

Terry Freedman's Digital Education Newsletter

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The newsletter for ed tech professionals

Digital Education

AI issue

Prize draw!

Plus ...

Tips, book review and more!



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Dear

If there is a blank space after the 'Dear' above, it means either that you haven't subscribed, or that you didn't include your first name when you did. If the former, why not



subscribe now? Just go to www.ictineducation.org/diged. If the latter, then just sign up again with the same email address, but adding your name this time, and your details will be automatically updated.

I hope you enjoy reading this issue of the newsletter. Here's what it contains:

- In the next issue: what I'm working on for next time.
- Forthcoming events.
- Information about the new prize draw deadline.
- Tech tip: DNS matters.
- Classroom tip: when data entry is superfluous.
- Blast from the past: those were the PDAs.
- The Digital Education Archive.
- Report on FutureFest.
- The Nemesis Machine.
- Focus on... Artificial Intelligence, comment, links, and an article from a supplier.
- Interesting/useful articles.
- What I've been reading: Machine learning and human intelligence, by Rosemary Luckin.
- Personal, newsletter and website news.
- That's it for now.

About the 'cover'

The 'cover' was created with [Big Huge Labs](#). The photo is of Miro, a robot created by Consequential Robots. Read more in the Robotics section of [this article](#), written especially for Digital Education subscribers.

In the next issue...



- Focus on... Leadership.
- Laptops compared.
- Microsoft's Learning Tools evaluated.

Make sure you've subscribed in your own right so as not to miss it: [Digital Education](#).

Forthcoming events

Alternate realities

An interesting event is coming up in London in the next couple of weeks. It's about augmented reality and virtual reality. It runs only from 20th to 27th August, and it's free. Here are the details: [Alternate realities](#).



ResearchEd National Conference

The tickets for this event on 8th September are sold out, but you can sign up for tickets if they arise. It looks a pretty full on day, as usual. This time, for the first time in a few years, I decided to submit a proposal, and it's been accepted. I'll be talking about why educational research

tends to be badly reported in the mainstream press. Here's the website:

[ResearchEd](#)

Prize draw extended

The prize on offer this week is Rose Luckin's Machine Learning and Human Intelligence. See my review below. The deadline is now midnight on Tuesday 14 August 2018. That's midnight British Summer Time, by the way.



To enter the draw, put your name and email address here: [Prize Draw](#).

If you're more of a visual person, check out the countdown timer thingy below.



Tech tip: DNS matters

For a long time I was having trouble with my antivirus program,. Avast. Now, before you say "Well, I don't use Avast so this won't apply to me", hold on a sec.

The nature of the trouble was that whenever it needed an update, (a) it wouldn't update itself automatically, and (b) when I tried to do so manually it would time out with an 'Unknown error'. On more than one occasion I spent a frustrating number of hours uninstalling and reinstalling the program.

Also, it would always start up with various shields disabled.

I was also having trouble updating iTunes. It would always give me a very unhelpful message, at the end of an hour or so, like 'Unable to complete operation'.

Anyway, I discovered on one of the Avast user forums a suggestion about changing the DNS on my computer. I did so, and all of those problems have disappeared without trace, my web browsing is faster, and the computer itself boots up more quickly.

I used the Google DNS settings, and you'll find the instructions here:

[How to Switch to OpenDNS or Google DNS to Speed Up Web Browsing](#)

I think before you change your settings you should write down the current ones.

Classroom tip: when data entry is superfluous

I've noticed that teachers sometimes get kids entering data needlessly. If the objective of the lesson is to get them to do something with the data, then having them enter the data in the first place is (a) a waste of time, (b) will almost certainly lead to some pupils never quite getting on to the main work and (c) pupils making errors of data entry, which leads to frustration and more wasted time.

If the aim of the lesson is, say, to identify what is wrong with a page of code, it would be better to give them the page of code rather than asking them to type it out. (That way, you also avoid another pitfall: that of reinforcing the incorrect code by having them physically type it out.)

