

Reflecting on lessons from engaging with remote teaching during the Covid-19 pandemic in schools in England: a commentary on potentials for improvement

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Abstract

The outbreak of Covid-19 has caused major disruptions to the education system in the UK and other parts of the world. This resulted in remote teaching and learning in secondary schools. Schools, teachers, parents, and students have all been affected by this change to teaching and learning, especially concerns that remote teaching may not be as effective as traditional face-face teaching. This is even more difficult among secondary schools as remote teaching is not common in such settings compared to higher education where this has been used and developed. The current situation raises a variety of challenges for all involved in teaching and learning. This commentary, therefore, draws attention to how secondary schools and teachers are engaging with remote teaching in England and the inevitable professional development needs of teachers. It explores various types of remote teaching, their advantages, and disadvantages and how they can be used to support classroom practices. The commentary considers some of the salient issues developing from this new way of teaching drawing on current practices and practitioners' views, and existing theories to suggest ways of addressing potential challenges resulting in a model for supporting the delivery of remote teaching and learning.

Keywords: remote teaching, synchronous, asynchronous, hybridised

Introduction

The outbreak of the Covid-19 global pandemic has led to closures of schools around the world. The World Health Organisation (WHO, 2020) in collaboration with the International Federation of the Red Cross (IFRC) and UNICEF issued guidance to help protect children and schools from the transmission of the Covid-19 virus. They encouraged schools to have solid plans in place to ensure the continuity of learning, including remote learning options such as online education strategies and radio broadcasts of academic content, and access to essential services for all children. These plans should also include necessary steps for the eventual safe reopening of schools. The pandemic may have caused disruptions to students' learning in England as schools move to remote teaching requiring them to modify their curriculum to meet the learning needs of students. The limited knowledge currently available about the requirements for teaching digitally is a source for concern (Claro et al., 2018). This can pose various levels of challenges across all sectors of education. These challenges are obvious in various ways especially with teachers who may be reluctant to change their pedagogy to an online teaching environment (Prestridge & Main, 2020), as well as because of the concern some teachers might have about not being able to meet the differentiated learning needs of students. Arguably this could lead to tension among teachers and students as they will need to adapt to the 'new normal' way of teaching

and learning. Peacock (2020), in expressing concerns about the difficulties school leaders are facing in this pandemic note that there is a huge expectation on schools to provide the means for every child to 'catch-up' lost learning whilst also enabling them to rebuild connections and re-establish friendship concluding that the sporadic face-to-face schooling and intense periods of remote learning present huge problems for schools and families.

The problem of home-schooling can also highlight class differences. Sutton Trust (2020) found that while 47% of middle-class parents feel confident home-schooling their children, only 37% of working-class parents do. The Education Endowment Foundation (EEF, 2020) suggests that school closures are likely to reverse progress made to close the attainment gap of students in the UK in the last decade since 2011.

Teaching remotely is not a new pedagogy especially in higher education where certain courses are designed as distance learning and continue to evolve to meet the learning needs of adults (Simpson, 2018). Yet this may be unfamiliar in secondary schools in England as a new way of educating children, and in contrast to schools in Canada and the USA that may have been practicing part or full-time online studies to students (Powell & Patrick, 2006). Evidence relating to working with and supporting secondary schools in England shows that some schools provide homework to students via platforms such as Edmodo that allow teachers to send messages, share class materials, and make learning accessible to students. While Edmodo may be useful, its functionality may not be at par with tools such as Zoom or Google classrooms (Bozkurt, 2020), which have become established norms for teaching in this "new normal" situation. Accessibility of these online learning tools may be difficult to acquire for some students. The Office of National Statistics (ONS, 2019) states that 61% of households in the UK do not have internet, and children from such families may not be able to access remote learning, let alone working spaces, smartphones, and I pads. The DfE (2020a) made concerted efforts to provide laptops and tablets to categories of students such as those from disadvantaged backgrounds, families with a social worker, and those shielding because they are clinically extremely vulnerable. Although this may be a way to support students, nevertheless, most families in that category have children who missed out on their learning as the intervention was not timely. Following this, the DfE (2020b) published the "new remote education support for schools, colleges, and teachers". This includes providing additional devices for students, increased peer to peer support for teachers, and promoting the EdTech demonstrator programme. These are necessary to help students if they must self-isolate or attend lessons online. The EdTech demonstrator programme is a network of schools and colleges that provide peer-to-peer support to help teachers and support workers use technology as effectively as possible. One of such is the video lessons offered by Oak National Academy. In addition to this, The EEF (2020) has set up the National Tutoring Programme to support schools to address the impact of Covid-19 school closures on pupils' learning. This involves the use of contracted tuition partners and academic mentors. The Government has also published a Temporary Continuity Direction (TCD) framework regarding the provision of remote education in schools, under the Coronavirus Act 2020 so that schools must provide education to children at home, as they do when they are in the classroom. These are laudable measures to close the attainment gaps among students but careful considerations on how this will be achieved, teacher training, and parental involvement are also important.

