

## Original Research Article

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# ‘Learning ENT’ by YouTube videos: perceptions of third professional MBBS students

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## ABSTRACT

**Background:** Advancement in technology has revolutionized the concept of teaching and learning medicine. YouTube is a popular and easily accessible tool to teach medical subjects. This study was done to evaluate the students’ perception of YouTube learning in ENT.

**Methods:** This was a prospective study where a subject specific YouTube channel, ‘Learning ENT’, created by 1st author, was used to upload videos on selected topics in ENT for third professional MBBS part-1 students (n=145). Students were instructed to access the said videos from time to time throughout the year. At the end of the academic year the perceptions of students were taken and analyzed.

**Results:** 124 students responded to the online questionnaire. 123 (99.2%) watched YouTube videos on their smart phones. 70 students (56.5%) accessed the YouTube videos for ENT topics very often. 122 (98.4%) students felt that these videos made them understand the topics better. Similarly, 115 (92.7%) students felt that these videos enhanced their interest in the subject. 114 (91.9%) students felt that these videos were more beneficial for practical topics in ENT. 61 students (49.2%) perceived that the duration of videos should be 5-10 minutes. Almost equal number (47.6%) students felt that 10-15 minutes duration is appropriate. 79 students (63.7%) perceived that watching videos made the topic easy to understand and also interesting. 71 students (57.2 %) felt that there were no limitations of the said channel.

**Conclusions:** When integrated with other teaching learning methods, YouTube can be an effective tool to facilitate ENT learning.

**Keywords:** ENT, Otorhinolaryngology, Teaching learning methods, YouTube learning

## INTRODUCTION

In the last decade there has been massive invasion of technology in medical education. A liberal access to internet and use of smart phones have enhanced utilization of e-learning resources for self-directed learning (SDL), an essential ingredient of experiential learning.<sup>1</sup> Among various teaching-learning media; PowerPoint presentations, movies clips, and short videos have gained wide currency. The videos are audiovisual narratives of storytelling and act as emotional triggers to

learning. The emotions and moving images promote evocative learning in a more congenial familiar environment. Such e-sources are already used for sharing ideas and perspectives by millennials. They capture students’ attention almost immediately and videos have ease of access through YouTube. The basic tenement of use of these tools lies in the fact that 83% of learning takes place through visuals.<sup>2</sup> Visuals display emotions which play key role in learning by linking them with experiences. Cinema, movie-clips and videos have been proved to be better tools to teach attitudes, professionalism and compassion.<sup>3</sup>

The advantages of learning through videos are that they can be accessed anywhere, anytime, students are engaged, often engrossed, and thus learning is self-styled and self-paced. Despite being attractive for the quality of audio-visual contrast and colors, the educational value depends on the how much knowledge acquisition occurs during video watching. This is because the quality of contents and content validity would depend on knowledge and experience of teacher who uploads such videos. Moreover, it requires a lot of efforts and skills to prepare a good quality video on a particular topic in medicine (it took 1<sup>st</sup> author around 5-6 hours to conceptualize, prepare and upload an informative video of 10-15 minutes). A major determinant of video learning is the extent to which such videos satisfy students' learning needs. Hence, it is necessary to know the students' perception of such videos so that improvisation can be done for better learning. YouTube is the most popular video sharing web portal in the world.<sup>4</sup> Previous studies have shown that learning through YouTube videos is widely gaining acceptance among students.<sup>5,6</sup> However, there is paucity of available literature on this topic for medical subjects. We could not find any study in the literature which has analyzed the perceptions of the students of an ENT specific YouTube channel. Hence, this study was done to know the students' perception of YouTube learning in ENT. This study will open new vistas for researchers, educators and instructors for preparation of student friendly videos and also for triggering thoughts on new possibilities of using open access videos in the medical education.

## METHODS

This was a prospective study carried out in the Department of Otorhinolaryngology of Gujarat Adani Institute of Medical Sciences, Bhuj, from February 2019 to January 2020. A YouTube channel, 'Learning ENT' (URL: <https://www.youtube.com/channel/UC-5d1LiXKvEZKZFC2taEtgw>), was created by the first author, where 22 videos of ENT theory and practical topics were uploaded and shared with a batch of 145 students during the course of the academic year. At the end of the academic year students' perceptions regarding the utility of YouTube videos as a learning tool in ENT were taken through a pre-validated online questionnaire (Annexure 1) using google forms. The responses were tabulated and analyzed using microsoft excel sheets.

