An A-Z of handy hints for Using ICT in the History Classroom

OR

Twenty-Six Top Tech Tips to Tweak Your Teaching

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Most animations are pointless and ugly – your students are younger than Toy Story and so PowerPoint animation will not impress them.

However, if there is a specific point to animating part of your presentation, it can be a very powerful thing: if you want to show growth or change make something grow or change; if you want to emphasise the irony or incongruity of a visual source, reveal it bit-by-bit; if you want to get students to really focus on detail zoom it out of the larger image; if you want to break a historical narrative to ask students to think historiographically, an ugly breach in the style of your presentation (a visual 'record scratch') could emphasis the shift in the focus.

If you have a number of items on a slide, a simple way to make them look clear, neat and organised is to imagine a box around them. The left-hand side of the left-hand item should align with the left-hand side of the imaginary box. The right-hand side of the right-hand item should do the same.

Unless you have a very good reason to do so, you should try and avoid changing the aspect ratio of an image. Your lesson might be the only time in which students have a visual image of the people and places you are teaching them about. You need to show the students what they actually look like.

However, you don't always have the space to include full images. This is the reason you should crop images to the size and shape you need.

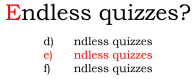
Moreover, Microsoft products allow you to 'remove background' of images. If it makes it easier for students to understand an image, remove the background.

The best way to edit images is to use an application such as Photoshop. 'Shopping out unnecessary visual information can allow you to control the focus of students' attention.

If you need to create your own visual images (or visually consistent images) why not try using a data projector and a whiteboard?

If you have an image similar to the one you want, project it onto a whiteboard. If you trace it with a whiteboard pen (keeping a board rubber handy) and photograph the result, you could use the in-built image-editing tools in Microsoft products to create the images you want.

With the reformed GCSEs and A levels, the requirement for students to store detailed information in their long-term memories is greater than ever. Cognitive psychologists have suggested that the best ways to form long-term memory is through retrieval practice i.e. testing. This becomes even more effective when this testing is spaced out and the topics revised are interleaved.



The most practical way of doing this is to use an online system. Some schools call these Virtual Learning Environments (VLEs). Using a VLE is ideal because it makes the quizzes available, repeatable and their usage trackable.

There are many off-the-shelf quizzes, questions and testing websites. However, these should be approached with caution as many attempt to cover topics for more than one exam board which can miss the subtle differences between syllabi. For example, there are GCSE Germany courses that end in 1939, 1945 and 1955. Does the website test the students on the right parts of German history? Does the website test students on the causes of the First World War, its consequences on international relations or its impact on the development of medicine?

We believe that, wherever possible, it is best to write quizzes that reflect your syllabus, your lessons and your students.

We are strong advocates of the Moodle system because it is free, open source and whilst it is esoteric, can be frustrating and has a very steep learning curve, it is immensely powerful and flexible. However, bespoke quizzes can also be created using Google Forms (with or without the Floobaroo add on). Similarly, Microsoft Forms allows you to do similar things. Both of these systems should allow you to access your students' performance data in the form of an Excel- or Google Sheets-compatible spreadsheet.

We also use Moodle for our end-of-year exams. Details of how we constructed these can be found in Matt's article for TH168 "Designing end-of-year exams: trials and tribulations".

Microsoft Excel is a wonderfully powerful piece of software. One of its strengths is the fact that you can manipulate information by typing 'functions' into cells.

Below are some examples of functions that can be very useful for teachers. Practical examples of these functions can be found by downloading the file from https://whatawonderfulworldthiswouldbe.blog/2019/03/08/west-london-free-school-conference-workshop-resources/

