Bett 2020

The only secondary-specific guide to the exhibitors, CPD and attractions of the Bett Show 2020

bett

22–25 January, 2020

SecEd

Are you ready for Bett 2020?

Bett continues to be the largest ed-tech show in the world. This guide previews the main attractions for 2020. We begin with an overview of what visitors can expect

The world we live in is evolving at an ever-increasing pace with the emergence of new technologies, such as artificial intelligence (AI) and virtual and augmented reality, creating exciting opportunities but also uncertainty about what we should be teaching our children.

It is important to equip young people (and indeed the rest of us) with the skills needed to survive and thrive in a progressively digital future. This starts in the classroom, both with how and what we teach.

At the same time, it is well-documented that schools across the UK are feeling the impact of many years of public sector cuts. As such, schools have been encouraged to think like businesses and become even more cautious with budgets and financial planning. It is vital that every pound spent offers value for money.

The global ed-tech community is all too aware of both of these challenges and will be coming together once again to discuss, exchange and communicate at Bett 2020 – all with the aim of examining and improving the role of

technology in education. This year, Bett is home to a range of CPD and technology content, designed to promote discussions and proffer answers to the real challenges faced by educators, leaders and policy-makers.

The Bett organisers say they are expecting more than 800 companies and exhibitors – including 100 new ed-tech start-ups – and more than 34,000 visitors from across the world.

In 2020, for the first time, the floor plan will be structured into six key zones: Teaching Tech, Learning Tech, Equipment & Hardware, Global Showcase, Management Solutions, and the Education Show.

The show has been restructured in this way to deliver better navigation for visitors and Bett's organisers have mapped the content and features to match each

zone (see page 8 for more details and page 18 for details of selected exhibitors by zone).

Among the key themes at Bett 2020 is sure to be the continued discussion about how virtual and augmented reality and AI can support education. We touch upon these issues in this guide, including an article from the former chief envisioning officer for Microsoft UK Dave Coplin, on the future of ed-tech, including AI (see page 17).

Another key theme in this era of tightened budgets will be technologies to support administration and the internal digital infrastructure of schools. Management solutions are a sweet

spot for technology – many companies exhibiting at Bett offer cloud-based budget management systems which incorporate budget planning and monitoring software.

As always, the exhibition at Bett is the place to discover new products to help meet your teaching and learning needs. The exhibition in 2020 will once again include the popular Bett Futures exhibitors, made up of new and recent ed-tech start-ups. For more details, see page 18.

The 2020 show will include more than 200 hours of CPD seminar content, helping teachers and school leaders to maximise their time investment in the show.

Sessions will focus on six key pillars of Innovation, Wellbeing, Empowering Teaching and Learning, Future Tech and Trends, Skills and Inclusion (Social Mobility and SEND) that are challenging educators today. All sessions work towards Bett's overarching mission to "bring together people, ideas, practices and technologies" (for details, see pages 9, 14 and 15).

For the first time, the Friday at Bett – January 24 – will have a

specific focus on SEND, with more sessions dedicated to this important area of teaching and learning.

Teachers will also be interested in the UK and international TeachMeet sessions taking place after hours on the Thursday and Friday (January 23 and 24) – a great place to connect and boost your practice by learning from your peers.

Bett encourages connections between exhibitors, innovators and the education community. To enable this interaction, Bett will again be offering facilitated meetings with suppliers in the Connect@Bett facility. Educators can meet and talk with tech companies to discuss the advantages and challenges of implementing technology within their setting, and learn more about particular products. **SecEd**

Further information & resources

▶ Bett 2020 takes place from January 22 to 25 at London's Excel. All details in this guide were correct at the time of going to press. For the latest show information and listings, visit **www.bettshow.com**

Bett Show 2020: Information, planning and tips

- Bett 2020 runs from Wednesday to Saturday, January 22-25, at London's Excel. The show opens at 10am each day, closing at 6pm (apart from the Saturday when doors close at 3pm).
- Register for the show in advance of your visit on the Bett website. This means you can walk straight in on arrival: **www.bettshow.com**
- Excel is in London's Royal Docks. There are three Docklands Light Railway stations nearby and access to the Jubilee Underground Line: **www.excel-london.co. uk/visiting-excel**
- Unless you spend all week at Bett, it is unlikely that you would get to see all the CPD sessions and exhibitors so we recommend that you use the Bett Show website and app to pre-plan your visit. There is plenty of information on the website: **www.bettshow. com/plan-your-visit-to-bett-at-excel-london**
- CPD seminars are run on a first-come, first-served basis.

- Arrive at your chosen seminars plenty of time in order to avoid disappointment.
- Post-show planning is just as important as pre-show planning. Gather information and take the time to reflect with your colleagues on what you saw at the show.
- If you need help navigating the show, try the BESA Information Point – it is there to help you get the most from your visit and can point you in the direction of the suppliers addressing your areas of interest.
- The power of Bett is in the networking. Ensure you take advantage of the networking opportunities that the show provides – share ideas and source advice from peers.
- It can be easy to get overloaded with bags and brochures. Instead, take business cards and follow up via email or ask for information to be sent to you.
- Last but not least, wear comfortable shoes!

Contents: Bett Guide 2020

A word from the co-founder…

Thirty-five years ago, **Dominic Savage** co-founded what is now known as the Bett Show. Here, he looks ahead to Bett 2020, how teachers should prepare to attend the show, and what the future of technology means for education and teachers

It was back in 1985 that I realised my dream for an event where educators could come together to network, share ideas and see all the latest digital resources to support learning.

Back then the show was called the "High-Technology and Computers in Education Exhibition", but over the years it soon transitioned to what we know it as today, Bett.

The success of Bett over the years is based on its constant evolution in line with the education sector's ever-changing needs; helping teachers, school leaders, governors, parents and the wider school and college community to raise standards, reduce workload and, hopefully, look at their teaching in a slightly different way.

For most people, Bett serves as the annual tonic they need to re-ignite their passion for teaching, providing them with new ideas and a refreshed perspective to learning and education.

So, how can you make the most of your visit to Bett 2020?

First, it is good to note that the layout of Bett 2020 has changed to make your visit easier and more effective. It will now be structured in zones. This means you will find all suppliers of one type of resource together which will facilitate comparisons between similar products (you can find out more about what will be on show in each zone on pages 8 and 18 of this supplement).

My top line advice to everyone in the education sector is to come to Bett with an open but informed mind.

Schools will normally do this as part of their development planning but, if not, in the weeks before you arrive, spend time with colleagues analysing what your problems and aspirations really are, even if you do not think technology is the answer.

If you can articulate what your issues are, and the problems that you would like to address, then you can have a constructive conversation with a range of suppliers, industry experts and other teachers who may be able to help you look at the problems in a new way.

When you look at emerging technologies such as artificial intelligence (AI) and virtual reality, they all have the potential to support teachers in all sorts of areas from improving engagement with students to supporting the administrative requirements for relevant data and record-keeping.

Let me take the incredible power of image processing as one example. Imagine a classroom with a video camera mounted on the front wall, looking at the students. When used with one particular piece of video software that can analyse the eye movements of all the students, teachers can have feedback on a screen about which students are engaged with the activity and which ones have switched off.

Looking at the application of such software more broadly, it not only provides teachers with immediate feedback on the lesson and its delivery, but also provides them with the potential feedback for their professional development.

But the value of this is only going to be realised if teachers are open to developing ways of working.

Traditionally, classrooms were the fiefdom of the class teacher, encouraging the dreading of inspections and associating the people coming into their class with assessment and criticism. Now is the time to change this "closed door" approach to teaching.

Once classrooms evolve to an environment where people flow in and out and thoughts and ideas are shared as in other professions, we will start to see professional development happening naturally. I have watched this transition here and in other countries, where it is the fastest way of developing teachers.

Sharing and learning from each other also helps break down resistance to new uses of technology or, put the way round it should be, seeing others having success with a technology intervention encourages enthusiasm to follow and benefit in the same way.

WB Yeats is quoted as saying that "education is not the filling of a pail, but the lighting of a fire". Teaching should no longer be about filling a bucket with endless drops of knowledge and feeling that education has been accomplished, it is about exploration and taking risks to ignite a child's own passion for learning.

This brings into question our whole approach to assessment: what we are assessing and why? The impact of AI and the Fourth Industrial Revolution on society and employment will make it ever-clearer that our thinking on the objectives of education must change.

Increasingly, we will need to be clear about what separates humans from AI: creativity, social skills and team-work/collaboration, perceptiveness, to name just a few differentiations.

So, as you are looking at the incredible array of technologies on show at Bett that will open young minds, join with everyone in the sector to fuel the debate about how education needs to look in the coming decades.