## RESULTS

124 students responded to the online questionnaire. 70 students (56.5%) accessed the YouTube videos for ENT topics very often while only 8 students (6.5%) very rarely accessed the YouTube videos for ENT topics. 123 (99.2%) watched YouTube videos on their smart phones. Table 1, shows that 122 (98.4%) students felt that these videos made them understand the topics better. Similarly, 115 (92.7%) students perceived that these videos enhanced their interest in the subject.

**Table 1: Perception of students on impact of YouTube videos on ENT learning.**

Question	Yes	No	Can't say
	N (%)	N (%)	N (%)
<b>Do you feel these videos made you understand the topic better?</b>	122 (98.4)	0	2 (1.6)
<b>Do you feel these videos enhanced your interest in the topic?</b>	115 (92.7)	1 (0.8)	8 (6.5)

114 (91.9%) students felt that these videos were more beneficial for knowing details of practical (skill related) topics in ENT. After watching such videos, they opined that it enabled them to 'show', 'show how' and 'do' in real skill sessions. 61 students (49.2%) felt that the duration of videos should be 5-10 minutes. Almost equal number (47.6%) students opined that 10-15 minutes duration was appropriate (Table 2). It is obvious that students prefer short videos for learning ENT. This would help preparing effective videos.

**Table 2: Students' perception of the appropriate duration of videos.**

Appropriate duration of videos	Number of students (%)
<b>Up to 5 minutes</b>	1 (0.8)
<b>5-10 minutes</b>	61 (49.2)
<b>10-15 minutes</b>	59 (47.6)
<b>More than 15 minutes</b>	3 (2.4)

**Table 3: Advantages of learning ENT by watching YouTube videos.**

Advantage of YouTube videos	Number of students (%)
<b>Made the topic easy to learn/comprehend</b>	79 (63.7)
<b>Eases memory retention and recall</b>	33 (26.6)
<b>Useful for practical topics</b>	25 (20.16)
<b>Saves time</b>	25 (20.16)
<b>Easily accessible</b>	21 (16.9)
<b>Useful for revision of topic</b>	16 (12.9)
<b>Useful for theory topics</b>	7 (5.64)

Students were asked to enlist two advantages and two disadvantages of learning ENT by watching YouTube videos. 79 students (63.7%) perceived that watching videos made the contents interesting and easier to comprehend (Table 3). 33 students (26.6%) thought that

visual memory helped them in better retention of the topics. Other advantages are shown in (Table 3).

Furthermore, students were also asked about the limitations of YouTube videos (Table 4). Surprisingly, 71 students (57.2%) felt that there were no limitations. Limited content coverage, too lengthy videos, didactic nature of videos, time consumption and poor audio quality were the limitations mentioned by the students (all less than 10%).

**Table 4: Limitations of learning ENT by watching YouTube videos.**

Limitations of YouTube videos	Number of students (%)
<b>No limitations</b>	71 (57.2)
<b>Limited content coverage</b>	11 (8.8)
<b>Too lengthy</b>	8 (6.4)
<b>Poor audio quality</b>	6 (4.8)
<b>Didactic in nature (no scope of discussion)</b>	5 (4.0)
<b>More chances of distraction</b>	4 (3.2)
<b>Time consuming</b>	4 (3.2)

Finally, overall utility of YouTube videos was rated as 'beneficial' by 116 (93.5%) students (Table 5).