A second lockdown in the UK with the recent increase in Covid-19 infection rate (R- number) (Government Office for Science, 2020) is imminent with schools reporting cases of teachers and students testing positive for the virus. Educators and organisations are raising concerns about the differentiated impact that online schooling might have on learning. EEF (2020) reported that there is a substantial attainment gap

between pupils from disadvantaged backgrounds and their classmates and this is likely to be growing significantly while schools are closed to most pupils.

There is, therefore, no doubt that the current situation raises a variety of challenges for all involved in teaching and learning. The situation draws attention to, among others, how secondary schools and teachers are engaging with remote teaching in England and the inevitable professional development needs of teachers. This commentary attempts to focus attention on some of the salient issues developing from this. Drawing on current practices and practitioners' views, existing theories, and practice, it will suggest a model for supporting the delivery of remote teaching and learning by teachers should a second lockdown happen in the UK.

Remote teaching and learning

Remote learning separates the teacher and students in time and distance (Simpson, 2018) and eliminates the need for face-face teaching, especially in this Covid-19 period. Remote teaching can be synchronous and asynchronous (Murphy, Rodriguez-Manzanares & Barbour, 2011; Mehdipour & Zerehkafi, 2013; Tayebnik & Puteh, 2013; Riggs & Linder, 2016; Kim et al, 2016), with both having advantages and disadvantages, and centres on the type of learning required. It may involve active listening, problem-solving, questions and feedback, interactive practical work, peer support, and collaborative working. Teachers, therefore, must be able to help students to utilise information creatively and reflectively to support online learning (Maybee, Bruce, Lupton & Pang, 2019). Teachers are relatively equipped to address the immediate demands of digital teaching as, *"most teachers can present information using digital resources, but only one third approximately, evidenced mastery of tasks related to transforming information and guiding students in a digital environment"* (Claro et al. 2018 p 172). There remains a need for further research to support teachers and schools on how to develop students' digital abilities for full participation in an online learning situation. Unfortunately, research has mostly focused on understanding how teachers integrate Information Communication Technology in their instructional practices (Albion et al., 2015; Scherer, Siddiq & Teo, 2015) without due consideration for how this pedagogy can be effectively used to promote student engagement in their learning.

Synchronous mode of teaching offers real-time learning like the traditional form of teaching face-face but no contact with the students. It allows teacher-students interactions, group work through breakout sessions, and can create a sense of community amongst students by encouraging active discussions (Chadha, 2017) and increased motivation (Hrastinski, 2008). It can help in addressing students' misconceptions and creates an opportunity for questioning and using various assessment for learning strategies to support students' progress. Online learning tools such as Zoom and Microsoft teams can be used to facilitate teaching and learning. They are voice and visually dependent, and synchronous interactions and communications can also be recorded for asynchronous playback (Murphy et al., 2011). Whiteboard functions allow teachers and students to write and interact, ask questions and solve problems. The asynchronous mode of teaching allows students to learn at their own time and pace, and work can be posted online for students to complete and send to the teacher. Asynchronous can involve online quizzes with feedback, textbooks, experiment kits/software for science practical, and promotes independent learning. Softwares such as Google classrooms and Seesaw for schools (common in the USA) can be used to support this form of learning. The asynchronous mode of teaching can support cognitive participation such as increased reflection (Hrastinski, 2008); fosters better peer interaction, self-regulated learning, autonomous learning skills, and intrinsic motivation (Zainuddin & Perera, 2016).