I look forward to seeing you there. **SecEd**

Dominic Savage, pictured left, is director of the Education World Forum, former director general of BESA, and co-founder of Bett.
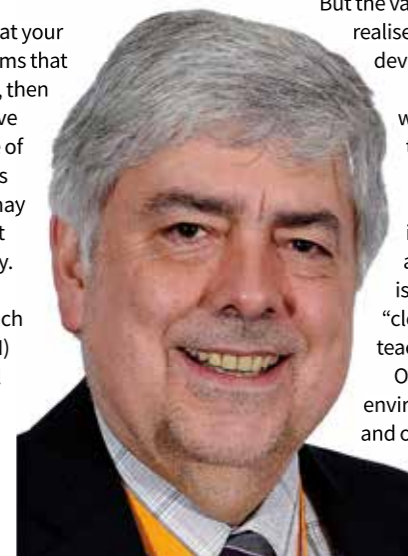
Bett 2020: A survival guide

With 19 Bett Shows under his belt – as a supplier and a visitor – **Dave Smith** is the man to talk to when it comes to making the most of your trip. We ask him for some survival tips…

Registering and travel
Once you and your colleagues have decided to visit Bett, register online. This will save you precious minutes on arrival. And nobody likes the stress of working out local transport systems so do take the time to plan your journey in advance.

Plan your visit
The key to getting the most out of any event is prior planning. Meet with your colleagues before you go to find out about any resources they are looking for.

Use the Bett Show website or app to research the companies attending. Plot relevant companies on the show floor map to find the most efficient route around the enormous show floor.

Make use of the tailored and themed trails that are available from the Bett website, providing routes around the show to explore aspects such as SEND or school leadership.

Furthermore, there is nothing worse than getting to a stand only to find that the staff are too busy with other visitors, so use the new Connect@Bett networking app to arrange a meeting at the show.

CPD seminars
It is difficult for any teacher to find the time for CPD. Over the years, the quantity and quality of the Bett CPD seminar programme has grown, so take time to benefit from the insightful speakers and numerous CPD-certified sessions.

Have a look at the programme of free events on the show website and plan your visit around these. It is important to reserve a place online – or at least get there early – as some of the more popular talks will get booked up very quickly.

Comfort is king
Being comfortable is one of the most important pieces of advice I can offer. With Bett now located in halls N1 to N18 of Excel you can imagine the distance you will be walking each day. So comfortable shoes are a must!

There are many food stations in the central atrium of Bett, but you may want to pack food and water in a backpack. A backpack can also be useful for any freebies or brochures you pick up during the day.

Downtime
To keep yourself hydrated and well fed, it is also important to plan for some downtime to rest, have some refreshments and take a few minutes outside of Excel to get some fresh air.

Make notes
While we all think that we will remember the important points of every CPD session, resource tested and question asked, it is often hard to recollect everything once you return to school. As you visit different stands, seminars and workshops use a note-taking app on your phone or tablet to capture photos, jottings and web addresses. Oh, and do not forget to take a battery back-up pack or look out for the "recharge" areas in case you forget.

Networking
So many teachers who visit Bett say the most valuable part of their day was talking to other teachers on stands and around the show. Resist the temptation to stick with your colleagues – take the opportunity to chat with others about the challenges you are facing as they may have found ways to solve these.

Make sure you have some business cards or stickers with your contact details to share with others. Plan in "coffee and catch-up" times with your colleagues to quickly discuss your progress and plan ahead. There is a new Staff Room area at the show this year for teachers to share experiences and reflect upon what has inspired them. Or alternatively the journey home is a great time for reflection.

Discounts
Several exhibitors offer on-stand promotions for orders placed at (or within a few weeks of) the show. Do not be afraid to ask companies what they are offering – you never know what you might get.

Share with your colleagues
Do not forget to ensure that your colleagues who do not attend Bett benefit from the insights you have been able to gather. It is often not necessarily a resource you have seen or CPD content, but being out of the classroom in the buzz of Bett is always a catalyst for a plethora of new thoughts and ideas.

Schedule a time or send them a brief summary of the "Best of Bett", including weblinks and images you have captured, so that they can catch-up quickly when they have the time. **SecEd**

Dave Smith is a senior inspector within the school improvement services team at Havering Education Services, a provider of education training and professional services. During Bett 2020, Dave will be at the Education Show School Theatre on the Friday and would welcome the chance to meet SecEd readers.

Further information & resources
▶ For full details of what is on offer at Bett 2020, visit **www.bettshow.com/whats-on**

> ❝ *So many teachers who visit Bett say the most valuable part of their day was talking to other teachers on stands and around the show. Resist the temptation to stick with your colleagues* ❞

Ed-tech in 2020 and beyond…

Ahead of Bett 2020, *Caroline Wright* looks at BESA's latest research on the state of ed-tech in UK schools and the challenges we face, not least when it comes to teacher training…

It was back in 2018 at the international ministerial event, the Education World Forum, that the former secretary of state for education, Damian Hinds, challenged the technology industry to launch an education revolution for schools, colleges and universities.

As Mr Hinds recognised, for all that technology has promised in terms of supporting learning and reducing teachers' workload, its full potential is yet to be realised in schools. So, two years on, we have to ask what progress has been made?

As an official partner to the Department for Education (DfE), the British Educational Suppliers Association (BESA) has been working with the UK's leading ed-tech suppliers and more than 1,200 schools to gather their views on the issues outlined by Mr Hinds – not least the challenges they feel continue to cause a barrier to progression.

The findings show that these challenges come down to what we have termed "the big three" – a lack of CPD and training in the use of technology, finance and budgets, and a lack of knowledge in the best practice procurement of quality digital resources.

If you look at the seminar speakers in the Bett Arena on the first day of Bett 2020, you will see that all address these key issues.

CPD and training

In 2003, the DfE estimated that, for every £1 spent on technology, 30p would need to be spent on developing teachers' digital skills if we were to successfully integrate ed-tech into schools. This is a benchmark we have failed to reach.

In between 1997 and 2010, the different governments spent £6 billion on computer hardware (Selwyn et al, 2012), however less than £240 million was spent through Labour's New Opportunities Fund on digital training for teachers (BESA, 2015).

Similarly, if total school spend on ICT resources across England has averaged £500 million per year since 2010 (DfE, 2010-2018), Parliament's Science and Technology Select Committee has nevertheless identified that less than one in three ICT teachers has received government support to undertake a relevant qualification (2016).

The result is that 68 per cent of UK schools continue to report a shortfall in teachers' digital skills as one of the principle challenges they face over the coming year (BESA, 2018).

Furthermore, approximately 30 per cent of primary school teachers and 40 per cent of secondary school teachers admit to still having a fear of, and an unwillingness to use, technology because of a lack of understanding of how to do this effectively (BESA, 2017).

Some of this fear stems from the school's network infrastructure and connectivity. In fact in 2018, a third of secondary schools believed their infrastructure was inadequate (BESA, 2018).

Some of this fear also stems from the atomised nature of the UK schools system. According to the OECD, after Chile, the UK has the second most complex schools system in the world. This has often made it hard for UK schools to partner with one another to share knowledge and best practices as to the use of ed-tech.

The government does seem to be addressing these and other issues as the publication of its policy paper, *Realising the potential of technology in education*, confirmed (DfE, 2019a).

In terms of connectivity, thankfully the government is committed to working with industry to accelerate the roll-out of full-fibre internet connectivity to schools. The DfE is also preparing to launch a network of technology "demonstrator schools and colleges" to provide peer-to-peer support and training (DfE, 2019b). A further source of encouragement is the government's work with the Chartered College of Teaching to launch online training courses about the use of technology for teachers and leaders.

Added to this, schools now have free access to BESA's "LearnED", regional ed-tech roadshows which are designed to showcase products and services and facilitate learning from other education leaders.

Bett is also a great annual source of quality CPD. It is there to support education leaders to develop a vision for technology and understand "what works", when and how. So, do not forget to look at the programme of CPD-accredited seminar sessions. All are free to attend.

Finance

In 2016/17, the average school ICT budget equated to £59 per pupil. If this seems small, it is because it is. School expenditure on ICT resources was the lowest of any category of out-goings: lower than energy, which accounted for £74 per pupil, and lower even than money paid to educational consultants, which accounted for £90 per pupil (EPI, 2019).

If money is in short supply, so is schools' understanding of what technology best suits their needs and how to get the best deal. This is not a criticism of schools, but is the inevitable result of a fragmented and often overwhelming marketplace in which 24,000 schools are each individually responsible for purchasing their own learning resources.

Again, there seems to be a clear intention from the DfE in its policy paper (2019a) to simplify the marketplace both for schools and suppliers. It now recommends that schools should pre-negotiate buying deals for technology and is currently trialling regional buying hubs in the South West and the North West.

The government has also partnered with BESA to launch "LendED", an online platform where teachers can trial products before they buy.

If the work of Svenia Busson, author of *Exploring the Future of Education* (2018), has shown that online "try before you buy" is the most effective strategy of any in boosting schools' uptake of ed-tech, then LendED is undoubtedly a promising development.

Best practice procurement

Shows like Bett give educators the opportunity to meet suppliers, ensure they are investing in the most cost-effective solutions and negotiate the agreement they want; it gives schools the opportunities they need to ensure their budget is well spent.

