

Practical ICT

For Leaders & Managers of Educational Technology

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Join the discussion! We have a Practical ICT Ning community which is an invitation-only social network for subscribers to Practical ICT. If you have not received an invitation email, visit us on the web: <http://practicalict.ning.com>.

The Educational Technology: ICT in Education website goes mobile

For those of you who are too busy to stay in one place long enough to read all the articles on the Educational Technology: ICT in Education website, I have some good news. It is now accessible by mobile (cell) phone, at <http://ictineducation.mofuse.mobi/>.

When you go there you will be faced with a choice between looking at the article summaries and the full articles. The Leading & Managing Educational Technology and Practical ICT eJournal sections will still be accessible only with your username and password.

Please [let me know](#) what you think of this service.

Recent articles on the Educational Technology: ICT in Education website

In the last month or so the following articles have been published in the Leading & Managing Educational Technology section:

[Taking on a leadership role](#)

[Learning from inspections](#)

[Getting the most out of parents evenings](#)

[Business thought leaders and their relevance to educational technology leadership 03: Frederick Herzberg](#)

[Seven key principles for an educational ICT provision](#)

[The 14 Principles of Projects](#)

[What do you need in order to be a successful manager of Educational Technology \(ICT\)? Part 1](#)

[What do you need in order to be a successful manager of Educational Technology \(ICT\)? Part 2](#)

[What do you need in order to be a successful manager of Educational Technology \(ICT\)? Part 3](#)

[What do you need in order to be a successful manager of Educational Technology \(ICT\)? Part 4](#)

You will need your username and password to see these. Remember, to keep up-to-date you can subscribe to the RSS feed at <http://www.feedpass.com/terry-freedmanorg3380>.

If there is a particular topic you would like to see covered here, please [let me know](#) and I will do my best to oblige. Perhaps you would even like to contribute an article yourself? If so, [drop me a line](#) with your idea. If your article is published in Practical ICT, we pay £50 (or equivalent).

Making sense of policy drivers: a thematic approach

One of the features of some countries' educational systems is a constant stream of initiatives – some would call it an avalanche – and new policies. Barely have we had a chance to work out what is required by one policy before another one comes along. Unfortunately, another common feature is that the “old” policies don't disappear, so the list simply gets longer and longer.

It's important to keep up with, and implement, changes in policies because nobody wants to fall foul of the law, or to miss out on potential funding opportunities. But given the facts that there are only 24 hours in a day, and you also have to do the “bread and butter” aspects of your job, what is a good strategy for ensuring that you and your team comply with the latest policies?

One approach that works is to group different policies by theme. This is possible because many policies do, in fact, have similar aims, so there tends to be some overlap between them. This is certainly the case in the UK, and more than likely you will find this to be the case in your part of the world too.

Using this approach can mean that 40 or more policies/initiatives (the number I identified for England recently) can be reduced to a much more manageable number.

As an example, under the heading “Personalisation” I grouped the following:

- Personalised learning;
- Assessment for Learning;
- Building Schools for the Future;
- Every Child Matters;
- e-Safety;
- Expectations by “society”;
- Secondary Curriculum changes;
- Economics (The Long Tail);
- Technology.

Now you may disagree with some of my categorisation but the principle is sound. What’s more, it works in practice.

For example, if you address e-Safety, by implementing filtering, you are also addressing Every Child Matters’ aspect of Keeping Safe.

The important thing is this: using the theming approach makes it much easier to hit the targets of the various initiatives without driving yourself and your team into the ground. Find a framework that works for you, and stick to it.

Power management: how much does it cost NOT to go green?



Environmental concerns are big news at the moment. Can schools help create a greener planet by turning off computers when they’re not in use? If so, how easy is it to do and what things do you need to consider? Jim Williams takes you through the issues and gives some practical and detailed advice.

Why switch off?

It is commonly believed that turning electrical components on and off causes earlier failure due to thermal stress as components rapidly heat up and cool down. This had been our main reason for previously leaving computers switched on. However, in 2005, PC Pro magazine carried an [article](#) on IT power consumption which highlighted potential cost savings through switching equipment off when not in use.

