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Article abstract

The COVID-19 outbreak halted medical education in its tracks, with medical students across all years finding their upcoming placements and in-person teaching cancelled in a bid to abide to social distancing regulations, for the safety of staff, students and patients alike. As United Kingdom (UK)-based medical students, we have witnessed our medical school's attempts to preserve our education by turning to digital technology, allowing for remote teaching over the four months. This article describes some of the steps taken across the UK to uphold education during such uncertain times and provides an insight into UK medical students' perspectives on the prolonged and increased reliance on learning via digital technology, highlighting perceived benefits and areas for improvement. In doing so, we hope to contribute to the discussion of how digital technology may best be used in medical education in the future.

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How have digital resources been utilised in times of COVID-19? Opinions of medical students based in the United Kingdom

L'utilisation des ressources numériques au temps de la COVID-19. Les points de vue d'étudiants en médecine au Royaume-Uni

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Abstract

The COVID-19 outbreak halted medical education in its tracks, with medical students across all years finding their upcoming placements and in-person teaching cancelled in a bid to abide to social distancing regulations, for the safety of staff, students and patients alike. As United Kingdom (UK)-based medical students, we have witnessed our medical school's attempts to preserve our education by turning to digital technology, allowing for remote teaching over the four months. This article describes some of the steps taken across the UK to uphold education during such uncertain times and provides an insight into UK medical students' perspectives on the prolonged and increased reliance on learning via digital technology, highlighting perceived benefits and areas for improvement. In doing so, we hope to contribute to the discussion of how digital technology may best be used in medical education in the future.

On March 13th 2020, first-year clinical medical students at Cambridge University finished their primary care placement, excited at the prospect of beginning their surgical placement next. On March 16th 2020, an email was sent stating that all in-person teaching and placements were suspended for the unforeseeable future, and that we should return home due to social distancing restrictions and the risk of transmission of COVID-19.

Résumé

L'épidémie de la COVID-19 a entraîné l'arrêt brusque de l'éducation médicale, les cours en présentiel, comme les stages prévus, se trouvant annulés pour les étudiants de tous les niveaux de formation afin de respecter les règles de distanciation sociale et de protéger le personnel, les étudiants et les patients. Étudiants en médecine au Royaume-Uni (RU), nous avons été témoins des tentatives de notre faculté de médecine de préserver notre éducation par un recours à la technologie numérique qui a rendu possible l'enseignement à distance pendant les quatre mois. Cet article décrit certaines mesures prises au Royaume-Uni pour préserver l'éducation en ces temps incertains et donne un aperçu du point de vue des étudiants en médecine de ce pays sur le recours prolongé et accru à l'apprentissage par l'intermédiaire du numérique, en soulignant les avantages perçus et les domaines à améliorer. Ce faisant, nous espérons contribuer à la discussion sur la meilleure façon d'utiliser la technologie numérique en éducation médicale à l'avenir.

With this abrupt development, medical schools nationally had to rapidly reconsider how best to facilitate education from a remote setting. We, as first-year clinical medical students at Cambridge University, have witnessed the rapid technological uptake and its power in maintaining medical education under such circumstances. However, this prolonged period of increased reliance on technology,

including webinars and digital applications, has also highlighted areas for improvement.

Richard Mayer, an educational psychologist, outlined key principles to guide the development of virtual materials/presentations.¹ For example, we have found redundancy and coherence to be effectively applied to university-run online lectures, thereby reducing the amount of on-screen text to focus on key points, and aiding the achievement of lesson objectives. However, other principles, including signalling (i.e., the highlighting of key words) have been under-utilised. Incorporating these additional principles may greatly improve students' learning experience in the future.

The online curriculum during COVID-19 has relied heavily on live webinars with a noticeable lack of pre-made e-learning modules. Online simulations mimicking urology outpatient clinics showed improvement in students' test scores one week and then one month after starting, compared to a control group receiving only standard teaching without simulation (12% and 18% respectively).² Similar online simulations could be applied to case-based learning, and indeed, many students at our university have started creating such modules, 'acute abdomen' and 'breast surgery' for example. These have carefully incorporated Mayer's principles, and preliminary feedback has been positive. Given the potential benefits of online simulation, it may be worth universities increasing use of this throughout their curricula.

Furthermore, the General Medical Council has sponsored all UK medical schools to use the CAPSULE app.³ CAPSULE provides over 650 clinical cases with an associated question bank. Its convenience (accessibility without Wi-Fi) and personalised aspect (creating user-specific quizzes) has led to overwhelmingly positive feedback, with 100% of users finding it a useful revision tool.³ Other applications have yielded benefits for learning, with the randomised iSTART-trial showing a 16.2% improvement in scores after using a medical education app, compared to 10.6% in a control group.⁴ With studies indicating their high popularity⁵ and efficacy,⁴ we believe such applications hold great potential in supplementing future education. While lack of accreditation by valid health institutions remains a barrier, the advantages of these applications (including exam-technique practice and multi-platform availability) help to establish such e-learning tools within medical education.⁶

Similarly, the Medical Schools Council has provided students with access to 'Speaking Clinically', a database of

patient interviews where they discuss their medical conditions. Beneficial in offering holistic insights into patients' ideas, concerns and expectations, it has allowed for continuous exploration of the human-side of medicine during a period of social distancing.

Finally, UK medical school placements are supported by in-person Clinical-Communication-Skills (CCS) teaching with standardised patients, during which various communication techniques can be practiced in different scenarios. We were pleased to find that our medical school swiftly adapted to the new social-distancing guidelines by delivering online CCS sessions which has provided students with the vital opportunity to practice aspects of telecommunication, and increase understanding of its benefits and limitations.⁷ We believe that there is value in incorporating video consultations as a truly integral aspect of future CCS curricula, preparing students better for future phone and video consultations, which have the potential to increase access to care and are likely to become more prevalent now and post COVID-19.^{8,9}

The past months were not what we were anticipating for our first clinical year. However, the shift of education delivery to digital delivery has enabled us to experience first-hand benefits of technology in clinical education. It is fantastic to see various UK organisations collaborating with universities and medical students to sustain quality education in these challenging times. However, additional changes could be made to improve efficacy, as we have described. We hope that institutions will benefit from students' opinions and, as lockdown restrictions gradually lift, that medical school curricula will increasingly utilize and benefit from proven digital technologies.

Conflicts of Interest: All authors declare no conflicts of interest.

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