

MEDICAL EDUCATION AND TRAINING – AT CROSS ROADSSri Krishna Prakash Sistu¹, Anullekha Naidu²¹Assistant Professor, Department of ENT, NRI Institute of Medical Sciences.²3rd Year Student, Department of ENT, NRI Institute of Medical Sciences.**ABSTRACT****INTRODUCTION**

The aim of this study is to know about perceptions and preferences of teaching and learning methods in a modern private medical college. A total of 244 students, 126 belonging to 2nd year and 118 belonging to 3rd year were given a pre-informed, semi-structured questionnaire including 20 questions on:

1. Various learning methods, teacher centred vs student centred, problem based learning, seminars, symposiums and group discussions.
2. Various aids including blackboard teaching, oral lectures, power point presentations, video presentations, tutorials, practical sessions.
3. Introduction of MCQs, to paper writing and critical reading, research methods through journal clubs.
4. What to achieve at the end of training?

The collected data was entered in Microsoft Excel and was analysed using SPSS version 19. The data is expressed as proportions and percentages represented in the form of charts and tables.

RESULTS

There is clear shift in preference towards student centred learning from teacher centred learning with an overall 92.7% responded with student centred approach as beneficial for their learning and also an overall 92.6% favoured problem based learning. An overall 51.6% of students favoured inclusion of seminars, symposiums and 64.4% favoured small group discussions to be included into their curriculum and learning. 73.4% preferred integration of all three teaching methods including oral lectures, blackboard teaching and PowerPoint presentations. Almost all the students liked short video demonstrations and animations during the teaching sessions and 98.4% have felt that practical sessions are interesting and preferred them to be part of their curriculum. 93.9% have shown interest regarding introduction of paper writing, critical reading, and introduction to research methods through participation in journal clubs and 89.3% are in favour of e-learning as a method of learning. Finally, 86.1% have agreed that a career based holistic approach towards learning is what the students prefer.

Certainly, the medical education, learning and training seems to be at crossroads with a preference towards a blend of old and new methods catering the needs of students. Further studies should help evaluate and figure out nuances in this area of medical teaching, learning and training.

KEYWORDS

Teaching, Learning, Knowledge, Perceptions, Preferences.

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INTRODUCTION: Teaching, learning and training in medical institutions in India is fast changing and facing huge challenges in the wake of evolving technologies and methods as well as huge changes in the fast growing health sector which has opened many career options to choose at the end of completion of basic medical qualification from being an administrator to clinician. Hence the role of teacher has changed from mere imparting knowledge and skills to the students to deal with medical disorders to a bigger, more responsible role of informing, guiding and inspiring students develop self-driven personality with morality, creativity and

spontaneity as background principles to choose right path to serve community. Hence, a best and balanced approach to teaching and learning has to be designed to cater needs of the students.¹

The number of medical colleges in India has increased from mere 20 at the time of independence with an intake of 1500 students per academic year to 350 (till 2012) with students enrolling in excess of 45,000 per academic year. 190 out of 350 colleges are owned by private sector.² Hence the responsibility of Medical Council of India increased which monitors the standards of medical education by providing guidelines to the institutions. It also provides mandatory teacher training courses and workshops to continuously improve the teaching in medical institutions to be able achieve the standards.

The age old teacher centred learning which is followed in the Asian countries.³ And the black board teaching is been augmented with integration of various methods and aids favouring a more student centred approach e.g. PowerPoint

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Corresponding Author:

*Dr. Sri Krishna Prakash Sistu,
Assistant Professor, Department of ENT,
NRI Institute of Medical Sciences, Sangivalasa,
Visakhapatnam-531162.*

E-mail: krsnaprakash@yahoo.com

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presentation, student seminars, symposiums, group discussions, problem based learning, etc.; thus enabling the student in achieving overall 360 degrees development. The objective of this study is to learn the medical students' views, perceptions and preferences regarding various teaching methods and aids practiced in our medical college.