It also suggested “...there is little evidence” of shortened component life. In further research we found the University of New South Wales in Australia had canvassed opinion amongst major manufacturers and [found](#) they supported switching off.

Our initial reason for investigating this was to reduce heat. Our IT suites of 30 computers with CRT monitors generated substantial heat, making classrooms very uncomfortable. What's more, eco-conscious pupils were beginning to ask equally uncomfortable questions....

A PC uses a lot of power, even if it's doing nothing. We invested £30 in a plug-in [power meter](#) and found that a computer can still consume up to 120W when idle. Standby mode can save some energy, but only a significant amount if the ACPI Suspend Type option is set to S3 in the bios.

The more common setting, ACPI Suspend type S1, does not offer a significant saving, so make a point of checking this first.

For example, a Pentium 4 system uses:

Normal idle power consumption:	100W
S1 Standby Mode:	65W
S3 Standby Mode:	12W

Even a PC that is turned off will consume power: 9W in our tests. This is because the motherboard is always powered; to enable features such as "Wake on LAN" (see [later](#)).

	Power On	Standby
Typical CRT Monitor	100W	4W
Typical TFT Monitor	20W	1W

So, what's the bottom line? To calculate how much a device costs to run, multiply the kilowatt hour value (Watts / 1000) by the number of hours and then multiply by the price per kilowatt hour. So, based on an electricity price of £0.065 per kWh:

Computer at idle for 24 hours: $0.1 \text{ kW} \times 24 \text{ h} \times \text{£}0.065/\text{kWh} = 15.6\text{p}$

Using our electricity price of £0.06515 per kWh daytime (07:00-24:00), and £0.03494 per kWh night time (24:00-07:00), and assuming our computers and monitors use the same amount of power as detailed above:

- A standard base unit with a TFT monitor; **ON** 24 hours per day would cost **16.22p** per day.
- A standard base unit with a TFT monitor; **ON** for 9 hours (08:00-17:00), **STANDBY (S3)** for 15 hours would cost **8.03p** per day.
- A standard base unit with a TFT monitor; **ON** for 9 hours (08:00-17:00), **OFF** for 15 hours would cost **7.8p** per day.

As you can see, there isn't much difference between standby and off. However, we found that computers don't always go into standby and a fresh boot up everyday allows for configuration changes to be applied and reduces the Windows errors that can occur when a computer has been on for a long time.

The difference between leaving the computer on and turning them off is 8.42p per day. It doesn't sound a lot. However, we now switch off some 320 computers every night. In an academic year of 39 weeks that's a saving of nearly £27 per day and over £5000 per year!

Of course, some computers will use less power, some may not be switched on for as long, but you can see the potential!

Remote computer shutdowns

Okay, turning them off sounds great but how do you do it? There are a variety of commercial products available (which were much in evidence at [BETT](#)). But providing you've got a computer network it's fairly simple to do it yourself. We use a free tool from Sysinternals (now part of Microsoft) called PSShutdown. This is one of a suite of 'PS Tools' available from <http://www.microsoft.com/technet/sysinternals/FileAndDisk/PsTools.msp>.

Windows XP has its own shutdown.exe tool, but I prefer PSShutdown as you can specify a file, containing a list of computer names, to shutdown. PSShutdown.exe is an MS-DOS program that must be run from the command prompt. A basic command line to shutdown a remote computer would be:

```
psshutdown \\computer-name
```

The computer would shutdown after 20 seconds; this is the default time.

A more useful command line to shutdown lots of computers listed in a text file would be:

```
psshutdown @comp.txt -n 4 -t 10 -k -c -m "This computer is shutting  
down to save energy."
```

where:

- -n Specifies timeout in seconds connecting to remote computers;
- -t Specifies the countdown in seconds until the shutdown;
- -k Power off the computer;
- -c Allow the shutdown to be aborted by the user (**essential!**);
- -m Specify a message to display to logged-on users.

Note:

- The computer names in the text file are listed one per line without the double \\;

- This example assumes that the command is run from the directory that psshutdown.exe is in, and the comp.txt file is in the same directory.

