

# Google Site as a Tool for Teaching Undergraduate Students in Forensic Medicine

Pragnesh Parmar<sup>1</sup>, Swapnil Patond<sup>2</sup>, Gunvanti Rathod<sup>3</sup>, Sudhir Ninave<sup>4</sup>

<sup>1</sup>Professor and Head, Department of Forensic Medicine, GMERS Medical College, Vadnagar, Gujarat, India, <sup>2</sup>Associate Professor, Department of Forensic Medicine, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India, <sup>3</sup>Associate Professor, Department of Pathology, GMERS Medical College, Sola, Ahmedabad, Gujarat, India, <sup>4</sup>Professor and Head, Department of Forensic Medicine, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India

## Abstract

**Background:** Today, students are well versed with use of internet and web based teaching can become important source to supplement traditional teaching. Web based teaching via google site can touch deeper aspect of learning by serving as good tool for revision.

**Objectives:** To develop web based teaching module via google site and evaluate students' performance before and after exposure to web based teaching module along with perceptions of students and faculties on it.

**Methods:** Web based teaching module in Forensic Medicine on one topic of core competency (Mechanical injury) was developed and validated. Module contained lecture notes, photographs, etc. on google sites. Consent form, feedback form and pre-test and post-test Questionnaire (Total 10 multiple choice questions) were formed and validated. All the medical undergraduate students (5<sup>th</sup> semester) were subjected to pre-test questionnaire, web based teaching module, post-test questionnaire followed by feedback after obtaining their informed written consent via google site. Feedback of faculties were also obtained and analysed.

**Results:** Out of 138 participants, 84 were male and 54 were female. There was no statistically significant difference between perceptions of male and female participants. Comparison of pre and post test scores of students was done using Wilcoxon's sign rank test. Students scored significantly more in post-test. Both students and faculties gave positive feedback for web based teaching module.

**Discussion:** Classroom traditional teaching is always limited to time, place, person and mood of students while web based teaching via google site can be accessed by students on their own time, ease and pace without any limitation. Higher domain can be explored and in depth teaching is possible via web based teaching.

**Conclusion:** Web based teaching module via google site was found to be very useful to enhance teaching experience of undergraduate students as good tool of revision.

**Key words:** Web based teaching, Google site, Forensic Medicine, Competency, Undergraduate, Students.

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## Corresponding Author:

**Dr. Swapnil Patond**

Associate Professor, Department of Forensic Medicine,  
JNMC, DMIMS, Wardha  
patondswapnil@gmail.com, 9049093630

## Introduction

Today, students are well versed with use of internet and web based teaching is important source to supplement traditional teaching as part of curriculum <sup>[1]</sup>, <sup>[2]</sup>. Current competency based curriculum of Forensic

Medicine if supplemented by web based teaching module will be useful to enhance teaching learning process [3]. Google site is one of the platforms to create free web based teaching module which can be freely accessed by students.

### Aim and Objectives

- To develop web based teaching module via google site on one core competency in Forensic Medicine (Mechanical Injury).
- To evaluate students’ performance before and after exposure to web based teaching module.
- To analyze students’ and faculties’ perceptions regarding web based teaching module.

### Materials and Methods

**Step 1:** Web based teaching module in Forensic Medicine was developed on one topic of core competency of Forensic Medicine (Mechanical Injury) as per the new competency based curriculum of MCI. Module contained lecture notes, photographs, etc. on google sites and validated.

**Step 2:** Consent form, feedback form (Table – 1) and pre-test and post-test Questionnaire (Total 10 multiple choice questions) were formed and validated [4-16] regarding web based teaching module and uploaded on google site.

**Step 3:** Approval of Institutional Ethical Committee was taken.

**Step 4:** All the medical undergraduate students (5<sup>th</sup> semester) were subjected to pre-test questionnaire, web based teaching module, post-test questionnaire followed by feedback after obtaining their informed written consent. Feedback of faculties was obtained on web based teaching module.

**Step 5:** Pre and Post-test performance of students as well as their feedback on web based teaching module were analysed. Feedback of faculties was analysed.

### Results

Total 138 students of 2<sup>nd</sup> MBBS (Fifth semester) were subjected to pre-test questionnaire, web based teaching module of Mechanical injury, post-test questionnaire and feedback after obtaining their informed written consent.

Frequency and median score of various parameters of feedback given by students were calculated as per **Table - 2**.

Out of 138 participants, 84 were male and 54 were female. There was no statistically significant difference between perceptions of male and female participants.

Comparison of pre and post test scores of students was done using Wilcoxon’s sign rank test. Students scored significantly more in post-test. Only 5% scored less in post-test and 9% had similar pre- and post-test scores as per **Table - 3**.

Median score of various parameters of feedback given by faculties were calculated as per **Graph - 1**.