METHODS: A cross-sectional study was carried out at NRI Institute of medical sciences, Sangivalasa, Visakhapatnam in the month of September 2015. NRI Institute of Medical Sciences is an MCI approved medical college, affiliated to NTR University of Health Sciences, Vijayawada, entering into the fourth year since it was started in 2012 with state of the art facilities, infrastructure and with more than 30 teachers having undergone the prescribed teacher training course conducted by MCI. The college takes 150 students per academic year. A total of 244 students, 126 belonging to 2nd year and 118 belonging to 3rd year answered a questionnaire consisting of 20 questions. Students were selected by convenient sampling. A pre-informed, semi-structured questionnaire method was used after taking verbal consent. The questionnaire included questions regarding the students' views about four different areas including:

1. Various learning methods, teacher centred vs. student centred, problem based learning, seminars, symposiums and group discussions.
2. Various aids including blackboard teaching, oral lectures, power point presentations, video presentations, tutorials, practical sessions.

3. Introduction of MCQs, to paper writing and critical reading, research methods through journal clubs.
4. What to achieve at the end of training?

The collected data was entered in Microsoft Excel and was analysed using SPSS version 19.

The data is expressed as proportions and percentages represented in the form of charts and tables. Median values at 50th percentile were used to assess the preferences. The association between variables of interest was tested using chi-square test.

RESULTS: A total of 244 students, 126(84%) belonging to second year and 118(78.67%) belonging to third year with 85% of them having attended >75% classes during the academic year participated in the study.

1. Various learning methods teacher centred vs student centred, problem based learning, seminars, symposiums and group discussions:

Although 72.2% of second year students and 66.9% of third year students and an overall 69.7% liked teacher centred learning in the form of didactic lectures as beneficial and informative 94.4% of second year students and 90.6% of third year students and an overall 92.7% opined student centred approach as beneficial for their learning and an overall 92.6% favoured problem based learning. When asked what they feel about integration of all the methods, 75% favoured integration of teacher centred, student centred and problem based learning.