The 'PS Tools' download comes with a good help file that lists the various options available. Psshutdown.exe offers a number of other options, such as forcing a logoff or reboot (both very handy) so it's worth consulting the help section when planning.

Scheduled shutdowns

Psshutdown is an ideal tool for use with a batch file. A batch file is a text file containing a series of commands; the examples shown above would make up a single line. The file can have several of these lines, perhaps with a different text file of computers specified in each. You can create your batch file in Notepad, but you must choose 'Save As' and specify a file name with a .cmd extension.

Once you've got your batch file you can use a Windows Scheduled Task (Start -> Control Panel (Classic View) -> Scheduled Tasks) to run the batch file at a set time each day to shutdown the computers. Don't forget; put the batch file, psshutdown.exe and the text files of computer names in the same folder.

Things to consider

When planning scheduled shutdowns a little forethought can avoid a lot of trouble later. For example;

- Do you have a regular anti-virus or Windows update set to run at a certain time? How will shutting down computers affect this?
- Do you have machines that need to be available for remote access? If so, these may need shutting down later, or leaving on all the time.
- Do you have any evening classes? The computers may need shutting down at a different time when the evening class is on.
- What about Parents Evening? Teachers may plan to use computers and won't be happy if they all start to shutdown whilst they're using them.

Splitting computer lists into several text files allows you to make changes in your schedule for different rooms if needed.

Taking It Further

You may also want to consider turning off laser printers. A typical laser printer can consume 25W when in standby. A simple way of turning off a laser printer is to use a device like those made by [OneClick Technologies Ltd](#). They make power strips that you plug your computer and peripherals into. When you turn off your computer, the peripherals are automatically turned off too.

However, I wouldn't recommend using one of these with a projector. It's important that projectors cool down before powering them off and there's no way

to check this from a remote location. It seems reasonable though to insist on staff switching projectors off at the end of a day, particularly if you are leading by example and turning the PCs off for them.

We use 'Wake On LAN' to turn our computers on in the morning. This allows us to automatically start the computers before pupils arrive. Most computers will support this feature. Essentially, a 'magic' packet is scheduled to be sent across the network to specified PCs which instigates start up. Once you've got the hang of turning them off automatically this might be something that you'd like to consider. It is a little trickier to implement and requires too much technical detail for this article, but do encourage your technical support team to investigate it. If they need assistance there is a thriving community of educational IT professionals at <http://www.edugeek.net/forums/>. If they aren't part of it already, they really should be!

Jim Williams started his career in educational IT support after 12 years as an aircraft Technician in the RAF. With a keen interest in computing, voluntary work at his local secondary school led to part-time employment, rising to becoming full-time Network Manger. Jim joined the IT support team at Queen Elizabeth School, Kirkby Lonsdale in June 2005, recently completing his Foundation Degree in Networked Systems Engineering at Lancaster University.

Would you like to contribute to Practical ICT?

We are always interested in hearing from would-be contributors. Articles have to be on themes likely to be of interest to leaders and managers of educational ICT, and written in a practical manner. We pay too. Please contact us at terry@ictineducation.org with the subject line "contribute". In fact, if you click on that email link it will be inserted automatically for you.

Effective team meetings

As someone who has sat in the most excruciating meetings – ill-planned, seemingly aimless, and seemingly endless, and no discernibly useful outcomes – I thought I would suggest ways in which meetings can be made not simply endurable, but actually enjoyable.

Enjoyable? Yes, it is not as ludicrous as it sounds. People enjoy activities which are interesting and which also lead to something tangible. So what's the secret?

Well, it's not so much a secret as plain common sense, based on the old adage: failure to plan is planning to fail.

So, here is a 6 point list of the ingredients of a successful meeting. You may also like to read an [earlier article](#) I wrote on this subject.

1. Don't have a meeting for the sake of it. Schools are pretty good at timetabling meetings to ensure that they can take place, but no so good at cancelling them if they are not required.