=SUM(A1:A10)	The SUM function adds things together. This example adds the numbers in all the cells between A1 to A10. This could be useful if you want to add up test scores or any number of other things.
=AVERAGE(A1:A10)	The AVERAGE function gives the mean average of the numbers in the selected area, in this example the cells A1 to A10. This is useful for any number of things but particularly finding out how a student's test scores etc. compare to their colleagues' scores.
=MEDIAN(A1:A10)	Gives the median average of the numbers in a selected area. A median average is often a fairer way of reporting an average for a test score than a mean because mean averages give undue weight to disproportionately high or low scores. If, for instance, one student scores 0/100 on a test because they didn't answer any questions it will bring down the mean average but won't drastically effect the median score.
=IF(A1>10, "A1 is greater than 10", "A1 is less than 10.")	If you have test results and you need to convert them into grades, you can use the IF function to display one piece of information 'if' another piece of information is true. You can 'nest' IF functions – i.e. put them together. In the following example, the function checks if the value in cell A1 is more than 90, then the grade is 'A'. If not, the function checks whether A1 is bigger than 80. If it is, the grade is given as 'B', if not… etc. =IF(A1>90,"A",IF(A1>80,"B",IF(A1>70,"C",IF(A1>60,"D",IF(A1>50,"E","FAIL"))))) 'Nested' IF functions can be very useful for converting test scores into grades. For example, mock exam results can be found by setting up a nested IF function that reflects the grade boundaries.
=CORREL(A1:A10, B1:B10)	Gives the correlation co-efficient between two sets of data.
=FIND(" ", A1)	Gives you the place in A1 where a blank space can be found. This can be used with LEFT() and RIGHT().
=RIGHT(A1, 5)	This gives you the five right-most characters in cell A1. If you have a student's name in cell A1 and you want to select only their last name you could use =RIGHT(A1, LEN(F7)-FIND(" ",

=F(UNCTIO,N$)

	A1))
=LEFT(A1,3)	This gives you the three left-most character in cell A1.If you have a student's name in cell A1 and you want to select only their first name you could use =LEFT(A1,FIND(" ", A1)-1)
=LEN(A1)	This tells you how many characters are in cell A1. It is useful to use this with FIND() and RIGHT().
=RANK.AVG(A1, A$1:A$10,0)	This tells you what rank the number in A1 is out of all of the numbers in cells A1 to A10. The '0' at the end indicates that the ranks go in descending order and that largest numbers are best.

Arranging items on a PowerPoint slide can be difficult. Luckily, PowerPoint has a number of built-in tools to help you.

First, 'grouping' (ctrl = g on Windows, ⌥ + ⌘ + g on Mac) groups different objects together so you can move them all rather than having to move them one-by-one. This is really useful if you are creating complicated diagrams or worksheets.

Second, using the 'align' functions helps you line up pictures or textboxes or whatever. You can also use this to spread things out evenly using the 'distribute horizontally' or distribute vertically' options.

Hide

Hiding slides in a PowerPoint presentation can be a really useful way to write notes to colleagues about how a presentation should be used without spoiling the actual presentation.

Similarly, hiding columns in Excel can make worksheets more legible but also, in this era of GDPR requirements, can allow you to have sensitive data on a sheet without showing to people if you want to show them the spreadsheet.

If the computer will let me...

Do you remember the first time you saw a data projector being used?

Your students will not have had that experience. The interactive whiteboards in the classrooms at CVC are older than Year 7. Students are utterly familiar with the experience of being talked to with the support of technology. The people doing the talking should try their best to be competent in using it.

If you are going to struggle to use the technology you need to teach or give an assembly, why not practice?

We would be shocked if a teacher admitted in front of assembly that they had poor literacy skills and used that as an excuse to mis-read a text or mispronounce names. Is it not (nearly) as shocking if teachers claim poor IT skills and use that as an excuse to waste people's time waiting for YouTube to stop showing unchecked adverts?

One simple thing to try and work out is how you blank a projector screen. If you can 'blank', 'freeze' or 'AV mute' a screen, you don't need to show the class or audience what you are doing. They can wait until you are ready to show them what they need to know.

The idea that young people, by being young, know about computers and technology is a silly one. 'Digital natives' suffer from the fact that they have not had to use computers that older generations had to learn, manage and repair computers. Most of the experiences of many young people have is with carefully designed phones and tablets that try and protect the user from having to learn anything about how the machine works. The comedian Charlie Brooker described smart phones as 'jab

screens'.