At the time, the move from a more centrally based local authority procurement structure to one where schools buy their resources directly, was welcomed. However, with it came more pressure on schools to invest their funding effectively. As such, companies are having to find new ways of reaching headteachers and teachers to inform them about their innovations and new product developments. At the same time, schools can sometimes struggle to differentiate between all the resources on offer.

Many schools are facing seemingly intractable problems like their ever-increasing workload and teacher shortages in key subject areas of the curriculum.

We are seeing industry rise up to meet this challenge with a number of ed-tech solutions to reduce pressure in these areas. Whether it is the delivery of certain curriculum areas through cost-effective online or virtual "schools" or the growth of learning content creation tools, this is one of the most exciting developing ed-tech areas. So many of these emerging technologies will be on show at Bett 2020.

The DfE's ed-tech strategy is certainly starting to have an impact and ministers have made it very clear that they value BESA's collaboration and want to work with us, our member suppliers, and schools to tackle the challenges the sector continues to face.

I believe collaboration between schools and industry is the way forward, and long may that continue. A closer collaboration between schools, government and the technology industry will help develop more intuitive products that are more suitable and aligned to what educators really need.

Once again, the BESA team will be on hand during Bett 2020 at the BESA Information Point, to answer your questions, offer advice and point you in the right direction. We look forward to seeing you there and offering you informed, impartial guidance. **SecEd**

Caroline Wright is director general of the British Educational Suppliers Association (BESA), the industry trade body for education suppliers. BESA vets its members' finances every year and requires them to abide by its code of conduct. Visit www.besa.org.uk and follow her @CJPWright

Further information & resources

▶ *Primary schools and ICT: Learning from pupil outcomes*, Selwyn, Potter & Cranmer, 2012.
▶ *25 years of research of ICT use in schools*, BESA, January, 2015.
▶ Consistent Financial Benchmarking Reports (CFR) 2010-18 & Academy Account Returns (AAR) 2012-18, DfE.
▶ *Digital skills crisis*, House of Commons Science and Technology Select Committee, June 2016.
▶ *Edtech in English maintained schools*, BESA, 2018: *http://bit.ly/2q7mhmM*
▶ *How the impact of education technology is currently measured in the classroom*, BESA, 2017: *http://bit.ly/2DoXvS7*
▶ *Understanding school revenue expenditure: Part 1*, Education Policy Institute (EPI), 2019: *http://bit.ly/35Ia4E6*
▶ *Realising the potential of technology in education*, DfE, April 2019a: *http://bit.ly/2Iiufu8*
▶ EdTech Demonstrator schools and colleges programme, DfE, October 2019b: *http://bit.ly/2R0hOx1*
▶ For more on BESA's LearnED Roadshows, visit *www.besa.org.uk/events/learned-roadshow-2/*
▶ LendED: *www.lended.org.uk*

Special features and zones

Every year, the show floor at Bett has a number of special features and themed zones. We look at what is planned for 2020

There is no arguing the fact that Bett is a large show and it can be easy to become overwhelmed when walking the hall. In a bid to help visitors navigate the show more effectively – and based on feedback last year about the types of technology visitors are looking for – Bett has for 2020 created six new zones aimed at helping delegates to find quickly the resources and seminars they are looking for. The six zones will provide practical tips and sessions focused on each particular area of ed-tech.

Zone 1: Learning Tech
Exhibitors in the Learning Tech Zone are focused on student-based technology and will host technologies to support learning in the classroom, from interactive applications for early years, to e-books for primary schools or virtual reality content for secondary schools.

Zone 2: Teaching Tech
This zone will host the latest technology to help reduce teacher workload and revolutionise pedagogy. This will include products that make teaching, monitoring and assessments easier for teachers and enhance learning outcomes and improve student engagement. Other topics might include distance learning, monitoring learning, and management technology. SMART Technologies is sponsoring this zone and visitors will be able to get hands-on with the resources.

Zone 3: Equipment and Hardware
This zone hosts those companies who provide physical hardware and equipment solutions. These include physical, tangible and day-to-day goods that are used in a school – from the classroom to the canteen and the computer room. This might include AV and projection multimedia equipment, screens, furniture and monitors, laptops, tablets, augmented reality/virtual reality headsets, printers and so on.

Zone 4: Global Showcase
This zone welcomes representation from nearly 150 countries and will give visitors the chance to discover the latest development in from across the world. The Global Showcase will also feature associations and non-profit organisations, including accelerators and international collectives as well as global brands such as Microsoft, HP and Adobe. There will also be several country pavilions offering insights into education technology in places like Egypt, France, Korea, Russia, Spain and Norway.

The Bett Award winners and shortlisted companies across the 20 award categories are often worth a visit during the show

Zone 5: Management Solutions
This zone will host companies providing products and services relevant to the school as a whole – to help with its running and management. These might include IT managed services, data management and storage, attendance management, management information systems (MIS), security and risk-management, connectivity/communication solutions, or school visitor management.

Zone 6: Education Show
For the first time in 28 years, the Education Show has moved to sit inside the Bett Show in its own dedicated zone. This area will feature non-technology resources to trial, including curriculum resources and products focusing on pedagogy.

Bett Radio
With so much going on during Bett, it is important that there is an opportunity to hear voices and views from across all sections of the show's varied attendees.

To this end, Bett Radio will provide an interactive forum for visitors to explore, debate and reflect on the show's themes.

NetSupport has been chosen as the official broadcaster of Bett 2020 and will be working with Anderton Tiger Broadcasting and host (and Bett legend) Russell Prue.

Bett Radio will broadcast daily at 3pm throughout the show. Visitors can get involved by sharing their "best of Bett" thoughts via Twitter using #NetSupportRadio and #BettShow throughout the four days.

Show attendees are also encouraged to visit the radio station at Stand NL44 for a chance to feature on the show.

Educators, leaders, and ed-tech pioneers featuring on Bett Radio this year include:
- Nicole Ponsford, award-winning digital educator, CEO and co-founder of the Gender Equality Collective.
- Dr Sue Black, award-winning computer

scientist and professor of computer science at Durham University.
- Dr Ger Graus, global director of education at KidZania.

There will also be a student takeover with children from Westwood with Iford School running the station on the Friday (January 24) at 2:15pm.

Visitors can download the NetSupport Radio app to their smartphone to listen live. The app also features pre-Bett podcasts and regular features throughout the year.

Bett Futures
Returning to Bett 2020 will be the increasingly popular Bett Futures feature, which is designed to showcase the best ed-tech start-ups. It has become one of the most visited areas in Bett and features three levels of company – start-ups, companies transitioning, and companies starting to see real growth. For more on Bett futures and other Bett exhibitors, turn to pages 22 and 23.

Ed-tech awards
For the first time, Bett will host the finals of the annual Global EdTech Startup Awards (GESA). The world's largest ed-tech start-up competition, the awards have provided a showcase for identifying and recognising some of the most innovative start-up companies from across the world. Visitors to Bett can join the awards presentation in the Bett Arena after hours on Thursday, January 23.

And of course the winners of the annual Bett Awards will be unveiled on the Wednesday evening (January 22). The Bett Award winners and shortlisted companies across the 20 award categories are often worth a visit during the show – and the shortlist has already been published.   **SecEd**

Further information & resources
▶ For more on the Bett Show 2020, including a full list of suppliers, CPD and special features, visit the show website: **www.bettshow.com**
▶ For more on Bett Radio, visit **www.netsupportsoftware.com/radio**
▶ For more on the Global EdTech Startup Awards, visit **www.globaledtechawards.org**
▶ For more on the 2020 Bett Awards, visit **http://bettawards.com/**

Making waves: Al Kingsley, MD of NetSupport, which will be running the Bett Radio feature during this year's event

---

The big stage: The Bett Arena was introduced when the show first moved to Excel in 2013. Pictured here in 2018, it hosts the major keynote speakers and presentations

The Bett Arena

The Arena is the stage for Bett's keynote presentations. We look at some of the headline speakers lined up for 2020

The Bett Arena is at the heart of the Bett show and home to the biggest names and most popular keynotes and discussions.

Discussions in the arena focus on the hot trends in ed-tech, education policy, and on what we can expect from education in the coming years and how educators and institutions are adapting to the needs of the 21st century learner.

Professor Brian Cox
4:30pm, Wednesday, January 22.
In recent years, Professor Brian Cox has become a household name. His books and television programmes have made science and physics accessible to millions and have brought some excitement and cool to the field. He has been dubbed a "rock star scientist", in part due to his time as a professional musician. He is now the professor of particle physics at Manchester University and a key part of the ATLAS experiment at the CERN Large Hadron Collider. Prof Cox also serves as the Royal Society's professor for public engagement in science.

At Bett, he will deliver a keynote speech called Exploring the Universe in which he will explore how we came to understand that the laws of nature we discovered here on Earth are applicable to the entire universe and how we use those laws to explore the distant past close to the Big Bang and the far future. He will also give his perspective on what cosmology can teach us about our place and value in a vast and possibly infinite universe.