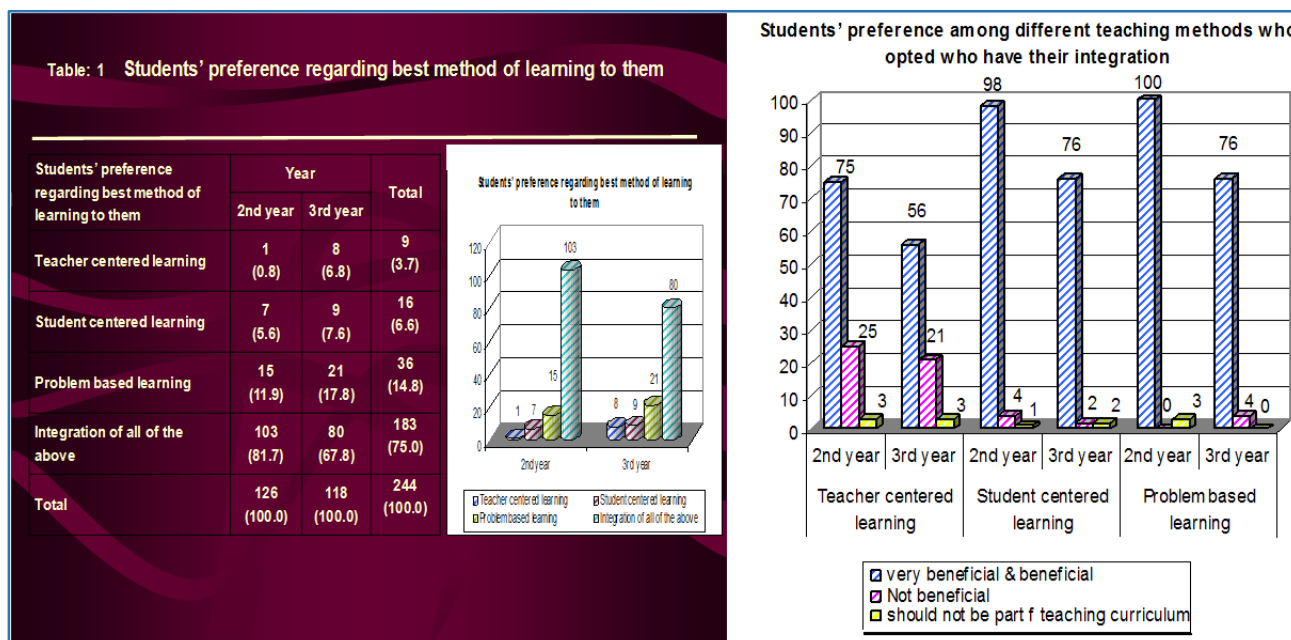


Fig. 1

An overall 51.6% of students including 57.9% from 2nd year and 44.9% from 3rd year favoured inclusion of seminars, symposiums and group discussions into their curriculum and learning.

Table 2: Students' preference among seminars, symposiums and group discussions

Students' preference among seminars symposiums and group discussions	Year		Total
	2 nd year	3 rd year	
Seminars	4 (3.2)	10 (8.5)	14 (5.7)
Symposiums	17 (13.5)	14 (11.9)	31 (12.7)
Group discussions	32 (25.4)	41 (34.7)	73 (29.9)
All of the above	73 (57.9)	53 (44.9)	126 (51.6)
Total	126 (100.0)	118 (100.0)	244 (100.0)

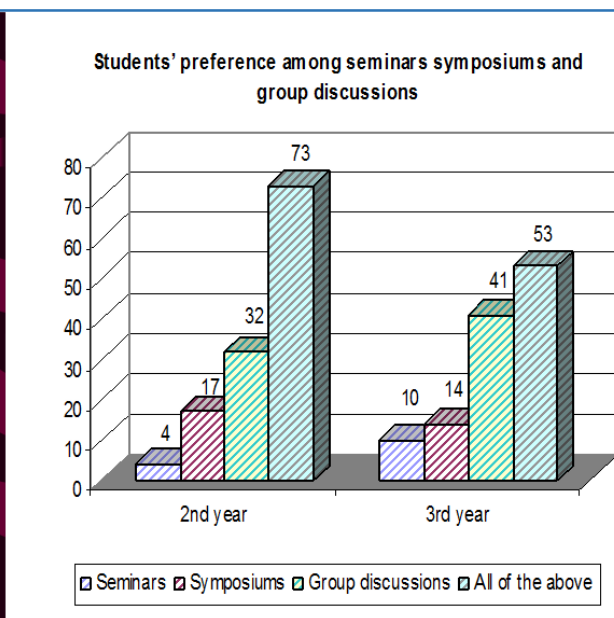


Fig. 2

While 64.4% favoured small group discussions with number of participants not exceeding 10 only 2.5% are in favour of large group discussions with participant numbers exceeding 20.

Table 3: Students preference regarding no. of participant in each group

Number of students	Year		Total
	2 nd year	3 rd year	
1-5 students	47 (37.3)	37 (31.4)	84 (34.4)
6-10 students	43 (34.1)	40 (33.9)	83 (34.0)
11-15 students	16 (12.7)	23 (19.5)	39 (16.0)
16-20 students	3 (2.4)	6 (5.1)	9 (3.7)
Above 20 students	5 (4.0)	1 (0.8)	6 (2.5)
No	12 (9.5)	11 (9.3)	23 (9.4)
Total	126 (100.0)	118 (100.0)	244 (100.0)

