



The impact of Educational Videos on Phase 1 MBBS Student Engagement and Learning

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Abstract

Background: Educational videos have emerged as a powerful medium, providing an engaging and dynamic platform for both students and faculty alike. For creating interest in students, we need to be innovative in new teaching learning methods. The visual and auditory stimulation provided by these videos engages students in a dynamic learning experience. This interactive approach not only caters to diverse learning styles but also enhances the comprehension and retention of complex medical concepts.

Methodology:

The study was conducted on Phase I MBBS students in a medical college in North India. After taking permission from Institutional Ethics Committee, selection of educational videos was done to teach the topic of Sterilization and Disinfection Practices in healthcare. Student and faculty feedback questionnaires were prepared and validated. The students and faculty were shown the videos pertaining to the topic and feedback was obtained from the students and faculty on a 5-point Likert Scale after informed consent. Students were also assessed for their knowledge gained by a Multiple-Choice Question (MCQ) questionnaire form and the anonymity for the same was maintained. All the data collected was entered in Microsoft excel and presented in count (percentage).

Results:

An overwhelming majority (appx 94%) of the students agreed that learning through educational videos increased their understanding of the key concepts and motivated them to pursue further learning.

Moreover the students demonstrated a profound understanding of the subject matter as evidenced by their performance in the educational module assessment, which primarily consisted of multiple-choice questions (MCQs). The faculty (app 89%) was also of the opinion that educational videos are more engaging for the students. They also felt that educational videos provide flexibility in learning, allowing students to access content at their own pace, revisit challenging topics, and learn outside traditional classroom hours.

Conclusion: The students and the faculty agreed that teaching via educational videos had a positive impact on students' learning.

Keywords: Students, educational, MBBS, ethical

Introduction

Medical education stands at the forefront of academic disciplines, demanding a profound understanding of intricate concepts and dynamic clinical scenarios. Traditional teaching methods, although essential, may sometimes fall short in meeting the diverse learning needs of MBBS students, prompting a need for innovative and effective pedagogical approaches. Visual learning has long been recognized as a powerful tool for knowledge acquisition and retention.

The static nature of traditional textbooks and lectures is being complemented and, in some cases, replaced by dynamic and interactive multimedia resources.

In addition to augmenting procedural learning, videos have been shown to improve understanding of complex cognitive concepts.^[4] High-quality videos can also improve student satisfaction,^[5] which in turn improves content engagement, an important factor for

knowledge retention and understanding. Learners have noted that videos are a preferred educational format for the flexibility and opportunity to self-manage learning.^[6] This medium allows learners to control the speed and sequence of information, which has been shown to improve content comprehension.^[7]

Teaching standard precautions to MBBS students via educational videos holds several advantages and carries significant importance in the context of medical education. Educational videos provide a detailed and visual representation of standard precautions, allowing students to observe correct techniques for infection control measures.

The traditional method of teaching standard precautions and antiseptic measures is by written SOPs which may lack the engagement factor, potentially leading to reduced interest and attention from learners. Videos allow for a visual demonstration of standard precautions and infection control in hospitals providing a more immersive and realistic learning experience.

Aims And Objectives:

1. To implement an educational video-based learning (VBL) module for topic of Standard precautions and antiseptic measures.
2. To analyze perception of students & faculty regarding the educational videos as a teaching tool.
3. To evaluate efficacy of VBL as learning tool.

Methodology:

This study was carried out in the Department of Biochemistry Gian Sagar Medical college and Hospital.

Study design- Prospective Cross Sectional Interventional study

Timeline: • Submitted Project for Research and Ethical Clearance by Institutional Research and Ethical Committees in September 2023-and got approval in October 2023

1. Selection of educational videos as per the module to be taught and sensitization of the project to faculty and students in October 2023
2. Start of Project: November 2023
3. Data Collection and Analysis completed- December 2023

Observations And Results

4. Presentation of Poster- February 2024

Ethical approval: Permission from the Institutional Ethical Committee was taken before starting the project

Informed consent

Informed consent was taken assuring the students and faculty for the need of this project, and offering anonymity, safety, confidentiality, and the power to withdraw from the study at any time.

Study population: The students of phase I MBBS batch 2023-24 (148 out of 160) and the nine (9) faculty members

Sensitization of Students and faculty: A WhatsApp group of students and faculty was created. All the students of Phase I MBBS (session 2023-24) were sensitized along with the faculty members about the concept of educational videos as a learning tool.

Student and faculty feedback questionnaires were prepared and validated by senior faculty members who were not a part of the study-group to ensure ease of understanding and clarification of all questions.

