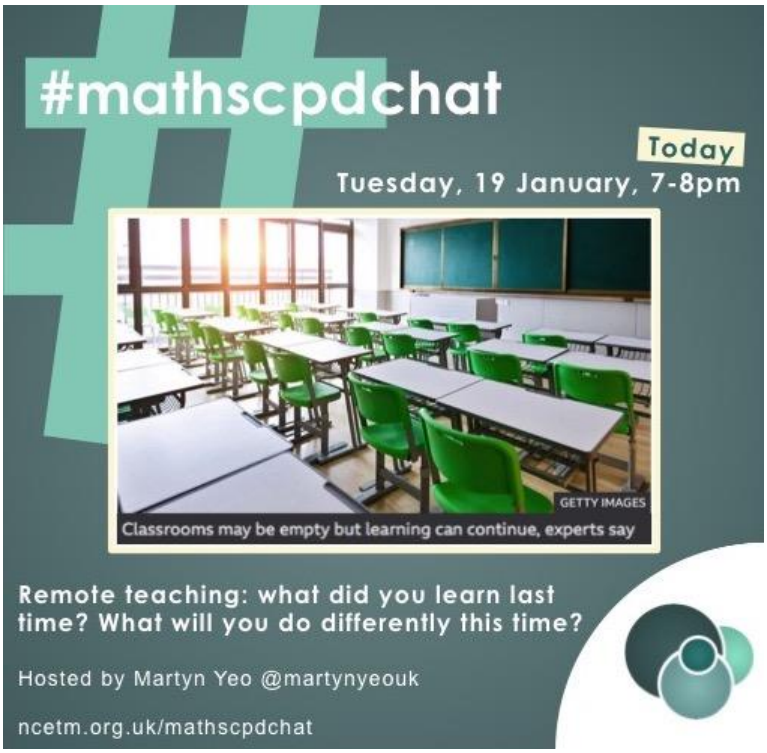
#mathscpdchat 19 January 2021

Remote teaching: what did you learn last time? What will you do differently this time?
Hosted by Martyn Yeo

This is a brief summary of the discussion – to see all the tweets, follow the hashtag ***#mathscpdchat*** *in Twitter*



The **results of a poll,** tweeted by the host at the start of the chat, were:

Some of the areas where discussion focussed were:

ways in which present maths teaching and learning are the same as they were during the first lockdown, and ways in which they are different:

- teachers reported that they have **not had to grapple with 'tech issues'** this time … that **expectations 'feel a lot higher'** … the teaching is 'a lot more structured' … in many schools students are following their (normal) lesson timetable this time, and **'live input' of some form is expected in every remote lesson**;
- teachers said that they have **learnt a lot since the first lockdown**, not only by reflecting on, and modifying, their own previous practice, but also by hearing/seeing/reading the reports and ideas of other teachers, including teachers in other schools;
- most teachers reported that this time they are **teaching more live online lessons according to a timetable** (often using a visualiser or Zoom) … rather than, as they were last time, recording their own lessons for pupils to access at any time, or directing pupils, and sometimes parents, to online material created by other people (non-live remote teaching and learning is being described by some people as ***asychronous*** teaching);
- **student engagement seems to be greatly improved** … it is easier, this time, to check engagement 'as you track lesson attendance and submitted work' because **this time much more of the remote teaching is live** … students are reporting to teachers that getting help instantly this time is helping them 'not to give up' … 'being able to see the children and ensuring they are doing things rather than just hoping they are watching the videos';
- a **teacher questioned whether lack of engagement with maths learning features any more prominently during remote teaching** than it does during normal in-school lessons;
- some teachers are **looking for strategies that will generate even more and 'better' responses from students** during live lessons … and they are looking for better ways to 'get an overview of students' work quickly' so they can provide immediate feedback;
- one teacher commented that 'having moved everything to OneNote (link provided below) this time around, scrolling through the class notebooks is just like walking around the class (virtually)' … when requested, **the teacher described briefly how he works with OneNote**, and provided four screenshots showing students' written responses … he described how he 'goes through' various examples 'on OneNote or visualiser' … 'students get their own versions to work on and I can move around in real time and mark/annotate their work' … students, having worked on some sets of examples, provide written feedback (on pre-prepared forms) as answers to questions such as 'What has gone well?', 'How could you improve?' and 'What would you like to happen moving

forward?' … students' written responses include comments such as 'maybe have some breakout rooms but other than that happy with how lessons are at the moment';