Let's take another example. If the aim of the lesson is to discuss a graph based on data they have researched, then having them enter the data is necessary, obviously -- but going on to create the graph isn't.

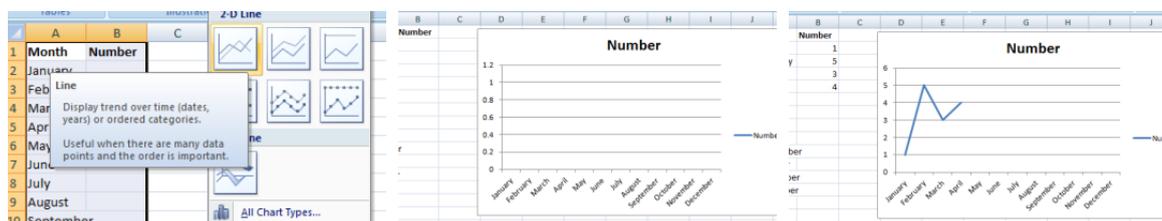
The screenshots below illustrate the process of setting up the graph even when there is no data, but the steps are as follows:

1. Set up the spreadsheet with the data labels inserted.
2. Select the data area (including the labels).
3. Insert a graph.
4. Save the spreadsheet either as a template, or as a read-only file on a shared drive, or distribute it to each pupil.

When pupils enter their data, the graph will miraculously appear.

The advantage of setting the graph up for the pupils is that you avoid the situation in which pupils are choosing inappropriate graph types. Of course, if the aim of the lesson is to look at how different graph types affect the interpretation of the data, then it would be more appropriate to do the opposite of what I've described. That is, you would provide a spreadsheet with the data already entered, and the pupils' task would be to experiment with different kinds of graph.

The key point is to decide what it is you want the pupils to learn or achieve in the lesson. If entering the data is not in itself going to contribute to that goal, then there's no point in doing it.



Blast from the past

What a difference a decade makes

It doesn't seem all that long ago that we had PDAs -- personal digital assistants -- rather than smartphones. In my role as Head of E-Education in a local authority, I organised the piloting of a PDA called iPaq, and I worked with one of the programmers in Corporate IT to make it a must-have accessory when visiting schools.

I recently came across the functional specification I drew up, and the interesting thing for me is that everything on it is now commonplace, and achievable with a phone. It's hard to imagine that 15 years ago the sort of thing described below was (a) cutting edge and (b) difficult.

What we wanted was the ability to go into school, call up the school data on our devices, consult our diaries to make another appointment, and to enter our notes on the visit -- all without having to duplicate any of

Criteria for PDAs in Education

The following criteria need to be considered when selecting PDAs for use in educational administration and for use in the curriculum:

Examples of usages (usage could be exemplified in an imaginary scenario -- would this be useful?)

- Maintaining diary
- Making notes in meetings
- Creating and editing documents such as strategy documents
- As above, while travelling on public transport
- Reading and annotating publications such as internal strategy documents and Government White Papers
- Accessing pupil or teacher data remotely
- Accessing emails and files remotely

that when we got back to the office.

I suppose it all just goes to prove that if you wait long enough, someone else will do it: see the [laws of procrastination](#).

The Digital Education Archive

Speaking of the past, the new Digital Education archive now has **two** newsletters in it. In case you're wondering, the old archive disappeared when I switched mailing list companies. I still have those issues of course, but I'm not sure whether it's worth uploading them at the moment.

The new archive is at <https://www.ictineducation.org/digital-education-archive/>

I tend to upload the past newsletters when they're about a month old.

FutureFest

Reflections and highlights

FutureFest is the name of the festival/conference organised by the social and educational think tank, [Nesta](#). Running over two days in July, it was interesting and thought-provoking. Here are a few of my reflections, which you may wish to pass on to or discuss with your pupils.



First, though, a big thank you to the staff, especially Kasia and Nero, who were both friendly and helpful. And that despite having had to arrive at some unearthly hour in the morning to get everything set up! Tobacco Dock, where the event was held, is not the most central of places to get to, and it's a huge aircraft hangar of a place, so a friendly greeting was most welcome! Also, a huge thank you to Anna, who set me up with interview opportunities and video links, provided me with a media ticket for the

event, and was always happy to answer questions.

