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Adapting existing pedagogy to distance learning

With schools closed for an indefinite period, our attention has been turning to how we can keep students learning, this article will look at top tips for distance learning and some of the tools that can support learning.

Can we just teach the same way via video conferencing?

The obvious thing is to try to use Video Conferencing to replicate your lessons, and to a certain extent this is successful and naturally the best thing to do. We also shouldn't forget the effective pedagogy that we use in the classroom - feedback and cold calling are still effective in the online domain. You can ask students questions and they can respond, you can share your screen presentation. After a while, the delayed dialogue where students mute and unmute or people accidentally talk over each other may cause us to look for other options, pose - pause - pounce - bounce starts to take twice as long as it would in the classroom and the pace of the lesson could be halted. Teachers are experts in adapting their teaching in response to need will soon adapt to the new medium and opportunities. There are opportunities in this way of working though to enable students to take charge of their own learning and experience the flexibility that digital learning can offer.

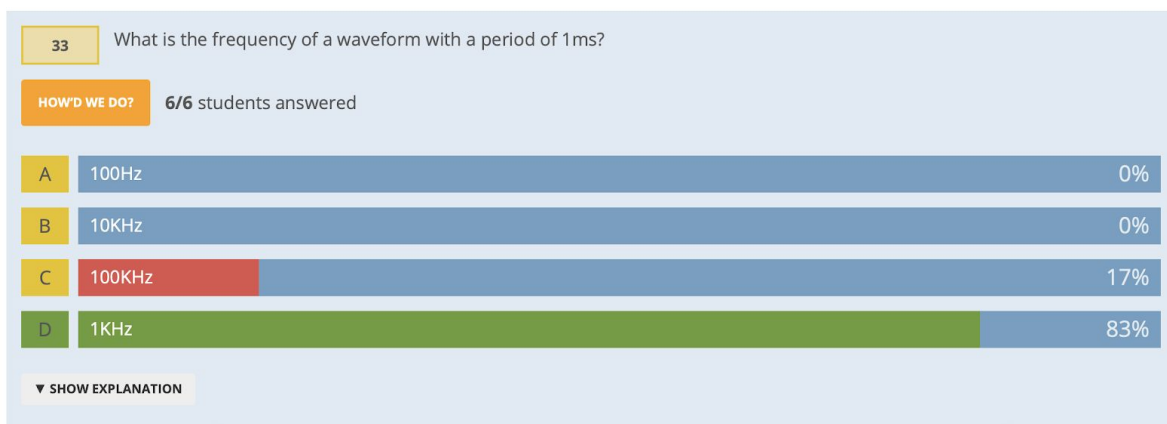
What are the opportunities?

Digital technology has shown promise in many areas and with distance learning we should consider the opportunities as well as the drawbacks. As well as questioning a few students

you can also use formative assessment tools to rapidly see what all students have understood. With students signed in to a Socrative room you can pose questions on the fly or quickly share out low-stakes quizzes. Low-stakes quizzing benefits from a strong evidence base. Adesope and Trevisan (2017) reviewed 59 randomised controlled trials evaluating the effects of low-stakes testing and found mean effect sizes of +0.64. We can instantly see how well students have understood content:

Name ↑	Score (%)	4	5	6	7
*****	48%	A	B, F, C	B, F	A, G
*****	45%	A	E, D, C	A, F	B, G
*****	52%	A	B, D, C	D, F	A, E
*****	42%	A	E, D, C	B, F	A, G
*****	48%	A	G, D	B, F	C, E
*****	64%	A	A, D, C	B, F	G, E
Class Total		100%	17%	67%	17%

And the 'HOW'D WE DO' button lets you review each question with the class (without revealing who got the answer right or wrong):



The free version of Socrative lets us do all of this. Nearpod takes things a step further and let's us deliver our presentations (you can upload powerpoint presentations) with quizzes embedded, the free version however is limited to 30 students in a class and has some file size limitations.



It is also worth exploring 'Classkick' - <https://classkick.com/>, a tool that lets students work through a prepared presentation where you can check in on where they're up to and they can raise their hand for help.