**Table – 1: Feedback form.**

Sr. No.	Question	Responses				
		SD	D	NS	A	SA
1	Web based teaching module of Mechanical injury via google site is relevant					
2	Content of web based teaching module is adequate					
3	Presentation of module on google site is adequate					
4	Mechanical injury web based teaching module is useful					

**Cont ... Table – 1: Feedback form.**

5	Time duration of module is adequate					
6	Mechanical injury web based teaching module should be continued for every year					
7	Other topics of Forensic Medicine should be taught by such web based teaching module via google site					
8	Such practice of web based teaching will improve my overall performance					
9	Practice of web based teaching in other subjects will be helpful for me					
10	Web based teaching via google site is good tool for revision					

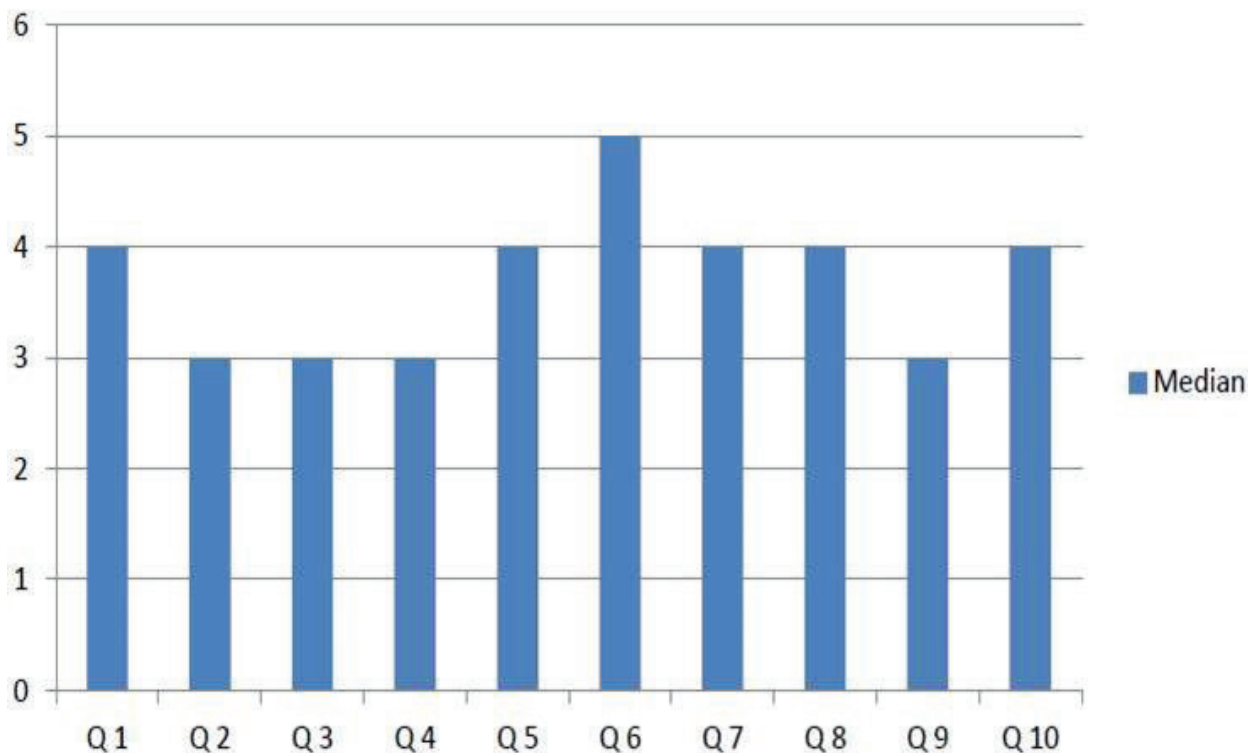
(Responses: SD-Strongly Disagree, D- Disagree, NS-Not Sure, A-Agree, SA-Strongly Agree)

**Table – 2: Frequency and median score of feedback given by students.**

Question No	Frequency of Responses					Median
	SD	D	NS	A	SA	
1	10	12	17	72	27	4
2	7	10	21	76	24	4
3	6	5	10	32	85	5
4	1	4	11	32	90	5
5	3	6	22	76	31	4
6	13	16	31	58	20	4
7	16	19	28	53	22	4
8	9	7	8	30	84	5
9	3	13	84	31	7	3
10	5	13	40	60	20	4

**Table – 3: Comparison of pre and post-test responses via Wilcoxon’s sign rank test.**

Test Statistics	
	Post-Pre
Z	-7.133a
Asymp. Sig. (2-tailed)	.001
a. Based on negative ranks.	

**Graph – 1: Median score of feedback given by faculties.**

### Discussion

Web based or internet based learning is frequently called as online learning or e-learning because it includes online course content. Discussion forums via e mail, video conferencing, webinars or live lectures (video streaming) are all conceivable through the web. Web based courses may also provide teaching materials in form of power point presentation, useful notes, pictures, videos, static pages such as printed course materials, etc. [17-20].

A “virtual” learning environment (VLE) or managed learning environment (MLE) is an all in one teaching and learning software package. Many universities are equipped with various learning management system (LMS) also. A VLE typically combines functions such as discussion boards, chat rooms, online assessment, tracking of students’ use of the web, and course administration. VLEs act as any other learning environment in that they distribute information to learners. VLEs can, for example, enable learners to collaborate on projects and share information. However, the focus of web based courses must always be on the

learner—technology is not the issue, nor necessarily the answer [18].

Advantages and disadvantages of online assessment are always there like any other learning system. Advantages are like students can obtain speedy feedback on their academic performance, beneficial for self-assessments for example, multiple choice questions, suitable way for students to submit assessment from remote sites at their own time and pace, computer marking is an efficient use of staff time without bias. Disadvantages are like trained and skilled faculties are required, most online assessment is limited to objective questions, security can be an issue, difficult to authenticate students’ work due to lack of direct observation, computer marked assessments tend to be knowledge based and measure surface learning, mostly lacking in direct observation of practical skills, etc. [18].

### Conclusion

Web based teaching module was found to be very useful to enhance teaching experience of undergraduate students. Students and faculties gave positive feedback

regarding web based teaching module in Forensic Medicine. Web based teaching module is useful to improve students' performance.

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