OK, here are my reflections, followed by a few links.

Artificial intelligence

According to Sir Anthony Seldon, mass education has not sorted out problems such as social mobility (or the lack thereof) or teacher workload, but AI could do so.

I'm pretty optimistic about the use of AI (bots) to ease teacher workload and to help provide private tuition to pupils, but I don't agree that mass education has failed to sort out social mobility. There are lots of people who have built careers for themselves who, without access to education, would not have been able to do so (myself included).

He said a couple of things I definitely liked and agree with, such as someone could have a double first from Cambridge and not be able to fry an egg. Nassim Taleb refers to people who are intellectual-yet-idiots, which is a similar idea. It wouldn't matter very much if such people were not so influential.

Sir Anthony suggested that a better question than "How intelligent is X?" is "How is X intelligent?"

I've been sent his book, *The Fourth Education Revolution*, and will be reviewing that in due course.

The seven Cs

Azeem Azhar suggested that young people need the seven Cs:

- Computational thinking.
- Communications and culture.
- Character (self-reflection and so on).
- Creativity.
- Cognitive skills.
- Critical thinking.
- Collaboration.

(That looks like **eight** Cs to me, but still.) I'd agree with all those, but I find that kind of thing problematic. For a start, I can never remember what all the Cs (or whatever letter has been chosen) stand for. Secondly, everyone

seems to have a different idea of what they should be. Thirdly, there are always characteristics that have to be left out because they don't start with the correct letter. For instance, I would say that in addition to being able to collaborate, people also need to be able to work on their own, undirected (except by themselves).

Nevertheless, it's interesting to see a different perspective from the usual emphasis on computational thinking, and it would be interesting to explore and discuss the differences between computational thinking and critical thinking.

Jobs of the future

According to Russ Shaw, founder of [Global Tech Advocates](#), future jobs in technology will need people who can write great content and design great interfaces and so on.

This is something I've been going on about for years. I found a visit to a 3d printing company a few years ago extremely interesting from the point of view that most of the people working there were not computer programmers. They were mainly graphic artists and psychologists. I think kids have been gravely misled by being told that they need to understand computer programming if they're not to end up being unemployed and unemployable.

The geopolitics of AI

The gist of Evgeny Mozorov's position seems to be that Britain does not have a co-ordinated approach to developing artificial intelligence, whereas China has. I can't disagree, but I'm not sure what his answer is, if indeed he has one. I think there are aspects of China's control of the country that many in the West would find unacceptable. See, for example, this article about [China's surveillance](#).

Artificial intelligence and the future of law and order

"All forecasts are works of fiction."

The Crime Force Love Team 2050 session was excellent. By answering several multiple choice questions, members of the audience got to decide what tools would be available for police forces to (legally) use in the quest

of solving crime in the year 2050. It was a very good illustration of the way in which relatively small decisions now can have knock-on effects over time.

The live-acted session by David Finnegan and Jordan Prosser was essentially a theatrical version of those adventure games of old, in which you get to choose which option the person takes next. It included some fascinating speculation about future technology, such as make-up that can make facial impossible for cctv cameras impossible, and algorithmically-generated pop songs. I'd assumed we already have that: I know that people have worked out the 'code' for creating chart-topping pop songs. Indeed, that was the strength of the session: the future scenarios were logical extensions of technology available now, or which could be available in the near future.

It was interesting in this context, then, to hear Douglas Rushkoff argue that scenario planning is really a form of gambling. The problem for mega-rich people, according to him, may be summed up as:

"How much money do I need to earn in order to be able to protect myself from the future I'm helping to create by earning all this money?"

Rushkoff is an optimist: he believes that being human is the solution, not the problem. But that question highlights a very real possibility: that we're about to enter a future in which the benefits of technology like AI will accrue to the privileged few rather than the general population. Rushkoff thinks, though, that the future isn't inevitable, it hasn't been fixed: we can decide what it will look like.