Both synchronous and asynchronous modes of teaching can complement each other. However, they also have drawbacks that the teacher needs to address by decid-

ing the mode of teaching to deploy at different times and depending on the learning needs of students. For example, with the asynchronous mode of teaching, students can develop misconceptions leading to cognitive conflicts. If the misconceptions are not addressed timely, they can become barriers to learning, and unfortunately, this may have been the case as most students in England were taught through this means. Barbour (2009) suggests that asynchronous mode of teaching is the preferred form of teaching in USA virtual schools as this may be easier to carry out. An additional issue with the asynchronous mode of learning is the problem of socialisation, as there is no contact between teachers and students with students working on their own. This contrasts with the synchronous mode that allows students to interact with peers and teachers in real-time.

Despite the presumed strengths of both of these approaches, there is evidence that they can be problematic, as both modes of teaching can be associated with learner isolation and lack of engagement (Conrad & Donaldson, 2004, Falloon 2012). Apart from this, there is the potential problem of lack of concentration because given that students are expected to engage in both synchronous and asynchronous learning at home, there may be distractions to their learning from family members and activities going on in the immediate space (Claro et al., 2018).

Suggested strategies for the way forward

It is established that sustained support on remote learning will enable disadvantaged pupils to catch up and close the attainment gap (EEF, 2020). Transitioning to remote teaching due to Covid-19 has created an opportunity to explore technology-oriented learning and has revealed weaknesses in the adoption of technology in secondary schools in England (Claro et al., 2018). This includes the lack of pedagogical knowledge among teachers to facilitate online teaching, resources, and preparing children for the skills required to flourish in the 21st-century employment setting. Therefore, the success of remote teaching in secondary schools in England can be contested. While some schools may have improved in their provisions for remote teaching by trialling various means and reflecting on their practices, others may require improvement.

Several studies have reported that peer discussions in online teaching can be as effective as face-face teaching and it shows no differences in the outcomes of students (Li, Qi, Wang & Wang, 2014; Wladis, Conway, & Hachey, 2015; Bolsen, Evans, & Fleming, 2016). For example, a blended approach comprising of face-face and asynchronous mode has been reported to promote the engagement of students and aid their progress (Asarta & Schmidt, 2016). The successes associated with remote learning especially in the higher education setting may seem to indicate that traditional classroom instruction is increasingly becoming outdated and less effective (Murphy, Rodriguez-Manzanares & Barbour, 2011). As Li et al. (2014) argue, the traditional classroom does not stimulate the senses or the mind and it inspires rote learning thus suggesting that engaging in information technology makes students more active in the learning process. Du et al. (2013) also reported that distance learning is a valuable replacement for conventional instruction as they found it to produce equivalent or better effects in knowledge acquisition, self-efficacy, and student satisfaction. Therefore, if remote teaching is to be promoted and developed in secondary schools, it would require a review of the processes involved in making learning accessible to students. Therefore, engaging students in remote teaching should focus more on learner-centred learning than teacher-centred learning. Li et al. (2014, p 49) state that:

Learner-centred traditional classrooms pay more attention to learning ability, where besides listening, writing, and thinking, students need to participate truly in courses. They have more opportunities to answer questions, ask questions, co-operate with classmates to complete some tasks, or give a pre-