Katy Potts
2:30pm, Saturday, January 25
Katy Potts is the computing and e-safety lead for children's services at Islington Council, where she has worked since 1999 developing digital education services for schools and families. Before this she was a primary school teacher for seven years. She specialises in online safety and

sits on the UK Safer Internet Centre Advisory Board. This session will be interactive and is entitled "Kids Judge Bett" – an initiative she was at the forefront of when it was introduced at Bett 2015. In the session, pupils and their parents from eight primary and secondary schools participate in judging and exploring all the stands, exhibitors and their products and choosing their favourites across 10 categories. Many companies say that this is the award that really matters! The children announce the winners live on stage and give out the highly coveted chocolate trophies.

John Galloway & Carol Allen
1:10pm, Friday, January 24
Entitled Shift happens: The only constant is change, this session will be led by John Galloway, an advisory teacher for ICT, SEN and inclusion in London, and Carol Allen, an education advisor for ICT and inclusion in Hartlepool. In recent years, medical advances and changes in recognition and identification have seen the number of children with SEND in schools rise, particularly those with more complex and challenging learning needs.

Alongside this we have seen technological changes that have put what were once expensive, specialist, technologies literally in the palm of our hands. But have these shifts gone far enough?

During this session, the two specialists in SEN will be exploring these shifts, giving concrete examples of how they are becoming manifested in classrooms and challenging the barriers that prevent more significant change.

Linda Liukas
10:45am, Thursday, January 23
Linda Liukas is the author and illustrator of *Hello Ruby*, a children's picture book about the whimsical world of computers. She is also the founder of Rails Girls, a global movement to teach young women programming in more than 260 cities. She is interested in the paradox of

technology and gives advice for parents who can feel left behind as children race ahead in our increasingly technological world. She is also passionate about why kids need to embrace tech, but wants to ask important questions like "how much is too much?", as well as ensuring there are guidelines for parents on how to manage screen time, gaming and online safety more generally in the home.

Sugata Mitra
2:25pm, Friday, January 25
Sugata Mitra is a former professor from the School of Education, Communication and Language Sciences at Newcastle University. He is the Founder of the "Hole in the Wall" (HIW) experiment, where in 1999 a computer was embedded within a wall in an Indian slum at Kalkaji, Delhi, and children were allowed to freely use it. The experiment aimed to prove that kids could be taught computers very easily without any formal training.

His address – entitled the Future of Learning – will take us through his 20 years of experience with how children and the internet interact. He will examine questions such as what influences does the internet have on children and learning, under what conditions are these influences at their optimal best, how have these influences changed over time, and what is to come? He will describe the changes that schools need to make in a world where what we need to know is no longer evident.

### ISC Research Panel
2:05pm, Wednesday, January 22
This panel discussion is entitled Rising to the challenge: How international schools are responding to today's education challenges. It will be moderated by Diane Glass from ISC Research. Participants include Carina Nilsson, principal of Sigtunaskolan Humanistiska Läroverket in Sweden, Graeme Lawrie, partnerships director of ACS International Schools (London), and Terry McAdams, director of learning technologies at Branksome Hall Asia (South Korea). The session will explore some of the successful and innovative initiatives these schools are using that respond to today's education challenges.

Dr Sue Black
10:45am, Friday, January 24
Dr Black is professor of computer science and technology evangelist at Durham University. She has more than 20 years technology and digital skills teaching experience. Her session will focus on overcoming challenges, connecting people and empowering others.   **SecEd**

Further information & resources
▶ For the full Bett Arena programme, visit **www.bettshow.com/bett-seminar-programme-2020**
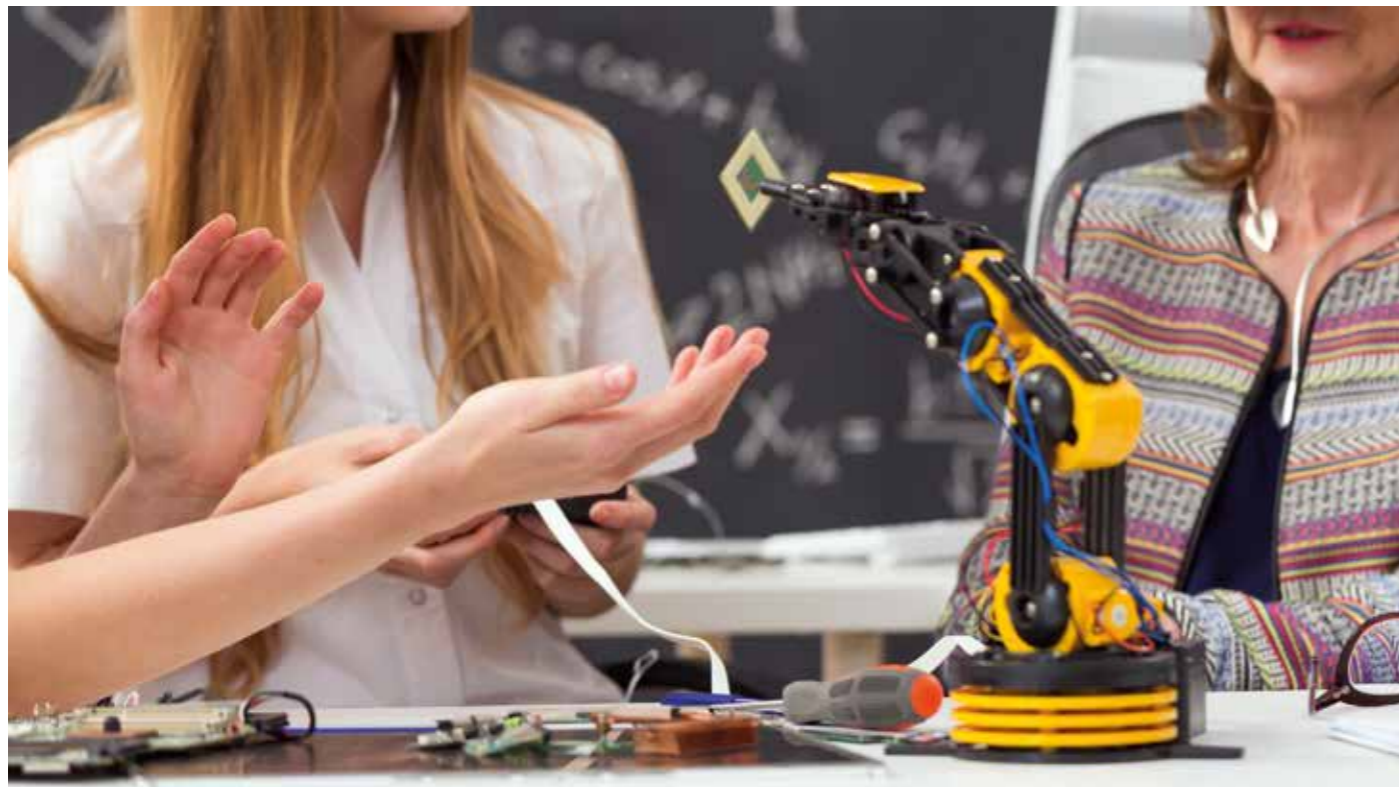
Some ed-tech reflections ahead of Bett 2020…

What has happened since last year's Bett Show? And what should you consider before you step into the exhibition hall? *Bob Harrison* offers his ed-tech reflections and show advice

As I look forward to my 21st Bett Show, I had a quick glance back at the preview I penned for *SecEd* in 2019 entitled "Beware the sales patter…".

It is important to remember that it is a trade show and so it might be worth revisiting this article before you splash out (*SecEd*, 2019a).

So what has changed for this year? Well in reality, not augmented or virtual of course, not much has changed policy-wise, technology changes at pace as ever and creative and innovative teachers continue to engage and inspire learners to use technology to enhance their learning. However, there have been a few developments worth noting.

Finally – a government policy
On the policy front, the Department for Education launched its well-trailed ed-tech policy (DfE, 2019). The initial impetus for this came from former education secretary Justine Greening, who when in post was keen to kick-start some action in the use of technology for teaching, learning and assessment after several years of government neglect.

She established a small team of civil servants to get the ball rolling with a wide range of events to engage with stakeholders and to make some

policy proposals. Two years and two education secretaries later we now have the official government policy document.

The result? It has to be said that the restrictive and rather shallow definition the DfE uses for ed-tech and the focus on products and services instead of people and pedagogy has meant a rather underwhelming reaction from educators. My piece at the time for *SecEd* explains why this is the case (*SecEd*, 2019b).

Nevertheless, the £10 million the government allocated to support the strategy has funded a number of roadshows organised and delivered by the British Education Suppliers Association, (BESA).

These have been well attended by teachers but their enthusiasm for innovation is tempered by the resources available due to tight school budgets, not to mention the time pressures facing the workforce in schools.

I am sure many schools would be delighted to refresh their dated infrastructure, hardware, software and workforce capacity and capability and have been inspired by attending the BESA roadshows, but whether the resources or leadership support is available is variable.

