary teachers. The website is one of the resources being developed by the Nuffield Primary Design and Technology Project. The aim of this project is to provide the resources that will enable primary school teachers to become more effective at teaching design and technology. Within this overall aim, the object of the website is to develop and support an on-line community of primary design and technology teachers. This will also develop primary teachers' ICT skills within the current national training initiative.

The paper describes the following:

- *the development of an initial website (working with an innovative multimedia company and utilising small focus groups)*
- *the features within the initial website*
- *its positioning in the National Grid for Learning*
- *the use made of the website (through website statistics)*
- *the further development of the website within the suite of websites belonging to the Nuffield Curriculum Projects Centre*
- *the features within this developed website*
- *the potential of the site for ICT in service training*
- *the use made of this developed website (through website statistics)*

The paper then discusses whether, in the light of the above, the website is meeting its required functions.

Keywords: D&T, primary schools, website, continuing professional development, resources

The Nuffield Foundation has recently funded the development of materials to support primary design and technology (DATA 1998: 20/21). This has led to the production of a range of teacher materials which has been trialled in over 60 schools and evaluated through teacher feedback via questionnaire and two in-depth scrutinies by an independent Open University research team led by Patricia Murphy. The comments of the teachers and the findings of the Open University research indicate that the materials will be of considerable benefit to experienced teachers as well as those new to teaching design and technology (Murphy and Davidson 1998). It is clear that two of the

difficulties facing those developing such materials are dissemination and support. With the likely increase of the availability of ICT facilities to primary school teachers (Department for Education and Employment 1998) one way to engage in dissemination and provide support is to develop a website designed to meet these ends.

The original website

Early in 1998 the Nuffield Primary Design and Technology Project began working with the OTHER media (the OTHER media 1999), an innovative multimedia company, to develop a website for primary school teachers interested in teaching design and technology. The overall

- home page
- about us
 - Listening to teachers (an introduction to the project)
 - Evaluation so far (comments from the first phase of OU research)
 - The Structure of an Activity (a description of the way all activities are structured)
 - Scope of Materials (a listing of activities available – some downloadable)
 - The Nuffield Approach (a description of the approach)
- news
 - (news items about the work of the project)
- showcase
 - (examples of work carried out by schools using project materials, including soundfiles of teachers and children talking about their work and e-mail links to project schools)
- samples
 - (examples of activities – some downloadable)
- contacts
 - (details of contacting the project by both snail mail and e-mail)
- Nuffield curriculum projects
 - (a live link to the Nuffield Curriculum Projects Centre website)

Panel 1 Structure of original website

structure of the site is shown in Panel 1. The Home page is shown in Figure 1.

Use made of the original site

When the site was launched in June 1998, it was publicised by the Focus on Food campaign (500 flyers to schools and national mass media coverage) which the project featured in its News section. In the first month after launch there were 12 downloads. By October 1998 the site was well established with the best monthly

downloads up to 116. After a live link was set up on the Virtual Teachers' Centre (Virtual Teachers' Centre 1999) in early November 1998, in the first month the download figure had gone up to 308. Clearly this link had boosted the numbers of teachers who were able to find and use the site. However, discussion with a small group of primary school teachers with little initial interest in design and technology indicated that the home page was not particularly engaging or



Figure 1 Home page of original site

	Average user session length (Site stickiness)	Downloads
December 1st – December 31st	4min15sec	177 (approx. 44 per week)
January 1st – January 7th	5min46sec	87
January 8th – January 14th	5min22sec	123
January 15th – January 21st	4min30sec	60

Table 1 Use of initial site December 1st - January 21st

informative. This led to further discussions with the OTHER media and a wide ranging discussion within the Nuffield Curriculum Project Centre about the design of websites and the decision to redesign all websites to a common features format. Features of the use of this initial website in its final seven weeks of existence (the whole of December 1998 and the first three weeks of January 1999) are shown in Table 1. The extent of international use of the initial site is shown in Table 2.

