

## Teaching Physiology: Under Graduates' Perspective

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**Abstract:** Aim of the present study was to understand student's opinion about the existing system of teaching Physiology. A total number of 292 students participated in this study. They were also to suggest if any modifications was required for better understanding. Majority of them considered lecture class as the most appreciable method. Board and chalk method was their choice. Other visual aids were acceptable. During lecture writing notes was very common. Suggestions included the lecture class time not to exceed 45 minutes and not in afternoon session. They wanted subject related cases from hospital to be shown, and teaching to be made student centered and oriented. They were for tutorial classes as well as small group discussion on regular basis.

**Key words:** Lecture class, lecture note, chalk and board, power point presentation, tutorial class, over head projection, lecture points.

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### I. Introduction

The education process in medical colleges aim to generate each doctor in complete. Various teaching methods are available to achieve this. Preference for which may differ from college to college. Lecture and clinical exposure are two suitable and accepted common methods in medical education for creating interest among students. Over and above traditional black board and white chalk teaching method or presentation in the form of chart ,new methods are added to enhance the quality of lecture.

The objective of the present study was to find out students' choice on different types of teaching methods to which they were routinely exposed and their suggestions for modifications on the existing teaching method for better understanding.

### II. Materials and methods

A total number of 292 undergraduate students attending Physiology classes participated in this study. Individually they were supplied a questionnaire. They were not to reveal their identity on the form. Questionnaire was with total 12 questions and its multiple choice answers. Three questions had divisions. At two places they were to comment. Questions were related to their theory lecture class, their dependence and preference for it, habit of writing lecture notes, theory notes and usage of black board and white chalk and their preference for this. Their opinion on visual aids like slide projection, over head projection or power point presentation was sought. Their suggestions for changes needed in existing system for better understanding were also requested for.

Analysis of whole study was done and expressed in terms of percentage.

### III. Results

Students' first choice of teaching method was lecture class. They (89.73%) reported the lecture classes they attended were satisfactory or good.Majority of them (87%) had the habit of writing notes during lecture class. Which remained as the source (78%) for their regular studies,where 22% of them depended on text books.Our study revealed choice of majority of theirs was for lecture class using chalk and board as a teaching aid. They (92.67%) also preferred other visual aids like poster presentation, slide projection, over head projection and power point presentation. They (61.22%) preferred slide projection or power point presentation during revision classes .They (93%) opined that visual aid of any type used in class did not lower the concentration on attending lecture. It made them to understand the subject better and easier .They (69%) were comfortable in noting down class lecture while these aids were in use. .

Their (69%) choice was for all points included in a lecture to be written on black board. Many (66%) wanted notes from faculties who delivered lecturer. .Advantages of the present system as well as suggestions given by participants are presented at appropriate places below.

### IV. Discussion

Students are the best judges of a class. They are the most eligible to assess the available teaching methods and to suggest any changes in existing system, if required. The present study was conducted to evaluate

present teaching methods in Physiology to which they were exposed and to find out from students how to modify existing pattern which would further help them in improving learning. We believed students' feedback was essential towards this. Others opined similar (Mukherjee et al. 2013; Patel et al. 2014; Subash 2014). Medical science adapted several measures in teaching under graduate students.

In our study participants' identity was not to be revealed where by we anticipated truthful answers. Questionnaire sought students' opinion about existing system of teaching Physiology and their suggestions for its improvement, if desired. The usage of different methods of teaching was dictated mainly by the curriculum followed by teachers' preference from the available resources. Our students (98%) first choice was for lecture class. Another study observed same (Gupta et al. 2014a). In our system, teaching schedule was placed on student's notice board in advance showing time, place and name of the faculty who would deliver lecture or conduct demonstration or lead tutorial group. A study revealed students wanted to know the name of the faculty before the lecture class (Subash 2014). Dutta (2011) opined topic of the lecture might be given in advance. There were various techniques by which lectures were made effective. In the present study the prior choice was for black board and white chalk teaching method. This was in common with other students (Desa, Keny 2014; Chavan et al. 2014; Khane, Joshi 2014; Sharma et al. 2014). Our study proved traditional chalk and board stood good and should not be completely ignored. This was the dominant teaching method and an unmatched support in lecture delivery (Hemalatha, Samaga 2014; Seth et al. 2010). Lecture class created sustained interest and promoted students into it (Sing et al. 2009). Seth et al. (2010) opined teacher should be properly trained for good presentation and effective techniques.