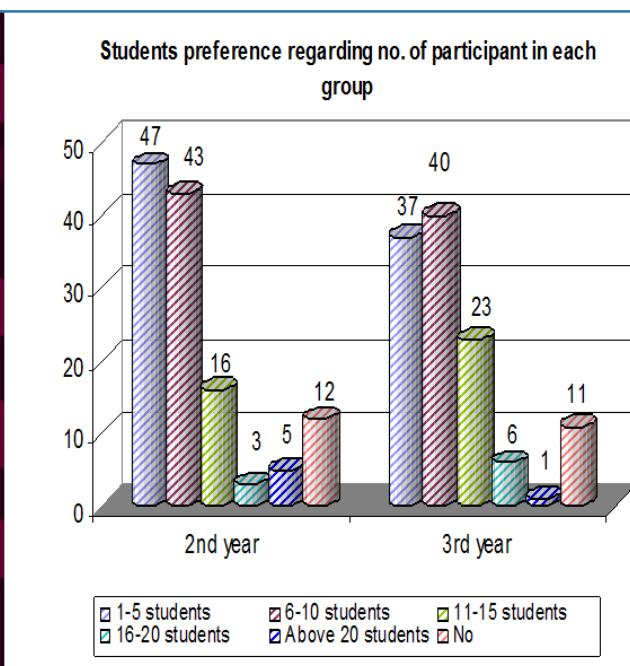


Fig. 3

2. Various aids including blackboard teaching, oral lectures, PowerPoint presentations and video presentations:
The students of both 2nd and 3rd year did not prefer exclusively the oral lectures or blackboard teaching or PowerPoint presentations but 78.6% of 2nd year students, 67.3% of 3rd year students and an overall 73.4% preferred integration of all three teaching methods.

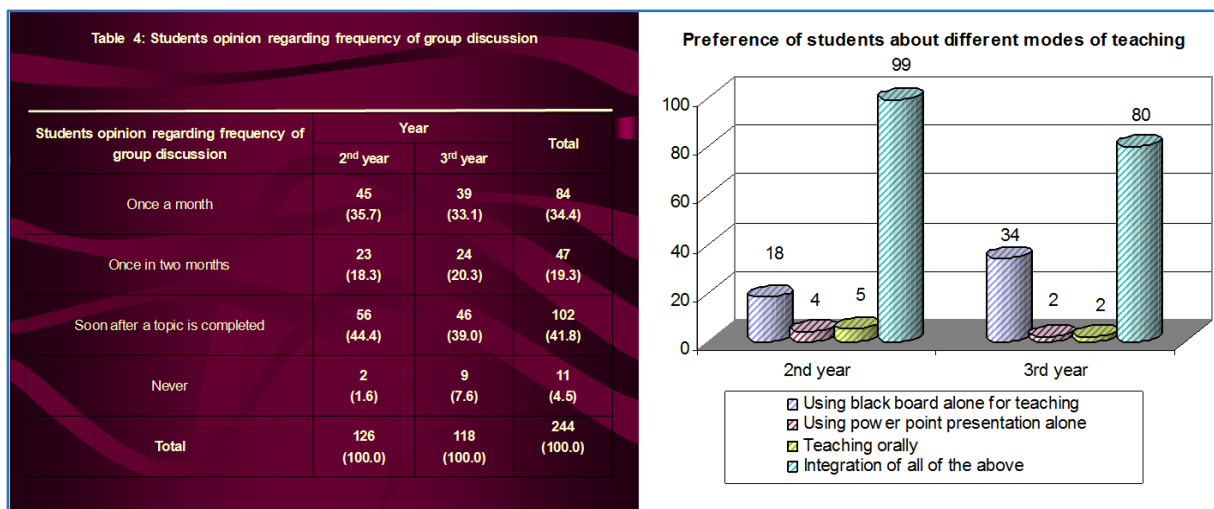


Fig. 4

Almost all the students liked short video demonstrations and animations during the teaching sessions.

