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## Students Perception on Teaching Learning and Evaluation Methodologies applied in Physiology

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### Abstract

**Background:** Outgoing students from some colleges in particular from the central and some specific state medical colleges are better equipped with knowledge, skills and attitude than the rest. On the contrary some medical colleges produce inefficient medical graduates. This article is an initiate in finding out the best teaching learning and assessment methods in physiology from the students' perspective, to reduce the knowledge and skill gap between the students of different medical colleges. In the regular departmental meetings on better performance of the students, it is much needed to take the feedback from the faculty members also for improving teaching learning and evaluation methods in any educational institutions including medical colleges.

**Aim:** To record and analyse the feedback from the students on present teaching learning and the evaluation methods used in the department of physiology in a medical college in South Indian state of Telangana.

**Materials and Methods:** The present study was conducted on 68 first year under graduate medical students. Two sets of questionnaires were used for acquisition of qualitative and quantitative data.

**Results:** Much need to change in the present teaching learning and evaluation methods.

**Conclusion:** All the students felt that many changes are required in the present teaching learning and evaluation methods for better performance of the students.

### Keywords

Perception; Medical Education; Teaching Learning Methods; assessment; performance

### Introduction

Teaching learning and evaluation are an integral part of educational system that lead to meaningful way of living. Medical under graduate students will study anatomy, physiology and biochemistry in their first year. Unlike earlier days, presently the duration of first year

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**Conflicts of Interest:** Nil

MBBS course is only one year, and to clear the university examinations at the end of the first year, many times students are forced to study the concise notes of the three subjects. This reduces the quality of education by lacking the conceptual understanding. The primary objective of the medical education should be a holistic approach, which enhances the problem solving skills of the medical professionals with the critical and logical thinking<sup>1</sup>. If we know the preferred learning modalities of the students, we can adopt new methods of teaching accordingly<sup>2</sup>. The classroom teaching must focus on amount of learning but not on the quantum of the syllabus to be covered<sup>3</sup>. Are the present teaching learning and evaluation methods efficient enough to impart knowledge for effective learning? The present study is aimed to understand the students' perception on teaching learning and evaluation methods used in the department of physiology in terms of effective learning.

## Objectives

To assess the perception of students on teaching learning and evaluation methods in learning physiology using a questionnaire.

## Materials and Method

After obtaining the written informed consent, sixty eight first year MBBS students were recruited in the study. The study was carried out after the ethical clearance from the Institutional Ethics Committee (IEC). Present study was carried out over a period of six months from the month of April till the end of September in the year 2018. The study was carried out in the physiology department.

### Inclusion criteria:

Students who were willing to give consent and participate.

### Exclusion criteria:

Students who are not willing to participate.

### Methodology:

First of all focused group discussion was carried around 45-60 minutes before administering the questionnaire. Questionnaire for assessing the perception of listeners on teaching learning and evaluation methods was initially developed and later refined at Harvard University over 10 years ago by Dr. Ron Ferguson. We adopted it in the present study after validation. Quality of teaching, content of the topic, process of teaching, teacher and student characteristics and finally learning outcomes were discussed thoroughly. Clarified the doubts raised by the students. Test was conducted by mailing the two sets of questionnaires.

In keeping mind for assessing their classroom experience with each teacher across 7 dimensions two sets of questionnaires were adopted. First set of questionnaire, consisting of open ended questions<sup>3</sup> developed by Schiekirka et al, focused on students perception on quality of teaching and class evaluation in general, having 11 questions listed in detail in table 1. Second set of questionnaire is for the perception of the students on teaching learning methods<sup>4</sup> developed by Dr. Ron Ferguson, consisting of closed ended questions listed in

table 2. Present project allows the students to assess their classroom experience with each teacher across 7 dimensions, namely;

1. Caring about students (Encouragement and emotional support)
2. Captivating students (Learning seems interesting and relevant)
3. Conferring with students (Students sense their ideas are respected)
4. Clarifying lessons (Success seems feasible)
5. Consolidating knowledge (Ideas get connected and integrated)
6. Challenging students (Press for effort, perseverance, and rigor)
7. Controlling behavior (Culture of cooperation and peer support)

## Results

After obtaining, the data was compiled and tabulated. The qualitative data was analyzed for content analysis by the investigator and another researcher and summarized in table 2.

Student's opinion on total 26 (qualitative data) closed ended questions were represented in proportions (Graph-1). Rating of the course represented in graph 2.

## Discussion

21<sup>st</sup> century medical teacher has the access to different technological tools on current medical education programs. Teacher must be a facilitator, for this he requires guidance from senior faculty and training. Faculty development programs on technical development will be huge help. Teacher shall clarify expectations and practical details to the students<sup>5</sup>. Teacher should be a role model by inspiring and influencing the peers and students for developing new skills in achieving their personal and professional goals<sup>6-9</sup>.