Procedures of data collection:

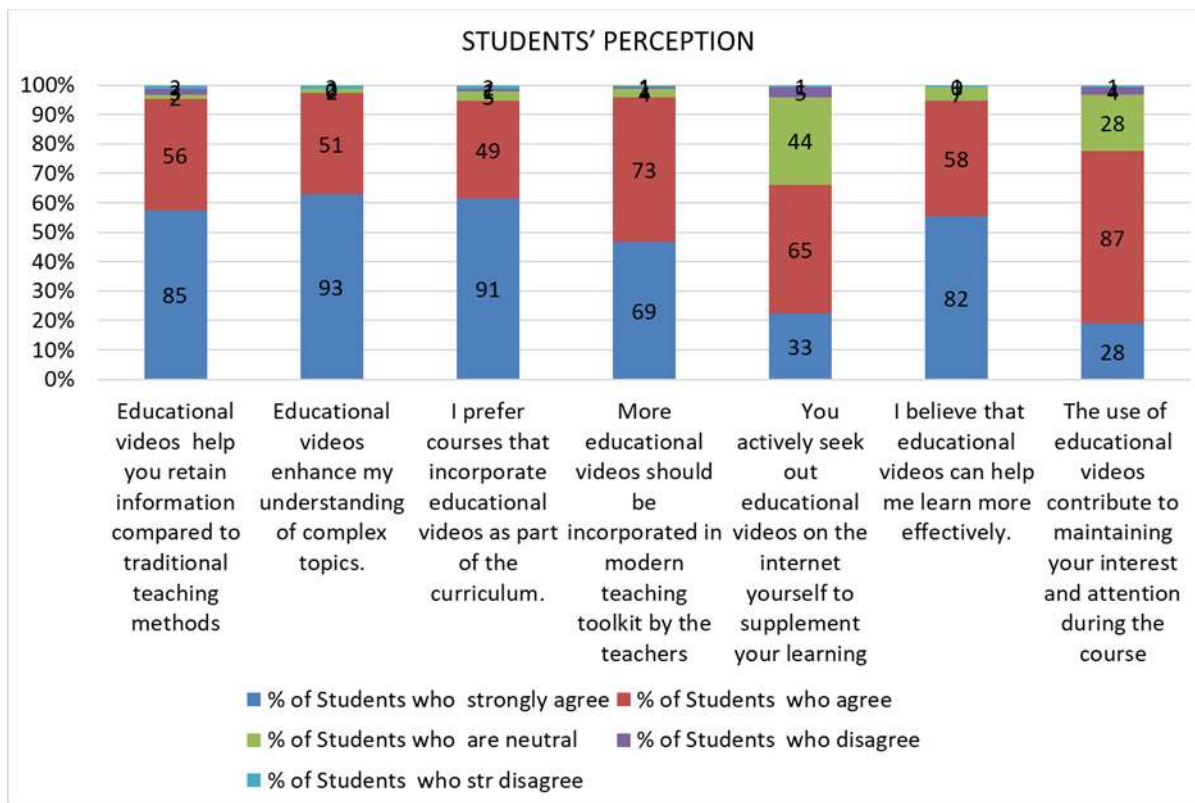
Videos pertaining to antiseptic measures and standard precautions (wherein video demonstration of each component like hand hygiene, use of Personnel Protective Equipment (PPE), use of gloves, proper disposal along with biomedical waste, how to manage a blood spill in the lab or ward, sharps safety, needle stick injury) were shown to them in a classroom session.

Feedback was obtained from the students and faculty regarding their perception (5 Point Likert scale) about educational videos as a learning and teaching tool. Students were also assessed for their knowledge gained by a Multiple-Choice Question (MCQ) questionnaire and the anonymity for the same was maintained.

The electronic questionnaire was designed on Google forms, and the invitation link for participation in the survey was shared on WhatsApp group.

