Making web sites work

How to plan and design
an effective school web site

Becta
ICT Advice




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Introduction

Web sites are powerful promotional and communication tools. They enable you to showcase pupils' work and to provide learning materials for pupils to access while in or out of school. It is estimated that nearly 60 percent of schools in England currently have their own web site.

Building a web site is a much easier task now than it was even a few years ago, when you had to learn to programme in hypertext mark-up language (HTML) and might have struggled to find someone to host your site. Now, there is a choice of relatively user-friendly software and publications to assist you – and free web space is widely available. However, most of the advice on building a web site assumes that you have a generous budget, plenty of time and a fair amount of expertise. If yours is a typical school, you'll be short on all three. What you probably have instead is two other characteristics that will prove invaluable: enthusiasm and determination.

The information contained in this publication is based on two major sources: information and expertise from Becta and the experience of schools across the country who have already created their own web sites.

This publication places web design within the school context. It may not tell you how to import a Flash animation into a downloadable page, but it will help you decide whether you really want animation and give you information on where to get further help if you do. Above all, it will help you to make sure that the many hours that go into designing and building a web site are repaid, so your site not only meets your requirements for the present but is easy to expand as your expertise and vision grow.

For more detail on creating a school web site, including case studies and video clips of some of the Becta/The Guardian UK Education Web Site Awards winners, see our free CD-ROM *Making web sites work*.

To request a copy of the CD-ROM, e-mail your name and postal details to: *makingwebsiteswork@becta.org.uk*

1 Getting started with your web site

A web site is a collection of pages written in code (usually HTML) which runs on a computer and can be accessed by other computers anywhere in the world. A site may consist of a single page of information or hundreds, and it may contain just text or a combination of graphics, artwork, photos, movie clips, sound and animations.

Web pages need to be written in code so they can be understood by computers wherever they're located, and regardless of whether they're PCs, Apple Macintosh or running Unix. Provided that you have a modem to connect you to the network and a browser such as Netscape or Internet Explorer, you can connect up with any web site in the whole world.

The prime purpose for any web site is to tell the world that your organisation exists. Most sites are commercial and advertise services or products, but many belong to non-profit organisations such as charities, government departments and agencies, and local amenities such as museums and galleries.

Having a school web site can enable you to:

- provide information about the school to existing pupils and parents as well as potential ones
- showcase examples of pupils' work – in words, pictures, sound and/or movie clips
- provide a communication channel with the school, particularly for parents
- share resources for teaching and learning
- publish your ideas to a wider audience.

If you're going to put a good many hours into creating your web site, you will want it to be engaging, and to fulfil the wide range of aims you have for it. That means serious planning and, if you're wise, it means teamwork.

'The main aim of the web site has always been the same: we want to raise all the children's confidence by giving them an audience for their work. By displaying their work to the world they take a pride in it and produce better work all the time.'

Simon Widdowson, ICT co-ordinator, Southwold Primary School, Nottingham

Who needs to be involved?

Your web site will represent the school to the outside world, so you'll need to find out the views of the people involved with your school – pupils, teachers, non-teaching staff, parents and governors – concerning what the site should contain. A consultation group running into the hundreds is not very workable, so draw together a small group and talk about why you've decided that you need a web site. At this stage, it's best to ignore the technical aspects – if you're going to be designing and building it yourself, you can find out how to do it in stages. If you're going to be paying someone else to do the work for you, you need to be as clear as possible about what you want it to be like, or it will be a long time in development and more expensive than you can afford.

Every hour that you spend in planning is likely to save hours of negotiating, changing and re-design later on.

Who is your web site for?

Once it's up and running, your web site should be accessible to anyone and everyone – but who is it for? It needs to address two distinct audiences:

- Present pupils, teachers and parents
- Prospective pupils and parents.




Your current pupils and their parents are likely to be your prime audience. For pupils, the web site will be an exciting publishing medium – particularly if you envisage a site that has video clips, photographs and a gallery for showcasing their work. The site can give even the youngest pupils the chance to be creative – by planning virtual tours of the school, acting out their own dramas, and recording everyday class work as well as special events and trips beyond school. Giving every child the opportunity to create material for the site, and ringing the changes from time to time, is a major enterprise, however, so at this stage try to limit your ambitions.

Parents of pupils already at the school are also likely to enjoy the opportunity to see the type of work that goes on, particularly if their child has been involved in its creation. Parents also appreciate the opportunity to access information about the school. This includes key dates such as holidays, sports days and trips and ideally, information about school policies, the curriculum and homework. Parents are increasingly likely to want to be able to communicate with the school via the web site, so an e-mail feature may prove popular. Creating pages aimed at parents may look daunting at first – particularly if your school policies are very detailed – but once launched, the pages should only need to be revised from time to time.

Your audience of prospective pupils and parents is harder to gauge, because while most will be local, others could be about to move to your area from anywhere in the country or even abroad. For families who are moving in, you will want to give a flavour of your school within seconds, because eight seconds is roughly how long a 'casual' user of your site will spend there. This is a tall order, and it highlights the need for a design that helps users to find what they want immediately.

It's also worth thinking about the other people who might visit your site, for example those applying for work at your school, past pupils, your neighbours in the community, LEA staff, even Ofsted. Some visitors will be looking for specific pieces of information, some for a brief general impression so, again, clear signposting will be essential.

One of the simplest ways to clarify what you're looking for is to look critically at the efforts of others. You don't need to reinvent the wheel when designing your own site: if you find a site that seems effective, use it as a model for your own. There's a link to a list of school sites worth visiting on page 25 which would be a good starting point.

What should your site contain?

All users will expect to find the following basic information:

- Name and location of the school and either a map or a link to one
- Contact phone numbers and at least a general e-mail facility
- Overview information (number of pupils on roll, number of classes, staff names, when the school was built, facilities worth a special mention)
- Key dates for the school year
- A statement of your aims and ethos
- Your admissions procedure
- Test/exam/inspection information, or a link to a site containing this information
- Pupils' work – this could be quite modest, but you should have something from every class or for every subject
- Mention of past successes and aspects that you feel make your school special
- A date showing when the site was last updated (this might seem a bit premature, but it's important for site visitors to know how current the information is).