A number of organisations have tried to provide some support by producing online

resources, funds and network support. These include College of Teaching programmes such as the Leadership of Education Technology in Schools (see further information).

Also worth checking out is EDUCATE. Led by University College London, it is bringing together the golden triangle of research evidence, teacher ideas and the experience of the technology industry. As EDUCATE director Professor Rose Luckin wrote in *SecEd* in November, "within UCL EDUCATE, there is an expectation that the companies we work with carry out their own research on the efficacy of their products" (*SecEd*, 2019c).

The curriculum
As far as the new national curriculum for computing is concerned, the major development has been the launch of the £84 million National Centre for Computing Education (not computer science, please note). This investment has yet to produce any significant impact as it is still early days (for more, see *SecEd*, 2018).

However, something drastic needs to happen as the bungled reforms so far have resulted in fewer pupils studying computing or ICT, fewer qualifications being gained and fewer hours of

the subject being taught. Dare I say it, perhaps it is time to review the whole issue and start again?

What is new in ed-tech?
Well there will inevitably be a lot of the same in 2020 – but bigger, brighter with some tech getting cheaper and some stuff more expensive.

The global players will dominate once again and you may want to visit the big names in hardware, software and platforms. You cannot miss them as they are the only ones who can afford the big stands at Bett!

The continued development of augmented and virtual reality is worth keeping an eye on. Also the increasing reach of AI across a range of products and services is interesting, but will inevitably be a challenge to current policies and practices in teaching learning and assessment. Bett is also excellent for assistive technology companies if you want some useful insight into how technology can improve inclusivity and engagement.

If you are at all interested in how technology might improve teaching, learning or assessment then the Bett Show is a must. And always worth visiting are the smaller and fringe stands at either end of the Bett hall. This includes the Bett Futures section, where you can usually find some interesting ed-tech start-ups to inspire. In terms of other companies to visit, the Bett Awards shortlist (already published) and winners (revealed on the Wednesday evening) are always worth checking out.

Preparing for Bett
So to avoid being blinded and deafened by the bright lights and loud microphones of Bett, schmoozed by the smiling tee-shirted troubadours, or being side-tracked onto a stand by the stress balls, free pens and free chocolates, it may be worthwhile having a look at all the aforementioned before you arrive at Excel…

And it is not just about companies and products, the free CPD in the various arenas and theatres is invaluable. More valuable is the opportunity to listen to other practitioners sharing their experiences, good and bad.

And finally I repeat my advice from last year – be aware (beware): there is no evidence of a causal link between any technology and improved learning outcomes. However there is evidence of a correlation between those teachers, schools, colleges and learners who use technologies effectively and improved learning outcomes.

So if a vendor says "buy this product or service and your students' learning outcomes will improve", move on quickly.

But if you ask a vendor whether your students' learning outcomes will improve if you buy their product and they respond "it depends, it's complex because of a number of factors" – it might be worth a chat, but keep your purchase order in your bag for now.

Most of all I am looking forward to catching up with new and old friends and learning how they are using technology to improve teaching, learning and assessment in their schools and

colleges. That is always the best bit of attending Bett. *SecEd*

Bob Harrison is chair of governors of Northern College Barnsley, Lostock High School Trafford, a governor of Oldham College, and a trustee of the Ufi Trust. He is a Bett Awards judge and a member of the ministerial technology action groups FELTAG and ETAG. Follow him @bobharrisonedu. Read his previous SecEd articles via http://bit.ly/2zS0bpQ

Further information & resources
▶ *Bett 2019: Beware the sales patter*, Harrison/*SecEd*, January 2019a: **http://bit.ly/2DI4ADc**
▶ *Realising the potential of technology in education*, DfE, April 2019: **http://bit.ly/2IIufu8**
▶ *The ed-tech strategy: A great leap backwards?* Harrison/*SecEd*, May 2019b: **http://bit.ly/2WeQ8I2**
▶ For details of the BESA roadshows, visit **www.besa.org.uk/events/learned-roadshow-2/**
▶ Leadership of Education Technology in Schools courses: **http://bit.ly/35qaqyD**
▶ *Can new £84m NCCE solve our computer education woes?*, Harrison/*SecEd*, November 2018: **http://bit.ly/2EpqkAg**
▶ National Centre for Computing Education: **https://teachcomputing.org**
▶ UCL EDUCATE: **https://educate.london/about-educate/**
▶ *A new dawn for education technology?* Luckin/*SecEd*, November 2019c: **http://bit.ly/2XKMxjc**
▶ The Bett Awards 2020: **http://bettawards.com/shortlist2020/**

Getting your digital strategy right

To get the most out of Bett, you should be clear about what your school's digital strategy looks like above all else. *Al Kingsley* explains why and how...

IMAGE ADOBE STOCK

If there is one piece of advice I can offer educators attending this year's Bett it would be to go armed with a very clear strategy. I am not talking about a list of talks to attend or stands to visit, but rather the need for a clear digital strategy for your school.

It is easy to get dazzled by technology at Bett, the latest technological innovations can set the most steadfast pulses racing. However, a piecemeal approach based on ad hoc purchases is unlikely to deliver on the results that were promised.

Any ed-tech decision needs to be considered within a much wider context. What will be the impact on infrastructure, support services or teacher training? How often should it be refreshed, and how can you measure its effectiveness?

Investing in ed-tech without a defined digital strategy is rather like relying on your sat-nav for directions without first entering the destination. You can keep on driving, but you are unlikely to end up at the right location.

Whose responsibility?
Your digital strategy will always have the enhancement of teaching and learning at its heart and will consider how technology can support teachers. However, creating a strategy that is right for a school involves engagement and insight from staff across the organisation. This includes:
● IT: To identify what is needed in terms of infrastructure, delivery of technology, maintenance and support, and training. Also closely involved in data protection and security considerations.
● Governing body or trustees: Oversees and

monitors any proposed expenditure and ensures the school can measure the impact.
● Senior leadership team: Ensures the strategy aligns with wider objectives while also being a champion for its development and implementation.
● SEND: Considers and advises whether the digital strategy is broad enough to support the various types of learners who have special needs.
● Safeguarding/designated safeguarding lead: Ensures investment in new technology does not affect the school's ability to meet its obligations in terms of keeping children safe while using it.
● Finance: Advises on the cost and resourcing implications of the digital strategy. Ideally should help to facilitate an effective digital strategy, rather than limit it to simply "we have X budget".

Although it is tempting to identify just one individual to drive forward a school's strategy, it is wise to bring together a team. Each stakeholder has a range of considerations and questions that are important to their priorities. Combined, these help a school understand what is needed and to measure the impact of their long-term goal.

What are we trying to achieve?
What you want your digital strategy to achieve will be specific to your school. You may have one very clear goal in mind, or a combination of several.

In a 2015 survey in conjunction with the ISC, Digital Strategy Group found that the key goals schools were aiming to achieve via ed-tech included:
● Enhancing learning outcomes.

● Increasing staff, student and parent engagement.
● Implementing collaborative technologies.
● Promoting digital wellbeing.
● Implementing unified and integrated technologies.
● A technology refresh.
● Increasing attainment.
● Implementing a data security policy that delivers legal and operational requirements.
● Achieving better value for money.

Once you have a clear sense of what you want to achieve the next step is to create an action plan. This helps to break down top level goals into more manageable chunks of activity. It also gives everyone involved a clearer sense of priorities and timeline. It is worth remembering that a digital strategy is often a long-term plan, covering three to five years. Incremental progress is as much a success as a large-scale implementation.

Factors for success
The leadership team's role in effective ed-tech strategy should not be underestimated. The biggest single barrier to successful implementation will be lack of buy-in from senior staff. They may worry about time allocated to execute it, budget constraints or other hurdles along the way.

This fear can partially be overcome by clear co-production of the strategy and clear communication and vision championed by leaders. In producing a communicable strategy it is best to:
● Keep it simple: Overly complicated strategies offer less flexibility and are more likely to disenfranchise the school community.

● Understand where you are: Be clear on your current position, understand what does, and does not, work well.
● Be clear on the value of current technology: A good question to ask is, would anyone notice if it was gone?
● Have a good hold on budget: Understand how the digital strategy can be financed. This can often require a longer term view, and an acceptance that some aspects of a plan may not be able to happen until further funding has been identified.
● Keep communicating: Keep everyone up-to-date with developments and progress, listen and act on concerns, and encourage a culture of co-production and everyone working together.
● Get the support of other schools: Visit schools and talk to staff who have already implemented a digital strategy to get their advice.
● Existing technology: Build your strategy around ensuring your existing technology will continue to add value.

Infrastructure: The essential foundations
Infrastructure can seem like a bit of a techie word, but it is simply thinking about how ed-tech will be managed and how it fits with the rest of a school's technology.

When schools take a piecemeal approach to ed-tech there is much more risk that how it all fits with other technology and the IT management

and infrastructure requirements will be forgotten. As Karl Denton, IT manager at St Bede CE Primary Multi-Academy Trust, explained: "From a network manager's point of view, it's important that the school has a digital strategy so that the senior management team and the technical staff are working together.

