

# Effective Modes of Conceptual Teaching and Learning in Pakistan: An Undergraduate Medical Students' Perspective

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## ABSTRACT

**Background:** There are more than 50 medical colleges in Punjab, and the traditional mode of teaching is 'teacher dominant', while students are passive learners. The curriculum prescribed by the University Of Health Sciences (UHS) emphasizes more on theoretical knowledge of subjects along with extensive memorization, but less stress on concept building and development of learning skills. Although traditional modes of teaching are adopted by medical institutes, but knowledge about the students' perspective regarding concept building and learning skills is utmost necessary to improve the methods of teaching

**Aim:** To assess the students' perception regarding effective teaching, concept building and learning strategies.

**Methods:** The study involved a total of 378 male and female students from MBBS, BDS and DPT sessions and a structured questionnaire was given to each student after taking consent, and teaching modalities were rated using Likert scale.

**Results:** Out of 378 students, 62% were females, while 38% were males, and among these 43% students were residing in hostels, while 57% were day scholars. Illustration of concepts using white board was rated 61.2%, interactive sessions/tutorials 46.1%, demonstrations by teacher 34%, power point presentation lectures using multi-media 25% while small group discussion was rated 6.5%.

**Conclusions:** White board teaching was considered as most effective tool for development of concept and learning (61.2%), followed by interactive sessions (46.1%). Power point presentation lecture was rated as 2<sup>nd</sup> least effective method (25%), while small group discussions was rated as least effective modality (6.5%).

**Keywords:** Conceptual teaching, medical students, modes of learning

## INTRODUCTION

There are more than 50 medical colleges situated across Punjab, and 27 out of them are affiliated with the University of Health Sciences (UHS). The mode of teaching in primarily all medical colleges is 'teacher-dominant', and students are passive learners attributed to the traditional modes of teaching. Curriculum prescribed by UHS is followed by colleges, and teachers focus more on theoretical knowledge of medical subjects, and less emphasis is laid upon concept building, learning skills, clinical approach, augmented with lack of regular student feedback systems (Shakoori et al;2017).

A study conducted on 243 students selected from final year of Quaid-e-Azam Medical college in 2018, concluded that small groups discussion is the most adequate strategy for fostering in-depth knowledge of the medical subjects (Masroor Q et al;2018). Previously, a similar study conducted at RMC, (Rawalpindi Medical College) majority of students rated problem-based learning (PBL) as an effective tool for better understanding of medical subjects and it promotes confidence building and self-learning abilities among students (Sultana A et al;2010). In this context LMDC (Lahore Medical & Dental College) introduced novel modes of teaching in basic medical sciences and evaluated the students' response using special questionnaire. Aim of the current study is to assess the students' perception regarding effective teaching and learning strategies.

The objective of the study was to assess the students' perception regarding effective teaching, concept building and learning strategies.

## SUBJECTS AND METHODS

Considering the modalities of teaching, data was collected from students of Lahore Medical & Dental College by a structured questionnaire to obtain students' perspective of development of good concept and learning after permission from Ethical Committee. A sample of total 378 male and female students from all courses (MBBS, BDS and DPT) was collected by convenient sampling after taking consent and anonymity was ensured to all participants. Study was started from permission of Ethical Committee of the institution.

## RESULTS

Teaching methods were rated using the Likert scale (1-strongly disagree, 2-disagree, 3-undecided, 4-agree and 5-strongly agree). The current study included 378 students of 1st yr, 2nd yr, 3rd yr and final yr MBBS, BDS 2<sup>nd</sup> yr, DPT 2<sup>nd</sup> yr sessions from duration January 2019 to April 2019. 79 students from 1st yr, 83 students from 2nd yr, 76 students from 3rd yr, 80 students from final yr, 36 students from BDS and 24 students from DPT were randomly selected. Of the total 378 students, 62% were females, while 38% were males, and among these 43% students were residing in hostels, while 57% were day scholars. Illustration of concepts using white board was rated 61.2%, interactive sessions/tutorials 46.1%, demonstrations by teacher 34%, power point presentation lectures using multi-media 25% while small group discussion was rated 6.5%.