### On teaching and learning methods:

Students are having direct access with the teachers and are the firsthand consumers of a teacher's service, this is the basis for the preset study<sup>10</sup>. More than sixty percent of students were against three points in the closed ended questionnaire and they are; 1) Physiology class doest keep the attention of the students and make them bored 2) I (student) dint like the way we learn in physiology class and they get bored 3) Students behavior in the class makes the teacher angry. First two reasons were in favor of the teacher and their teaching in a positive way. The third point though we took the feedback from the students we feel that we are also supposed to the feedback from the teachers as well. And the feedback from the perspective of the physiology teachers will be our next focus, which will give a broader picture of the whole scenario. All the students were zeroed down unanimously on six points in the closed ended questionnaire and they are ; 1) Students are interested in learning physiology 2) Students want the active participation of junior and senior faculty in teaching 3) The comments that students get on their work help them to understand how to improve 4) Their physiology teachers wants to share their thoughts 5) The most effective evaluation tools include the formative assessments, summative assessments, practical exams, viva and discussions 6) Revision is required at the end of every lecture. Better to understand the

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students preferred way of learning and evaluation which may eventually yield positive results<sup>11,12</sup>. So we also took the feedback from the students who have suggested that, following the above six points mentioned will make them to understand the physiology in a better, easier and faster way. Students preferred interactive teaching to keep them more attentive. Students listed a number of characteristics of the teacher, which were also coinciding with the earlier reports. Among the teaching learning modalities in didactic lectures one of the previous study showed that majority of the students are in favor of a combination of chalk and blackboard with power point presentation for better understanding of physiology<sup>13</sup>. But in the present study in addition to the power point and chalk and blackboard combination, they also preferred animation videos. Regarding the rating of the course 50% of the participants gave score 4, 40% gave score 3 and 10% gave score 5, as represented in graph 2. It reflects the satisfaction of the students but not the quality of teaching.

Students defined good teaching from their gut feeling and it varied from person to person the gist of it is;

- i. To keep it simple so that everyone can understand
- ii. Teaching with more interactive sessions with students
- iii. Teaching should create interest in student's minds for the subject

They prefer encouragement and summarization at the end of the class from the teacher to enhance their attention and interest in learning physiology. Students feedback allows to refine the definition of effective teacher<sup>14</sup>.

#### **On evaluation methods:**

There were studies, in support of participants gender doesn't impact on evaluation. So in the present study though the participants are both male and females we did not evaluated their findings separately<sup>15</sup>. Students opined positively on the purpose of evaluation. Some of their opinions on purpose of evaluation are;

- i. To assess the understanding capability of an individual and the ability to present
- ii. To test knowledge
- iii. To know how much knowledge student gained
- iv. Evaluation is just to know the way how evaluation is expecting us to present the thing that is imp among everything we inculcated and Skills in presentation

#### **Conclusion**

Present study concludes that majority of the students opine on didactic lectures should be more interactive, needs the active participation of the teacher.

### **Limitations:**

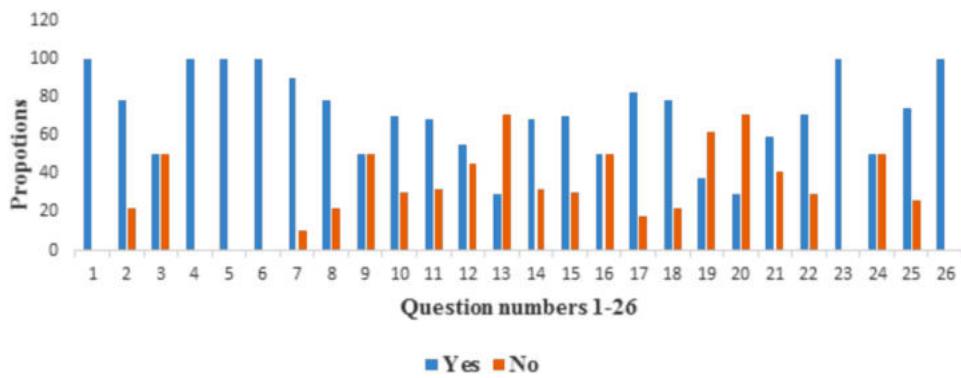
Data was collected from those who participated voluntarily. If everyone participates we may get more information. Some of them were afraid to write thinking that their results may be affected with it.

