

The evolving role of digital media in medical education

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Abstract

Within the last decade, social media has progressed from a form of mere entertainment to a medium for solution of complex issues in our daily lives. During the last few years, social media has gained value in medical education and the diversity in the use of digital media has given new dimensions to medical education while facing the Covid pandemic. Digital media helps in creating virtual communities which not only bring more harmony between teachers and students but has also shown to have reduced anxiety and stress among students. Common social media platforms such as Facebook and WhatsApp have recently gained popularity as platforms which are being actively used in various ways to enhance learning. Social media in medical education is also utilised to enhance communication skills, professionalism and better patient care, but this should be addressed with caution as violation of patient's privacy and confidentiality remains a threat.

Keywords: Social media, Digital media, Medical education.

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Introduction

Social media encompasses interactive digitally-mediated technologies that facilitate the creation or sharing/exchange of information, ideas, career interests, and other forms of expression through integration of virtual communities and networks.¹ Application of social media in education contributes significantly in getting useful tips and connecting masses with learning groups, educational systems, and people belonging to similar fields of interest, irrespective of their geographical location. Despite the rapid adoption of social media, it has taken over a decade to set foot in medical education. However, with the devastating influence of the recent pandemic, its utility in medical education has become more of a necessity than just a privilege. Internet-based learning has been observed to be more beneficial than traditional lecture-based strategies. When applied to smaller group of students, their enthusiasm increased ten-folds in acquiring knowledge due to the easy access

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to learning topics.² Social media provides a platform where instantaneous and real-time feedback can be given by people, such as the staff and faculty.

Health professionals benefit by using social media tools for networking, clinical practice, and educational purposes. Web-based learning provides platforms varying in the degree to which masses connect and collect content. The integration of web-based learning in medical education has caused shifting of learning paradigms in the construction of knowledge and its generation. It may support professional enhancement, raise collaborative research and promote scholarly communication. However, there is an increased requirement about the use of these technologies in academic settings or else it may work as a distraction.³ Researchers all over the world claim that medical education by means of social media is on the rise. Nevertheless, textbooks, reviews by mentors, teachers, and appraisal of all sources should be taken into account mandatorily so as to learn and understand the basic concepts.

Few systematic reviews have revealed a number of learning tools in social media that are now used by scholars and learners.⁴ These include: Zoom, Google Chat & Classrooms, Educational Videos, Podcasts, Database & Search Engines, Simulation, Virtual Learning Environments, Massive Online Open Courses, Use of Microsoft Office, Instant Messaging, Social Networking Sites, and Blogs.

Educational Videos: Multimedia learning has been considered an effective learning tool. Nowadays, health professionals are turning to videos so as to learn skills and knowledge which they can incorporate in their clinical practice. Educational videos allow us to capitalise moving images to teach methods that require skilled techniques and specialised physical examination.⁵ YouTube is known to be the most feasible tool for this. Teachers upload their videos which are viewed by thousands of people seeking to understand the concepts they usually miss in physical lectures. It must be considered that some students may be visual learners, and in such cases videos offer not only more efficient processing power, but also enhanced memory recall. Furthermore, the free availability of visual aids can be utilised for rapid refresher of material, for example clinical procedures, just before performing the

said activity, for better proficiency.

Podcasts: The educational utility of podcasts in medical education has been steadily gaining popularity in recent years. Podcasts are known to be audio-visual files generated by individual users. It refers to the distribution of media content, which can be either downloaded or streamed by the listener at their own convenience. Its easy access and affordability factor has made it popular as an e-learning tool.⁶

Database & Search Engines: Database search engines came into being due to the advancement of medical technology. They are designed to grant quick and easy way to find high quality research evidence that helps in clinical practice. Choosing relevant database engines is very important. Web/cyberspace has a range of produced information on distinct search engines. These search engines accumulate data from software facilities that find information from different websites and arrange them under one roof.⁷

The benefits of database engines in learning are that students are able to analyse their performance which includes their strengths and weaknesses, encouragement of participation in discussions, and determine their understanding of the content.