"There is no point in teachers/management wanting to introduce a technology if, from a technical point of view, it isn't possible. If the digital strategy aims to implement a technology in three years' time, then network managers can ensure the network is ready for it."

For every device added or application deployed, consideration needs to be given to how that device will be managed and maintained, who will have responsibility, and what additional demands it will place on the existing school infrastructure. For instance, if a school invests in a set of tablets for a class but overlooks wi-fi access points, implementation will be delayed and unpredicted costs will increase.

Here are the key questions you should consider as part of your digital strategy plan:
● Who is responsible for managing and maintaining the new technology?
● What connectivity or services are required to operate the new technology?
● How is the device to be managed to ensure its use is controlled and appropriate?
● What is the expected "useful life" of the new technology? When will it need to be updated and/or replaced?

● Is it compatible with the existing technology in the school?

First steps towards strategic success
Devising and implementing a digital strategy can seem like a daunting task. It certainly requires concerted effort. However, once the first steps are taken the dividends become obvious. A school's digital strategy is a long-term journey, with multiple milestones along the way. Take heart in the fact that you are not alone on this journey. There are experts, school leaders, technologists offering advice and support.

Planning for a visit to Bett is always a good idea – the show is vast. However, even more important is understanding why you are going and what you want to discover. A digital strategy answers this and ensures you can make the very best of your visit.
SecEd

*Al Kingsley is managing director of NetSupport. Visit him at Bett on **Stand NL44** to ask any questions and to share your experiences.*

Further information & resources
▶ With ICT evangelist Mark Anderson, a former school leader and advocate for the purposeful use of technology linked to pedagogy, Net Support has launched *A guide to creating a digital strategy in education*, a free resource to help schools ensure their use of technology is as effective as possible in supporting teaching and learning. Visit www.netsupportsoftware.com/digital-strategy

Making time for CPD at Bett

Bett is not just about the exhibition – the CPD and seminar offering across the show's various theatres and other spaces is extensive and worth taking the time to visit

A day at Bett is an opportunity to get out of the classroom, gather ideas and evaluate new learning resources. For 2020, the CPD programme offers practical advice to help improve practice and make the most of your existing technology.

After visitor feedback from Bett 2019, six CPD themes have been chosen this year that reflect what visitors a year ago said were the most important topics. Visitors can also visit the Staffroom area of Bett, a space dedicated for educators to network, discuss and share learning opportunities away from the show floor.

Below we look at the six themes and preview some of the highlights (note that some sessions are relevant to two or more themes). The full programme is on the Bett website and while all sessions are free of charge, you should arrive early to ensure you get a seat.

Theme 1: Innovation
Focused around creating smart solutions to some of our biggest teaching challenges. Topics here include working within tight budgets, planning and using resources and evaluating impact.

The billion dollar ed-tech question: Can we prove it works? Professional Development (South Hall), 2pm, Wednesday, January 22 & 11am, Thursday, January 23
Alison Clark-Wilson, principal researcher from the UCL EDUCATE initiative, will aim to unlock the mysteries of the evidence-base for ed-tech and will provide some practical tools to help us all make more discerning decisions about what ed-tech to use, when, how, and why.

Evidence in ed-tech: How we can better understand our impact? Professional Development (North Hall), 4pm, Friday, January 24
The Ed-tech Innovation Testbed, run by Nesta in partnership with the Department for Education (DfE), helps schools to try out ed-tech products while being supported to evaluate their impact through short trials. This session, led by Colin Maxwell, a teacher at Fife College, will explore different ways that ed-tech can be evaluated to better understand its impact on teachers and learners.

Curriculum design, Education Show Theatre, 12:15pm, Saturday, January 25
Led by St Mary's School in Truro, this session will look at Ofsted's curriculum expectations for 2020 and how you can meet them, including how to ensure that the curriculum delivers rich content and deep understanding, how to achieve a balance between knowledge and skills, and how to create a broad and balanced curriculum.

Theme 2: Wellbeing
Focused on improving and maintaining both student and staff wellbeing and how technology can help.

Staff wellbeing, Education Show Theatre, 4pm, Wednesday, January 22
Kerry Hill is the head of Eyres Monsell Primary, the first primary school to become Princess Royal Training Award recipients and Gold status mental health in schools. Her session will tackle defining wellbeing, identifying the biggest stress points, creating a school culture that removes the stigma from staff mental health, and developing specific strategies to promote positive wellbeing.

Bullying and online abuse: Tackling the root causes, Staffroom, 1:45pm, Thursday, January 23
Led by Holly Everett from the charity Ditch the Label, this session will discuss some of the root causes of bullying and explore how secondary teachers can tackle these issues in the classroom. Topics will include bullying, digital literacy and mental wellbeing and the session will offer some tangible solutions.

Mental health, Education Show Theatre, 4:15pm, Friday, January 24
Jonathan Glazzard, professor of inclusive education at the Carnegie Centre of Excellence for Mental Health in Schools, will discuss the causes of mental ill health and give his critical appraisal of the role of the education and mental health practitioner in schools. He will also outline the research on evidence-based strategies for supporting young people's mental health and offer advice on implementing effective whole-school approaches, including peer-mentoring.

Michael Rosen: Why we need arts in the curriculum, Education Show Theatre, 10:45am, Saturday, January 25
Children's author Michael Rosen will discuss why arts need to be a staple of every curriculum.

Theme 3: Future Tech and Trends
Focused on how technology could reshape the way in which students learn and develop. Topics include creating digital strategies, the challenges of deploying e-assessment technologies, the procurement process, and training for staff. It will also look at what future trends mean for our learning and teaching models.

Overcoming the challenges of deploying e-assessment technologies within education institutions, Staffroom, 1pm, Wednesday, January 22
Led by the eAssessment Association and City &

Guilds, this session will include an informal discussion with experts from both organisations about maximising the impact of technology-enabled assessment (formative and summative).

What to watch in 2020, Education Show Theatre, 11:30am, Thursday, January 23
Laura McInerney, journalist and co-founder of Teacher Tapp, will explore current challenges faced within school and discuss the implications of future policy changes for pupils, staff and school leaders.

Preparing future generations for work with ed-tech, Staffroom, 1:45pm, Friday, January 24
Devise a themed curriculum that is both creative and relevant, develops resilience and resourcefulness, and helps students to understand the opportunities and applications of technology to their own lives. David Challoner, head of technologies at Beneden School, will explain how and why you should revamp your technologies curriculum and provide a template for schools.

Theme 4: Empowering Teaching and Learning
In these seminars, everything will be up for discussion, including ways to enact organisational change, research-sharing and collaboration, and best practice on maximising the impact of technology.

Teacher recruitment, retention and development, Schools Theatre, 10:15am, Wednesday, January 22
David Weston, chair of the DfE's CPD Working Group and CEO of the Teacher Development Trust, will share practical ways to become the sort of organisation that staff clamour to join and want to stay at. He will share ideas about how to use CPD as a key driver, not only for recruitment and retention, but also for more general school improvement.

Digital KPI framework: Is your school ed-tech ready? Schools Theatre, 11am, Wednesday, January 22
Neelam Parmar, director of ed-tech, digital learning and innovation at Ashford School, has designed this session to help schools prepare properly when introducing new technologies into their school culture. Delegates will leave with a mini implementation plan to commence their own brave ed-tech journey.

Classroom orchestration: Confidence in teaching with technology, Schools Theatre, 2:20pm, Wednesday, January 22

Richard Henderson from Lenovo and Delia DeCourcy from Chatham County Schools will explore examples of teaching with technology to enable active learning strategies, analytics, and adaptive learning.

Five simple steps for a successful ed-tech strategy, Schools Theatre, 12:30pm, Thursday, January 23
A successful ed-tech strategy should not be a plan to buy more tech, it should change the way a school considers, chooses and uses the tools that help staff and students to teach and learn. James Browning from RM Education will use real school examples to illustrate the five key steps in developing ed-tech strategy.

Reducing the workload for teachers, Schools Theatre, 11am, Friday, January 24
It has been more than a year since the DfE first published its Teacher Workload Reduction Toolkit – a project that the HES School Improvement Services team was involved with. During this session, Amanda Jackson, senior inspector at HES, will share examples of the strategies that schools have used to reduce teacher workload including case study examples, tips for identifying issues, managing change and using technology.

TeachMeet, Schools Theatre, 5:30pm, Friday, January 24
An informal gathering of those curious about teaching and learning. You can share great ideas trialled in your classrooms, ask questions or take part in learning conversations. You can sign up to present at https://bit.ly/2nPFtUu

Seven free strategies schools to drastically improve online safety, Schools Theatre, 11am, Saturday, January 25
Hamish Mackenzie from Digital Resilience UK will curate the current landscape of risk and look at practical strategies that schools, teachers and parents can adopt to improve online safety. Participants will leave with a toolkit of ideas.