Heal thyself

I also enjoyed a talk by Ruby Wax. Key quote for me was:

"Fix yourself, **then** save the world."

That's something I think 20- and 30-something tech wizards from Ivy League schools with lots of money but little humility would do well to remember.

Links

Here are three talks/discussions you may enjoy from FutureFest:

[Ruby Wax Being human](#)

[Douglas Rushkoff Team human](#)

[Sir Anthony Seldon and Azeem Azhar Educ-AI-tion rebooted](#)

Conclusion

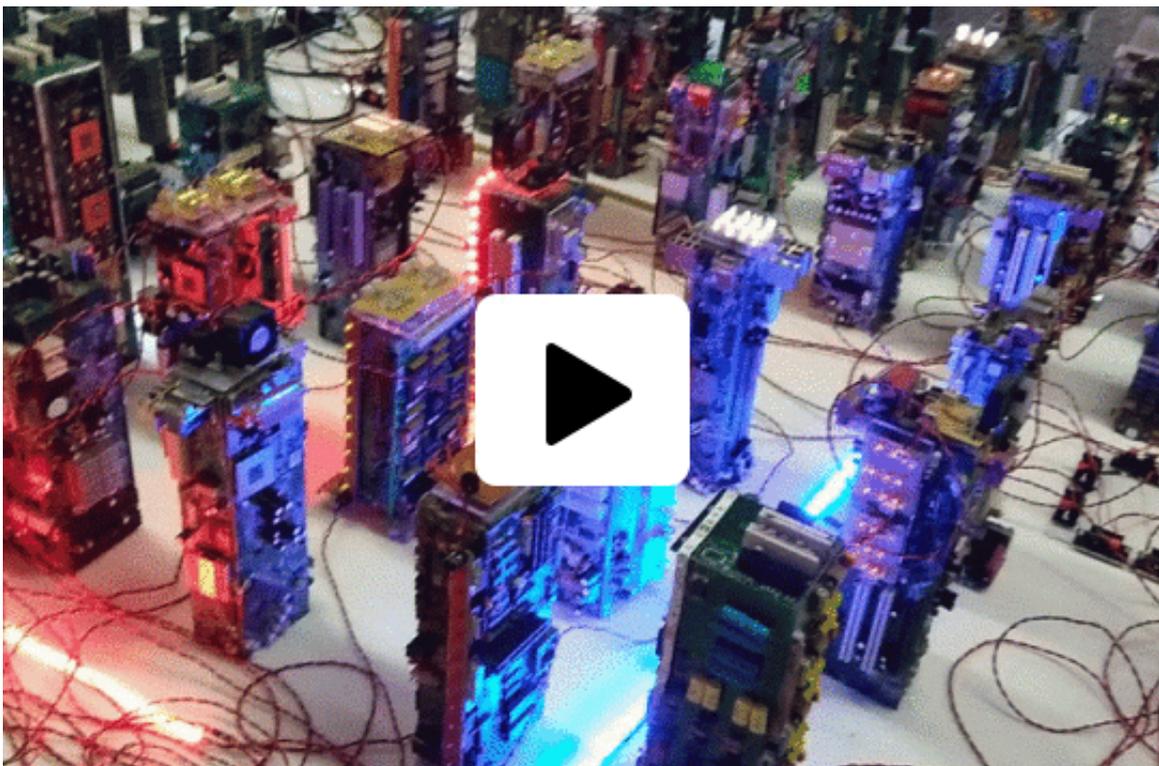
Plenty of food for thought, then, as I hope I've demonstrated. There were also other events, such as half-hour discussions with authors, and a great bookshop. The date for next year's FutureFest has not been decided yet, but once it's known I'll include details in this newsletter so that you can put it in your diary.

The photo at the top is of the entrance to the garden exhibit at FutureFest. I know it doesn't look like it, but it really is!