Optional extras include:

- The school prospectus (so prospective parents can access it easily)
- Curriculum and other policies (a summary or full details if you feel this is important)
- Schemes of work
- Homework notes for pupils
- Activities for pupils
- Links to other useful information or activities for pupils
- A counter so you know how many visitors you've had
- A search engine (once your site really takes off, it's useful to be able to find content quickly)
- E-mail links to classes (make sure that you also think about who will manage e-mails and reply to them)
- E-mail links to teachers (think carefully about this – do your teachers have time in their school day to respond? Do they wish to communicate with parents individually?)

Once you have sketched out an outline of what you want on the site, you can start planning it in detail. As you plan, refer to this outline regularly to make sure that your aims are being achieved.

Modest beginnings

Many people design a web site by starting with the home page and then spread outwards from there. Although this seems logical, it may be easier to leave this task till later: essentially, your home page is your 'Contents' page, and you won't know what to put on it until you have a clearer idea of what the contents are.

It makes better sense to start with one, manageable area of the site and build the site up gradually. Working on just one area will throw up problems that need to be solved, but it will also help you to establish the process and learn as you go along.




'My advice to other schools intent on developing a web site is: think what your site will look like now and where you wish it to be in two years' time, and build into the initial development an easy growth factor'.

Moira Douglas, parent governor,
Grove Road Primary School, Hertfordshire

As a general rule, less is best where web publishing is concerned – a site with all known multimedia features will take a long time for users to download from the web and make it hard for you to update. Below are some general pointers:

Appearance

Given a palette of several million colours, it's tempting to go for a bright, colourful web site. Try to resist, however, and limit yourself to two or three colours that offer sufficient contrast between background and text without leaping off the screen. Where you have continuous text, you can use light shading and invisible tables to break it up. Create your own house style and page templates – being consistent about where you place elements and navigation buttons will save on design time and also help visitors to use the site, particularly those with special needs. Remember that visitors may want to print out pages, whether using a colour printer or black and white, and make sure that pages will be readable in both formats.

Words

However attractive you make a web page, reading text on screen is hard, so try to cut all text down to a minimum. If you want to include a large chunk of text (a school policy, for example), it may be more sensible to provide a brief summary and a link to a downloadable word-processor file or portable document format (PDF) of the full document. If you do have pages as PDFs, also include a link to software such as Adobe Acrobat so that users can view and print the PDF files.

Choose a font that is clear and unfussy so that everyone can read it (a 14-point text size is readable even for many visually impaired readers), along with a limited palette of colours and backgrounds. Think about vocabulary too: are there simpler words you could use, if you want younger pupils to be able to read and understand it?

Does the text exist already, and in electronic format? If not, who will write it? Should it be written by an adult, or would this be an appropriate place for children's work?

Pictures

Illustrations will help to give your page visual interest, but you need to avoid overloading a page with unnecessary pictures that will make it slow to download. Make the size of graphics files as small as you can so that they load quickly. Thumbnails (reduced sized images which can be clicked on to display the full-sized version if required) are a good way of minimising file sizes and download times. If you're using photos of children, there are a number of safety issues to be considered (see Safeguarding your pupils below) as well as the technicalities of format and size.

Why are you including a picture – what is it trying to say? Is there much point in having a small photo of a classful of children if you can't see what any of them are doing? Spending a few hours in school with a digital camera (or letting pupils loose with one) may well produce photos that are better suited to your purpose. Digital video is effective, and fun for pupils to produce, but file sizes can be enormous, so use it sparingly.

Animations

Animated graphics are one of the best features of the web and children love them. Beware, however, that they're memory intensive and that users will need to have the right plug-ins (Flash, Shockwave etc.) in order to view them. They can also be very tiresome if you are a frequent visitor to a site.

If you're adding an animation to a page, will it detract from the rest of it? Would a static cartoon character or icon work just as well?

Sound and music

Just as you can find clip-art on the web, there are sound-clip files you can download too. You can also record digital sound with a digital video and edit it, so it might be nice to have a sound file of Year 3 playing their recorders as well as a photo.

As with animations and moving video, you need to use sound and sound-effects sparingly, because users will need to have the right plug-ins in order to play them.

'We spent over three years developing our site and the first two were almost a complete waste of time because we didn't know what we were doing. Teachers are not web designers and all our early efforts to produce a site were terrible. However, when you get it right, there is nothing better for promoting your school and the good practice that goes on there.'

Tim Taylor, IT co-ordinator,
Tuckswood Community First School, Norwich

Safeguarding your pupils

It's a sad fact that web sites featuring children – and even the most worthy of school web sites – can attract the unwanted attention of adults. Your school has a duty to ensure that every child in your care is safe and that no individual child could be identified or contacted by visitors to the school's web site.

You can find further information on how to avoid these dangers on the Superhighway Safety site (http://safety.ngfl.gov.uk/schools/), but the simplest advice is as follows:

- If a child's photograph is used, don't add their name (and never give both first name and surname in a caption).




- If a child's name is used (as author of a piece of work, say, or as having won an award), avoid putting this with a photograph as well.
- Always ask parents/carers for permission to use a pupil's image (the Superhighway Safety site has a model letter that you can copy and send to parents).

Unfortunately, children also need to be made aware of safe practices regarding the Internet, e-mail, text messaging and other communications technologies. Your school should have an Acceptable Use Policy for using technology which sets out procedures to protect pupils and computer equipment. Increasingly however, schools need to be aware that pupils may be accessing inappropriate web sites or chat rooms, or using text messages or e-mail to send offensive or bullying messages. You may prefer to cover these issues in another way – as a comprehensive Code of Conduct using ICT, perhaps – but your web site might also be a useful place to publish advice on safe practice. You can find more information on this in the *Internet Proficiency Pack for Key Stage 2 pupils* (http://safety.ngfl.gov.uk/schools/Internetproficiency).