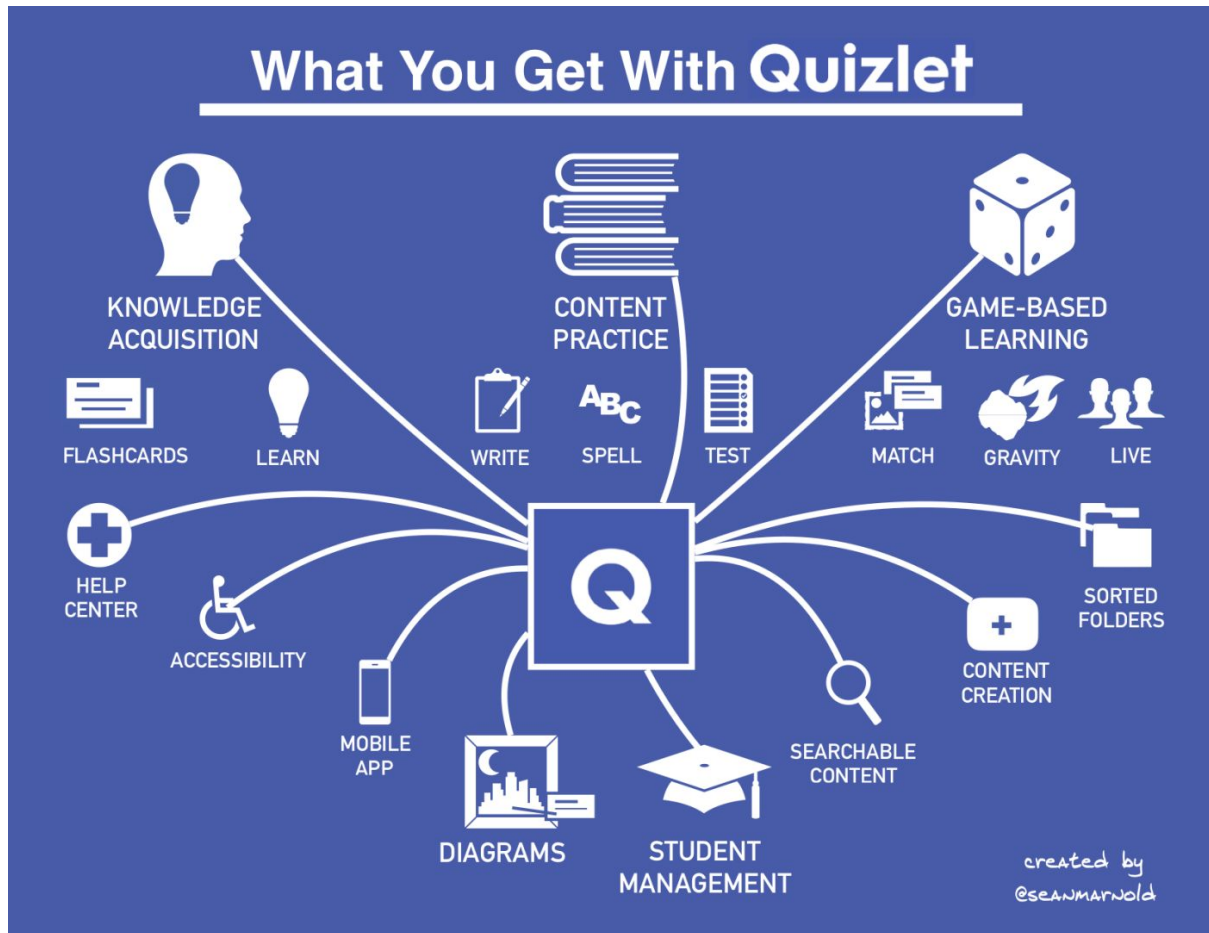
We also know that many studies have shown 'Retrieval Practice' to be effective, for example the Institute for Effective Education's "Retrieval practice in primary science lessons" (<https://the-iee.org.uk/what-we-do/innovation-evaluation-grants/retrieval-practice-in-primary-science-lessons/>):

"Intervention pupils attained an overall effect size of +0.26 for the one-week delayed test. More interesting, was the 12-week delayed intervention effect size of +0.58. The results suggest that pupils who practise multiple choice quizzing not only perform better in a one-week delayed test than their peers, but perform considerably better after 12 weeks, thus demonstrating a greater retention of learning when retrieval practice is employed in lessons. Results for pupil premium pupils are particularly of interest, revealing no loss of learning in Years 2 and 5 and only a 5% percentage loss in Year 3."