The point is, when you ask students to use computers, consider what you need to teach them about the technology they are using. For further musings on this topic see the blog at https://whatawonderfulworldthiswouldbe.blog/2018/05/18/what-should-they-know-of-england/

Keyboard shortcuts

Most of the tasks you can do with a mouse or trackpad can be done via the keyboard. Being familiar with some keyboard shortcuts can speed up your work considerably. Below is a list of useful keyboard shortcuts for Windows. Most work on a Mac if you substitute command (⌘) for control (ctrl).

ctrl + z	Undo	ctrl + c	copy
ctrl + y	Redo	ctrl + x	cut
		ctrl + v	Paste
ctrl + j	Justify align text		
ctrl + e	Centre text	shift + F3	Toggle capital letters
ctrl + l	Align text to the left margin	ctrl + shift + ,	Decrease font size
ctrl + r	Align text to the right margin	ctrl + shift + .	Increase font size
ctrl + u	Underline	ctrl + n	Create a new document, presentation or spreadsheet
ctrl + i	Italic	ctrl + o	Open a file
ctrl + b	Bold	ctrl + p	Print
		ctrl + s	Save
		ctrl + shift + s	Save as
ctrl + a	Select all	F12	Save as
ctrl + f	Find	ctrl + q	Quit the program
		alt + F4	Quit the program
ctrl + left arrow	Move cursor to beginning of previous word.	ctrl + w	Close this particular document, presentation or spread sheet
ctrl + right arrow	Move cursor to beginning of next word		
ctrl + up arrow	Move cursor to beginning of paragraph.	alt + tab	Switch between open programs
ctrl + down arrow	Move cursor to end of paragraph.	ctrl + mouse scroll wheel	Zoom
shift + any arrow key	Select		
		ctrl + shift + d	PowerPoint: Duplicate slide
ctrl + delete	Delete next word.	ctrl + d	Excel: copy the formula down to the cell below
ctrl + backspace	Delete previous word.		
		shift + mouse left click	Select from current cursor position to the place clicked
PrntScrn	Takes a screenshot that can be pasted	ctrl + mouse left click	Add to selection / Remove from selection

Looking stuff up

Two of the most useful functions in Excel are INDEX() and MATCH() and when they are combined, they are incredibly powerful.

The INDEX() function gives you (the technical term is 'returns') a number from a table of data. You can use INDEX() to ask Excel to "Give me the value that is in line three of column two of this data I have selected".

The MATCH() function returns the row number of a value that matches the one you were looking for. For instance, you could use MATCH() to ask Excel to, "Tell me what

row of this data I have selected has this student's name in it."

If you put the two together, you can combine information from different sets of data. These data can come from different parts of a spreadsheet, different sheets within a spreadsheet, or even different spreadsheets files.

Combining information in this way can be useful in a huge variety of different contexts. However, two very useful ways of using this are to create 'automatic markbooks' that allow the creation of nuanced, detailed and historically rigorous 'word banks' for marking students' work and for collating common data from different teachers' markbooks without constraining what they put in those markbooks. The first not only allows, but requires, careful thought about the nature of what is being assessed - can you write a statement about what went well with an essay if you do not know what substantive and second-order knowledge you are looking for? The second allows a compromise between the necessity of a teacher to keep a 'messy markbook' and the requirement of a head of department to collate and monitor common data such as test results or assessment grades.

N.B. VLOOKUP() and HLOOKUP() perform similar functions and are often useful. However, INDEX(MATCH) is to be preferred because the first two functions only read the target array in one direction.

Mail Merge is a feature of Microsoft Word that was designed to help companies print out personalised letters for large mail-shots. Mail Merge allows you to put 'merge fields' into a normal Word document and then the computer will search an Excel file for the information to put in those places. So, if you wanted to send a letter to 100 people and you have a spreadsheet of 100 addresses, you could copy-and-paste all 100 addresses. Or, you could create a standard letter in Word and insert a 'merge field' (with the same name as the column on your spreadsheet that contains the addresses) and let Word create a new page for each letter, each with a different address in the place you have put the 'merge field'.

Although it was designed for offices, Mail Merge is perfect for a number of tasks required of a history teacher.

<<Mail merge>>

If you have information about a class on an Excel spreadsheet that you wish to pass on to students, you can use Mail Merge to automate the process.

Want to give every student a piece of paper with their test score compared to the median? Create a document with 'merge fields' for name, form, teacher and score and let the computer do the admin.

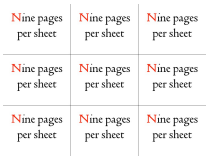
Want to use an automatic markbook or word bank to mark students' work? Create a Word doc with 'merge fields' that can be filled with your praise and sage advice.

