

Undergraduate ophthalmology students' viewpoint to scenario-based learning using flipped classroom technique

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Abstract

The 21st century medical students prefer interactive learning sessions than a passive mode of information sharing. In this perspective we tried to explore a scenario-based learning of Ophthalmology theory topics utilising Flipped Classroom techniques. In this cross-sectional study, we recruited 129 undergraduate students to collect their viewpoints to such technique through a survey questionnaire. Majority students preferred the techniques as it could help them understanding subject better & correlating better during clinical postings. Pre lecture assignment could help them to utilise resource at their own pace & could apply the prior knowledge to clinical scenario during lecture class.

Keywords: Innovative teaching, Scenario-based learning, Flipped classroom student's perception.

Introduction

The traditional teaching was done for so long a time without any change and the Carnegie foundation¹ has called for reformation of teaching methods so that there is involvement of the students is brought in the teaching. The reason is teaching students in their undergraduate medical curriculum by traditional methods of delivery by an oral lecture has not stimulated the students to actively take part in the lectures. Later in their career they were not able to diagnose cases with certainty by analysing the facts of the case and putting it in the proper perspective. We thought we can change this by altering the method of delivery of lecture and then we wanted to assess the effect on this on student's perception.^{2,1} Even before this some have attempted the innovative teaching methods in the curriculum by teaching with problem based medical teaching.³ One article advocates for a change through creative experimentation in the areas of patient interactions, clinical training settings, assessment modalities, experiential models of learning, and faculty development which are thought to be essential for 21st century trainees running through digital age of information revolution.⁴ One survey reveals that the students vote for a change in some areas like lectures and seminars and they appear to be willing and enthusiastic to accept new concepts in teaching.⁵ Literature suggest that the flipped classroom approach in health professions education can bring significant improvement in student learning in comparison to traditional teaching methods.⁶

In this study we wanted to experiment with the scenario-based teaching using a flipped classroom technique & wanted assess students' viewpoint.

Methodology

This was a cross sectional survey involving 6th & 7th semester undergraduate medical students. The total of 129 students took part in this study through total population sampling concept. The students were given lecture slides of the topics where the scenario is made. They were also given a mini study guide highlighting important learning outcome &

resource. They were encouraged to explore other facts available in the books and other online sources. Since they are also involved in the process of learning we have assessed the extent to which they get benefited and what their perception is. All the study participants were interviewed using a self-semi-structured survey questionnaire using 11 items in Likert Scale. Expert validation was done before administrating the questionnaires. The descriptive analysis is reported.

Results

The demographic profile of study population is highlighted in Table 1.

Table 1: Demographic profile of study population

Demography	N=129	
Male	54	41.8%
Female	75	58.2%
Ethnicity		
Indian	44	34.1%
Chinese	25	19.3%
Malay	30	23.3%
Others	30	23.3%

Table 2: Questionnaire to analyse students' viewpoint on effectiveness of scenario-based learning in Large group using Flipped Classroom technique. (1=Strongly Disagree to 5 = Strongly agree) (N=129)

S. No.	Statements	Average Score with SD
1	I was aware of such method of teaching	3.73 ± 1.02
2	SBL focus on must know topics for General Practice	3.78 ± 0.82
3	Scenario based learning during lecture makes topic understanding clear	3.47 ± 1.01

4	Learning through scenario-based learning will help during clinical posting Ophthalmology	3.67 ± 0.94
5	Scenario based learning during lecture could help to answer SAQs	3.37 ± 1.00
6	It promotes active learning	3.48 ± 1.05
7	It's a boring exercise during class	2.74 ± 1.14
8	SBL is better than traditional lecture classes	3.28 ± 1.12
9	SBL helps in retention of knowledge	3.29 ± 1.03
10	I will recommend such approach for other disciplines as well	3.26 ± 1.09
11	This method of learning should continue	3.35 ± 1.12

Discussion

In this method the students is that having unrestricted access to lecture notes before class enabling them to learn anywhere and at any time, at their own pace, this fact is been mentioned in literature as one of the advantages of flipped class technique as it promote active learning,⁶ which in fact agreed by most of the participants. As the scenarios were very much realistic and focus to real life practice of Ophthalmology at General practice, majority of students liked this method of delivering lecture topics. Another important viewpoint was on understanding the subject better, as it focused on specific & relevant matter. The limitation of the study was its cross sectional result involving one cohort. We plan to do randomised control trial to compare the effectiveness of this technique with traditional lecture.

Conclusion

In The undergraduate students preferred to replace traditional lecture style teaching with more interactive session during large group session using real life clinical scenario to make subject understanding better.

Financial Interest

None.

Conflict of Interest

None.

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