### **Acknowledgments**

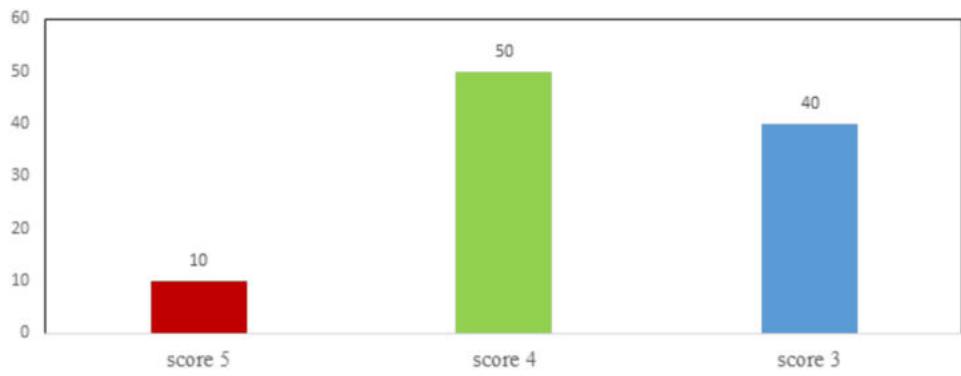
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**Graph 1:**

Students' perception regarding teaching learning methods in% for Qno:1-26



**Graph 2:**  
Rating of the course in proportions

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**Table 1:**

## Open-ended questions

- |           |  |
|-----------|--|
| <b>1</b>  | In your opinion, what is the purpose of evaluation in medical education?   |
| <b>2</b>  | Define good teaching?  |
| <b>3</b>  | What is your opinion on evaluation tools presently used in our institution?  |
| <b>4</b>  | How do you rate your course? From to 1, 2, 3,4,5   |
| <b>5</b>  | Which is most interesting subject in first year MBBS?  |
| <b>6</b>  | Which is interesting topic in physiology   |
| <b>7</b>  | Which teaching method you like for better understanding of the topic   |
| <b>8</b>  | In your opinion what type of lectures should be done?  |
| <b>9</b>  | What is your preferred material to prepare?  |
| <b>10</b> | In your opinion what are the changes required to make the lectures most interesting, effective and understandable? |
| <b>11</b> | Anything you want to suggest or comment or add?  |

Note: Q 4 (5 excellent, 4 very good, 3 satisfied, 2 not satisfied and 1 bad)

**Table 2:**

Students' perception regarding teaching learning methods in%

No		Yes	No
1.	Are you interested in this course(physiology)	100	0
2	Do you like the way our practicals are conducted?	78	22
3	Do you want all the teachers to be involved in practical's	50	50
4	In your opinion seniors/junior teacher's involvement is necessary in teaching of the practical's?	100	0
5	Revision is required at the end of the lecture?	100	0
6	Which is the most effective evaluation tool? (all are important) Formative assessments, Summative assessments, Practical exams, Viva and Discussions	100	0
7	Care My teacher in this class makes me feel that he/she really cares about me.	90	10
8	My teacher really tries to understand how students feel about things.	78	22
9	My teacher seems to know if something is bothering me.	50	50
10	Challenge In this class, my teacher accepts nothing less than our full effort.	70	30
11	My teacher asks questions to be sure we are following when s/he is teaching.	68	32
12	My teacher wants me to explain my answers -why I think what I think.	55	45
13	Control (Disagree with) student behavior in this class makes the teacher angry.	29	71
14	we behave in the class the way teacher wants you to	68	32
15	Our class stays busy and does not waste time.	70	30
16	Clarify When s/he is teaching us, my teacher thinks we understand even when we don't.	50	50
17	If you don't understand something, my teacher explains it another way.	82	18
18	My teacher knows when the class understands, and when we do not.	78	22
19	Captivate I like the ways we learn in this class.	38	62
20	(Disagree with) this class does not keep my attention -I get bored.	29	71
21	My teacher makes lessons interesting.	59	41
	Confer		
22	Students get to decide how activities are done in this class.	71	29
23	My teacher wants us to share our thoughts	100	0
24	Students speak up and share their ideas about class work.	50	50
	Consolidate		
25	My teacher takes the time to summarize what we learn each day.	74	26
26	The comments that I get on my work help me understand how to improve	100	0

**Table 3:**

Summary of Points raised during discussion and students opinion on them

Similar type of opinions was obtained regarding purpose and tools for evaluation from all the participants.

**Characteristics of a good teacher:** Enthusiastic, knowledgeable, experienced, fun loving, friendly.

**Confounders:** individual definitions and opinions varied on defining the good teaching

**Barriers against participation:** Afraid to give negative feedback, lack of feed back to the teacher, lack of feed back to the students.

**Preferred assessment:** All assessment types are equally important and essential in order to test knowledge, skill and performance.

**Benefits:** Both the student and teachers needed monitory benefits for their achievements