In some countries the education system imposes a certain number of hours to be worked, and meetings count towards that (in England it is

- known as “directed time”). If you work in that sort of system, meaning that you are **obliged** to have a meeting whether one is needed or not, go to point 2....
2. Be creative. Does a meeting always have to consist of a group of people sitting around a table working their way through an agenda? How about a training session instead, or a guest speaker (possibly a colleague from a different area of the curriculum, or the school librarian). Or how about – horror of horrors – an opportunity for staff to sort their filing cabinets out?
 3. Have an agenda. The agenda should be realistic, and should have the most important items first. Ideally, there should also be suggested timings next to each item.
 4. Name names. In other words, make sure that there are people responsible for making sure that particular things get done (otherwise they do not get done).
 5. Have structure. As well as the standard, formal meeting structure, like Apologies for absence and Minutes of the last meeting, have a few other standing items, ie items that are on the agenda for **every** meeting.

For example, there might be issues arising, successes, things to be aware of in the educational news, and so on.

6. Ask if a physical meeting is needed at all. If there is a Learning Platform or similar tool in use in the school, or access to one of the web-based meeting applications – or even simply Skype – you can conduct a meeting with all of your team even if some of them are in a different part of the school or on a school trip.

When all is said and done, not many people like meetings. But with a little thought and planning they can be turned into useful tools to help everyone do their job better.

Question time: questions to ask pupils during lesson observation

If your school or your department has a system of lesson observation in place, it is important to recognise that it can be very useful to quiz the pupils as well as watch the teacher. So, when the teacher gives the instruction to “get on with your work” whilst s/he walks around the classroom, instead of walking out, do some walking around of your own, and ask these sorts of questions:

1. What are you doing?
2. Why? An answer such as “Because Miss told me to” is a warning signal. If lots of pupils answer like that, it is likely to reflect the fact that they do not actually know why they are doing it.
3. Explain how this works, please.
4. Supposing..., how would you...? You need to ask a question here which is likely to be slightly more difficult than the skill level the pupil seems to be

displaying, but within the scope of what you would expect from someone of that age. If in doubt, ask a question or several questions that try to get at the heart of whether the pupil really, deeply, understands what they are doing.

For example, in the National Curriculum in England, each Level Description in the Programme of Study for ICT has several key characteristics. For example, one of the key characteristics of Level 4 is understanding the concept of plausibility when doing research. A key characteristic of Level 5 is understanding the need for accuracy, and also understanding the concept of a system. So asking questions of a 12-13 year old that explores these notions should give you some idea of what Level they seem to be thinking on.

Now, none of this is scientific, but if several pupils in the class appear to be working on a level that is lower than what you would expect, it merits further investigation. For example, is the teacher being challenging enough? Does the class need some catch-up lessons?

If most pupils are working at the level you would expect, but one or two are not, why is that? Is there an inclusion issue here? Should they be given extra help, or extended tasks?

5. What Level/grade do you think you will get in the examination/test at the end of the year? Each pupil should know this.
6. How do you think you could improve your grade? What you are looking for here are specifics. Not “By working harder”, but, for example, “By making sure that I annotate my work properly and include an evaluation of what I did.”

Briefings

Since brevity is the soul of wit... (Hamlet)

You and your colleagues and others need to be kept up to date with issues, whether to do with individual projects or aspects of your scheme of work, local or national initiatives, or problems arising in one school that may be common to several schools.

One or more of the following methods should be employed:

Monthly written briefing (“highlight report”) for each project

A highlight report is very short. It simply highlights (as the name suggests), what has been achieved and any difficulties that have arisen.

I am using the term “project” very broadly. For example, if you work in a school and you have asked someone in your team to look into the possibilities of buying a class set of laptops next year, you could ask them to report briefly on their progress once a month. Their highlight report might include something like

“Installation costs need to be considered; there is a company that will include that in the price, but their laptops are of a slightly lower specification.”

The basic idea of the highlight report is that there should be no surprises or decisions which “suddenly” arise and have to be made by next Tuesday. A report along the lines just given would give your team time to thrash out the pros and cons of saving money vs having more powerful laptops.

Highlight reports vary in format, but there is no need for overkill. A simple report stating what has been achieved, what has not been achieved, key dates, financial information and any outstanding risks may well be enough.