The Nemesis Machine

The video below shows the Nemesis Machine at FutureFest. This envisions life in a big city, using real-time data from London. You can read more about it here:

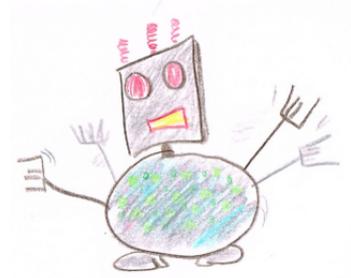
[The Nemesis Machine](#)



Focus on... Artificial Intelligence

After the briefest of comments, I present you with links to a few articles on this subject which you may enjoy. They are followed by a guest article from a company CEO.

After that, there is my review of Rose Luckin's new book about artificial intelligence.



AI: friend or foe?

Discussion of AI and its potential benefits and pitfalls is very much in vogue at the moment.

The following article argues that 'bots' can free up teachers to help with deep, important

issues relating to coursework:

[How chatbots will help education](#)

I too think it could be great in education, especially for taking the drudgery out of the admin stuff that teachers have to do. I wrote about that in an article for Teach Secondary:

[Robots Aren't Replacing Teachers, But The Rise Of Artificial Intelligence Could Make Our Lives Easier And Improve Education](#)

I don't completely agree with what I wrote then, insofar as I think that if AI is used to mark essays, it will not be able to identify a good new theory. If it has learnt what a correct essay looks like, presumably an essay which put forward a radically different analysis would be deemed to be wrong.

Another danger is automation bias, the phenomenon whereby people prefer to believe what a computer is telling them rather than their own experience or intuition. I wrote about automation bias as it applies to school data here:

[AI and data: why humans are still the most important bit](#)

The singularity

One future scenario that has been postulated by various authors is that of artificial intelligence learning so much that it becomes far more intelligent than human beings. At that stage, according to some doomsayers, this super-intelligence might say: "What do we need people for?" and get rid of us. You can read more about the singularity here: [Technological singularity](#).

On this subject, some time ago I cogitated on what it would be like if this super-intelligence was well-disposed towards us rather than ill-disposed. What if it tried to protect us? Here in the UK we already have a taste of what this could mean. When you buy cooking wine in a supermarket, you have to prove that you are over 18, despite the fact that cooking wine doesn't contain alcohol. You also cannot buy more than one packet of painkillers at a time, in case you want to take an overdose, as I described in an article called [Authorised madness](#). So for me, a benign super computer would be pretty awful too:

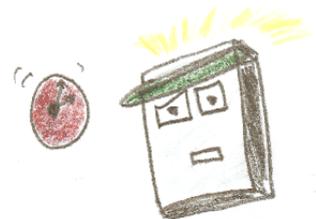
[But what if the singularity is benign?](#)

Finally on this particular aspect of AI, [Bots can say some creepy things, but 'psychotic' AI is still fiction](#) explains how AI really 'sees' and why an AI psychopath is still some way off in the future. (The author obviously has never met my satnav.)

More articles about artificial intelligence

Artificial intelligence is definitely flavour of the year. Not a day goes by when I don't discover a new article, collection of articles or a book about it. What follows is a selection that I hope you will find interesting and thought-provoking.

One way of thinking about AI (in general) is that, according to many people, it is most likely to replace tasks rather than jobs as far as education is concerned. Frankly, I don't go along with that. If a school can 'employ' a chatbot to answer parents' queries, act as a help desk for technical support, or guide individual pupils as to what they need to



focus on next, why would you need to employ office staff, help desk staff or teaching assistants, at least to the same extent as happens now?

The following article is a general rather than an educational one, and argues that our current conception of AI is all wrong. It ties in well with Rose Luckin's book (reviewed below). It's a longish read, but worth the time I think:

[Rebooting AI: postulates](#)

The following article looks at a range of technologies coming soon, including 'invisible AI':

[9 Technology Trends Shaping the Digital Workplace in 2018](#)

If you want to settle down for an afternoon reading nothing but AI articles, you may wish to buy the latest [MIT Technology Review magazine](#). It has an AI focus, and the articles i've read so far are both readable and informative.