For more on Retrieval Practice see the Chartered College of Teaching article here: <https://impact.chartered.college/wp/wp-content/uploads/2018/03/Optimising-Learning-Using-Retrieval-Practice.pdf>

Whilst in the IEE study Socrative was used for Retrieval Practice, an effective tool that lets student study for themselves is Quizlet. Quizlet lets you set up a class and add question sets. There are a range of ways that the students can practice recalling the information (flashcards, test, matching descriptions with definitions) and there is an element of adaptive learning here (<https://medium.com/@staceyroshan/quizlet-tips-for-teachers-students-including-adaptive-le>

[arn-mode-quizlet-edtech-f9a8fa33b2f](https://www.quizlet.com/arn-mode-quizlet-edtech-f9a8fa33b2f)), where questions that weren't answered correctly are posed more frequently.



Whilst structure is important for students, when combined with the flexibility of working through tasks such as these it empowers students to choose how they access learning.

This is also a great opportunity to allow students to take charge of their own learning and to reflect on their work. An example of where this has shown particular promise whilst utilising technology is the ReflectEd metacognition trail being run by Rosendale Research School, funded by the Education Endowment Foundation

(<https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/reflected/> / <http://www.reflectedlearning.org.uk>)

Feedback

Feedback can take many forms and whilst ad hoc verbal feedback is a key element of classroom life it can easily be missed when students are working from home. In addition to the written feedback possible in apps like Google Classroom, teachers should consider the benefits of recorded verbal feedback. This enables you to use an encouraging tone of voice personalised to the students that you know, and has the potential to save workload. This can be done simply by recording on your device and uploading the audio file to your feedback

system and some apps have this ability built in (eg. SeeSaw - web.seesaw.me and Showbie - showbie.com).

Saving workload and accessibility tools

Working in this way and getting to grips with new apps has the potential to cause additional work which is why it's important to look for opportunities to reduce workload. Recording feedback and using services where teachers have already created and shared content that you can reuse, for example Quizizz (quizizz.com) and Quizlet (quizlet.com), have the potential to reduce workload. When preparing demonstrations don't forget that many devices allow screen recording - for example on the iPad you can screen record

(<https://support.apple.com/en-gb/HT207935>) yourself talking and demonstrating using a whiteboarding tool such as Showme (<https://www.showme.com/>) and Google Meet allows screen recording (meet.google.com - G suite for education required - https://edu.google.com/intl/en_uk/products/gsuite-for-education/?modal_active=none).

If you are using an iPad or G suite for education you can use the dictation feature instead of typing to save time on writing

(<https://support.apple.com/en-gb/guide/ipad/ipad997d9642/ipados/> / <https://support.google.com/docs/answer/4492226?hl=en>).

Dictation is part of the accessibility features and all platforms now have support for a wide range of accessibility tools:

iPad: <https://www.apple.com/uk/accessibility/ipad/>

Google: <https://support.google.com/a/answer/1631886?hl=en>

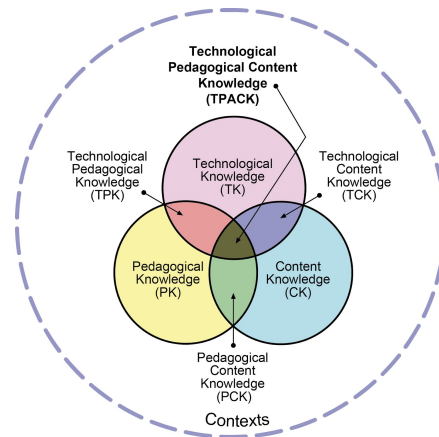
Microsoft: <https://www.microsoft.com/en-us/accessibility>

Don't try this all at once! Pedagogy first and workflow

This all might seem like a lot to achieve so don't expect to be able to adapt all of this into your way of working instantly. Equally, don't be afraid to fail (Growth Mindset Learning Pit), your students will appreciate your efforts.