'The site boasts its own search engine, although this is only configured to search the pages on the school's web site, rather than the Internet as a whole, in order to avoid the potential risk of inappropriate pages being displayed. The search engine is powered by an external company, which indexes Southwold Online twice a month, and can be customised, so the school has chosen the on-screen colours and layout it wants'.

Southwold Primary School, Nottingham

Keep it simple

A home page with more than 10 buttons leaves the user spoilt for choice. Provided you can find suitable labels for your buttons, you should easily be able to limit yourself to six to eight main buttons. Each of these can lead to another page with more buttons to separate materials from each other if necessary. Where you have a lot of varied material under one button, you can add supporting text beside it, to show what's available.

Look for broad headings that will cut down on the number of buttons needed. Instead of having separate buttons for School Prospectus, ICT Policy, Behaviour Policy, Homework Policy, etc., find a title for these items such as 'School Documents'.

Buttons and links themselves need to be clear. Most users are familiar with the convention of underlining hyperlinks or using text in a different colour, but buttons need to be obvious signposts to other parts of your site. It's sometimes tricky, but try to find a label for each button which clearly suggests the content beneath it and is short. Otherwise you will either have to have extra-large buttons or type so small that users won't be able to read it.

If you provide a button for each class in your school, this will make it easy for everyone to find Class 4A's page, but it will also clutter up your home page. Having one button that says 'Our classes' or 'Pupils' Work' and leads to another page with links to each class will help keep the home page clear.

Keep it accessible

Keep your audience in mind as you create every aspect of the site – it needs to be accessible to as wide a range of users as possible. Keep language simple and direct, and avoid long, complicated sentences. Remember also those users who may have special needs such as a visual impairment or dyslexia – check that there aren't areas of the site which they would be unable to access even though they wished to.

There are nearly two million blind or partially sighted people in the UK, and many of them use screen-reading software that speaks text aloud or converts it to Braille; over-use of images or over-wordy passages will make your site particularly difficult or unattractive to these users.

The most accessible web sites offer a 'text only' version which simplifies navigation and cuts out graphics. Some visually impaired computer users also rely on software called BETSIE. This alters the HTML format of a web page so that its text content is given prime importance (you can find further information from BBC Education at http://www.bbc.co.uk/education/betsie/about.html). You can also test your web site for accessibility using Bobby (http://bobby.watchfire.com/bobby/html/en/index.jsp).

Where you have images such as photographs or pictures of pupils' work, add an alternative text attribute (<ALT>) text option in the image tag of your mark-up language code. This needs to be a simple description of the image, such as 'Sports day' or 'Pupil's drawing'. This is particularly important if you use a graphic or icon for functions such as 'Go' or 'Search the site' so that blind users will realise it's there. Similarly, think hard before you decide to use features such as pop-up menus. If they are providing links to important material, visitors may fail to find them.

Many readers, and dyslexic readers in particular, find the stark contrast of black letters on a white background hard to read. A pastel-coloured background (pale green is highly recommended) helps to reduce the contrast, as does avoiding



colours on opposite sides of the colour spectrum, such as putting red and green together.

Both dyslexic and early readers will appreciate the use of simple, direct language in short sentences. Remember that your aim is to inform visitors, not to impress them by the amount you've written, or the sophisticated vocabulary you have used.

Keep it legal

Copyright law applies to material published on the web as much as it does to printed books or music. The law relating to intellectual property rights is fairly complicated, but you need to be aware (and as a school, make sure that pupils are also aware) that all text, images and sounds you come across on the Web are the intellectual property of someone else. This means that you must not copy words, pictures or sound clips from other sites without permission. Some sites do give permission, of course – you may find a link to information on copyright on their home page – but you should still acknowledge that the material is theirs by adding a copyright symbol (eg Copyright © Becta 2003) or a statement saying that the material was created by them. Linking to another site from your own is not a breach of copyright, but you may feel that it is courteous to ask for permission to do this.

Equally, when you have laboured away to create material for your own site, it makes sense to add a copyright statement to protect it. This is worth doing even if you decide that you are happy for others to copy your material freely. You will also need to make sure that you are not inadvertently inviting people to copy material that is not your copyright, such as the latest Ofsted report.

You can find more information on the Copyright, Designs and Patents Act 1988 on the Superhighway Safety site (http://safety.ngfl.gov.uk/schools/document.php3?D=d10).

'Visitors can register on line to receive information by e-mail. The school finds this a cost-effective way of disseminating the latest news about the school, and as well as a general termly newsletter, there are mailing lists for parents with children who may be joining Year 7, current parents and former pupils. Users are assured that any personal information they supply will not be given or sold to any outside organisation or third party'.

Wood Green School, Oxfordshire

Another aspect that you need to bear in mind is that of data protection. The Data Protection Act 1988 stipulates what personal information may be stored by schools and in what circumstances. If your web site contains personal information (bearing in mind that it should not give details on pupils that would make them vulnerable), this data must be both accurate and up to date. You can find more information on how the Act works at http://www.dataprotection.gov.uk.

Ten top tips on building a good web site

- Plan the site: consider all the options and map them out and retain this as a blueprint of how the site might grow over time
- Start in one small manageable area and then build gradually
- Keep it simple and accessible for all users, including those with special needs – see what you can achieve without being over-ambitious
- Use the functions that are unique to the web to make your pages easier to navigate and interesting to visitors – use hyperlinks, graphics and small animations if they're appropriate
- Remember your audience
- Enlist the help of others – children can take digital photos, for example, and write material for their own pages
- Invite feedback on how others view your site
- Review and update the site constantly – to ensure that you see your site as others see it
- Remember issues such as copyright, plagiarism, child safety and privacy
- Appoint a webmaster to co-ordinate the efforts of everyone in the school and oversee the site's content.