Theme 5: Skills
Sessions for teachers of all levels of experience and all year groups to help them improve aspects of their practice. There are also sessions focused on T levels and Apprenticeships.

Guide to fundraising for tech in schools, Professional Development (North Hall), 12pm, Wednesday, January 22
Matthijs Clasener, a teacher from Grafisch Lyceum Rotterdam, will discuss applying for grants and trusts, engaging the community and alternative sources of income.

Teacher habits: Just great teaching, Education Show Theatre, 10:45am, Thursday, January 23
Ross Morrison McGill, founder of @TeacherToolkit, will analyse and disseminate best practice. With case studies and research from schools and explanations from influential educationalists as to why and how these ideas work, he will explore issues of marking and assessment, planning, teaching and learning, teacher wellbeing, mental health, behaviour, SEND, curriculum, research-led practice and CPD.

Why and how to embed creativity in teaching and learning, Schools Theatre, 10:15am, Friday, January 24
Colin Hopkins, executive director at RSA Academies, and Professor Bill Lucas, director of the Centre for Real-World Learning at the University of Winchester, will explore how school leaders can help teachers to embed creativity in their practice and across the curriculum and share and discuss innovative approaches to fostering and assessing creative skills.

Panel debate: Delivering T levels, Education Show Theatre, 12:15pm, Friday, January 24
This debate will focus on: building successful relationships with employers, ensuring an effective assessment process, managing a T Level transition programme, and building the skills required for T levels.

Apps for creative learning for all your students, Schools Theatre, 1:45pm, Saturday, January 25
This session will share a range of the best apps, resources and teaching ideas.

Theme 6: Inclusion, Social Mobility and SEND
Sessions range from how to support children with speech, language and communication needs (SLCN) through to whole-school SEND strategy and planning. Other topics include developing SEND awareness, strategies to aid learning, a focus on specific conditions such as dyslexia, and how digital technologies can help create an inclusive learning environment.

Panel debate: RSE, Education Show Theatre, 12:45pm, Wednesday, January 22
From 2020, relationships, sex and health education will be compulsory subjects in all secondary schools. This session will give clarification and will provide teachers with tools and tips for delivering successful lessons. Topics will include understanding the statutory requirements, managing the right of parents to withdraw children, LGBT+ teaching, and curriculum design.

Supporting children with SLCN, Schools Theatre, 1:15pm, Thursday, January 23
SLCN are one of the most widely reported learning SEN. This session led by Carol Allen, local authority education advisor for ICT and inclusion in Hartlepool, will consider the role of technology in supporting pupils' SLCN.

Supporting dyslexic students, Schools Theatre, 3:30pm, Friday, January 24
Should schools continue to focus on handwriting or move children on to touch-typing and tap into their haptic skills? Can the use of technology improve recognition of spelling patterns or does it make children lazy? Is it a good idea for pupils with dyslexia to learn a foreign language or will it make them more confused? A panel of experts will discuss these and other questions.

All teachers are teachers of SEND, Education Show Theatre, 1:45pm, Saturday, January 25
This session will discuss staff CPD to help schools to support the increasingly complex emotional and behavioural needs of SEND students, how to develop a team approach in the classroom, and how to support the EHCP process. **SecEd**

Further information & resources
▶ The Bett CPD programme can be searched by theme, day or theatre and is available at *www.bettshow.com/bett-seminar-programme-2020*

IMAGE BETT 2019

Where's the evidence?

Educators must demand more of ed-tech companies, says **Dan Sandhu** – and the first question to ask those selling their wares at Bett 2020 is evident…

"There is still little to no evidence that learning technologies have had a positive impact on learning outcomes at the national level."
Varkey Foundation

The above quote is the conclusion from the Varkey Foundation's November 2019 report, *System failure*, which cast a critical eye on the government's approach to ed-tech – namely its failure to put evidence of impact and teacher skills at the heart of its ed-tech strategy.

Some may remember the fanfare launch of the Department for Education's ed-tech strategy in April (DfE, 2019), which was generally met with approval.

However, it failed to address a key issue – the need for evidence and rigorous research into the impact of ed-tech in the classroom. As the *System failure* report reiterates: "There is little independent evidence about which ed-tech products improve learning outcomes, so popular but ineffective products stay on the market."

One aspect of ed-tech that highlights this issue perfectly is the slew of services and products claiming to harness the power of artificial intelligence (AI) to transform teaching and learning.

As this latest report highlights, government strategy must "ensure that the use of AI is transparent, unbiased and accountable". At the moment it is singularly failing to do so.

The curious case of AI evidence

AI has become the latest buzzword to excite minsters, investors and media alike. Understandably, this excitement also influences educators who are keen to find ways to support better learning.

However, increasingly, technology companies are adopting "AI" and "machine-learning" as mere marketing terms rather than evidenced, technical specifications. They are peddling products that make for good headlines but deliver little positive impact.

This problem is not confined to ed-tech. As Frank Chen – a partner at Andreessen Horowitz, a Silicon Valley VC firm – recently told the Axios website: "We have to figure out the difference between 'machine learning (ML) that can deliver real competitive differentiation' and 'fake ML that is a marketing gloss." (Waddell, 2019)

This trend of "AI-washing" signals the very real problem of spin over substance. Not only is it nearly impossible to tell exactly what some ed-techs are offering, but the evidence they present of impact is either startlingly patchy or questionable in its methodology.

The fact is, in our world of ed-tech, few products face the scrutiny of independent, randomised control testing, or trials based around considered quantitative research.

The suggestion from the Varkey Foundation that government "should prioritise evidence-gathering about ed-tech" and "publish clear purchasing guidelines" will not fill the snake-oil peddlers with joy, but it will stop useless ed-tech flooding the market, using up valuable school budget and wasting public money with empty promises and unevidenced products.

As CEO of an ed-tech company, this begs the question of how we go about evidencing impact in the classroom. Since 2010, Sparx has been embedded in a group of Exeter-based schools, collaborating with teachers daily to

(CAN YOU PROVE IT?)

develop, test, refine and learn what works, and (most importantly) what does not.

We have developed and run randomised controlled trials and adopted an evidence-based methodology to ensure everything we give to teachers and students has a positive impact. You can read the results on our website, where we publish our evidence for all to scrutinise.

There are others taking a similar "evidence-first" approach, but this is not the case across the board. "Show me the evidence" should be the first request any educator asks of ed-tech suppliers.

And then, once evidence has been established, schools face a second challenge that is not being addressed by current systems. Any new tool that is introduced into the classroom requires school leaders to invest time and effort into the training and development of the teachers that will use them.

The Varkey report signals that many teachers still lack the skills to effectively use technology, and that technology is not adequately addressed within teacher training and CPD.

Keeping pace with the rapid development in technologies – such as the aforementioned AI – is a challenge for teachers already severely pushed for time. Indeed, a report from the National Literacy Trust (2019), highlighted that 23 per cent of teachers said they had never received any training on how to use technology to support the teaching of literacy to students.

Alongside the demands of the curriculum, stagnant budgets and teacher shortages, government has failed to adequately equip teachers to use new learning technologies while simultaneously encouraging them to do so.

As such, individual schools, supported by ed-tech suppliers, are required to fill gaps in essential training. There is nothing inherently wrong with this approach – good ed-techs will have programmes of training, support and complementary CPD tied in with their offering. Some even offer peer-to-peer learning opportunities, with communities of teachers brought together to support and learn from each other in collaboration.

However, a strategic and joined-up approach to develop the technological skills of teachers is needed to ensure that pupils across the country benefit from impactful ed-tech. The piecemeal approach to tech and training that we have seen so far only serves to increase inequalities for students.

Until that changes, another key question an educator should ask of a new ed-tech supplier is: how will you support teachers to achieve more?

CPD, community, training or time-saving, technology should deliver impact for learners but never at the expense of additional burden for teachers.

When independently evidenced ed-tech meets confident, trained teachers, technology can pay the dividends that educators have been promised.

However, if suppliers cannot answer the two questions I have asked, teachers risk being overwhelmed by hollow promises and expensive deployments that result in little to no real impact. **SecEd**

Dan Sandhu is the CEO of Sparx.

Further information & resources
▶ *System failure: Why ed-tech policy needs a critical update*, Varkey Foundation, November 2019: **http://bit.ly/2L2kUwJ**
▶ *Policy paper: Realising the potential of technology in education*, DfE, April 2019: **http://bit.ly/2IIufu8**
▶ *The dangers of "AI washing"*, Waddell, Axios, November 2019: **http://bit.ly/2OQVIQr**
▶ *Teachers' use of technology to support literacy in 2018*, National Literacy Trust, April 2019: **http://bit.ly/37M2JoM**

IMAGE ADOBE STOCK

Tech trends and challenges

Rapidly evolving technologies present schools and teachers with a challenge that is constantly changing. **Dave Copin** looks at what we can expect beyond 2020…

The next decade promises to offer both incredible opportunity and challenge for all of us. Technologies like artificial intelligence (and close friend machine learning) will no longer be considered new but will instead be at the heart of some huge disruptive changes that will run right through our society.