	Most active countries
December 1st – December 31st	UK 92 US 61 Denmark 1 Spain 1 Australia 1 Ireland 1 Canada 1
January 1st – January 7th	UK 42 US 25 New Zealand 1 Taiwan 1 Spain 1
January 8th – January 14th	UK 40 US 16 Canada 1
January 15th – January 21st	UK 27 US 26 Russian Federation 1 Taiwan 1 Japan 1 Australia 1

Table 2 International use of initial site *

* Note that the country of the user is determined by the suffix of their domain use and that this may not always be an accurate identifier of the actual geographic location of the site visitor.

The new website

The overall structure of the new site is described below. The Home page is shown in Figure 2. The new site retains some of the features of the original site (Home, About us and Showcase) but Samples has been replaced by Resources, Contact details are within About us and a new section Interact has been

introduced.

- Home

The navigation bar is now at the top and features icons as well as words. The page shows an image of a teacher with a class of children (this changes on a random basis between six available images) and has live links to News and Resources sections. Note too the presence of a Contents button. This was introduced after discussion with a group of primary teachers revealed that they wanted to be able to see what was on the site "like the contents page in a book". From the Contents page there are live links to all sections of the site.

- About us

This is very similar to the About us section in the original site but has the added feature of a Project Schools menus which allows a viewer to find out if there are any Project schools in a particular geographical region

- News

This is now divided into three sections. Project News that describes the latest developments; School News that gives details of Nuffield D&T in action and D&T Newsfeed, still under development but will provide the latest information about D&T related to current affairs.

- Showcase

This part of the site describes the work of particular project schools. A key feature is the different routes by which such work may be identified and inspected. A site user may find the work of a school by selecting a region of the UK which will then give a list of the showcase schools in that region. Selecting one of the schools will lead to the school's page containing information about the school (provided by the school) and a listing of the activities carried out at the school. Selecting



Figure 2 Home page of the new website

an activity leads to a description of the activity as carried out by the school (an activity report). If there is a gallery icon present then selecting this will lead to a sequence of screens showing photographs of the children's work. If there is a sound icon present then selecting this will enable the user to hear either teacher or children comments about the work. The user may also select the name of the activity and this leads to the activity description page that has links to all the showcase schools that have carried out that activity. Alternatively a site user may select from a menu of categories, related to National Curriculum D&T. If, for example, the user selects Using food this leads to a screen listing the food activities in the showcase – Baking bread and How do you like your toast? Selecting one of these activities leads to the activity description page that has links to all the showcase schools that have carried out that activity. A site user may also choose to look at a list of all showcase activities simply by selecting underlined text. Alongside this list is the listing of categories so the user can either select a particular activity description or change tack and explore the showcase according to category. As more schools give the Project details of their work this can be added to the database "behind" the showcase and visitors to the site will be able to find and inspect this work by the same

variety of routes. Individual schools are responsible for obtaining parental/guardian permission for photographs and details of children and their work to appear in the Showcase.

- Interact

This part of the site is currently under development. There will be three sorts of Forum:

- Open Forums where anyone can take part;
- Closed Forums where you need to be a teacher registered with the Project to take part;
- Special event Forums where you and your children can take part in using state of the art technologies.

Teachers will be able to register for their forum password by e-mailing the Project and giving their school postal address.

- Resources

This is the most expanded feature of the site containing the following parts.

Nuffield D&T materials

A complete listing of all materials produced by the Project, including some for downloading.

Glossaries

A listing of important terms in both ICT and D&T that will grow as teachers let the Project know of missing entries.

FAQs

	Average user session length (Site stickiness)	Downloads
January 29th – February 4th	10min 26sec	134
February 5th – February 11th	12min09sec	186
February 12th – February 18th	13min40sec	94
February 19th – February 25th	10min22sec	26
February 25th – March 3rd	8min50sec	37
March 4th – March 10th	4min23sec	18
March 11th – March 17th	10min25sec	56
March 18th– March 24th	10min48sec	38
March 26th – April 1st	7min16sec	35

Table 3 Use of new site January 29th - April 1st

A wide range of questions answered, especially formulated for those inexperienced in teaching D&T.