So you think bias in algorithms is bad?

One of the issues I've written about a lot in this newsletter is the hidden bias in (AI) algorithms. Well, according to some research, human bias is even worse:

[Want less-biased decisions? Use algorithms.](#)

This ties in with an article I wrote (and mentioned above):

[AI and data: why humans are still the most important bit](#)

For a comics view of the biased algorithm issue, see The Nib's [Where everybody knows your face](#).

I think that's enough to be going on with for now, don't you?

Letting publishing as we know it perish

By Anita Schjøll Brede, CEO of [Iris.ai](#)

Remember when we used to send letters? Or, for younger readers, emails? There was a time when those letters or emails included complex

reflections on what was happening in your life and thought-provoking discussions for your reader to consider. The reader might reply by addressing everything the first writer brought up and introduce new topics. Letters between especially brilliant people became books and, in the scientific world, academic societies began compiling letters from scientists into journals.

Back then, if one of your favourite pen pals started writing shorter and shorter letters, each covering less ground, you might have worried that something was wrong with your friend--or your friendship.

Of course, since then, we've all learned to get to the point. Instead of treatises, we send texts. Instead of missives, we send emoticons.

That may be ok, as long as people still feel that their communications count. But in our world—the world of science—communication has undergone a troubling transformation. Scientists have discovered that few people really read their papers and fewer still outside their immediate family or research specialty. Instead, when it's time for a committee to review a scientist's progress, they often just tally up how many publications the scientist has in top journals.

It's an understandable shortcut, but it devalues the meaning of each publication and distorts our body knowledge. Instead of focusing on few meatier papers, scientists break down their work into shorter papers. And they pack in the emotions!

"Exciting, novel results are more publishable than other kinds," University of Virginia psychologist and replicability researcher Brian Nosek once [told Vox](#). But novel results may not be the same as the best work. In fact, the most exciting results are often the hardest to replicate, perhaps because they were far from the statistical mean to begin with. And because the academic world tends to reward publishing the first answer more than publishing the right answer [there probably isn't enough replication](#). Do we really want the scientific record to consist mostly of the unexplained outliers?

Researchers generally agree that making real discoveries can take years and years and involve false starts. Telling that story to your colleagues can take lots of time and space. If you can only do it after the fact, it may

be too late to win the research grant you need to complete your work. It's also risky: what if doubts about one part of your magnum opus lead reviewers to reject the whole thing?

One answer is the so-called minimum publishable unit. That is, break up your work and publish it one nugget at a time. In fact, specialised outlets are popping up to enable this sort of communication ([Nanopub.org](https://nanopub.org)). In principle, it lets researchers collect citations and credit as they go. And it lets grant committees (and hiring committees) evaluate candidates. In practice, it means we may be choosing quantity over quality.

That leads to shortcuts of all kinds, including [outright fraud in the peer-review process](#), since researchers know that they'll be evaluated by how many papers they've published instead of what the papers say. Some researchers and journals have even resorted to forming [cartels](#) to improve their citations. This distorts the scientific record, burying the most innovative research beneath work done by more inventive crooked scientists.

What if we could figure out better incentives for more diverse publishing formats? What if we could reward researchers who stepped back, thought about their work some more, and published more meaningful analyses? Or what if publishing a database that took years of work to build and clean earned the same reward as a controversial but highly citable take on some strange nugget in someone else's dataset?

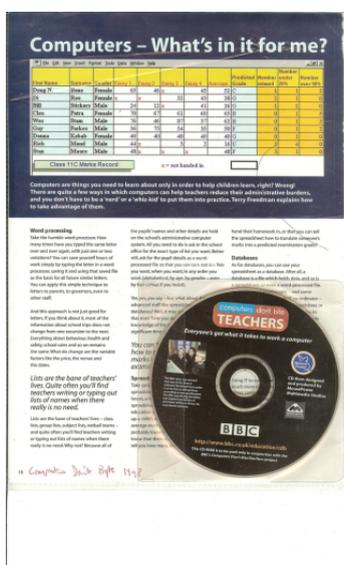
We're optimistic that everyone from Nobel-winning scientists to stealth-mode start-ups are ready to revolutionise scientific publishing. In fact, some have already begun using the blockchain to start decentralising publishing. We recommend checking the [Blockchain for Science](#) initiative for an updated list.