In a question related to visual aids in lecture class, they preferred inclusion of over head projection, slide projection and power point presentation. They (83%) considered the main reason with projections was it impressed in their minds and remained in memory. It made lecture clearer and understandable. Also photographs of microscopic slides shown here made understanding much easier. They opined this saved time of theirs and lecturers. They wanted it to include in revision classes. However, when these two methods were compared choice of majority (73%) was for drawing diagrams during lecture and flow charts. This system was better and easier to understand than over head projections, slide projection or power presentation. In one study 80% of participants preferred power point presentation over other audio visual aids (Subash 2014). Students (91%) wanted faculty to write down all points included in lecture on the board. Similar to our study other studies also strongly supported traditional good quality teaching with modern techniques (Bennal et al. 2014; Gupta et al. 2014b; Krishna et al. 2012; Mohan 2013; Papanna et al. 2013; Seth et al. 2010; Shettigar et al. 2014; Singh et al. 2009). This lead to a better teaching. Few authors opined power point presentation as the most important teaching material for the students (Kaur et al. 2013; Suresh et al. 2014). In classroom instruction this was more effective (Chandra et al. 2012; Hemalata, Samaga 2014). Preference for this revision class is our study. Inclusion of quiz program was also opted by students (Khane et al. 2014).

Our students (87%) were in the habit of writing notes during lecture class. They opined taking notes did not disturb listening and understanding class. Students get chance to write down notes while chalk talk teaching (Chandra et al. 2012). Many (37%) preferred lecturer gives notes for their studies. They believed the lecture notes made the vast subject much easier for learning. They did not believe dictation of by notes lecturer would decrease their thinking and learning capacity or answers written in examinations would look alike. None of our faculty members dictated notes during lecture. In a similar study students' did not prefer dictating notes but guidance of teachers (Mishra et al. 2013). Our participants agreed visual aids did not disturb them in writing notes in the class. Other studies observed similar (Chandra et al. 2012). Students opined an effective teaching included visual, auditory, reading/writing and kinesthetic activities (Mukherjee et al. 2013).

Our participants' suggestions were following 1) Teaching including lecture class not to exceed 45 minutes. Mentally they were not ready to accept lecture beyond this time. 2) Lecture class should be excluded from afternoon session 3) Requested for topics related clinical cases in class, to make subject interesting and more meaningful. Case based learning was considered as a good teaching measure (Salgar 2014). Problem based learning was reported as effective in medical teaching (Bajaj et al. 2013). Integrated teaching was better for understanding (Shah et al. 2014), 4) They wanted to include small group teaching. 5) Teaching should be student centered and oriented. Few other recent studies reported similar (Al Faris et al. 2014; Gupta et al. 2014 b; Khane et al. 2014) and 6) Regular tutorial classes were opted and where visual aids were opted. Tutorials ensured understanding reflected in the test scores (Dawane et al. 2014). Study of Ismail et al. (2014) showed that majority of students preferred group discussion. They opined this permitted to assimilate the knowledge as well as skills in an easy form with in limited time.

Opinions of different authors for teaching method varied. Kaur et al. (2013) believed power point presentation was better than chalk board method. Shriyan and Devan (2011) opined new teaching methods were better than traditional teaching methods. Use of computers and internet becoming popular in medical education (Agrawal, Kumari 2013). Computer assisted learning was considered as a good teaching method (Fatima, Leela 2013; Max et al. 2009; Netlah 2014; Tayade, Kulkarani 2011). There are various teaching methods using internet

(Kolwal 2013). A combination of all these were suggested for regular teaching (Kolwal 2013). Brek (2009) believed video clips were a major resource for teaching. Suggestions were for a skill course which may be introduced in the first year itself (Al Faris et al. 2014). Though these methods have many advantages, disadvantages are not to be overlooked.

Study of Udaya Kumar and Madhan (2013) observed students who attended modern technologies like power point lecture and computer based dissection visual performed better than those students who attended only the traditional methods of teaching.

Understanding advantages and disadvantages of each method, teachers must fulfill their lecture. By using various methods appreciated by the students the teaching and learning physiology can be made effective, interesting and enjoyable (Khane, Joshi 2014).

## V. Conclusion

Students wanted the present system of teaching with lecture. Black board and white chalk system of teaching was their main choice. They had time for writing down notes during lecture class which was an important support in their studies. Audio visual aids were acceptable to them. As lecture was the main choice we recommend the correct pronunciation and fluency of English language as an essential requirement of a good teacher.

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