Want to create a society game that reflects the changing political divisions of Weimar Germany? You can write the biographies of the characters on Excel. This will allow you to see clearly whether you have the spread of socialists and nationalists correct. You can keep track of the characters because you can write up-dates to their experiences in consecutive columns. You can use Mail Merge to create more attractive bits of paper to give to students so they can understand how their character's experiences change their political views (or don't) over time.

PowerPoint is useful for much more than just presenting information with a data projector – it can be a powerful tool for creating card sorts and worksheets, particularly when you print multiple slides to a page.

If you are creating a card sort, you can simply duplicate a slide and change the text or picture. When you come to print, the cards will all be of the same size and appearance.

If you want to produce a card sort where each set contains cards of a different colour, simply duplicate each slide 4, 6, 9, 16 or 25 times and print. When you cut the cards you will have ready-made sets.



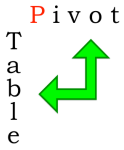
It is important that when you do this, you ask the computer to print multiple slides at the right time. PowerPoint offers you the choice of printing handouts with multiple slides per page. This is probably best avoided as the handouts leave lots of whitespace around the edges for people to make notes on. This is not what we want for a card sort.

So, instead of asking PowerPoint to do the multiplication, we should send whole slides to the printer and ask the printer driver to do the shrinking and arranging. This involves choosing the 'Printer Preferences' drop-down from the print menu. This will give you a menu which will (almost certainly) allow you to choose 'multiple pages per sheet'. However, all printer drivers have slightly different menus and so it might require a little bit of looking the first time to work out where the correct options are.

There are many advantages to using 'cloud' storage such as Microsoft's OneDrive, Google Drive or Dropbox. The most notable is the ability to share files between users. While this can have practical applications for students (peer-marking, collaboration…) it is also useful for teachers.

If a department keeps an online markbook in Excel or Google Sheets then teachers can add in columns, colours or rows to suit their particular needs. This is the archetypal 'messy markbook'. However, if the sheet is shared, a head of department or similar could set up an INDEX(MATCH) function to extract common information from a markbook. In other words, a head of department could take (for instance) all of the end-of-unit assessment grades and end-of-year test scores automatically whilst still leaving the teacher free to add in other marks, personal notes, comments and colours that help them assess their pupils.

Since Dave Martin wrote about getting students to create and use a database to investigate the diversity of Native American cultures in Teaching History 93 in 1998, history teachers have been asking students to interrogate databases. Perhaps the most rigorous integration of this into an enquiry question was done by Geraint Brown and James Woodcock, described in TH 134 in 2009 where they used a database of information about people from the local area who had died in WWI and asked students to use it to assess the significance of the war for that area.



Aside from a different second-order focus, one of the starkest differences between the two examples is the technology used. Martin's students used Junior Database for the Acorn Archimedes whereas Woodcock and Brown's used Microsoft Access.

Today, we would recommend not using database software at all but using spreadsheet software, namely Microsoft Excel, principally for the in-built pivot table function.

Pivot tables are a simple way to manipulate and compare data from a spreadsheet. If you select your data and insert a pivot table, you will be able to drag and drop column names into a simple grid that will let you analyse data in very powerful ways very, very

quickly. For examples of how this can be put into practice in the classroom, please see the blog at https://whatawonderfulworldthiswouldbe.blog/2018/05/18/what-should-they-know-of-england/

However, pivot tables can be incredibly powerful at helping you analyse data about students as well. If you are trusted by your school to create and maintain your own assessment system, how do you know that it is valid? If you have a variety of information about test scores or assessment grades from difference types of children, taught by different teachers in different classes, pivot tables can help you look for patterns and trends that might give you some clues as to the strengths and weaknesses of your assessment system.

Similarly, exam boards have become very good at giving schools more detailed breakdowns of students performance. If you need to examine, justify or explain the relative performance of different (groups of) students, pivot tables can help you do that quickly, easily, accurately and in some detail.

The joy of computers is that they do boring repetitive tasks quickly and accurately. In teaching there are a surprising number of boring repetitive tasks. For example, counting students from lists.