2 Routes to publishing your web site

Once you have created the content for your site, which will include pictures and possibly animations, video and sound files, and worked out how it should be navigated, how do you turn it into a web site? There are several alternatives:

- Employ a web design service
- Build it yourself using HTML
- Build it yourself using word-processing software
- Build it yourself using specialised web-publishing software.

Another option is that if you have a keen parent or governor who has the appropriate knowledge and experience to set up your site, they can lead your in-school team for free or very cheaply.

Employing a web design service

If the thought of building your own site is too intimidating, and you have some funds available, you should find designers in your area who are experienced in designing and building web sites – at a price. What you may also find is that commercial designers will charge a competitive price for initial design and build, but a fairly steep price for updating your site thereafter. They do this for one of two reasons: some want the business and while there is rising competition for initial building of web sites, they can charge more for regularly updating other people's sites; others charge high prices because they don't want the relatively tedious task of amending existing web pages. Either way, even if you employ someone else to create your site, you may find that their charges for maintaining it are prohibitive – so you will need to maintain it yourself. This being the case, it may make sense to bite the bullet early on and build the site yourself.

In addition to local designers, there are educational companies which offer specialist services in this area, including RM (http://www.rm.com/), Schoolgrid

(http://www.schoolgrid.net/), 3T Productions (http://www.3t.co.uk/) and Questions Internet and Information Services (http://www.qiis.co.uk/). There are many others who also offer an off-the-peg service or a customised web site development and maintenance service, depending on what you are prepared to pay. Such commercial services also include technical support, but you need to clarify the level of support that will be available as part of your subscription.

Taking the DIY route

If you have a restricted budget, there may be no alternative but to take the DIY route. Even if you're starting from scratch, there are likely to be several sources of help available. Your local education authority may offer support and web-publishing facilities to you at a reasonable cost or even at no cost at all. Alternatively, your Internet service provider may offer this facility.

You can also find help on the Web itself. If your team is made up of complete beginners, you might find it helpful to look at some web sites designed to help children to build their own sites, such as Lissa Explains (http://www.lissaexplains.com/) which is very straightforward, or Web Monkey (http://hotwired.lycos.com/webmonkey/kids/). Also worth visiting is the ICTeachers site (http://www.icteachers.co.uk/teachers/links/tict.htm) which has a section on making web pages.

You can find free on-line web space with design advice and templates from service providers such as Geocities (http://geocities.yahoo.com), Tripod (http://www.tripod.lycos.co.uk/), schools.ik.com (http://www.schools.ik.com/) or Dreamwater (http://www.dreamwater.com/). Sites such as FreeWebspace.net (http://www.freewebspace.net/) will help you to identify possible free server space. Alternatively, you can use a search engine such as Google, Yahoo, Ask Jeeves or MSN, which will bring up a lot of suggestions – but you need to be aware that many of these sites are funded via advertising. You will probably not want advertising emblazoned on your pages, especially as you won't have control over this, and it may not be appropriate for a school web site.

Cracking the code

So what does building a web site involve? All web pages need to be written in a code so they can be read by a web browser such as Netscape or Internet Explorer, and so that hyperlinks can be created to allow users to 'jump' from one page to another or to a different web site. The code, whether HTML or similar, is an instruction to your computer's browser on how to format and display the content of each web page it comes across. The example below shows how a simple web page could be constructed.

AN Other School

Welcome to our web site

We hope that you find the resources useful.

Teaching Resources

HTML code	*Instruction*
<centre>	Begin centering text
AN Other School	Begin heading, size 2. print 'AN Other School'. End size 2 heading
</centre>	End text centering
 	Line BReak (insert blank line)
Welcome to our web site	Print 'Welcome to our web site'.
 	Line BReak (insert blank line)
We hope that you find the resources useful.	Print 'We hope that you…' (in normal text)
 	Line BReak (insert blank line)
<hr />	Horizontal Rule (a 'dividing line')
Teaching Resources	Begin Paragraph. Print 'Teaching Resources'. End paragraph

You can see the coding that goes to make up any web page. Click on the 'View' menu in your browser and select 'Source', and a new screen should open up revealing the code. Using HTML requires a painstakingly methodical approach, but it is possible, even for complete beginners. For those who would




prefer not to dabble with HTML, there are plenty of packages that will do the coding for you. The first are standard software such as word-processing packages, the others are software specifically designed for web authoring.

Software options

You will probably find that your word-processing package, or even a presentation package, offers the facility to save files in HTML format (in Word, for example, there is an option to 'Save as Web Page' under the File menu). Thus you may already have a facility to create documents in web format, and can start setting up links between documents. Unfortunately, a drawback of this method is that some unnecessary code can be added during conversion, making the converted files very large, and thus increasing download times. Additionally, it can make the files very hard to read and edit. In spite of this, several of the winners of the Becta/The Guardian UK Education Web Site Awards developed their entire sites using a word processor and cut and paste techniques.

However, using a word processing or presentation package is not in itself a route to publishing your pages, it is simply a method of creating pages and providing links to other pages.

To create your pages from start to finish, you'll need to use a specialist web publishing package. These include tools such as FrontPage (http://www.microsoft.com/frontpage/) (FrontPage Express is included in Microsoft Windows 98 or can be downloaded from the Web), Hyperstudio (http://www.hyperstudio.com/), and Click to Convert (http://www.clicktoconvert.com/), and professional web publishing tools such as Macromedia's Dreamweaver (http://www.macromedia.com/software/dreamweaver/).

There is an increasing range of free software which may help you to develop your pages. For instance, RealPlayer (http://uk.real.com/) can support audio on your site, and Hot Potatoes (http://www.halfbakedsoftware.com/) can be used to create interactive activities such as quizzes.

3 Prepare for launch

Once your site has been constructed, it's time to test it. This means testing that all the links work, that images appear where and as they should and that pages print out as you expect them to. If you have built your own site, you may well be both exhilarated and exhausted by this stage and only too ready to go live with it, but now is also the time to give it a really critical review. Gather together some of your potential site users – pupils, teachers, parents, grandparents – and show them the site. It's even better if some of your testers are unfamiliar with using the web, because they'll help you see how intuitive (or otherwise) the site is. Asking young pupils to explore it will also show you how readable the text is.