Simulation: Another learning tool is 'simulation-based' education, which fundamentally refers to an artificial representation of a real world process to attain educational goals through experiential learning.⁸ Medical simulations open the gates to the acquisition of clinical skills through methodical practice deliberately. It is used as an alternative tool for real patients in order to achieve as much practice as possible without the fear of making mistakes. Clinical competence is also achieved by acquiring the skills of communication, organisation, professional attitudes, ethical practice and information technology.⁹

Virtual Learning Environments: Virtual learning environments (VLEs) are considered to be compelling and influential in support of medical education. Principally, VLEs consist of online platforms which not only offer resources, and activities to its learners, but also offer and promote interactions and means of assessments within the context of the course structure. They can contribute to the knowledge of working conditions, limitations and main difficulties of the students, thus promoting didactic actions in supporting them.¹⁰

VLEs can be used to provide integrated learning by acting as content hubs as well as providing opportunities for formative and summative tests, as well as facilitating

contact between students and their teachers. Virtual Reality (VR) is another tool that comes under this domain. It is different from normally used interfaces by immersing medical education into the 3D world. VR technology is used to prepare health care providers to replicate high-acuity experiences such as (trauma), gain expertise, and engage in a simulated world to manage mental health problems, stress, and phobias.¹¹

Massive Online Open Courses: These days, massive online open courses (MOOC) are popular educational modalities in the fields of medicine and healthcare. MOOCs generally include 'context'-oriented courses, with open dialogue between participants and instructors. When delivered by credible institutions, they may provide useful access to accurate knowledge regardless of time, place, or educational level.

These courses are easily provided by prestigious universities developed in website platforms such as Coursera, Udemy, EdX, etc., video sessions, series of lectures and discussion forums.¹² They attract a large number of participation due to their ease of use and global availability. Careful incorporation of high-quality MOOCs into courses promotes "blended learning," which improves conventional classroom instruction while requiring some infrastructural and intellectual investments.¹³

Instant Messaging: Another emerging and potentially useful tool in this advancing world of medical education is the inclusion of instant messaging. People are more readily available to question and answer queries over networking sites such as WhatsApp, Telegram, etc. Use of mobile learning (m-learning) is known to increase student participation, promoting feedback process and communication methods. The implementation of this kind of learning has demonstrated many benefits that include integration of theories in clinical practice with one search, increase access to study material and a platform for clarifying any ambiguity.¹⁴ However, these modalities are better suited for formative engagement and reflection, rather than adding to the summative performance of the students.

Social Networking Sites: Known to be most common engines among all generations for over a decade, social networking sites have a great use in medical education, too.

With the development of Facebook, Twitter, etc., these sites have emerged as incredibly quick outlets for university students to share personal and professional content. The benefits of using social media for

educational purposes are far-ranging. According to a research, using social media resources enriched students' learning experiences, allowed for real-time contact outside of the classroom, assisted students in connecting with medical professionals, fostered teamwork opportunities, and increased innovation.¹⁵ Learning through social networking platforms, like Facebook, is based on philosophies of educational theories such as self-directed learning, community-based and social learning, and can potentially enable students to participate in creative and social learning processes outside of conventional educational settings and institutions.¹⁶

Blogs: A blog (short for "web log") is an online publication or informative page that displays content in reverse chronological order, with the most recent articles at the end.¹⁷ It has become an increasingly popular method of education and sharing personal medical experiences. In educational settings, blogs offer a forum for reflective thoughts and peer participation in learning processes, allowing students to improve their strategic thinking skills. Medical students' reflections, perspectives, and descriptions shared on websites may be very useful in improving medical education.^{17,18}

Conclusion

The infiltration of social media in the world of medical education has evolved over the years with the advancement of technology. While it may never replace traditional medical education, the innovations will still help in the enhancement of competencies in medical science.

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