Use the 'quick analysis' feature in Excel. If you select some cells, Excel will count them instantly for you. Look in the bottom right-hand corner. You can also choose to make it do quick averages and other things.

When you studied history at university you were probably required to attend tutorials or seminars where your work was discussed, in detail, with a very small group of people, possibly just the professor taking your course.

Why do universities do this? Because having a discussion about someone's work is the most powerful form of feedback. Not only does it make you feel good to have personalised criticism, that criticism can be finely tailored to the needs of the learner. Talking about strengths and weaknesses can be more efficient that writing that same information down. Non-verbal cues such as, tone of voice, can convey enthusiasm, disappointment, confusion, delight in ways that are hard to express on paper. Vocal inflection can allow the teacher to ask questions that might appear stark on paper (How different are the questions: "*Is* this the best you can do?" and "Is this the *best* you can do?").

Recorded feedback

Providing this kind of feedback is very difficult in most schools because of pressures on teachers' and students' time. However, there you can use technology to implement a good substitute.

Why not record your feedback to students' work?

This will allow you to not only do many of the things described above but will allow you to quickly model the improvements that you want students to undertake? ("Could you have said something about what Speaker Lenthall's refusal to tell Charles about the Five Members says about how much power Charles has?" "Did you mean to say that the third Poll Tax 'triggered' the peasants? Might it have 'triggered' their revolt?")

There are many apps and applications available for computers and phones that allow you to quickly record feedback and upload it to a cloud drive such as OneDrive, Google Drive or Dropbox from where you can send students links. Hyperlinks to these files can be pasted into a teacher's markbook for future reference.

The feedback persists, so students can check it again and again.

Many systems will allow you to see whether a file has been accessed so you can, if you choose, check that students have accessed the recording.

Because the feedback is aural, students can have their work right in front of them when they are listening to the feedback.

In a student voice survey at Cottenham Village College, 56% of Year 9 students were positive about recorded feedback and only 4% felt negatively towards it.

Paste *Special*
Special
Special

Microsoft Office programs often allow you to paste something as something else; this is called 'paste special'. For example, you can paste text, PowerPoint slides or Excel graphs as pictures. This can be really helpful if you want to, for example, put an image of a worksheet on a PowerPoint slide.

You can also paste text as 'unformatted text'. This is really useful as it strips out all formatting (i.e. emboldening, italicisation, colours, underlining…) and hyperlinks.

Typography
matters

There is no research that proves that Comic Sans is easier for dyslexic people to read.

If you are teaching content that is important or involves suffering or violence (let's face it, that's most topics in history) is it okay to use a font designed to look like a comic book?

Just as we model historical thinking, just as we model good manners, just as we model professional behaviour, just as we model good grammar, we should be modelling good typography and good presentation.

We would strongly recommend Butterick's Practical Typography (https://practicaltypography.com/) particularly the five typography rules from the Typography in Ten Minutes section.

Ümläut

Accents matter. Josef Göbbels is not the same as Josef Gobbels. However, they can be difficult to type. On computers running Microsoft Windows, you can access the Office Insert Symbol menu by pressing alt + I, then s. You can also use 'alt codes' by holding down the alt key whilst typing the appropriate number. A list of alt codes is given below.

On a Mac, the simplest way to get an accent is by holding a letter key down. You will be offered accented variations of that letter which can be selected with a mouse or by pressing the appropriate number.

Alt 0192	À	Alt 0224	à	Alt 165	Ñ	Alt 164	ñ
Alt 0193	Á	Alt 0225	á	Alt 0210	Ò	Alt 0242	ò
Alt 0194	Â	Alt 0226	â	Alt 0211	Ó	Alt 0243	ó
Alt 0195	Ã	Alt 0227	ã	Alt 0212	Ô	Alt 0244	ô
Alt 0196	Ä	Alt 0228	ä	Alt 0213	Õ	Alt 0245	õ
Alt 0199	Ç	Alt 0231	ç	Alt 0214	Ö	Alt 0246	ö
Alt 0200	È	Alt 0232	è	Alt 0138	Š	Alt 0154	š
Alt 0201	É	Alt 0233	é	Alt 0218	Ú	Alt 0249	ù
Alt 0202	Ê	Alt 0234	ê	Alt 0219	Û	Alt 0250	ú
Alt 0203	Ë	Alt 0235	ë	Alt 0220	Ü	Alt 0251	û

Alt 0204	Ì	Alt 0236	ì	Alt 0217	Ù	Alt 0252	ü
Alt 0205	Í	Alt 0237	í	Alt 0221	Ý	Alt 0253	ý
Alt 0206	Î	Alt 0238	î	Alt 0159	Ÿ	Alt 0255	ÿ
Alt 0207	Ï	Alt 0239	ï	Alt 0142	□	Alt 0158	□

All Microsoft Office programs can talk to each other if you want them to.