If you're looking for a place to start, once you've chosen your video conferencing platform, consider your workflow, the way you will share documents, collect in work and give feedback. G suite for education from Google for example provides you with Google Meet for Video Conferencing and Google Classroom for workflow, but there are other offerings from Microsoft, Apple, SeeSaw, Showbie and many others.

Finally, always start with what you want students to **do** and **learn** and make a critical choice about the best tool for this. A useful lens for considering the best option is the TPACK model (<https://matt-koehler.com/tpack2/tpack-explained/>)



In distance learning you should always ask the question “Am I using the correct pedagogy and technology for the content I want students to learn?”.

For a more detailed look at the evidence behind the use of digital technologies to support learning, we recommend you read the EEF guidance on digital technologies - https://educationendowmentfoundation.org.uk/public/files/Publications/digitalTech/EEF_Digital_Technology_Guidance_Report.pdf

<p>1</p> <p>Consider how technology will improve teaching and learning before introducing it</p> 	<p>2</p> <p>Technology can be used to improve the quality of explanations and modelling</p> 	<p>3</p> <p>Technology offers ways to improve the impact of pupil practice</p> 	<p>4</p> <p>Technology can play a role in improving assessment and feedback</p> 
<ul style="list-style-type: none"> • New technology can often appear exciting. However, it can become a solution in search of a problem unless it is introduced in response to an identified need. It is often useful to link the introduction of new technology to wider planning, for example, a review of assessment policy. • Schools should consider the pedagogical rationale for how technology will improve learning. The principles of how to use technology successfully are not distinct from questions of how to teach effectively or how children learn. • Without a clear plan for support and implementation, technology is much less likely to have an impact. This includes considering what initial training will be needed, what time and resources are required, and what ongoing support should be available. • Decisions about whether to introduce technology should also include an analysis of the costs of implementing the technology, alongside the expected benefits. This should include both the upfront costs and any ongoing requirements. 	<ul style="list-style-type: none"> • Technology has the potential to help teachers explain and model new concepts and ideas. However, how explanations and models are conveyed is less important than their clarity, relevance and accessibility to pupils. • Introducing a new form of technology will not automatically change the way teachers teach. The introduction of interactive whiteboards provides an example that highlights the need to consider the pedagogical rationale for adopting a form of technology, and for carefully planning the training required to enable teachers to use it effectively. • Technology can help teachers model in new ways and provide opportunities to highlight how experts think as well as what they do, but may be most effective when used as a supplement rather than a substitute for other forms of modelling. 	<ul style="list-style-type: none"> • Technology has the potential to increase the quality and quantity of practice that pupils undertake, both inside and outside of the classroom. • Technology can be engaging and motivating for pupils. However, the relationship between technology, motivation and achievement is complex. Monitoring how technology is being used, including by checking that all learners have the skills they need to use it effectively, is likely to reduce the risk that technology becomes a tool that widens the gap between successful learners and their peers. • Some forms of technology can also enable teachers to adapt practice effectively, for example by increasing the challenge of questions as pupils succeed or by providing new contexts in which students are required to apply new skills. • Using technology to support retrieval practice and self-quizzing can increase retention of key ideas and knowledge. 	<ul style="list-style-type: none"> • Technology has the potential to improve assessment and feedback, which are crucial elements of effective teaching. However, how teachers use information from assessments, and how pupils act on feedback, matter more than the way in which it is collected and delivered. • Using technology can increase the accuracy of assessment, and the speed with which assessment information is collected, with the potential to inform teachers' decision-making and reduce workload. • Technology can be used to provide feedback directly to pupils via programmes or interventions, but in all cases careful implementation and monitoring are necessary. Feedback via technology is likely to be most beneficial if it supplements, but is aligned to, other forms of feedback.

Alban Teaching School Alliance run a range of professional learning opportunities and school to school support. They also lead on the Sandringham Computing Hub, part of the National Centre for Computing Education. For more information visit <http://albantsa.co.uk>.