

# ASE Annual Conference Online

## 6<sup>th</sup>-9<sup>th</sup> January 2021

Following on from the huge success of ASE's online delivery of COVID-19 webinars and summer conferences, the Annual Conference 2021 programme includes the usual blend of expertise, support and inspiration, with up to 6 time slots on each of the four days, within 6 virtual rooms. We are delighted to have supporting partners and exhibitors occupying a further 2 virtual rooms, for either 15-minute bitesized presentations with breakout rooms for further discussions, or 1-hour sessions with a media presence – for further details please e-mail [conferences@ase.org.uk](mailto:conferences@ase.org.uk)

The live online timetable (which may be subject to further minor changes) is available for viewing at: <https://ase2021annualconferenceonline.sched.com/>

Wednesday's programme will include both our International Day and, NEW

for 2021, a Technicians Day. For International Day, a host of presenters will provide perspectives on science education outside the UK, including a panel discussion looking at the impact of COVID-19 on science education across Europe, sessions looking at models for learning in other parts of the world, and one on how to save the world 'one science lesson at a time'. The Technicians Programme promises a fantastic range of practical sessions, ranging from survival guides for new technicians, to health and safety training from CLEAPSS, guidance on biology practicals from SAPS, and much more.

Thursday, Friday and Saturday will provide a wealth of sessions for our secondary and further education communities, from student teachers to heads of science, while our popular primary programme will sit across Friday and Saturday. Saturday will also include



sessions particularly targeted at our research and Futures communities. All will feature the usual range of excellent speakers, opportunities to share best practice and innovative ideas to take away, including a fantastic selection of Frontier Science sessions, with leading experts across scientific research.

Tickets (from £35+VAT for ASE members and £60+VAT for non-members) are now bookable via the ASE Annual Conference page. ASE Members who wish to attend the whole Conference are able to do so for £100+VAT!

<https://www.ase.org.uk/events/ase-annual-conference-2021-online-in-january>

For queries regarding the Online Annual Conference, please e-mail [conferences@ase.org.uk](mailto:conferences@ase.org.uk)

## ASE TechMeets

During lockdown, it became apparent to the Technicians Committee that our community of science technicians needed a forum to discuss what was happening in their schools and what practical work was being done, but they also needed an opportunity to talk to other technicians about current issues. So, in May 2020, we ran our first national online TechMeet, where around 50 technicians joined us to discuss CPD, the situation in their schools and plans to go back to work. This was really successful, the feedback was positive and technicians who attended asked if we would do it again, so we decided to run the TechMeets fortnightly until the end of

the summer term. The TechMeets have now become a monthly feature, with up to 100 technicians attending, and the Committee plans to run them for the foreseeable future as an opportunity for technicians to network across the year. The TechMeets are free and run for one hour over lunchtime, with ASE members given priority on places.

We invited technicians to discuss and present about any good practice in their own technical service, and we had technicians talking about STEM Ambassadors, storage solutions, Gatsby practical benchmarks, promoting technicians in schools, and demonstrations, to name but a few. The TechMeets also include some free time, where we discuss important issues (mostly COVID-related) that technicians

raise, and we canvas technicians beforehand about this. So, this term we have looked at school COVID policies, CPD, what's going on in schools, what practical work is happening, how technicians are following CLEAPSS and SSERC guidance, and general support, with hints and tips for technicians to share.

The TechMeets, along with other methods, have enabled technicians who are often working alone or in small groups to still see and communicate with others in the same situation across the country, maintaining their links to the wider profession and keeping up-to-date with changes and good practice.

For information about upcoming events for technicians, please visit <https://www.ase.org.uk/Events>

# My first six weeks as a Newly Qualified Teacher (NQT)

The term 'Imposter syndrome' springs to mind when I look back on my first day of being a newly qualified teacher. I found myself alone with a classroom of students for 5 hours a day, teaching them science, which was a daunting prospect after completing the strangest training year (or rather 6 months due to being interrupted by the Coronavirus pandemic).