Table 5: Students' opinion about necessity of video presentation and animations during teaching

Students' opinion about necessity of video presentation and animations during teaching	Year		Total
	2nd year	3rd year	
Students preferring to have them	125 (99.2)	118 (100.0)	243 (99.6)
Students not interested	1 (0.8)	-	1 (0.4)
Total	126 (100.0)	118 (100.0)	244 (100.0)

Fig. 5

An overall of 61.1 percent including 60.3% of 2nd year students and 61.9% of 3rd year students and have shown interest in having tutorials.

100% of 3rd year students, 96.8% of 2nd year students and overall 98.4% have felt that practical sessions are interesting and preferred them to be part of their curriculum.

Table : Students' opinion about necessity of tutorials

Students' opinion about necessity of tutorials	Year		Total
	2nd year	3rd year	
Students preferring to have them	50 (39.7)	45 (38.1)	95 (38.9)
Students not interested	76 (60.3)	73 (61.9)	149 (61.1)
Total	126 (100.0)	118 (100.0)	244 (100.0)

Table : Students' opinion about necessity of Practical sessions

Students opinion about necessity of practical sessions	Year		Total
	2nd year	3rd year	
Students preferring to have them	122 (96.8)	118 (100.0)	240 (98.4)
Students not interested	4 (3.2)	-	4 (1.6)
Total	126 (100.0)	118 (100.0)	244 (100.0)

Fig. 6

3. Introduction of MCQs, to paper writing and critical reading, research methods through journal clubs: 86.1% of students felt practicing multiple choice questions from first year MBBS itself would be very useful as many post graduate entrance examinations in India are conducted in MCQ pattern and also 85.2% felt it would be useful if their undergraduate examinations also include MCQ pattern.