It's in the nature of things that, if asked to comment on your creation, people will probably be much freer with their criticisms than their praise, but their responses may be very important. If there are irritating spelling or typing mistakes, this is the time to correct them rather than leaving them until you update the site. You won't want to make major design changes at this late stage, but check to see if pages are too fussy or whether components are competing with each other for the reader's attention. Be prepared to sacrifice some features (how many animations do you really need, anyway?) in order that navigation around the site is as intuitive as possible.

Choosing a domain name

Computers connected to the Internet each have a unique address known as an Internet Protocol (IP) address. This consists of a series of numbers describing the location of that computer on the Internet. The Domain Name System (DNS) translates the IP addresses of computers into more user-friendly names known as domain names. This is the name that will appear in the URL (Uniform Resource Locator), the unique reference not only for your whole site but also for each of its pages.

You do not need your 'own' domain name as the hosting provider will provide this as part of the service. However, if you want a different one, such as the school name, you will need to obtain one and have it 'linked in' for you by your host.

Nominet UK is the Registry for all .uk Internet Domain Names (except for .gov.uk). As part of a one-off programme, unitary authority maintained schools in the UK can still register a .sch.uk domain name with Nominet, provided that they are inspected by the DfES as a standard curriculum school with permanent staff and pupils. This gives schools a standard naming system (http://www.bash-street.kent.sch.uk, for example) which also makes it easier for web users to find you. Contact Nominet on 01865 332211 (http://www.nominet.org.uk) for more information.

Nominet encourage individuals to register a Domain Name through an ISP, who will act as your agent and submit a Domain Name application to Nominet or another international Registry on your behalf. This can greatly reduce the cost to you. It is possible to register a Domain Name direct with Nominet, but this requires specialist technical knowledge and equipment. For instance, in order to be eligible to register direct you must provide the Internet Protocol addresses of two name servers that are permanently connected to the Internet. If you are using a commercial host, they will sort all of this out for you.

Choosing a host

Your site cannot go live until you have decided who is going to host it. The site needs to be held on a computer, normally known as a server, that is permanently connected to the Internet so that people can access it. Unless you have an always-on Internet service, hosting the site yourself is an expensive option. Always-on services can also present security problems: if the hosting computer is linked to your school network, then external visitors could gain access to other data on the network. To prevent this, you'll need to install a firewall (a good security measure in any case) and also consider how




you ensure that confidential information about finances, pupils and staff is protected from unauthorised access.

It will probably make more sense to ask someone else to host your site for you. Your LEA or Internet service provider may offer free web space, or you could pay for space from a commercial provider. Becta's Get Connected site (http://getconnected.ngfl.gov.uk/isp/index.php3) has a database of ISPs and compares their features.

Keeping it up to date

The need to review and update your site might be the last thing in your minds as you launch it, but if the site is going to be well used, it needs to be kept up to date. There are two key decisions to be made:

- How often will you update it?
- Who is going to make the changes?

If you have employed someone else to create your site and they will be doing the updates as well, finance will probably dictate how frequent the updates are. If you will be updating the site yourself, enthusiasm is more likely to be the determining factor. The overriding principle must be accuracy, and while it's accepted that printed information cannot be accurate forever, because web-based information can be accurate almost to the minute, users expect a higher degree of currency from digital sources. Whilst it's not vital to delete Mrs Smith's name as teacher of class Y2 the moment she leaves the school, listing her on the web site as class teacher two terms later may make existing parents wonder how much other information is also unreliable.

'Now that more staff have developed an active interest, pupils and parents are beginning to bring material to the web team, rather than the web team going out to find it. The site is updated frequently, usually more than once a week'.

Perton First School, Wolverhampton

If you have devoted an area of your site to children's activities like quizzes, puzzles, links to children's sites, it will be important to keep these fresh and maintain pupils' involvement. Similarly, publishing children's work on the site should be a regular activity rather than an annual event.

'As well as an internal search engine which catalogues the site's 2000-odd pages, there is also an eCard Shop with images produced by pupils and a facility called Magic Maker, which enables users to create their own web pages. A recent addition to the site is Quiz Maker, which allows children to write their own quizzes and send them to the webmaster'.

Grove Road Primary School, Hertfordshire

The site will probably need refreshing on at least a six-monthly basis and ideally, once a term. Where you have links to external sites, you may want to check these more often, just to make sure that the links are still live, and that they take you where you expect. It may be helpful to keep a print-out of all the web pages and mark up changes or corrections every time they're spotted, as this will save time later.

Who will make the changes? If creating the original web site was a team effort, the same team may be happy to undertake regular updates. If the creation was the work of one individual, you will be in a less vulnerable position, for example in case of illness, if others also learn how it's done. Either way, maintaining a small editorial team that includes children will help to keep the site fresh and to bring in ideas for new content. Don't forget that older pupils can be very useful in updating the site too as they will probably master the skills easily.

Over time – that is, perhaps in two or three years' time – it would be a good idea to have a major review of the site. The danger with web sites, particularly when they've been designed by a committee, is that they can grow in strange directions and stray away from their original aims.

Review checklist

Content

Avoid adding content just for the sake of it

Keep an overview of the whole site:

- Look for gaps that should be filled
- If there's any unnecessary content, archive it or delete it

Navigation

Make sure that navigation is as simple as possible

Look for new ways of grouping content

If it's becoming unwieldy, be prepared to make drastic changes

Functionality

Check that everything works as it should, and be prepared to jettison problem areas

Look at the overall size – are there ways of reducing it so it loads more quickly?

4 Using your web site for curriculum work

You can think of your web site as a display on an external wall, one that can be seen by the whole world. It gives you the opportunity to display pupils' work to a wider audience, illustrate the range and quality of the work that you do, and give pupils a 'public' pat on the back.