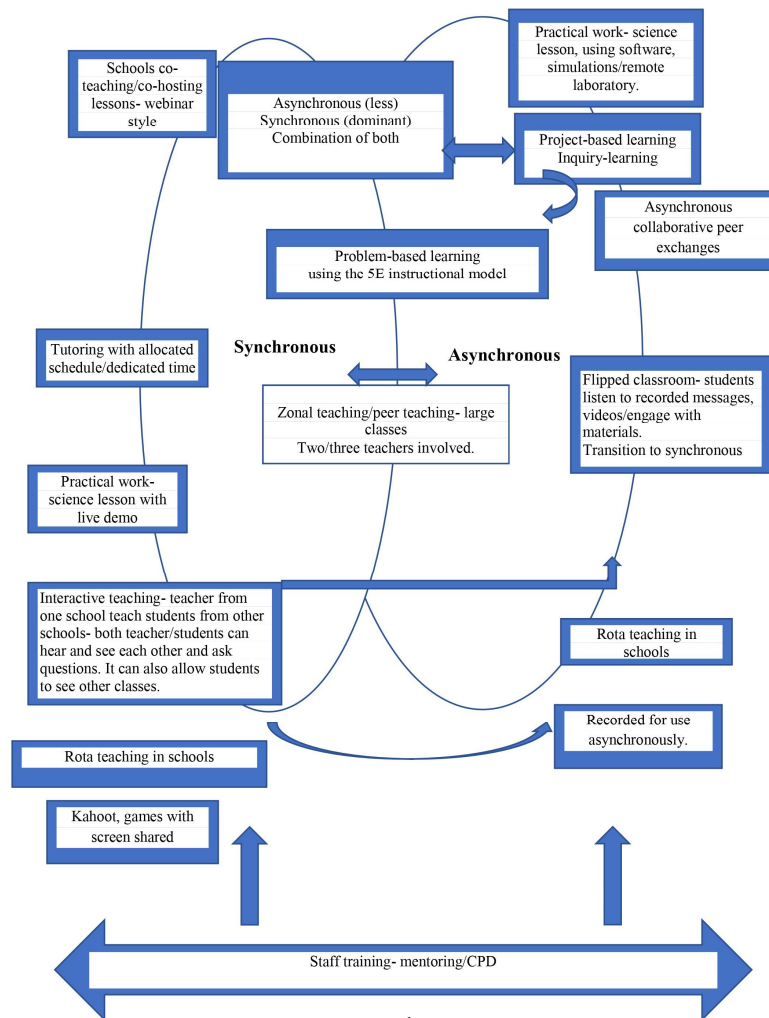
pared speech on a certain topic. Those learning behaviours are active and cooperative and proved to be more effective for students' learning outcomes.

The lack of face-face teachings during the Covid-19 school closures may have affected various assessment strategies required to promote learning among students because teachers must be able to ask questions and give feedback to students as part of formative assessments. The synchronous mode of learning could lend itself to a pattern of teaching where teachers can ask questions and give feedback to students, set up breakout sessions on various platforms to allow students to discuss in smaller groups, and the teacher contributes to their discussions. Nonetheless, we cannot conclude that remote teaching is entirely as effective as the traditional classroom teaching method (face-face) especially in secondary schools where teachers and students are not used to this type of learning. But a systematic review of the literature on remote teaching (Chadha, 2017) indicates that collaborative and interactive activities are a necessary component of effective online pedagogical instruction. This creates an opportunity for students to discuss in a constructivist learning environment and promotes critical thinking and problem-solving. To achieve its goal, however, teachers need to ensure that groups are well prepared in advance and students are trained to work collaboratively. A pedagogical implication for teachers centres on how assessment for learning strategies can be effectively utilised in an online learning platform to support the progress of students.

Anecdotal evidence emerging from discussions with teachers, senior leaders, students, and parents produced the consensus that the asynchronous means of teaching is becoming difficult for most of the students who would have benefitted from teacher support and interventions as well as peer support. Therefore, reverting to blended learning that mixes synchronous and asynchronous modes (see figure 1 models of remote teaching) can be considered the way forward in promoting effective remote teaching (Hamann et al., 2009; Kim et al., 2016). With the synchronous mode, a few lessons can be organised online to discuss the content of work with students. The same goal can also be achieved using voice recorded lessons (Mehdipour & Zerehkafi, 2013), with the teacher present, followed by questioning and brainstorming. A flipped classroom where students are provided with materials to read or voice recorded messages to listen to, and the teacher organises live sessions where feasible, to go over the contents with the students can be explored. The challenge of using this method is that some students may not have gone through the materials before the lesson, and merely asking questions on what they have read or listened to, may not provoke thought processes. As shown in Figure 1 there are various potentially effective models of remote teaching that schools can utilise to support learning. Essentially, what we draw attention to is the possibility that a combination of the various models would be effective in promoting effective remote teaching and learning, as keeping to one method may become a burden to students who may lack the motivation and resilience to persevere in their learning.