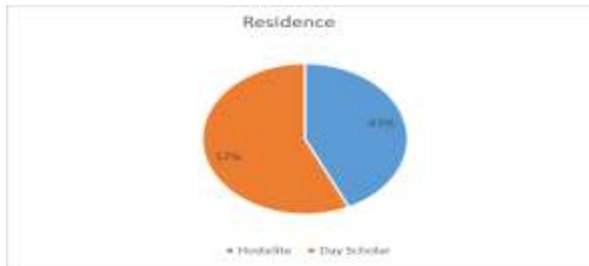
Mode of teaching most effective for developing your concept in medical education	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Power point presentations lectures using multimedia	35.5	24.8	15	09	16
Illustration of concepts using white board	11.4	07	20.4	27.5	33.7
Interactive sessions/tutorials	6.2	14.9	32.8	19.5	26.6
Small group discussion	44.2	31.8	17.5	2.5	05
Demonstrations by teachers	27	14.2	25.8	20.2	13.8

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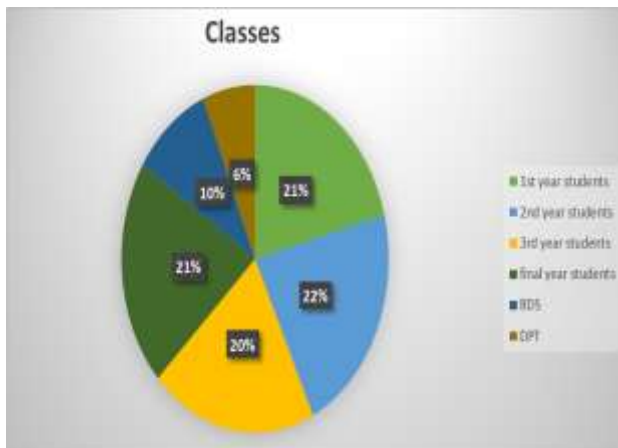
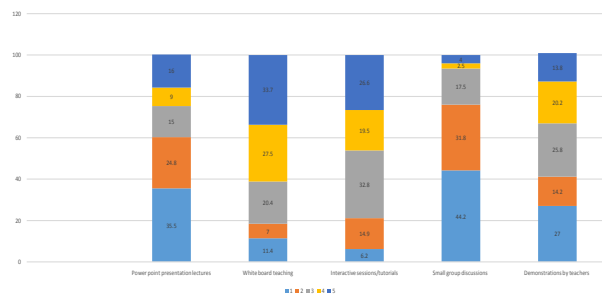
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Preferable mode of teaching for development of concept in basic medical sciences

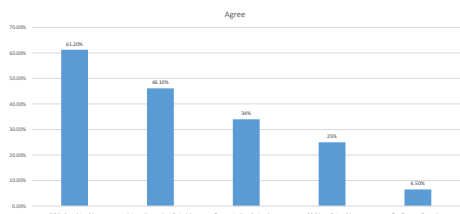
Mode of teaching	Agree
Illustration of concepts using white board	61.2%
Interactive sessions/tutorials	46.1%
Demonstrations by teachers	34%
Power point presentations using multi media	25%
Small group discussion	6.5%



Most effective mode of teaching for concept building in basic medical teaching



Preferable mode of teaching for development of concept in basic medical sciences



**DISCUSSION**

The study shows a high representation of females (68%), as compared to males (32%), which is probably due to merit-based allocated seats in medical colleges, and it is probably because medical profession is mostly opted by the female students. This finding is similar to a study in 2015, in which 70% of participating students were females (A. Rehman et al; 2015). The study showed that 80% of students preferred interactive sessions as most effective mode of learning. In addition, 69.6% of students favored the demonstration mode as effective in learning, followed by 59.1% who opted for power point lectures as effective modes. Similar findings were observed in an Indian research which observed 85% of students preferring interactive sessions as most effective mode (DeBasis; 2013). About 57% of included students were day scholars, while 43% were residing in hostels.

Overall, about 62% undergraduate students preferred white board teaching as most effective mode for concept building and learning, followed by interactive sessions and tutorials in the form of group discussions, whereby, students have to participate actively in these sessions. Strong disagreement was, however, observed for small group discussion mode (44.1%) followed by multi-media based learning (35%). However, small group discussion sessions in which teaching is supplemented with a variety of teaching aids, for example, animation videos and internet facilitation for group participants has made these sessions more interactive and interesting around the world (Walton H; 1997).

Major contribution in this study was from 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and final year students (21%, 22%, 20% and 19% respectively), with BDS and DPT students contributing only 10% and 6% respectively.

**CONCLUSION**

White board teaching was considered as the most effective tool for development of concept and learning (61.2%), followed by interactive sessions (46.1%). Power point presentation lecture was



rated as 2<sup>nd</sup> least effective method (25%), while small group discussions was rated as least effective modality (6.5%)

**Limitations of the study**

1. Valuable data was obtained from LMDC, but students from other medical colleges could also be included in the study
2. Sample size could be greater than 378 students
3. Students from other allied medical sciences could be included in the study

**Conflict of interest:** Nil

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