Our own contribution, [Project Aiur](#), is a more transparent, secure publishing community for researchers around the world. By using the security of the blockchain scientists can validate one another's contributions to the peer review system. And instead of paying publishers once to publish an article and a second time to read it, scientists can actually collect tokens from Project Aiur as an incentive for participating. The tokens are exchangeable for artificial intelligence-

aided literature searches.

In this hypothetical new world, researchers can use their contributions to validating knowledge generated by other people to generate their own new knowledge. We think it's a powerful idea. Are you ready to validate it?

Interesting/useful articles



Leadership issues

The next edition of this newsletter will have a focus on leadership, but in the meantime you might find the following article useful. I wrote it with the person in mind who is joining a new school in September as headteacher, but it would work for new technology co-ordinators too.

[10 Questions New Headteachers Should Ask About The Education Technology In Their](#)

[School](#)

It's your data, do what you wanna do?

The Economist has been pondering alternative futures again. One of its articles looks at a time when we might be able to **sell** our data rather than just having it used. In those circumstances, those with better quality data, as measured by how well AI trained with it performs, ought to be entitled to command a higher price.

[What if people were paid for their data?](#)

Teacher workload: a toolkit

The Department for Education has brought out a teacher workload reduction toolkit. Nice ideas, shame about the timing: just as most schools in in England and Wales were breaking up for the summer hols. Hopefully, a few headteachers and other senior leaders will look at it.

[Teacher workload: the DfE gets serious](#)

Training trauma

It can be quite nerve-wracking doing IT training for teachers. Quite apart from the fact that teachers are, let's be honest, hard to please (and rightly so: nobody likes their time being wasted), there's always the chance that the technology will refuse to co-operate.

Mind you, this isn't necessarily a bad thing, as I discovered the first time everything went pear-shaped. A few teachers came up to me afterwards and said it was great that it all went wrong, because if it could happen to me, someone who knew what they were doing, it sort of gave them permission to have it go wrong for them too, if that makes sense.

All of which is by way of an introduction to a new mini-series I've started, about my worst IT training sessions:

[My worst IT training days #1: Internet training day](#)

Dealing with reluctant adopters

How do you entice teachers to start adopting education technology? Here are a couple of articles you may find useful:

[Reluctant Adopters and Technology Initiatives](#), by Theresa Cullen.

Plus, the following by myself:

[9 Ways To Encourage Reluctant Teachers To Use Education Technology](#)

The illustration is a screenshot of an article I wrote for a publication called Computers don't byte, in 1998.

What I've been reading: Machine learning and human intelligence, by Rosemary Luckin

Luckin's theseis may be summed up as: before we can understand **artificial** intelligence, we need to understand **human** intelligence. At the moment, we seem to be in thrall to the wonders of AI, but all AI does is



learn and crunch through data very quickly. It is, in short, pretty one-dimensional.

Although the book is chatty to an extent, and draws on personal (childhood) experiences), it is not an easy read. This is an advantage: to get the most out of the book you need to keep stopping and reflecting.

Luckin discusses different forms of knowing, and gender differences in this. I mention this because one thing leaps out from this book: nothing is as simple or as straightforward as you might think.

Luckin reminds us more than once that information is not synonymous with knowledge, and takes issue with the British Library, which at one time attempted to get people through its doors by promising them they would find knowledge within.

We are also reminded that AI has no metacognition. It doesn't know how it arrives at its answers, and unlike us doesn't know how it feels about what it knows. My view is that this can be dangerous when it comes to making decisions about a child. If the AI recommends something without knowing why, and because of automation bias (see above) we accept it on trust, how can that be a justifiable basis for decisions affecting the child's future?