You can create PowerPoint presentations using information from an Excel spreadsheet. You can take all of the words from a Word document and put them in a different order in an Excel spreadsheet. You can take text from an Excel spreadsheet and make it look nice in Word. The language that you can use to do all this is called VBA.

VBA is a programming language. It, and the application that lets you write and edit it, comes built-in with Office. If you press alt + F11 when you are using Word etc. you will launch the VBA editor.

Most of the time you see VBA in action it will be through 'Macros'. Macros are little bits of VBA that automate some action. Most Word documents, Excel spreadsheets and PowerPoint presentations don't contain any macros.

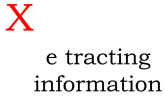
VBA can be very simple or incredibly powerful. You can find lots and lots of useful VBA code online. For instance, typing "extract text from powerpoint" into Google will turn out a site that provides multiple examples of VBA code that will create an Excel-compatible file that contains all of the text from a PowerPoint presentation file. (It is important that you read through the code and the website before you copy and paste it and run it but VBA is pretty safe.)

It is always tempting to try and fill space. There are many design templates built into PowerPoint and Word. Many institutions like people to use consistent branding. If you can avoid these things, do.

Leaving a lot of 'white space' around your text and images makes them clearer and easier to understand.

It has also been suggested that space around text makes it easier for people with dyslexia to read.

Much has been said about the role of knowledge in history teaching. Much has been said about the role of literacy in history.



Many of us have spent a lot of time putting together vocabulary lists or 'knowledge organisers'. This work is often deceptively difficult. When you are teaching about medieval England do you actually use the word 'peasant' or 'villein'? Or 'farmer'? Or 'sokeman'? Or 'serf'? Or 'cottar'? Or 'bordar'? Or 'churl'? Or 'ceorl'? Or…? It is no good getting Year 7 learn the definition of 'priest' if you spend all lesson talking about 'the clergy'. If they learn the dates of Aethelred the Unready will they know the dates of Ethelred II?

What words do you actually use? How do you know?

This is where the power of VBA can be useful to you. It is not hard to find free VBA code that will create a macro in PowerPoint that will extract all of the words in a

presentation and put them in a text file.

You can open text files in Excel, sort the information or analyse it with a pivot table.

You can get VBA to do all of that for you. For multiple files.

Similarly, if you are trying to encourage students to use particular types of vocabulary, why not use VBA to find and collate examples of that?

VBA is a way of getting different parts of Microsoft's Office suite to talk to each other. If you want information from one place in another place, have you tried VBA? It is highly likely that someone on the internet has already written the code that you need to steal.

Why does any of this matter?

A Manifesto

I. We should use the tools that are already at our disposal to teach history to the best of our ability.
II. We should use the tools that are already at our disposal to reduce our workload as far as possible.
III. As teachers we are role models – we should model good design and good presentation. If we don't, who will?
IV. Good design makes us better educators by increasing the accessibility and comprehensibility of our resources.
V. Good design is pleasant to look at. Our students deserve nice things.
VI. Most importantly, we should model the mastery of technology rather than present ourselves as its victims.

Z + ctrl

Control + z is the keyboard shortcut for 'undo'. The ability to 'undo' mistakes is one of the defining differences between a word processor and a typewriter.

Are you asking your students to use word processors as typewriters or are you taking full advantage of the, sometimes simple and obvious, features of word processors?

- When do you ask students to write the introduction to an essay?
- Do you use comments for marking? Do students have to 'resolve' the comments when responding to feedback?
- How can you use highlighting when marking?
- When do you ask students to 'link' paragraphs?
- Where do you ask students to write their essay plans?
- What speech-to-text facilities are available to you? To whom might they be useful? What about text-to-speech?