The school web site also provides plenty of opportunities for pupils to be involved in publishing their own material. Whether they learn how to use simple web-authoring software or not (and many older pupils will be able to do so), they can be involved in taking digital photos, scanning pictures and handwritten work and writing additional material to describe what the pages contain. Although it is a memory-intensive medium, digital video is well suited to the web and once pupils have become familiar with filming and editing techniques, the opportunity to broadcast their films on a web site is extremely motivating.

Creating material for the school web site has obvious scope for work in English and ICT, but it can provide a forum for reporting on work in all other areas of the curriculum and school trips as well. Pupils can:

- talk about what information they need and how they can find and use it
- share and exchange information in a variety of forms
- be sensitive to the needs of the audience and think carefully about content and quality when communicating information
- review what they and others have done to help them develop their ideas
- describe and talk about the effectiveness of their work with ICT, comparing it with other methods and considering the effect it has on others
- talk about how they could improve future work.

Primary examples

Here are some examples of web publishing projects undertaken by primary schools:

- Information about the school (http://www.stmatthews.kingston.sch.uk)
- Children's work from all areas of the curriculum (http://www.barnfields.staffs.sch.uk)
- Collaborative projects (http://atschool.eduweb.co.uk/southwold/start.htm)
- Interactive stories (http://www.kelsall.school.cheshire.org.uk) (http://www.downs.kent.sch.uk)
- On-line learning resources for other schools to use (http://www.west-borough.kent.sch.uk)
- The MAPE Paddington Bear project (http://www.mape.org.uk/Paddington/diary.htm) (http://www.mape.org.uk/Paddington/index.htm)

For examples of work done in English:

- An on-line multimedia class and school poetry anthology (http://www.cheslynhay.org.uk/)
- A forum for sharing ideas and communicating with other pupils across the world (http://www.timeproject.org/contributions/default.html)
- On-line learning resources for other pupils to use (http://ambleweb.digitalbrain.com/ambleweb/web/home.db_psc)
- Information about the school for parents and prospective pupils (http://www.sunderland.com/hillview/home.htm)

Secondary examples

The benefits outlined above hold true for secondary pupils as well as primary. Although cross-curricular work is more challenging in terms of organisation, the skills of information handling, writing and presentation are transferable between all subjects. Pupils could, for example, combine a study of maths, science and history by investigating how the pyramids were built in Ancient Egypt and then not only create illustrated reports on their findings in PowerPoint, but write, act and film a drama about slave labour – and publish it all on the school's web site.

Many secondary schools are also finding that the school web site is a good medium for homework activities. This could range from downloadable worksheets to interactive quizzes, links to other web sites for information and activities or an opportunity to showcase particularly good examples of pupils' work.

Listed below are some web pages created by schools or for schools, plus examples of other web sites where you can publish pupils' work.

General

- A database of resources and activities designed to help teachers develop and share ideas for good practice. (http://tre.ngfl.gov.uk/)
- A range of material across all subjects – this links directly into the IT section: (http://www.teacherideaexchange.com/lessons.asp?cat=Information%20Technology)
- The eXplora Challenge is an Internet contest for teams of students in secondary education. The teams create web sites that are interesting and fun for fellow students. (http://www.eun.org/eun.org2/eun/en/index_explora.cfm)

English

- A forum for sharing ideas and communicating with other pupils across the world (http://www.cool-reads.co.uk/default.asp)
- Pages created by children which offer on-line publishing opportunities to other pupils (http://www.kidstuff.org/)




- A showcase for pupils' work, and information for parents and prospective pupils about the school (http://www.bwctc.northants.sch.uk/pages/galleries.html)

Geography

- Pupils' projects and a range of student work (http://www.geography.ndo.co.uk/studentswork.htm) (http://www.raincliffe.n-yorks.sch.uk/showcase/Geography/index.htm)
- Reports on field trips (http://www.kesgrave.suffolk.sch.uk/Curric/geog/y10ft.html) (http://atschool.eduweb.co.uk/woodhouse-high/QuarriesWeb/framesqry.htm)
- Materials and tasks for pupils to work on at home (http://www.raincliffe.com) (http://www.st-petershigh.stoke.sch.uk/departments/geography/geography.htm)
- Pages which are produced to support specific needs, such as materials for hearing-impaired pupils (http://www.schooltrain.info/trgeog.htm)

"Among the items on the Welcome to Geography pages (http://www.geography.ndo.co.uk/) are field sketches of Dartmoor, poems about the American Dream written after a lesson on migration between Mexico and the USA, animations explaining plate tectonics and a photo diary which records how pupils built a shanty town in a day".

Hampstead Secondary School, London

History

- Reports on field trips (http://www.jfk.herts.sch.uk/) (look in Portfolio section of the site)
- Online learning resources for other pupils (http://www.penglais.ceredigion.sch.uk/history/index.html)
- A showcase for pupils' work (http://www.woodhousegrove.co.uk/departments/history/index.html) (look in Student Showcase area)

Mathematics

- A surveying project undertaken by Year 9 students (http://www.painsley.org.uk/surveyingproj)
- Teaching materials for algebra created by students (http://www.hellam.net/algebra)
- A collaborative project on colour, shape, space, Logo and Islamic patterns completed by schools in the Netherlands and Kuwait (http://www.hellam.net/twinsite)
- Resources for the mathematics department which provide entertainment and information (http://www.madras.fife.sch.uk/maths/index.html)

Modern foreign languages

- Students' work (http://www.shirelandlc.co.uk/languages/poems.htm)
- Language games designed by students (http://www.hughchristie.kent.sch.uk/french/year7/presente/asterix.htm)
- Reports on study visits to a foreign country, including photographs and sound files (http://www.woodgreen.oxon.sch.uk/languages/trips/france_2001.htm)
- Collaborative projects (http://www.dgs.oxon.sch.uk/depts/mfl/projects/index.htm)