I am now coming up to my 7<sup>th</sup> week and half term is just around the corner. One of the biggest highlights for me has been the close relationships I have formed with the staff in the science department. The amount of support I receive on a daily basis has contributed to my confidence in the classroom, not just for suggestions and teaching ideas, but also for emotional support on those days when things just don't go to plan. It turns out that even the most experienced teachers still have those days, and I have been glad to be able to return the support they give to me.

Meanwhile, behaviour management of students has always been a work-in-progress during my training. It

is a target that I do not think most teachers ever 'complete', or 'tick the box done', due to the changing nature of student behaviours and the evolution of management approaches. However, since settling into school life and seeing regular classes, the students whom I teach have been able to get to know me and I have taken the time to get to know them. As a result, I have found the number of techniques I need to employ has decreased and the weight of my lesson focus has shifted more towards the content, which is how I always imagined teaching to be.

Unfortunately, this does not (yet) apply to all of my classes (I have 12 in total). One of my Year 9 (aged 14) classes has really pushed me to my limits. I have tried most of the techniques in my toolkit, e.g. using football models, comic strip superheroes, making it a competition, focusing on rewards and positivity, setting chunked tasks...the list could continue.

Lucy Jones, Congleton High School, Cheshire



This class has really tested me, not just as a teacher but also as a person; the patience I have is increasing and I am more determined than ever to 'crack this class!' I may never achieve this, but the most important lesson I have learned over the past six weeks is that it is OK for me to feel frustration over these types of classes. I can have a rant (in a safe space) to let it all out, so long as I regroup and say to myself, 'okay, that didn't work, what can I do now?' As a result, each lesson I have with that class I treat as a fresh start and focus my energy on how I can improve and get better as a teacher, rather than blaming the students and making it about them.

Overall, every morning when I walk into my classroom, I think about how lucky I am to be in such a supportive profession, one where no two days are the same and one that pushes me to evolve my ways of thinking.

## What your NQT doesn't know

Well, I have made it to the end of my first half-term as a new primary class teacher. The children seem to have settled in well and are engaging in (most of) every lesson. I am, therefore, going to mark it as a successful half-term's learning. What is impossible for me to mark is progress made. I have such scant evidence to go on.

As an NQT of the COVID cohort, I have arrived into a school system full of conversations about the 'new

normal' and 'recovery curriculum'. For me, the current situation is the only school situation I have known up-close, so it is all new, but it is also all normal. Therefore, I realise I have to work to understand not only the rapidly evolving government guidance, but also the more subtle, unspoken stresses that are impacting on staff and children in their changed school.

Nicola Hern, Hawkes Farm Academy, Hailsham



In return for my very conscious work to understand the alien situation in which those around me find themselves, I hope there is an acknowledgement of the gigantic leap I have made. Back in March, as PGCE students, we were working on our Action Research projects (which meant actually planning

a run of five lessons – an enormous task!). Then COVID hit and we were pulled out of schools, not to return. Gone was the end of the second placement and all of the third, during which time we would have gently built up to teaching almost a full week in class with only partial support from the class teacher. Instead, with a wave of the lockdown wand and a click of the COVID heels, we have been magicked to the front of the class and are expected to know how to operate all the levers behind the curtain to create lessons day in and day out.

I do hope that this does not read as a whinge – I am loving being a class teacher. However, I do have to remind myself that I have missed the gentle, winding path that led from delivering my one immaculately prepared lesson to being the sole adult responsible for the learning and welfare of 30 children, six-and-a-half hours a day, every day. I am definitely playing catch-up.

Where I do not differ from any previous NQT is that behaviour management is my challenge. Even with a full PGCE course, new teachers can only really learn how to (or how not to) manage

behaviour once they are in a school. So far, I have managed to create a class that behaves with great enthusiasm but not with such great behaviour. However, I think I might not be alone. I was reassured to see that a post on the Facebook Year 3 & 4 Teachers group that asked ‘Is this the noisiest Year 4 you have ever had?’ generated an avalanche of agreement. So, it might be that my class’s behaviour is not purely the result of my failure to enforce the silence rule, but is part of the wider COVID fallout.

But what do I know?