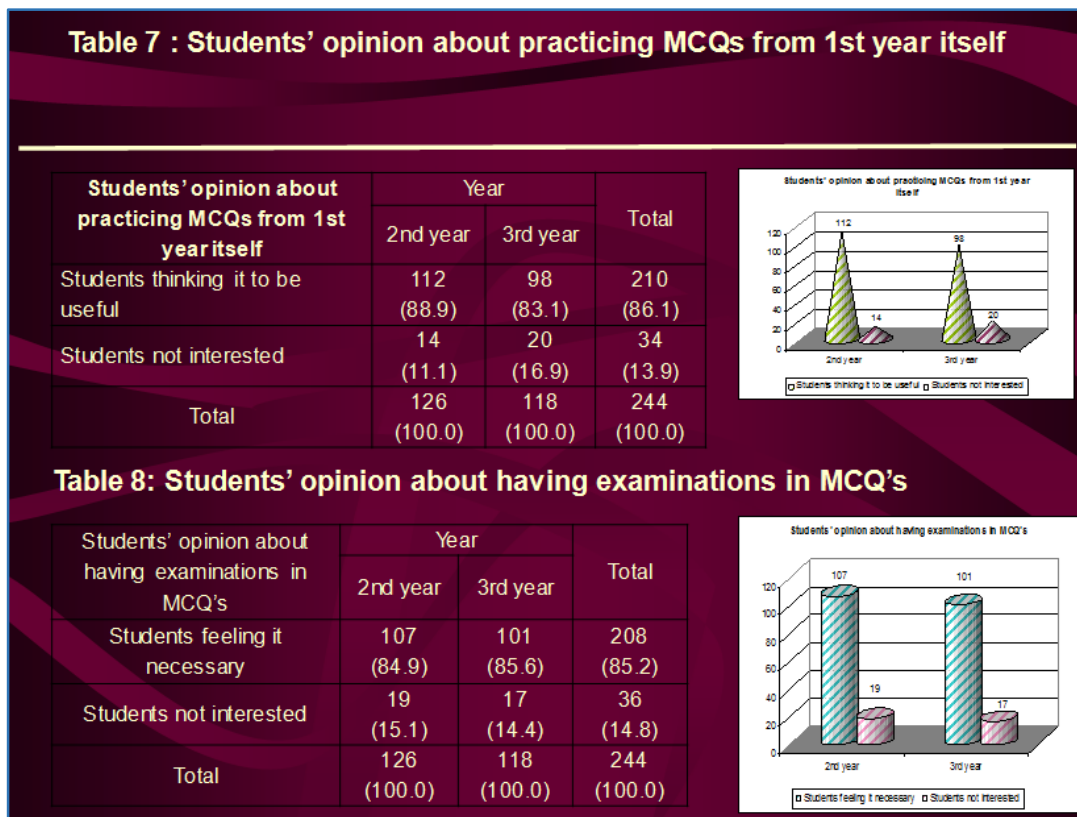


Fig. 7

93.9% have shown interest regarding introduction of paper writing, critical reading, and introduction to research methods through participation in journal clubs and 89.3% are in favour of e-learning as a method of learning.

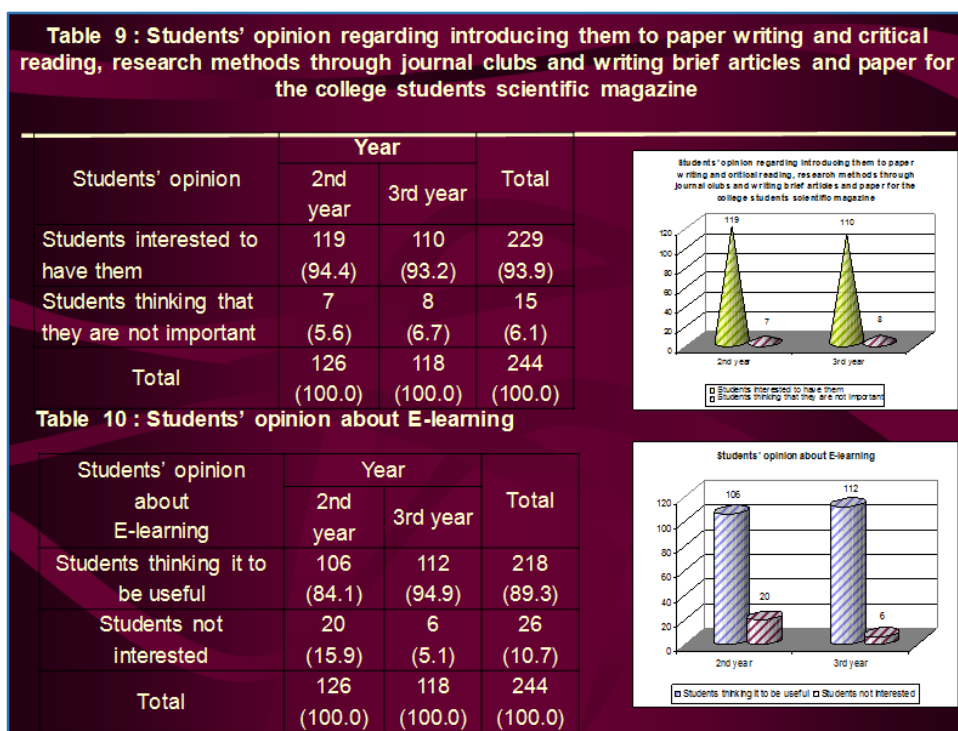


Fig. 8

4. What to achieve at the end of training? Finally, 86.1% have agreed that the aim of students at the end of obtaining qualification should not just to only acquire comprehensive knowledge of medical disorders and reasonable skills but to develop self-driven personality with morality, creativity and spontaneity as background principles.