**Table 5: Likert scale for 'how beneficial did you find the videos for learning ENT?'**

Likert scale	Number of students (%)
<b>1</b>	0 (0)
<b>2</b>	1 (0.8)
<b>3</b>	7 (5.6)
<b>4</b>	50 (40.3)
<b>5</b>	66 (53.2)
<b>Total</b>	124 (100)

## DISCUSSION

A wide range of audio-visual tools have been tested to enhance delivery and effectiveness of teaching. These include videos, multimedia and cinema. Videos are effective in delivering information to large groups. Videos increase students' engagement, offer flexibility to pause, skip and review discussions and particular clips. YouTube is one of the most popular video sharing platforms in the world as it is cheaper and ubiquitous tool. Numerous videos on any particular topic are available on YouTube and obviously, number of videos uploaded on medical subjects is also increasing day by day. Many teachers feel that YouTube is an effective tool to deliver knowledge to the students, who are rather more techno savvy than their previous generations. It can be assumed that medical students would accept YouTube video sessions as good learning tools and there are some studies done in humanities and arts to show such utility of

YouTube videos. Zaidi et al concluded that YouTube was a viable, innovative and authentic English teaching resource.<sup>5</sup> In another study, done in medical sciences, Zaffar demonstrated utility of YouTube videos for teaching Anatomy. The author concluded that YouTube can be an effective tool for giving instructions in Anatomy provided videos are scrutinized and aligned with course objectives.<sup>7</sup> The present study included videos aligned with core sub-competencies and objectives covering different ENT topics.

As in our study, previous studies have found that YouTube videos helped students to comprehend the topic better and enhanced their interest in the topic.<sup>8</sup> The other potential benefits of YouTube videos are that they enhance the engagement and depth of understanding, relate learning with experience and satisfy learning styles and needs of students.<sup>9</sup>

It has been shown that duration of a video has an impact on students' inclination to watch a video.<sup>6</sup> Furthermore, the content delivery format determines length and audio preferences. Videos longer than 30 minutes are not opened for watching. In the present study, 61 students (49.2%) opined that the duration of videos should be 5-10 minutes. Almost equal number (47.6%) students felt that duration of 10-15 minutes was appropriate. In a similar study on Mathematics in 2014, around 60 % students felt that ideal duration of videos should be less than 15 minutes.<sup>10</sup> Hence, videos should not be longer than 15-20 minutes duration. This is in consonance with the observation that typical student's attention span is about 10 to 15 minutes long.<sup>11</sup>

It is important to note that not all students would identify the inherent limitations of video learning. This makes the task of video making more difficult for ensuring its content validity. In our study, some students perceived a few limitations of YouTube videos related to quality (audio-visual, pace, language) and content. It is important that audio-visual content should be more deductive than seductive! The appropriate pace and clarity hasten comprehension. A previous study, conducted by Biggs et al in 2013, concluded that YouTube appears to be an unreliable resource for accurate and up to date medical information relating to rhinosinusitis.<sup>12</sup> However, the authors also said that YouTube may provide some useful information if mechanisms existed for quality control. Here comes the role of teacher as guide.

In our country, where there is shortage of number of faculty members, YouTube videos can be a great saviour. Students can rely on the videos made by their teachers and watch them at ease without time and place restrictions. This can be particularly helpful for some practical topics (e.g., teaching ENT instruments) which require frequent revisions. In our study, 114 (91.9%) students felt that these videos were more beneficial for (skill related topics) practical topics in ENT than theory topics. Currently, online teaching can be a boom in a type

of situation that now engulfs entire world, the corona crisis.

## CONCLUSION

No teaching learning method is without limitations. Hence, there should be an integrative approach while selecting teaching learning methods for a particular topic. Short duration YouTube videos (less than 15 minutes) appear to be effective tool to learn ENT. Preparation of good quality educational videos requires patience, time and skills. Faculty members should guide the students regarding the authenticity of such videos.

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## **ANNEXURE 1**

### **(Questionnaire)**

1. How often did you access YouTube videos for ENT topics?
  - Very often
  - Occasionally
  - Very rarely
2. Where did you watch YouTube ENT videos more often?
  - Smartphone
  - Desktop
  - Laptop
  - Tablet
3. What should be the appropriate duration of such videos?  
a) <5 min      b) 5-10 min      c) >10 min
4. Do you feel that these videos made you understand the topic better?  
a) Yes      b) No      c) Can't say
5. Do you feel that these videos enhanced your interest in the topic?  
a) Yes      b) No      c) Can't say
6. Were the videos more beneficial for theory or practical topics?  
a) Theory      b) Practical
7. How beneficial did you find YouTube videos for learning ENT?  
1-Not beneficial ..... 5-Very beneficial
8. Two most important benefits of learning ENT by YouTube videos.
9. Two disadvantages/drawbacks of learning ENT by YouTube videos.