## Experiences from lockdown

From the start of lockdown, right until the end of the school year, my teaching practice had to change almost overnight. From being able to directly gauge student understanding and influence student engagement right in front of me, to setting resources on a virtual learning environment (VLE) and fielding e-mails from students – it was a massive gear shift. However, as a confident digital native (most of the time) and someone entirely new to the profession as a UQT (Unqualified Teacher), the lockdown presented an excellent blank canvas opportunity. Rather than getting stuck into a traditional grind of PowerPoints and worksheets, I could play around with different methods to introduce new content to my students and new tools to assess their learning and their progress, ready to be brought back in September for my NQT year.

There were many challenges to overcome when planning our remote learning approach. In general, our school chose an asynchronous approach similar to other schools that

serve disadvantaged communities. Many of our students come from large households where a device for their own learning couldn’t be guaranteed. To counter this, some students were driven to completing work either before their parents started work for the day or late at night, leading to poor work habits and a further risk to their wellbeing. Furthermore, learning at a distance reduced the engagement of some students and made keeping them on track difficult – a challenge all teachers are working through with recap and recovery curriculums at present.

### Two key tools for my teaching and learning

This didn’t mean that we avoided all technological solutions – it just meant that we needed to be smart with the ones that we chose. From March until the end of the school year in July, I used two platforms for most of my remote teaching and learning – Satchel One/Show My Homework and Seneca Learning.

Michael Edwards, Science NQT,  
Hampstead School



Satchel One (SO) is a ‘one-stop-shop’ VLE, which we were already using to set homework before lockdown, so students were familiar with it. One of the useful functions of SO over lockdown was the ability to create comprehensive and integrated lesson pages with all the resources that students might need to engage with learning. With a few key weblinks and an informative video, students could select the way that they wanted to learn the content depending on their preference and the device they had access to.

Seneca Learning is a great quizzing platform based on cognitive science principles. It provides a fun experience for students, as well as a lot of data for teachers to analyse to suggest good next steps for students. With material across all the major specifications, and a relatively straightforward sign-up method, I can highly recommend using

it across all classes and key stages. It even has a well-designed app that makes it easy to use on a mobile device as well as a PC. However, getting students to fully engage with the concept of retrieval and revisiting something they feel they've 'already done' on Seneca is something I am working towards, as, across different groups, this idea is not shared by all students.

### Using learning technology well

From my own experience, I can give the following top tips for online learning:

- Don't reinvent the wheel – the perennial reminder that excellent material is out there for you to use. *YouTube* channels such as Amoeba Sisters, Cognito, TedEd and FuzeSchool are a great source of engaging instructional videos, and many VLEs have a community of resources that can be picked up and tweaked.
- Reduce barriers where possible – when selecting any tools, think about the obstacles that students may experience in accessing it. We know how to circumvent these in the classroom, but, without us in front of them, student disengagement in some form is hard to avoid. From the device to which they have access, to any individual learning needs – always consider how you might address barriers in the remote setting.
- Reduce the number of clicks, links and codes needed to engage fully – as an extension of the above, there needs to be a balance between the utility of the tool to a teacher and ease of student access. A tool that needs three separate passwords or sign-ins to engage with will be a near-impossible sell to many classes. By using Satchel One, I could create a lesson, bringing together video content from *YouTube* and engaging assessment, all on the same website and within a few clicks. If more clicks and links are required for

a student to engage, then fewer students will engage on the whole – during one lockdown example, this decreased from almost 70% engagement with a one-stop-shop approach to around 20% with more external tools.

### Extracurricular activities in the time of COVID

In closing, something I am particularly looking forward to in the coming months is the return of extracurricular activities in my department. Before the lockdown, I signed the school up for the Royal Society Young People's Book Prize, and I'm working with pastoral and support staff alongside my department colleagues to identify Year 7 (age 12) students who need a motivation boost in science or a push to excel. As part of my first major school project, we'll be running a six-week reading challenge across the next half term, and it'll be great to see how it turns out.

## Reflections from an NQT

*The autumn term is always hard – there are new students, new timetables and new routines, but add onto this entirely different and frequently changing ways of working. For NQTs who had not had the opportunity to hone their practice in the summer term and who had not taught anything like the number of lessons they now face in a week – this has been a very challenging start to teaching. Sophie however, is not complaining:*

My first half term as an NQT was exactly as I had anticipated: busy days, often feeling tired but also the

satisfaction that comes from a highly rewarding job. Witnessing students develop their understanding and seeing progress throughout this half term has provided me with some sense of achievement.