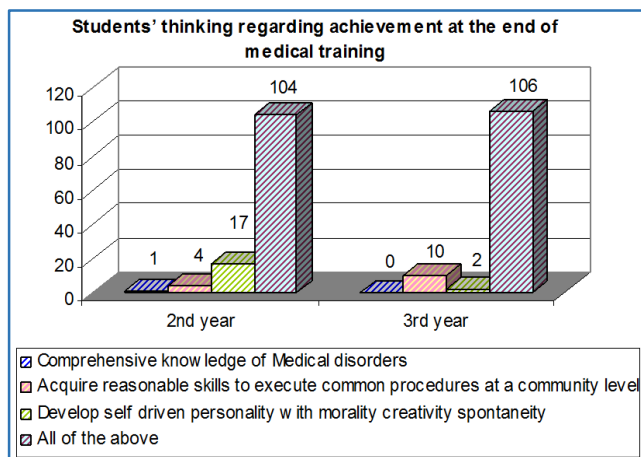


Fig. 9

DISCUSSION: According to Omorogiuwa et al.⁴ Teaching and learning are two sides of a coin. Effective teaching is measured as the 'amount the student learns'. Teaching in medical school is an 'ever-evolving' process and especially it needs to modernise continuously. James et al, defined learning style as 'the manner in which and the conditions under which learners most efficiently and effectively perceive, process, store, and recall what they are attempting to learn.'⁵ Kharb et al. defined 'learning style' as 'an individual's preferred method of gathering, processing, interpreting, organising and analysing information.'⁶

Lecture as a method of teaching is stated to have many advantages with regard to coverage of topics, simplification of difficult concept, easy organisation and effective and economical way of conveying information to large numbers of recipients but Socratic lectures were considered better and important in learning as they are thought to keep students alert and also allows discussion in the form of question and answers.⁷ Also Socratic lectures are found as an effective large group teaching method.⁸ When a classroom operates with student-centred instruction, students and teachers share the focus and interact equally. Boud et al⁹ described problem based learning as one of the most significant instructional strategies in professional education in which students identify issues raised by specific problems and develop understanding about underlying concepts and principles. This style of learning assumed to foster increased retention of knowledge, improve student's general problem solving skills, enhance integration of basic science concepts into clinical problems, foster the development of self-directed learning skills and strengthen student's intrinsic motivation.¹⁰

At present, most medical colleges in our country still use the lecture method as the main teaching method and it was

the innovation of problem based approach at McMaster University in the late 1960s that blazed the trail of student centred, interdisciplinary teaching and learning which lead to modernising of medical school curriculum in the west.

Effective teaching-learning is an important prerequisite for academic excellence.¹¹ Our study was aimed at determining students' perception about the effectiveness of teaching-learning methods and improving the academic performance and it has shown that majority of students are more in favour of student centred learning and problem based learning methods than teacher centred methods and also more than 50% of students favoured seminars, symposiums and group discussions as very beneficial and be included in their curriculum.

The study identified some of the areas of current teaching which could be improvised for effective teaching and students preferred integration of various methods and aids in teaching rather than preferring any single modality. Hence the teacher's responsibility increases as to choose between different methods and aids to help effective learning.

Furthermore, India's contribution to world medical literature and research is slowly on the raise and students are inclined towards learning critical reading, paper writing through participation in journal clubs and also shown interest in newer examination patterns including multiple choice questions.

Although this study is conducted in a newly started 4-year-old medical college, it has reflected the need of students and their preferences and perceptions towards modern learning in medical colleges and similar studies in different other medical colleges would be more useful to understand the overall needs of the students and helps in designing optimal curriculum to cater the needs of modern day medical trainee.

CONCLUSION: The study emphasises that it is very essential to utilise an approach of teaching and learning that is best suited to the needs of the students.

Our study shows that students' preference is more towards integration of various teaching methods out of which highest priority is given to student centred and problem based learning.

The results show that integration of various teaching modes, conducting seminars, symposiums, group discussions, quizzes and practical sessions using animations and video presentation, etc. is very much useful for the students as majority are interested to have them in their education curriculum.

By adopting these various techniques, medical education is expected to be more knowledgeable, purposeful and skill oriented.

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