You might wonder why you would need an actual report. Well, there are several reasons. Firstly, if someone knows that they will have to present a highlight they are more likely to take into account a whole range of factors, as indicated in the preceding paragraph.

Secondly, it provides an audit trail of decisions, and helps to show why certain things were decided.

Thirdly, I think it does, in some sense, raise the level of expectations in the team. It shows the members of the team, and senior management, that decisions in the team are carefully thought through and dealt with in a proper manner.

Fourthly, it gives members of the team experience of project management, even if in only a very small way, and they can use this experience to further their careers.

Brief update session at the start of team meetings

This is less formal than presenting a highlight report. The two things are not mutually exclusive, of course.

Termly briefing on particular projects or initiatives

These may be initiatives that come from the Government. For example, it may be worth asking someone in your team to be responsible for reporting on issues connected with Every Child Matters, or No Child Left Behind.

The benefit for them as individuals is that they become experts in a particular area and do also they don't have to try and know **everything**.

Another benefit for them is that they gain experience which should help them get on the next rung in their career ladder.

The benefit for the team is that as a whole you are kept fully informed in a fairly stress-free way.

The benefit for **you** is that it spreads the workload.

Written briefings

It can be quite useful to ask members of your team to produce a written briefing about a topic of interest. For example, you might “commission” a briefing on how the new secondary curriculum (in England) has changed in terms of the ICT parts of it.

As far as possible, written briefings should:

- Be no more than 2 sides of A4 in length;
- Include details of where further information should be found;
- Be accessible from anywhere (although not necessarily by anyone).

Conclusion

All of these suggestions are based on a very simple and obvious idea: that if you have a team you should use its members in a way that reduces the workload for everyone.

Culture

If you are based in the UK you have probably heard of the Government's announcement of plans to give pupils 5 hours of cultural activities per week. What you may **not** be aware of is that “cultural activities” includes “learning about and making films, digital or new media art”, and that there is money available for pilot schemes. To find out more, read more about it here:

<http://cp-static.co.uk/static/offer/prospectus.pdf>.

Another, longer document to read is:

[Creative Britain: New Talents for the New Economy](#)

This goes into more detail about the various initiatives and research going on or which are planned. Quite a big emphasis is placed on digital media, so it makes for an interesting read. There are some (potentially) useful websites too, such as [Own It](#) – see the next article.

Intellectual property rights

If intellectual property rights (IPR) is something which concerns you, have a look at [Own It](#). This is a website dedicated to IPR.

Unfortunately for non-UK residents, it is concerned only with the UK. There is a podcast, articles and various IPR-related templates, of which you can download 10.

The podcasts look very interesting, and include a couple about protecting your work on the web. I have listened to half of one of them, and it is very good. It is crammed full of information from a legal expert in that field. It is certainly worth considering using it as part of a lesson on the subject, not least because it contains some generic information which would probably be useful anywhere.

Internet safety for parents

The Irish Government has appointed an “internet tsar” to tackle issues of internet safety, as reported by [Tom Raftery](#). Tom is somewhat scathing about the creation of a post which has no teeth, and to some extent he has a point. However, the [original article](#) mentions a booklet for parents on the subject, and a quick trawl on the internet revealed the location of [Get With IT](#).

This isn't bad at all in terms of content, although it is very text-heavy. In some ways that is more refreshing than the usual approach, which assumes that if you don't know about a topic you have to have a website or booklet with large print and lots of pictures. However, it doesn't exactly look inviting. Definitely worth keeping handy, though: the glossary and the list of websites at the end are quite good, and the booklet as a whole is written in a chatty, but not patronising, style.

e-Safety survey

On the subject of internet safety, Mike Kendall of the [East Midlands Broadband Consortium](#) has forwarded an email (below) about some Australian research. You may like to take part in the online survey mentioned.