Moreover, the support and advice from my colleagues has been invaluable. I have learned new ways of delivering lessons, including conducting practical activities whilst maintaining a social distance and delivering live lessons to students working from home. The biggest challenge I have faced, though,

Sophie Mullins, NQT at Eaton Bank Academy, Congleton



is to remain positive when class behaviour has been difficult to manage. However, seeking help and support from my mentors has meant that I did not dwell on challenges for too long and that I had new strategies to add to my toolkit.

If I could repeatedly remind myself of one thing, it is that being a teacher is a continuous learning process and not every lesson is going to be perfect.

# Teaching in a time of COVID: advice for science NQTs

Alastair Gittner

I am sure when you first thought about teaching you were not expecting to be working as we are now. You probably had hopes for how you would plan routines for your lessons, imagining how you would greet students at the door of your own classroom, how you would arrange the desks, and had wonderful ideas for lessons with lots of active learning and students moving around the classroom. For many of us, these simple things are now impossible. Many of us will be feeling overwhelmed so, as we head towards Christmas and the New Year, what can we learn from research that might help us?

Though we are in unprecedented times, high quality teaching is still the most important aspect for us to focus on. When working with learners of all abilities, taking into consideration disadvantaged children and working with some in front of you and some remotely, ensuring that lessons are well planned, that you are clear in how you present ideas and that you give plenty of time for students to practice new ideas, will help everyone learn. In his excellent book *The Hidden Lives of Learners*, Graham Nuttall demonstrates the many interactions children will make in a classroom lesson

that will help them with their learning and give clues to assist understanding. When working at home, all these go and so it is imperative that we look to substitute these with support of our own. So here are some top tips to consider:

1. Be clear in your own mind what prior learning your learners need to bring to understand the topic of the lesson: how can you help them access this or do you need to provide a reminder? Where is this topic leading? Why are you teaching it and they learning it? Make these links very clear to your learners.
2. What misconceptions are children possibly going to have on this topic? Seek advice from an experienced colleague and take these into consideration in your planning.
3. What scaffolding can you provide for students that will help with 1 and 2? This could be a list of key words; don't just give the subject-specific words – is there other vocabulary they are going to need? Would a writing frame or sentence starters help?
4. Whilst students are in your lesson, model your thinking and the strategies they can use for accessing help when working remotely. Having

good metacognitive skills and, more importantly, self-regulation can really help when students are working on their own. Promoting resilience so that students don't give up by helping them develop a range of strategies and the confidence to change between them can promote good learning.

5. Look at the resources from the Education Endowment Foundation (EEF). They have produced a wealth of resources that are evidence-informed and, even allowing for the unprecedented nature of the current situation, provide guidance and reassurance. Their COVID response documents can be accessed here: <https://educationendowmentfoundation.org.uk/covid-19-resources/>
6. Reach out for help. There are many science teachers on social media, especially Twitter, who will be only too willing to help. Use the tag #ASEchat and I am sure that someone will come forward.

**Alastair Gittner**  
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## COVID career dreamers search for answers

A generation of young people are rapidly reassessing their career dreams according to research released to mark the start of Tomorrow's Engineers Week 2020 (2nd – 9th November).

22% of 11-19 year-olds agreed that what they want to do as a career has changed, and 30% agreed that what career they can do has changed as a result of the pandemic. The report

authors claim that this suggests that the pandemic is affecting – and, in some cases, constraining – young people's careers aspirations.

Worryingly, since school closures in March 2020, over 76% of 11-19 year-olds have not accessed formal careers activities.

The research found that the most popular request from young people

was more information on careers delivered in a business environment.

To help deliver this, EngineeringUK has launched the Tomorrow's Engineers Code – a new approach to engagement, with stake holders working towards common goals to increase the diversity and number of young people entering engineering.

For more information, please visit [www.tomorrowsengineers.org.uk/teweek](http://www.tomorrowsengineers.org.uk/teweek)