Development of e-learning in medical education: a student's perspective

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As medical students at Kings' College London in the United Kingdom we read with great interest the study by Kyong-Jee Kim and Giwoon Kim, titled "Development of e-learning in medical education: 10 years' experience of Korean medical schools" [1]. Being born in the era of technology, we were intrigued by the outcomes of this study and the potential future effects of e-learning on student experiences and learning.

Over the past decade, the explosion in the availability of online resources has inevitably led to an increased uptake in use of these platforms. This is reflected in our own experience at medical school. Most of our cohort also heavily relies upon online resources such as question banks, online physiology videos, and virtual anatomy websites to supplement our learning. These e-learning resources have some discrepancies, and though many are widely available, peer recommendations often lead to increased usage of particular resources. According to Judd and Elliott [2], students accessed e-learning resources on their learning platform more times than the other online resources.

An important consideration for future studies would include student satisfaction as it would be beneficial for institutions to know whether resources are user-friendly when accessed from a mobile device, given that the study found that 28% of access was on such devices [1]. Would the adaptation of resources for mobile use improve student access and enhance learning? A mobile application will also increase uptake and maximize efficiency and use of time when students have free time throughout the day. Generally, student satisfaction has been appreciated as a complimentary tool to enhance learning in both medical and non-medical literature [3,4]. It is also of interest that an increase in student satisfaction can lead to an increase in student loyalty and thus contributing to the development of the university and the quality of the education [5].

Likewise, in the UK medical schools have made substantial moves to make more resources available online. Our institution specifically has in recent years greatly improved the quality and ease of access to online resources by improving lecture capture for example they

now provide video as well as audio recordings of live lectures. The opportunity for both synchronous and asynchronous teaching allows students to utilize their time efficiently. There are also videos available on examination techniques though often contradicted by practicing consultants and therefore the idea of being having universal and regular updates would be beneficial and help standardize teaching. E-learning does not end with clinical teaching but also is an accompaniment to work-life, with necessary e-modules to complete, so early introduction will ensure the easy integration into the working life.

The consortium addressed in the paper suggests standardization of teaching, and with the medical faculty providing the information, credibility is evident from the off-set though it would be interesting to see if they were updated timely, particularly those patient cases and the management involved in relation to updated guidelines or releases of new treatments, and so forth. This ensures clarity of information and consistency, and reduces error as no discrepancies are present, in comparison to those external web-based learning platforms.

Future studies that assess long-term student academic and clinical performance would be of great benefit. As more medical schools make the move from live lectures to online lecture capture it is imperative to know if such methods of learning are beneficial, with students achieving higher academic results. This will help institutions decide how to allocate funding resources with regards to developing online learning platforms.

Another interesting aspect would be at what timepoint in the academic year these resources are being utilized. Are students accessing them though out the year in order to supplement their learning or are they being used as a revision tool in order to quickly access high yield topics likely to appear on exam papers? Such information would help guide medical schools on when and which resources would be most useful to upload for their students. Since the study identified an increased number of hits in certain specialties, it would be interesting to see if this correlated with poor teaching or difficulty within those particular subjects, which might prompt the medical school to review other aspects of teaching or improve other subjects resources. Clinical neurology is assumed to be difficult subject resulting in neurophobia not only during medical school but later in practice translated as increased referrals to neurology due to lack of understanding as highlighted by Chhetri [6], with the possibility of e-learning reducing this.

We appreciate that the study has looked at an entire 10-year period but as more of our lives move from real life to online it is fairly unremarkable that the way in which medical students learn and access resources has likewise followed suit and the use of online resources has increased steadily over the past decade. Future research investigating the correlation between academic performance and use of online resources can be beneficial, and may influence or may impact how medical schools chose to allocate funding i.e., more money on user friendly online interfaces. It is also important to appreciate that e-learning is a supplement, and best suited to visual and auditory learners as opposed to the kinaesthetic and those reading and writing.

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