



Letter to the Editor

## Tips for conducting effective and interactive e-lectures in medical education



Krishnamurthy Soundariya, MD<sup>a</sup> and Velusami Deepika, PhD<sup>b,\*</sup>

<sup>a</sup> Department of Physiology, Coordinator of Medical Education Unit, Sri Manakula Vinayagar Medical College and Hospital, Madagadipet, Puducherry, India

<sup>b</sup> Department of Physiology, Sri Manakula Vinayagar Medical College and Hospital, Madagadipet, Puducherry, India

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### Introduction

Medical educators face a dual challenge of curbing the spread of the COVID-19 pandemic on the one hand and resuming academic activities on the other. The prospect of the second wave of virus transmission has rendered “E-Learning” as an essential component in medical education. Medical education in India is currently experiencing a major transformation from “traditional learning” to “blended learning,” with e-learning playing an imminent role.<sup>1</sup>

The implementation of the “Competency-Based Medical Education” (CBME) in the undergraduate medical curriculum in India has added to the existing responsibilities of medical facilitators. The COVID-19 pandemic has brought an explosive growth of e-learning, aided by the advancement in technologies.<sup>2</sup> Considering the faculty shortage, addressing large groups, particularly online, is a challenging task for medical instructors. This short communication is aimed at giving simple tips to make interactive e-lectures while addressing a large group of students.

### Readiness to accept the challenge

“Change” is constant in medical education. The current scenario demands rapid adaptability of both educators and students to the online mode of learning. Technology has been

intertwined with every component of the medical profession. This challenge should be considered like any other advancement in the field of medical practice. Readiness in the mind opens the doors for innovations that may inculcate interactivity in the planning of lectures.<sup>3</sup>

### Planning the session and its content

Knowledge about the audience guides the planning of content delivery. It is essential to decide and share the objectives of the session. Internet bandwidth and connectivity settings should be verified well before the session. The settings in the selected platform need to be carefully viewed for security issues. Supportive staff should be given adequate instructions to manage the technical issues during the e-lecture. It is advisable to anticipate technical issues and decide on an alternate plan well in advance. In case of connectivity issues, pre-recorded lectures may be posted as an alternative.

### Choosing the right platform for the delivery of content and advanced preparation

Teaching online is always associated with challenges. Medical educators should understand the difference between face to face interaction and online learning. Adequate preparation well in advance is the key to successful delivery of content. The time duration of the lecture, the number of participants, and cost-effectiveness are some of the factors that decide the choice of the platform.<sup>4</sup> Becoming sensitized to the platform planned for delivery of e-lectures will help in the effective delivery of the content. Institutions should also develop training programs for the faculty to acquire technical skills and provide necessary tools for improvising e-learning. Beginners may plan a practice session with colleagues in the department to understand and anticipate the probable technological issues.

\* Corresponding address: Department of Physiology, Member of Medical Education Unit, Sri Manakula Vinayagra Medical College and Hospital, Kallitherthalkuppam, Madagadipet, Pondicherry, 605107, India.

E-mail: [deepy843@gmail.com](mailto:deepy843@gmail.com) (V. Deepika)

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*Ensuring security issues*

Care must be taken by installing anti-virus software. Periodic updates of the software also enhance security.<sup>4</sup> The students may be given official mail IDs by the institute for authentic enrolment and thereby allow only invited participants to join.

*Effective communication*

Appropriate communication plays an important role in the success of e-learning.<sup>5</sup> Communicating the instructions before the session may increase student engagement. It is advisable to ensure the following tips to aid the flow of teaching:

- a) Scheduling the lectures with appropriate communication with the students. Most virtual platforms send reminders to students regarding the scheduled classes. This will increase the preparedness of the students.
- b) Proper interdepartmental communication to prevent overlap of the lectures.
- c) Communication of the required technological setup to the supporting staff well in advance.

*Making the lecture interactive*

- Software, such as Prezi, may be used for preparing interactive PowerPoint presentations.
- Virtual platforms like Nearpod allow collaborative learning in the synchronous mode, which helps to make the lecture interactive.
- Multiple-choice questions may be projected before the session to assess students' baseline knowledge. Tools like Pear deck, Nearpod, and many other platforms help to enhance interaction between the students and the instructor. Audience response systems like clickers may also be used to assess the students.
- It is wise to arouse interest among the students by projecting a relevant clinical scenario at the beginning of the session.
- The content may be divided into small segments and activity may be introduced every 15 min to maintain student engagement. Polls, quizzes (e.g., Kahoot and Socrative Quiz), and games may be planned through virtual platforms.
- Chat boxes may be effectively utilized in most virtual platforms. Students can be asked to post their responses in the chat.
- Students can be divided into small groups and allowed to interact in the chat rooms/breakout rooms offered by the virtual platforms. Even with the shortage of faculty, the break-out rooms may be visited intermittently by a single faculty to monitor the students.
- Teachers who prefer board teaching may make effective use of interactive whiteboards, where both the students and the teachers may interact simultaneously.

*Enhancing student engagement*

- Share the objectives of the session with the students.
- Pre-reading materials may be posted well in advance on platforms such as Google Classrooms.
- Maintaining the appropriate pace during the presentation will enhance student engagement.
- Though we may lack visual cues from the students during online learning, our eye contact builds a strong relationship with the student. Hence, it is wise to look at the camera during the presentation.
- Visual images can be incorporated in the presentation in place of text
- Students' names may be called randomly to check their presence during the session.
- Instant acknowledgement and appreciation of the student's response to queries will enhance student engagement. Active learners may be identified and may be awarded "Digital Badges" as a token of appreciation.
- Students may be asked to summarise at the end of the session

*Planning formative assessments*

The CBME curriculum demands more of "Assessment for Learning."<sup>10</sup> Thus, more formative assessments may be easily planned using virtual platforms; for example, asking the students to post the muddiest point, posting assignments, and MCQs through Google forms with appropriate feedback. These activities may boost their active learning process.

*Obtaining feedback*

Getting feedback from the students always provides opportunities for the faculty to refine their teaching process.<sup>6</sup> Padlet is a tool that may be used for obtaining feedback from the students. Feedback may also be collected using Google forms. Analysis of the feedback and implementation in practice will help in making effective e-lectures.

*Review and self-appraisal*

The lectures may be video recorded, which may serve as an effective tool to review oneself. A critical review of oneself by the students, peers, and self-appraisal provide ample opportunities for the teachers to refine themselves.

**Conclusion**

The COVID-19 pandemic has caused unpredictable changes in medical education. High levels of readiness are essential among the instructors and the students to adapt themselves to the health care needs as well as the technological needs, as the pandemic has laid a strong foundation for "blended learning", incorporating a mixture of face-to-face and online learning. Measures need to be taken at the

level of institutions to improve digital literacy among health care workers.

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#### Conflict of interest

The authors have no conflict of interest to declare.

#### Ethical approval

The authors confirm that this letter has been conducted in accordance with COPE rules and regulations. Given the nature of the letter, the IRB review was not required.

#### Authors' contributions

KS and DV conceived and designed the idea and wrote the initial and final drafts of the article. Both authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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