Religious education

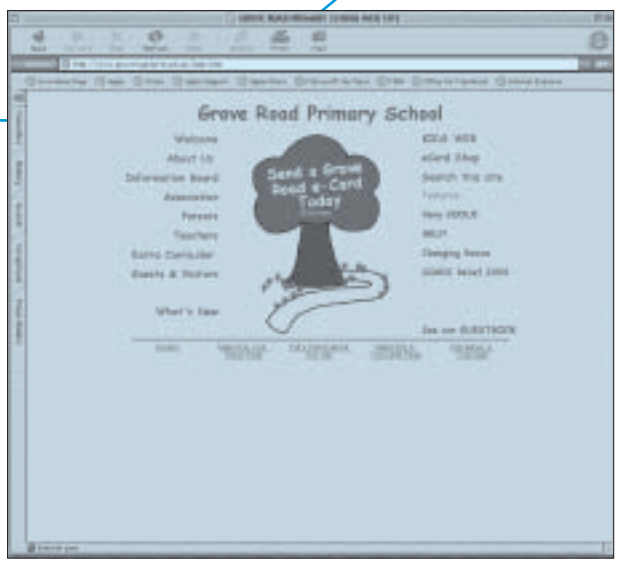
- School RE Department site including online learning resources (http://www.rsdepartment.i12.com/index.htm)
- Students' work (http://www.fitzwimarc.org.uk/)
- Examples of quizzes and puzzles (http://www.bennettre.freeserve.co.uk/)

Science

- Online learning resources and students' work (http://www.broadoak.nsomerset.sch.uk/subjects/science/scimain.htm)
- Science Department site including links for students (http://www.hinchbk.cambs.sch.uk/subjects/science/index.htm)




5 Learning from others: some case studies



Grove Road Primary School, Hertfordshire

http://www.groveroad.herts.sch.uk/

The initial idea for the Grove Road Primary School web site came from parent-governor Moira Douglas, who had been on an HTML course. She approached the headteacher and suggested that the school, which has around 420 pupils and is in Tring, would benefit from having a web site. The head agreed and gave the go-ahead.

After some discussion it was decided to split the site into an information-based area for adults and a children's area, which would include class work, links to homework sites and games. A group of pupils came up with the basic format for the children's area and a name for the main character in this section, Miss Gliss. Named after glis-glis, the 'edible dormice' that are only found around Tring, Miss Gliss is there to provide a child-friendly face for the site.

Templates were created for the class pages because, as Moira notes, 'Using templates aids productivity as certain settings do not have to be repeated. These templates contain a style sheet and standard background page colour and also have meta data already coded into them. Metadata tags describe a web page and, if you want your site to be found by search engines, you definitely need metadata embedded in at least your home or index page', explains Moira.

In terms of software, Moira built the basic site with the professional web editing tool Dreamweaver 3, and Dreamweaver 4 has subsequently been used for ongoing developments. With proper training this is relatively easy to use, she says. Graphics are generated with Paint Shop Pro and Fireworks.

As well as an internal search engine which catalogues the site's 2,000-odd pages, there is also an eCard Shop with images produced by pupils and a facility called Magic Maker,

which enables users to create their own web pages. A recent addition to the site is Quiz Maker, which allows children to write their own quizzes and send them to the webmaster, Moira's partner Ken, for inclusion.

Says Moira, 'These features will be looked after by the webmaster for the foreseeable future as they rely on a reasonably high level of Javascript knowledge.' However, three teachers have now been trained to maintain the class pages where the children's work is displayed and the school's administrator is able to update the diary and staffroom pages.

Although it intends to upgrade to broadband in the near future, at present Grove Road connects to the Internet through the Hertfordshire Grid for Learning, via an ISDN line. The school's web site is hosted by a commercial company, as the LEA could not offer the ability to upload amendments to the site from outside the school – it felt this could jeopardise the security of its firewall.

Moira is adamant that the effect of having a school web site has been very positive for the whole school, and that staff and pupils are very proud it, but her advice to other schools intent on developing a web site is, 'Think what your site will look like now and where you wish it to be in two years' time, and build into the initial development an easy growth factor.'

Perton First School, Wolverhampton

http://www.perton-first.staffs.sch.uk/index.html

The original idea for Perton First School's web site came from the Year 1 co-ordinator, Georgie Savage, but the whole school has been involved in its development and the aim is to encourage the active participation of pupils, particularly at the lower end of the age range.

The school has around 325 children aged five to nine. The site provides information about the school and some general teaching resources, but a particular focus is geography and the travels of Barnaby the teddy bear, who accompanies children when they go on holiday or trips. Snapshots and information about the places he's visited around the world can be accessed by clicking on flags in the Barnaby pages.

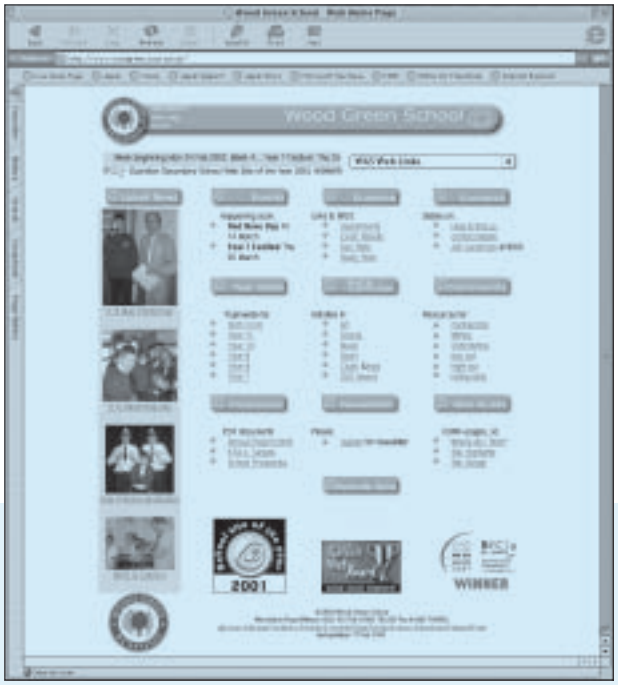
Georgie was new to building web sites and her husband, John, provided a great deal of technical help. He was already using Microsoft Front Page and Serif WebPlus semi-professionally, and would have continued using these programs for the Perton site. However, as there was no budget to install this software on the machines in school, the decision was made to use Microsoft Publisher. This had the merit of being already supported in school, it achieved the basic requirements of building the pages in a very friendly and intuitive way which staff and children were already familiar with, and it did not seriously disadvantage the design of the site.