In particular, AI will start to enable the automation of many things that were previously deemed too complex or even too "human".

We will see these changes at work. Professions like accountancy, law and others will see significant portions of what they do taken over by virtual robots. Vocations such as lorry drivers, taxi drivers and even chefs may disappear as machines offer more consistent results and less risk.

We will see these changes at home as AI brings a host of changes to how we live. AI will help us speak any language, discover and create new content, and maybe even decide what food to eat and when we should rest in order to help us live lives that are more healthy, productive and fun.

We will (hopefully) see these changes at school and in education too when we finally realise that simply knowing "stuff" is no longer enough. Instead we might seek to use AI to build personalised learning schemes that tailor learning for every unique student such that they can reach their potential regardless of background, ability to learn or particular strengths and weaknesses.

This could mean the end of exams and tests as we move away from the unnecessary stress and futility of a single measure of knowledge taken at a single moment in time to a world of continuous assessment, where the "system" is able to measure progress as a by-product of the work that the student does every single day.

As for the technology itself, it is going to continue to get quicker, cheaper, more powerful and smaller. Your huge smartphone may not be so huge by the time we get to 2030, in fact it may not be a phone at all but instead a small implant that you have inserted under your skin.

We will see the introduction of new game-changing technologies like quantum computing. Do not be fooled, this is not just a faster computer; the power and potential that quantum computing offers us is almost unimaginable. Today's quantum computers are limited, complex machines that require an extreme environment in which to run (most early models need to run at –273 degrees centigrade). But they are important because of the scale at which they operate.

In simple terms, the power of today's quantum computers is measured at around 50 cubits (a cubit is a quantum computer's measure of power, a bit like the digital equivalent of horse power). Scientists believe that when we can get Quantum computers to 500 cubits, those computers will be able to answer as many questions as there are atoms in the world and at the same time. This is a kind of computational power that we cannot even begin to imagine.

Oh and robots too. (Oh my!) These will not be the industrial robots you are used to seeing, they might not even be the science fiction robots (you know, the ones that start as friends and then take over the world…). These robots are going to be not just our friends, they will be a part of our families. It has already started. If you have a smart speaker at home, you have got an early ancestor of something that will end up becoming your own personal C3PO, not just there to help you but there to provide companionship and friendship while you go about your busy lives.

But all this will not be without some risk.

Massive parts of our current labour market will be challenged by the rise of the machines. Our children will continue to lack the skills they are going to need to thrive and we adults are going to struggle to make sense of it all – at home and at work.

The machines will not be perfect either, seeing as they are created by humans, they end up with some human problems as a result. Algorithmic bias will be one of the defining challenges of 2020 and beyond and it is going to take a lot of work to get all of us to a point where we can trust our lives to the algorithms alone.

The good news is that the end result is still ultimately down to us humans. The real answer to what 2020 will hold for technology and how it affects us in our everyday lives will continue to be all about how we humans choose to use it.

I am hopeful for a new era in 2020, one where we turn the corner in our relationship with technology and look not for dystopia, but instead we seek to ensure everyone has the right skills and ambition to build the utopia we deserve.

To get there we need to teach our kids (and ourselves) to break free of the technology that traps and disconnects us, and instead use the same technology to elevate what we could achieve – not by replacing us, but by freeing us to do all of the amazing things that the technology alone cannot do. The best future awaits those that can combine the best of technological capability with the best of human ability. **SecEd**

*Dave Coplin is the former chief envisioning officer for Microsoft UK. He has written two books, worked all over the world with organisations, individuals and governments – all with the goal of demystifying technology and championing it as a positive transformation in our society. For more information, visit **www.theenvisioners.com***

IMAGE ADOBE STOCK

Out on the show floor

After all is said and done, Bett is a trade show and the negotiating, selling and buying takes centre stage. We look at some of the exhibitors across the various zones

There are six main zones on the exhibition floor at Bett 2020 as well as the ever-popular Bett Futures area, which is home to ed-tech start-up companies. The zones themselves are explained on page 8 and below we take a brief tour of some of the companies set to exhibit this year.

Teaching Tech Zone

Kai's Clan is a collaborative coding/robotics experience with AR, VR environment. It offers Scratch/Blockly style coding and lesson plans (stand NJ43).

Cypher Learning will be showing its NEO Learning Management System. Features include drag and drop widgets, the mobile app offline mode, tagging, and public profile pages. There will be first glimpses of new functionality such as the personal AI assistant (stand NK31).

COOL from **Cloudwise** is a platform where students can find their work and navigate to applications from publishers as well as other educational material (stand NK45).

Maths Super Store is showing its Infinite Maths software, which provides teachers with a supply of maths worksheets and whiteboard sheets. There is also software for ESL, geography and science (stand NK43).

EDLounge delivers online remote learning through its range of "schools" to centrally manage seats, sixth day provision, inclusion, whole-school assessment and CPD/teacher training observations (stand NH44).

Get My Grades is an online curriculum tool which allows school leaders, teachers, tutors and parents to manage students' learning from one place (stand NK33).

Learning Tech Zone

BBC Education will be showcasing its education resources, including BBC Bitesize learning and revision resources for primary, secondary and post-16 learners (stand NC40).

Appidea is a software development company providing custom mobile applications, games, educational platforms and management solutions (stand ND60).

Scanning Pens has new features on show. The ReaderPen has been given an additional dictionary, more English accents, and some quality of life changes, while the ExamReader resource now supports 10 languages (stands NF10 & NF12).

GCSEPod will launch its new formative diagnostic assessment tool, Check and Challenge. It evaluates students' knowledge and understanding and provides scaffolded support. It is initially offered for maths, English literature and computer science (stand NE46).

Quizlet has free study sets, study modes and in-class games aimed at boosting student engagement (stand NB32).

The Edbot robots from **Robots in Schools** encourage students to learn coding. Controlled using Scratch, Python, Java, Javascript and other languages, Edbot robots come with software, lesson plans and speech support (stand SD41).

Equipment and Hardware Zone

The Micro:bit Educational Foundation is a not-for-profit organisation aimed at supporting and inspiring every child to "create their best digital future" (stand SA40).

Revopoint 3D Technologies is an emerging company specialising in providing user-friendly 3D educational hardware tools and 3D educational solutions to schools (stand SG21).

Management Solutions

One Team Logic will be demonstrating MyConcern, its safeguarding software used in educational settings to report, record and monitor wellbeing concerns. The new MyConcern App will also be on show (stand NL70).

Securus Software keeps children safe online. The new Securus NET allows schools to monitor devices and its Assisted Monitoring Service offers a team of safeguarding experts who monitor and review all "captures" (incidents of potential online threat) and alert you (stand NL32).

Global Showcase

Red Box from **Maker** is a group of curriculums to be used in makerspaces. The curriculums are offered as kits, and centre around maker skills like 3D printing, robotics and soft skills like teamwork, emotional intelligence and critical thinking (stand ST42).

WIRIS develops a suite of mathematical and science tools to help teachers, students, researchers and companies. These tools are available in LMS and CMS platforms, as well as other web apps (stand SR34).

Education Show

Time Capsule Education provides products aimed at developing and improving writing across key stages 1, 2 and 3. This includes Whole School Writing Assessment and Creative Writing Days (stand EDC53).

Your Grey Matters creates lesson plans and resources to support you when teaching PSHE and RSE. It offers specialised sessions and training (stand EDD78).

The **Teacher Development Trust**, a national charity, helps schools to review teacher improvement effectiveness and get leadership coaching support and tools (stand EDC76).

Bett Futures

Returning to Bett 2020 will be the popular Bett Futures feature, designed to showcase the best ed-tech start-ups. It has become one of the most visited areas of Bett and features three levels of company – start-ups, companies transitioning, and new companies who seeing real growth.

Kitaa Technology Solutions specialises in developing innovative, simple and quick solutions to complex models in economics and statistics (stand FS47).

With **Thinkbrainwave** teachers can record their lessons and share them online with their learners when preparing for tests and exams (stand FS4).

Athena Analytics offer a suite of analytics tools for the education sector. The main product, the Athena Tracker, tracks the results of each student from aptitude tests through to final exams (stand FS35).

Code4Kids upskills your teachers and helps them to implement a coding, robotics, and IT curriculum in your classroom for ages eight to 15 using real-world tools and content (stand FS28).

Life Ninja is a technology company focused on bridging the gap between schools, parents and students. Its products aim to build community, democratise access to ed-tech tools and use gamified engagement (stand FS29).

Intelligent Education offers solutions to reduce teachers' workload and save you time (stand FS45). **SecEd**

Further information & resources
▶ Bett's organisers say they are expecting around 800 exhibitors at Bett 2020. For the latest and full list of companies, visit *www.bettshow.com/bett-suppliers-list*
▶ A pdf showing the layout of the new learning zones can be found via *www.bettshow.com/exhibiting-at-bett/new-zones-for-2020*