- a few teachers mentioned that **some students have been using 'photomaths' applications that provide 'full working out for algebra tasks (questions)' that they have been set to do themselves** … and a teacher, who had talked with his Y10 nephew about how he was getting on with his set maths work, commented 'if there was something he couldn't do he said he would just Google the answer' … another teacher commented 'I had a student without a calculator today and it was a lot easier to say "just type 100 divided by pi into Google" than to remotely get them to find the button on their calculator';
- some teachers '**are providing much more for students to be doing**' than they did during the first lockdown … with the expectation that students will follow their normal timetable using asychronous lessons;
- in response to an inquiry about **whether pupils are being given any tasks that are intended to be done away from a screen**, some teachers described how their pupils work on maths for most of the time … for example, the screen provides the mathematical 'question', pupils sit looking at the question on the screen with pen and paper in front of them which they use for their work on the question … when they are ready, pupils type in their answer … the screen provides 'instant feedback' … another teacher said that he sometimes provides 'a Bowland Maths assessment task' for students to work on away from their screen in order to give the students 'a break from curriculum' and 'myself a break from screens etc.' … most teachers are deliberately not providing opportunities for pupils to work on investigative/exploratory tasks, because the teachers' present priority 'is getting all students to engage' and 'this is easier with some explicit instruction and a self-marking set of questions' … some teachers commented that exploratory/investigative tasks would 'work well' in live lessons, but are very hard to manage if the lessons are not live (asynchronous);
- a teacher commented that during this lockdown she was feeling obliged to **'race through the Scheme of Work with live lessons'** because that is the message that she is receiving as her school's idea of the present 'best pedagogical practice' … while 'feedback isn't a priority', the teachers in her department are tracking students' progress by looking at the students' responses to 'retrieval tasks';

whether changes that teachers have made recently in their practice are actually 'for the better':

- that **changes made are resulting in more responsive teaching** … being able to see promptly in live online lessons how each student is responding to tasks enables the teacher to adjust their teaching appropriately (as they would do in normal classroom teaching) rather than 'just churning through next bit of curriculum';

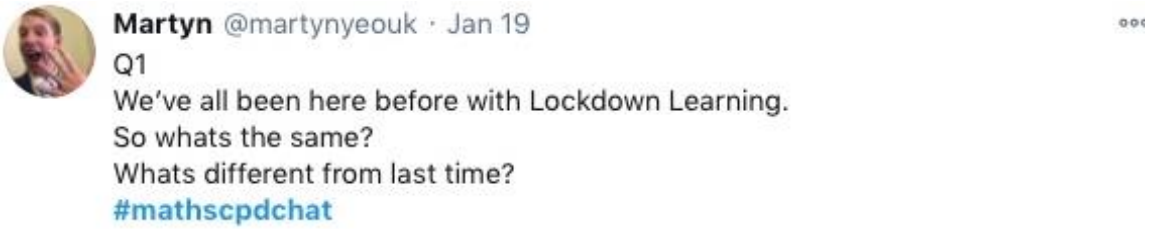
- that this time **being able to spend time in live online lessons talking to small groups of students** 'who have put their mics on' is a great improvement in that it allows the teacher to 'focus on feedback';
- the students this time **frequently using their own online mini-whiteboards** 'has helped with assessment';
- some teachers are this time **'asking for a lot more written work to be returned to me'** … this means 'I can give better feedback and plan follow on lessons accordingly';

the host invited contributors to give their 'top tips' for remote maths teaching:

- it is wise not to try to include 'all the bells and whistles' in every lesson … it is helpful to **break each lesson into distinct parts** … some teachers are concluding that 'students need **smaller steps** when working remotely', and that **purposeful practice** builds the confidence of students;
- using **online mini-whiteboards** (whiteboard.fi link provided below) greatly **aids formative assessment**;
- it is useful to **ask all students to press 'Enter' at the same time** in order to see together all their responses (answers) to a particular question;
- that **whiteboard.fi used with a good source of tasks (such as DrFrostMaths) provides a helpful aid for effective teaching** … 'do a few examples, and check with whiteboard.fi (each pupil using their own online mini-whiteboard), watch them progress through the tasks' … then bring them all back for appropriate live online 'whole-class' teaching.

In what follows, click on any screenshot-of-a-tweet to go to that actual tweet on Twitter.

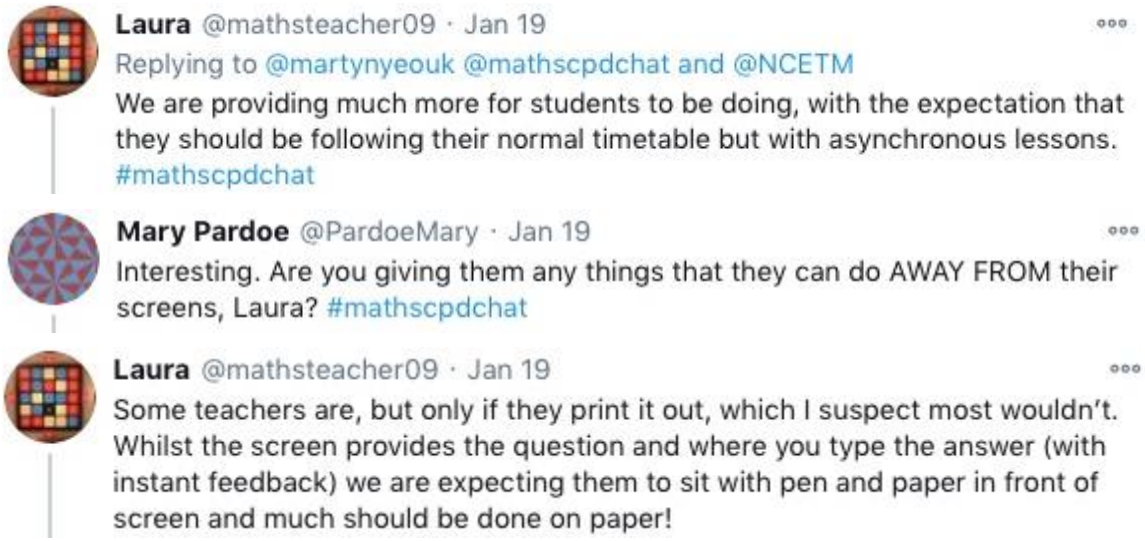
This is a part of a conversation about how teachers' practice in this lockdown differs from their practice during the first lockdown. It includes some discussion about the extent to which at present both teaching and learning is (has to be?) dominated by 'on-screen' work that is rarely exploratory or investigative. The conversation was generated by this tweet from Martyn Yeo:



and included these from Dr Nicola Trubridge and Sam Blatherwick:

these from Helen Scott and Martyn Yeo:

these from Laura, Mary Pardoe and MrHawesMaths:



Mary Pardoe @PardoeMary · Jan 19

What about giving them things to explore? So they go away from the screen to look into something, then come back to report, share and discuss? #mathscpdchat

Laura @mathsteacher09 · Jan 19

Replying to @PardoeMary @martynyeouk and 2 others

I think that would work well for live lessons but much harder for not live lessons. #mathscpdchat

Mary Pardoe @PardoeMary · Jan 19

Replying to @PardoeMary @mathsteacher09 and 3 others

For example ... 1/4 ...

