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Letter to the Editor

Synchronous telecommunications in medical education

Dear Editor,

Technology enhanced learning has made many advances in the field of medical education over the past twenty years. There has been the advent of e-learning, simulation, and multimedia resources to name but a few[1-2]. Many of the advances made in technology enhanced learning, however, have followed traditional technologies in media and education. Thus, many online learning resources are text based; many multimedia programmes enable asynchronous communication; moreover, many assessment tools offer standard feedback in response to questions - in other words learners receive the same response regardless of their answer to a particular question. But in recent years, the widespread availability of synchronous telecommunications has offered new opportunities for technology enhanced learning in medical education[3]. Synchronous telecommunications enable educators and learners to communicate with each other largely by means of video at a time and place that suits them both. Much of the software that can enable this form of communication is free. This short letter offers guidance to both educators and learners on how to make the most of this new technological advance.

As with any new advance in medical education, preparation is vital. It is important to ensure that you have the correct hardware and software before starting. Modern software is often free and quick to download. If you are planning to make a good deal of use of synchronous communications, then it may be worthwhile investing in a headset with microphone so that you will be hands-free. Perhaps most importantly - do a dress rehearsal with peers first of all to ensure that everything works as it should. Synchronous telecommunication is live and learners quickly lose patience if things don't work exactly as they should do. What is true of preparation for teachers is equally true of preparation for learners. Learners should take similar steps to ensure that they also are ready for the lesson and that they get the most out of it.

Most forms of synchronous telecommunication software give a number of options to users - it is important to become familiar with these options and decide which ones will most help the education process. In all forms of technology enhanced learning, education rather than technology should drive the learning and so enabling and disabling opinions in synchronous telecommunications should be driven not by the desire to impress learners with technological advances but by the need to achieve education goals[4-5]. For example, software can enable communication and education by means of audio and video or by means of audio alone[6]. Sometimes, video is essential - perhaps for the purpose of showing a procedure. However, sometimes, audio will work just as well on its own and video becomes merely a distraction to learners - such as when delivering a talk or answering questions. Video can also inconvenience both educators and learners - they might feel the need to dress up or ensure a professional looking backdrop to the video - neither of which is essential to the learning. The same is true of instant messaging during a synchronous video call. It can be helpful as a record of unanswered questions that learners might have - however, it can equally act as a distraction - another message on the screen that draws attention aware from the learning content. It might be better and simpler to enable communication by means of voice for both learners and educators. Instant messaging can subsequently be saved for asynchronous communications.

Synchronous telecommunication software enables communications between learners and educators from around the world. So it is worth thinking imaginatively about how to make the best possible use of this new technology. If there is a guest lecturer in another country who you would like to invite to speak to your students but you cannot afford the travel budget, consider using this new technology to make it happen. This can improve value and save costs - both important outcomes in the modern medical education environment. The next time that you are on an international trip

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consider giving a talk to your students by means of this technology. The talk may be considerably more engaging when delivered from a global centre for expertise in the subject matter in question.

Synchronous telecommunications is mainly used for live one to one video communications - however, it can also be put to a range of different uses. It can enable one-to-many or intra-group communications. Even though the communication happens live, it can be recorded and then subsequently rebroadcast to the same group of users or to a wider group of users. Files can often by shared using the same software as that which enables synchronous telecommunications; and it is often a good idea to do this - in order to ensure a seamless educational experience. This technology can also be used to fulfil particular educational needs. It can be used to provide private remediation to individual learners; it can be used to assess learners' competencies - perhaps their communication skills; it can be used to connect groups of learners from other parts of the world - in the absence of the tutor. The needs of the learner should be paramount in any form of education and so it is important that this tenet remains true in synchronous telecommunications[7].

Finally, it can be used to meet the needs of educators as well as learners. Educators have continuing professional development needs and synchronous telecommunications is another potential way of satisfying these needs. Educators can connect live to other educators for informal collaborations or can watch formal presentations online. If need be they can film their classes and ask another educator to give immediate feedback on their performance.

As with any new educational innovation, there are potential downsides and it is as well to be aware of these beforehand. Most forms of software that enable synchronous telecommunications have different levels of privacy settings which can be enabled or disabled - it is wise to check these and decide what you might want to be in the public domain. However, even with all privacy settings switched on, it is wise to be aware that no system of security is perfect and that any information and even private conversations could ultimately appear in the public domain[8]. It is best, therefore, to be on guard when using this technology and not do or say anything that you would not mind being in the public domain.

Synchronous telecommunications has become almost ubiquitous in all walks of life and so it is only natural that it will have made inroads into medical education. As with all medical education innovations, it is best to use it in a way that adds value to the overall educational strategy.

Yours Sincerely,

Dr. Kieran Walsh,
BMJ Learning, BMJ Publishing Group, BMA House,
Tavistock Square,
London WCH 9JR,
UK.
E-mail: kmwalsh@bmjgroup.com,
Tel: 0207 3836550,
Fax: 0207 3836242.

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