As far as the author is concerned, if a technology can appear human to us, that is more a reflection of our understanding of what it means to be human. She also believes that the debate between knowledge and skills is a red herring, and I agree. I've always wondered how you can teach a skill without also teaching (or assuming) some knowledge.

Luckin has developed a seven element model of "interwoven intelligence". She says that we need to educate people for an AI-enhanced world, and we need to devise AI systems that can help us grow our intelligence. We should be using AI to enhance what we can do, so that both kinds of intelligence -- human and artificial -- are used to their best advantage.

While the book is not light reading, it is very rewarding. It takes the unusual approach (but surely the right one) of using us as the starting point rather than the AI we've created. Also, by analysing the different

kinds of intelligence she makes the idea of changing our education system to acknowledge and accommodate AI seem almost doable.

My only beef with the book is that it doesn't come with a copy of the program the author wrote to simulate politicians' responses to difficult questions!

Make sure you enter the prize draw to try to win a copy of this brilliant book!

Personal, newsletter and website news

Why the delay in publishing this issue of the newsletter?

I've extended the deadline for entering the prize draw because the publication of this issue of the newsletter was delayed. The deadline is now next Tuesday night.

The reason for the delayed publication is that although most of the time I feel pretty fit and healthy (see illustration), about three weeks ago I was suddenly struck down with the worst cold and chest infection I've had in years. A cold, in this weather! (Where I live we have been having an unexpected heatwave recently.)



So, thanks to a rotten cold that knocked me for six for a while, you have more time to enter for the prize draw! (Details below.)

My consultancy and other work

Most of my work for some time now has come via word of mouth, but it occurred to me recently that I might still be missing out on interesting assignments if I continue to not promote myself a bit more. Therefore, I've added a new page to my website, outlining the kind of work I do in terms of consultancy, speaking, training and writing. It includes a link to a form through which you can start a no-obligations discussion. Here's

the link:

[Services I offer](#)

Published articles

I also created a page of links to a few of my published articles. At the moment there are only seven links, designed to give people who come across the website a taster of the kind of things I write about, as well as proving that I'm not the only person who is willing to publish my stuff! Here's the link:

[Published articles](#)

Website makeover

While we're on the subject of web pages, I changed the front page of the ICT & Computing in Education website. It now comprises a brief description of the sort of subject matter covered in the articles, and a variety of photos that change every few seconds. Why did I do it? It was either that or doing some **real** work! Check it out:

[ICT & Computing in Education](#)

My books

Finding the time to complete a couple of books I've been working on has been something of a challenge. So I've come to the conclusion that I'll have to concentrate on them and my paid work over the summer break, and ease off from writing for the ICT & Computing in Education website. In other words, I won't be updating it so frequently.

If you're interested in being an advance reader for the aforementioned books, just click the link below. What will happen is that you will be added to a group called Beta Readers, and receive an email confirming that. Then, when I have something to share, I'll be in touch again to ask if you're interested in looking at it. It means reading through it and letting me know if there are any errors or omissions I've missed. If that is of interest, please click on this link:

[Join the Beta Readers group](#)

Early survey results

Thanks if you completed the subscriber survey. Here are the results so far:

The top 7 sections of the newsletter are:

1. News and analysis
2. Useful articles and links
3. Focus on/Books in brief/What I've been reading
4. Useful tips
5. Articles you may have missed
6. Views
7. Blast from the past/Archive

If you haven't completed it yet, please do so, as it will help me to ensure that the content and format are appropriate. If you're of the opinion that it's perfect as it is, it would still help me to know that I'm on the right lines. It shouldn't take you more than 5 minutes, unless you choose to write a dissertation in answer to the final question. It's anonymous too, so you can say what you like!

Here's the link: [Subscriber survey](#).

That's it for now

Thanks for reading. If you liked it, please feel free to share, or forward to a friend or colleague, using the buttons below, or sign up in your own right at www.ictineducation.org/diged

Unless otherwise stated, all of the illustrations in this newsletter were photographed or drawn by me. **Now** can you see why I never became an art teacher?

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