From: Elizabeth Stacey Sent: 22 February 2008 11:25:

In response to problems that young people in particular are encountering in their use of the Internet I have been part of a global research Steering Committee of Australian and American researchers and practitioners concerned with issues of cybersafety. We have helped develop a Global Needs Assessment Survey which is being circulated by the Internet Keep Safe Coalition and by Harvard's Center on Media and Child Health and is situated at:

<http://snipurl.com/1zu4b>

We are attempting to gather international data from researchers, educators, policy and industry leaders, law enforcement, and public health professionals and would ask you to complete an anonymous 10 minute survey about the issues and strategies for dealing with cybersafety. The results of this survey will provide international data to support seeking involvement from corporate, government and non government organisations to allow us to help develop timely and relevant intervention programs and provide a framework from which to establish best practices in response to these issues.

Data collection has begun this week and will end March 31st. The embargoed draft results will be distributed internally to the Steering Committee by June 2, 2008. The results will be announced in the U.S. by Dr. Michael Rich on June 10th at the ISP Best Practice summit in Washington DC. The results can be sorted by country so it will provide data that we can draw on in local country research and will be able to circulate to the community.

Thank you for your involvement in this important endeavour – we would appreciate your forwarding this link to any adults you know who are concerned about these issues.

Are slates making a comeback?

In the **very** old days, children wrote on slates. If you are too young to remember what these were, think graphic tablets, but made of the same stuff as blackboards (oh come on, you do know what **they** are), with no electricity, and requiring chalk to write on them.

These days, the word “slates” has a somewhat different meaning: it's an acronym for search, links, authoring, tags, extensions and signals – in other words, for

Web 2.0 technology. Harvard professor Andrew McAfee coined the term in the context of Enterprise 2.0 – which is, if you like, the corporate world’s version of Web 2.0.

You probably know what most of those terms refer to, although I was stumped by “extensions” and “signals”. The former refers to the familiar Amazon-type message, “If you found this useful then you may also find...”, whilst “signals” refers to getting the message out, such as via RSS feeds.

The important thing here I think is the message that the so-called “real world” is now embracing these sorts of applications. Take a look at an Information Age [article](#) about Enterprise 2.0, and the Economist report on e-government. This [cites](#) the case of the USA state of the District of Columbia, whose government uses Google Office.

So, if Web 2.0 is good enough – actually, essential – for a growing number of blue-chip companies and at least one local government, why do so many schools still cast themselves in the role of King Canute, trying to stem the tide of progress instead of dealing with it effectively? If your school is one of that type, I suggest you read the articles just mentioned in order to be able to hold your own in any discussion with your colleagues on the subject.

BOOT-ing the system

India has introduced the BOOT system: Build-Own-Operate-Transfer. This is a scheme whereby companies build computer labs in schools and charge for their use, until the ownership is transferred to the school. Sounds like a good way of building infrastructure without having to find inordinate sums of public money to do so. You can read the full article [here](#)

Useful tips for managers

The UK’s Audit Commission has produced a very good [guide for managers](#) of local services, containing useful tips that could be adapted for use by managers at any level in any organisation.

For example, in a very pragmatic approach it states:

“Data should be sufficiently accurate for the intended purpose. Highly accurate data are often neither cost-effective nor possible for many decisions.”

It also contains a Checklist for Managers of Public Services containing a series of questions, such as:

“Is information presented in a way that senior decision makers find easy to understand and interpret?

How could we improve the presentation? Do senior decision makers provide helpful feedback to those presenting information?

Does my organisation have sufficient skills?”

Well worth a look.

QCA on YouTube

We tend to think of government agencies and dinosaurs in the same breath, but I thought I would mention the fact that England's Qualifications and Curriculum Authority (QCA) has a channel on YouTube with, at the time of writing, 32 videos of presentations: <http://uk.youtube.com/qcaonline>.

I've had a look at parts of some of these, and I have to say that they are as dry as dust. Nevertheless, it would be useful to check out some of them, especially those of Mick Waters, because you will be able to get a sense of what the QCA is trying to achieve straight from the horse's mouth as it were.

*What's happening in **your** part of the world in the area of educational ICT? Do [let me know](#) if there is anything both newsworthy and of practical use to leaders and managers of educational ICT.*

Publishing information

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All the information and links in this publication have been checked, and offered in good faith. For the full text of the disclaimer, please see:

<http://www.ictineducation.org/about.html>.

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