Using MS Publisher 98, the school has designed its own web page templates, partly so that the site has a coherent appearance, but more importantly so that the site is easy to use. Georgie's advice is: 'Try to keep it simple. Clever graphics and slow downloads can be particularly frustrating to young children with a short attention span.' Images are usually handled in Paint Shop Pro 7 and the site is hosted on space made available by the LEA for staff development.

Much of the legwork is done outside school hours and, until recently, content was collected and collated by a single member of staff. However, now that more staff have developed an active interest, pupils and parents are beginning to bring material to the web team, rather than the web team going out to find it. The site is updated frequently, usually more than once a week. Mind you, Georgie says, 'Never underestimate the time and effort needed to develop a worthwhile, balanced site, and particularly to keep it up to date.'

Although the original target audience for the site was children, teachers and parents, this has developed to include potential parents – with some success – and the wider local community. 'The level of interest has been exciting,' she says, 'and has resulted in extensive use of our site by schools in the UK and even overseas.'



Wood Green School, Oxfordshire

http://www.woodgreen.oxon.sch.uk/

Log on to the Wood Green web site and you'll get more than a flavour of life at this 1200-pupil school. In fact, you can actually watch the school orchestra rehearse, view scenes from a student production of *Midsummer Night's Dream,* or check out how building work on the new admin block is progressing.

The school is experimenting with the use of digital video in connection with a high speed, broadband Internet connection. This means that short video clips of class work, performances, school events and so on, can be captured, edited and broadcast to a wider audience via the web site. 'Pupils are highly motivated by seeing their work on the web, especially in video, but only the best work is filmed and published,' says business studies, economics and ICT teacher, Richard Young.

However, he is keen to point out that the school is very careful about the content of the video it presents for public viewing. It observes all government and LEA guidelines relating to the use of pupil images and, where students feature prominently in a clip, parents are asked to give their permission for the footage to be used.

Another imaginative feature on the site is that visitors can register on line to receive information by e-mail. As Richard explains, 'This is a cost-effective way of disseminating the latest news about the school,' and as well as a general termly newsletter, there are mailing lists for parents with children who may be joining Year 7, for parents with children currently at Wood Green, and ex-pupils. Users are reassured that any personal information they supply will not be given or sold to any outside organisation or third party.

However, there is much, much more to the Wood Green web site than this. In all, it features approximately 3,000 pages, arranged around 11 sections, with 40 self-contained subwebs allocated to each subject, year group and special interest group. Regular contributions are encouraged from all years and departments, but each subweb is the responsibility of named staff and pupils, so the site is 'owned' by the whole school community.

A school web site of this scale and sophistication would not be possible without a great deal of organisation and teamwork, so as web co-ordinator, Richard's key role is to set up a team structure to create and maintain a web presence. As he emphasises, 'The advantage of a distributed web authoring system is that the burden of creating and editing web pages is shared.' Changes to the site can be made by any authorised pupil or member of staff from any computer in the school. Edited pages are checked and then uploaded to the site, which is hosted by RM, on a daily basis.

Most of the work on the site is completed outside school hours and the ICT department hosts two dedicated sessions for contributors. On Tuesdays after school pupils can learn how to create content and on Fridays after school reporters write up the week's news and future events. Progress and targets are reviewed at weekly meetings.

6 Some useful web sites

Accessibility

BETSIE (http://www.bbc.co.uk/education/betsie/about.html)

Bobby (http://bobby.watchfire.com/bobby/html/en/index.jsp)

RNIB (http://www.rnib.org.uk/digital/hints.htm)

Web Accessibility Initiative (http://www.w3.org/WAI/)

Help and advice on building your own site

Lissa Explains (http://www.lissaexplains.com/)

Web Monkey (http://hotwired.lycos.com/webmonkey/kids/)

Sausage (http://www.sausage.com/indexmain.php)

ICT Teachers (http://www.icteachers.co.uk/teachers/links/tict.htm)

W3Schools (http://www.w3schools.com/)

IK.com (http://www.schools.ik.com/)

Dreamwater (http://www.dreamwater.com/)

Internet safety

Be Safe Online (http://www.besafeonline.org/English/chat.htm)

Cybersavvy (http://www.cybersavvy.org/cybersavvy/parents/1b3.html#top)

Chatdanger (http://www.chatdanger.com/home/index.htm)

DfES Superhighway safety (http://safety.ngfl.gov.uk/)

Internet Proficiency Pack for Key Stage 2 Pupils (http://safety.ngfl.gov.uk/schools/Internetproficiency)

Kidsmart (http://www.kidsmart.org.uk)

NCH IT OK (http://www.nch.org.uk/itok)

Parents Information Network (PIN) (http://www.pin.org.uk)

Sites for pupils

Children's BBC (http://www.bbc.co.uk/cbbc/)

GridClub (http://www.gridclub.com/)

Yahooligans! (http://www.yahooligans.com/Arts_and_Entertainment/Chat/)

Copyright

(http://safety.ngfl.gov.uk/schools/document.php3?D=d10)

Information for governors

School Governors' pages of the DfES (http://www.dfes.gov.uk/governor/index.cfm)

Govern your School (http://www.governyourschool.co.uk/)

School sites worth visiting

Becta/The Guardian UK Education Web Site Awards winners (http://www.becta.org.uk/schools/websiteawards/2002awards/index.html)

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