Most schools in England adopted the asynchronous model of teaching during the lockdown and continue to do so in supporting students who are self-isolating. However, this has changed to a mix between synchronous and asynchronous with the former method now used more to promote learning. Some schools adopted the use of coursework/projects requiring students to create products or develop an idea from topical issues. This involves creating success criteria that students can work towards to enhance teacher feedback. Usually, this involves one weekly 30 minutes live online session (using Zoom) to go over the work with the students and provide feedback while also providing opportunities for students to listen to the voices of their teachers and peers. While this may be effective to some extent, my personal experience of supporting teachers in this process suggests that there is a need for a better structure in promoting such type of learning among students as it does not necessarily engage all students and can be a “plugging the gap” approach to learning.

Figure 1: Model of remote teaching for secondary schools



Reflecting on potentially effective approaches

An effective strategy I have found in supporting remote learning is the use of a well-structured problem-based learning approach (Hung, 2009; OECD, 2014) in which teachers can create ill-structured problems that students can solve, following the 5E instructional approach “engagement, exploration, explanation, elaboration, and evaluation” (Bybee & Landes, 1990 p 96). This approach can be implemented both synchronously and asynchronously depending on the activity that students are engaged. In the engagement phase, students are provided with problems and the teacher facilitates learning by checking prior knowledge and misconceptions through questioning and this can be done synchronously. The exploration phase promotes inquiry experience among students as they research various materials to further understand the context of the problems and promote self-directed learning. This can be done asynchronously with individual students assigned an aspect of the problem before meeting synchro-

nously to share the outcome. The explanation phase can be done synchronously, and it allows students to communicate what they have learned by presenting outcomes to other groups. The teacher encourages questions and feedback among students and identifies misconceptions. Large classes can be split into manageable sizes so that the teacher can support all. The elaboration phase helps students to apply the knowledge gained to real-life situations and can be done asynchronously. The evaluation phase helps teachers and students to know what learning has taken place. The teacher can set a summative assessment asynchronously to help in reviewing learning. This type of activity can extend for weeks depending on the problems that students are finding solutions to. It encourages a blended approach to remote teaching and promotes collaboration, critical thinking skills, and self-directed learning. In essence, a blended approach such as the one illustrated above might be the most effective and indeed, the next step for schools and teachers to promote in responding to the realities that the current emergency has exposed.

The teaching of practical science may become difficult in a remote teaching situation. However, the use of apps, remote laboratory software, simulations, and videos have been found to ameliorate some of the problems and to promote practical skills among students (Tho & Yeung, 2018). One app that has been found effective is the “Focus software” that allows students to experience interactive experiments. Although engaging students in online practicals may not accord them the necessary skills to carry out live experiments in the laboratory, exposure to the online resources would familiarise students with the equipment and build their theoretical knowledge to complement practical knowledge. To promote practical work in real-time, schools can encourage teachers to run demonstrations in the laboratory with students connected to the school through their approved platforms to facilitate discussions and questioning. Alternatively, it can be recorded for students to watch asynchronously with teacher support where applicable.

Conclusion

This pandemic has shown that CPD for teachers has become necessary if the education system is to provide the experience students require for 21st-century learning. Such CPD should focus on helping teachers to create effective communication channels with students and parents by providing relevant support to students. A useful example that is currently being utilised is the EdTech demonstrator programme which is a network of schools and colleges that provide peer-to-peer support to help teachers and support workers use technology as effectively as possible. To achieve this though, more financial support is required from the government to help teachers meet the rising demands of remote teaching if we are to overcome the attainment gaps created by Covid-19.

While remote teaching has been successful in higher education, achieving a similar level of success in the secondary school sector requires further research to promote this type of learning. Despite some of the successes with remote teaching, it cannot replace face-face teaching in secondary schools. Suggestions should, therefore, now focus on how schools can incorporate aspects of remote teaching to support learning such as adopting a blended/hybridised method of teaching. Finally, if home-schooling becomes inevitable for some students the suggestions made in this commentary will be useful to support learning.

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