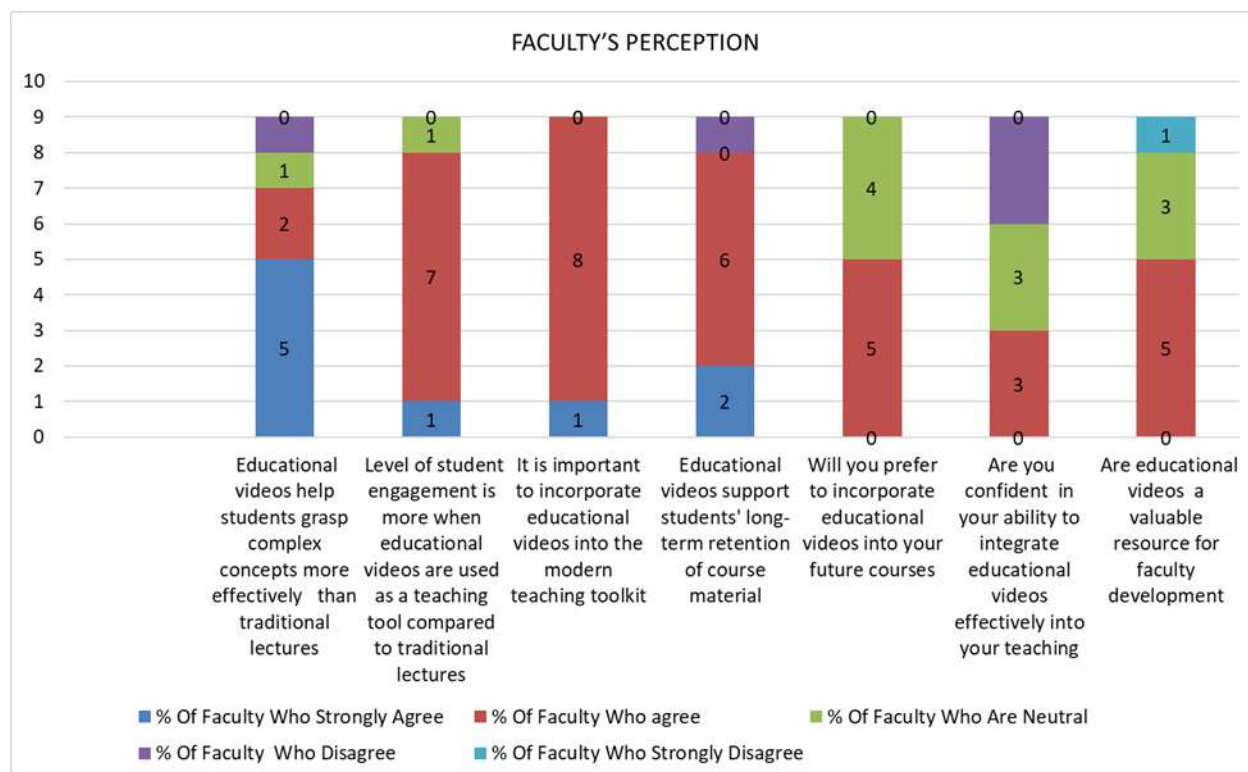
Statistical Analysis: All the data collected was entered in Microsoft excel and presented in count (percentage).

Perception Of Students On Introduction Of Educational Video Module As A Learning Tool



Perception Of Faculty On Introduction Of Educational Video Module As A Teaching Tool

Perception of the members of the teaching faculty to the introduction of educational video module was assessed using a pre-validated feedback questionnaire (5 point likert scale)



Effectiveness Of The Module

Apart from taking perception of both students and faculty regarding the benefits and challenges in implementation of educational videos into their modern teaching tool, students were also assessed for their knowledge gained regarding the topic taught to them.

The MCQs (on standard precautions and infection control) were sent to them via google forms and the marks obtained were entered in MS excel and calculated in percentage.

The educational video module has **demonstrated remarkable efficacy, with over 80 percent of students achieving more than 60% scores.**

S. No.	Number of students (n=148)	Percentage of students	Percentage obtained
1	5	3.3%	< 50%
2	21	14.1%	50-60%
3	30	20.2%	60-70%
4	35	23.6%	70-80%
5	22	14.8%	80-90%
6	35	23.6%	>90%

Discussion

The current revolutions in technology have transformed the teaching and learning process.

Students today are using educational videos as a tool for learning everything: from basic skills - like changing a tire - to the latest dance craze. The use of videos in teaching and learning serves to not only benefit students, but also teachers, their affiliated institutions, and the entire school system.

Abstract topics that once seemed difficult to teach and learn are now more accessible and understandable thanks to the availability of effective educational video platforms for online learning.

The purpose of our study was to sensitize the students & faculty to experience an innovative method of teaching learning which will help them to understand the topic better.

Overall, students as well as faculty showed a positive attitude towards educational videos module of teaching learning.

Conclusion: There was a positive response shown by the students towards new teaching learning method. Students found it interesting, relevant and beneficial. Students also felt that educational videos allow for the efficient use of time by condensing complex concepts into concise, focused presentations.

Students need to be motivated regularly by introducing new methods of teaching learning. The faculty also opined that the educational videos module is a good innovative method which should be introduced in the departments.

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