Teacher Tutorials

Guidance based on experience from trial schools plus a series of masterclass tutorials written by experts in the field. These are currently under development and will include:

- Using food
- Products and applications
- Working with textiles
- Understanding structures
- Applying computers
- Taking control
- Handling resistant materials
- Values
- Special Educational Needs
- Cross phase issues
- Problem solving

Other Resources

A list of resources from a wide range of other providers including:

- websites
- consultants
- publications
- science
- places to visit
- suppliers and equipment
- software
- TV programmes
- other curriculum areas

Acknowledgements

A listing of those suppliers and others who have helped the Project.

Use made of the new site

Features of the use of the new website in its first two months of existence (February and March 1998) are shown in Table 3. It is immediately apparent that the average user session length has increased significantly although the number of downloads whilst initially higher is tailing off. The extent of international use of the new site is shown in Table 4.

	Most active countries
January 29th – February 4th	UK 62 US 10 Australia 2 Singapore 1 Israel 1 Greece 1 Ireland 1
February 5th – February 11th	UK 78 US 22 New Zealand 2 France 1 Denmark 1 Italy 1
February 12th – February 18th	UK 118 US 42 Ireland 1 South Africa 1 Australia 1 New Zealand 1
February 19th – February 25th	UK 79 US 36 Australia 2 Canada 1 Russian Federation 1 Germany 1
February 25th – March 3rd	UK 65 US 24 Canada 2 Spain 1 Cyprus 1 Italy 1
March 4th – March 10th	UK 98 US 73 Australia 3 Germany 1 Hong Kong 1 Sweden 1
March 11th – March 17th	UK 87 US 21 Australia 3 South Africa 1
March 18th– March 24th	UK 90 US 35 Australia 6 Netherlands 1 Singapore 1
March 26th – April 1st	UK 58 US 32 Norway 3 New Zealand 1

Table 4 International use of new site*

* Note that the country of the user is determined by the suffix of their domain use and that this may not always be an accurate identifier of the actual geographic location of the site visitor.

The potential of the site for ICT in service training

Using the new site enables teachers to engage with nearly all the ICT training requirements identified by the Teacher Training Agency (Teacher Training Agency 1999). Developments over the next three months will ensure that all requirements can be met. This is an important feature for the Project as using the site will not only provide useful information about D&T and support for primary school teachers but also contribute to teachers' in-service training.

Discussion

It is clear that the new website is more attractive to users than the original site. The number of down loads increased substantially initially but this is now tailing off. The average user session length (site stickiness) has increased significantly and this is an important indicator of site attractiveness especially as downloading (which takes considerable time) is waning. The availability of materials by downloading presents an interesting dilemma for a curriculum development project. Traditionally materials have been disseminated in paper based forms by a professional publisher. The Project is in discussion with such a publisher at the moment and the exact mix of traditional as opposed to on-line materials is not yet clear. There is also the problem of how much of the on-line materials should be free of charge. The amount of international use of the site is encouraging particularly the large number of US visitors. So the potential sales for on-line materials may well be greater than traditional markets. There is also the interesting possibility of Showcase including examples of children's work from around the world and some of the Forums being international in nature. It is clear that the site has the potential to provide considerable support for primary school teachers wishing to teacher design and technology and the early signs are that it is starting to be used. At the moment the

Nuffield D&T Project will pursue a multi-stranded approach to dissemination – newsletters (Nuffield Curriculum Projects Centre 1999) and paper based publication (and within these indicate the availability of the website and its advantages), presentations at conferences and on initial teacher training courses (which will feature the website), in service training in conjunction with local authorities and institutes of higher education (again featuring the website) – all before publication of the final materials; with the expectation that the profile of the website as a means of support for a growing community of good practice in D&T teaching in primary schools will increase.

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