#mathscpdchat

The students' task is to investigate the numbers of regions in their own diagrams created by reflections. Tell them to start with any regular polygon, perhaps a square or a regular pentagon, and a mirror line. Then draw the reflection of the polygon in the mirror line, and count the number of regions in the whole diagram (excluding the exterior region).

Prompt students:

- *Think about what you can change.*
- *Ask your own questions, and try to answer them.*

Encourage students to explore their own examples by changing aspects of the situations that they create. For example, they may change the position of the mirror line but keep the same polygon. Or they might change the number of sides of the polygon while retaining the regularity.

MrHawesMaths @HawesMaths · Jan 19

I have put in the occasional Bowland maths assessment task which had been good for students as it gives them a little break from curriculum and is more open ended investigative

and these from Laura, Martyn Yeo, MrHawesMaths and Atul Rana:

Laura @mathsteacher09 · Jan 19

I must admit that I'm really not taking this opportunity to do anything investigative at all. My priority is getting all sts to engage and I think this is easiest (but still not easy!) with some explicit instruction and a self marking set of questions. #mathscpdchat

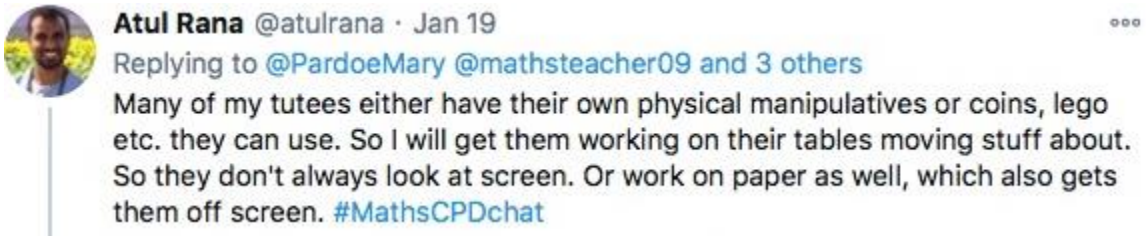
Martyn @martynyeouk · Jan 19

We are doing similar - keeping it simple to start with - just so they get used to things - but hoping to get deeper soon! #mathacpdchat

MrHawesMaths @HawesMaths · Jan 19

Replying to @mathsteacher09 @PardoeMary and 3 others

I'm doing it so I give myself a bit of a break from screens etc.



(to read the discussion sequence generated by any tweet look at the 'replies' to that tweet)

Among the links shared were:

OneNote which is an application that provides a personal workspace for every student, a content library for handouts, and a collaboration space for lessons and creative activities. It was shared by MrHawesMaths

Virtual manipulatives which is part of the MathsBot website where teachers and students can enjoy playing and working with a very large range of different virtual manipulatives. It was shared by Martyn Yeo

Whiteboard.fi which is a free whiteboard tool for teachers and students. Every student gets a digital whiteboard where they can draw, write text, make notations on images, write algebraic expressions, and so on. The teacher can see all the students' whiteboards in real time, while each student sees only their own whiteboard and the teacher's. It was shared by Gemma Scott

Teaching with Desmos which is an online course from the AMSP (Advanced Mathematics Support Programme) designed to demonstrate how to use this free dynamic graphing software effectively to help deepen students' understanding of maths. It was shared by Helen Scott

Microsoft Forms which is an application with which you can 'assess student progress with quizzes and easily export answers to Excel'. You can even transform a quiz by 'adding videos to the questions'. It was shared by Helen Scott

DrFrostMaths which is a very popular site that provides an online learning platform, teaching resources, videos and exam questions, all for free. The teacher is able to see students' responses to tasks in real time, and therefore provide instant feedback with no time-lag. It was shared by Helen Scott

The Bananarama principle which is an article by Lee Elliott Major, who is professor of social mobility at the University of Exeter. It briefly discusses the principle that 'lies at the heart of' the

book *What Works? Research and Evidence for Successful Teaching* by the same author with Steve Higgins. It was shared by Rute Castro Silva