

ORIGINAL ARTICLE

Students' perception of teaching-learning methods in Community Medicine at a Government Medical College in Rajasthan

Rupa Sharma¹, Subhash Mohan Yadav², Shree Mohan Joshi³, Pratap Bhan Kaushik⁴

¹Professor, Department of Community Medicine, Rabindranath Tagore Medical College, Udaipur, Rajasthan

²Associate Professor, Department of Community Medicine, Ananta Institute of Medical Sciences & Research Centre, Rajsamand, Rajasthan

³Ind year Resident, Department of Community Medicine, Rabindranath Tagore Medical College, Udaipur, Rajasthan

⁴Lecturer in Statistics, Department of Community Medicine, Rabindranath Tagore Medical College, Udaipur, Rajasthan

| | | | | | | | |
|--------------------------|------------------------------|-----------------------------|-------------------------|----------------------------|----------------------------|--------------------------|----------------------------------|
| Abstract | Introduction | Methodology | Results | Conclusion | References | Citation | Tables / Figures |
|--------------------------|------------------------------|-----------------------------|-------------------------|----------------------------|----------------------------|--------------------------|----------------------------------|

Corresponding Author

Address for Correspondence: Dr Rupa Sharma, 104, Jailaxmi Apartment, New Bhupalura, Udaipur, Rajasthan, 313001
E Mail ID: rupa30@gmail.com



Citation

Sharma R, Yadav SM, Joshi SM, Kaushik PB. Students' perception of teaching-learning methods in Community Medicine at a Government Medical College in Rajasthan. Indian J Comm Health. 2017; 29, 2: 145-150.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 14/04/2017; **Revision:** 01/05/2017; **Accepted:** 30/05/2017; **Published:** 30/06/2017

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract

Background: Knowledge of Community Medicine plays a pivot role in effective delivery of health care services. Effective Teaching-Learning (T-L) of a class of 150-200 students is a challenge. Research is needed to identify methods suitable to the needs of the students. Students' perspective is an important diagnostic feedback tool in this context. **Aims & Objectives:** To know the students' preferences and perceptions regarding current T-L methods and their felt need for modification in the T-L approach. **Material & Methods:** Responses were collected from students pursuing internship regarding their preferences and perception on a pretested, validated semi structured questionnaire, most of the responses were collected on a Likert type five point scale. The data was analyzed by calculating percentage, mean and Standard Deviation (SD). **Result:** Majority (66.2%) felt a need for modification in T-L Approach and 74% of these opined that it will improve their performance in assessments. Presentation of content was voted as most important component for effective T-L (mean 3.9± 1.39). Desirable modifications was more time allotment to integrated modular T-L (51%) and field visits (26%). **Conclusion:** A judicious combination of Power point presentations with Modular T-L sessions and Field visits can be a more effective T-L approach in Community Medicine from the students' perspective.

Keywords

Teaching-Learning, Community Medicine, Felt need

Introduction

A graduate doctor is an important resource for the Health Care System. As a primary health care provider he must have basic competencies like providing preventive and curative services to the community, epidemiological investigation of and management of outbreaks, computing vital statistics of health related events and should have effective

communication skills, these are built through Teaching-Learning (T-L) in Community Medicine.

Current scenario in medical colleges is that undergraduate students show a lack of interest in attending classes. With the infrequent teacher-student interaction, the students miss the opportunity to learn from the teachers' knowledge and experience, they are not sensitized toward

preventive and social aspects of medicine and public health.

Effective learning is closely associated with effective teaching. Achieving effective learning requires a student-centered and outcome-focused approach (1).

Number of studies have emphasized that feedback is an effective evaluation tool, it helps the faculty to identify the strengths and weaknesses of their teaching and assessment methods (2,3,4,5).

Students' perception is a diagnostic feedback technique. Students being at the receiving end of the teaching/learning process usually have perceptions of effective teaching as well as an effective teacher/lecturer (4).

It is the need of hour to have an insight in the problem and bridge the communication gap between teachers and students.

Aims & Objectives

1. To know the students' preferences regarding the current methods applied in T-L of Community Medicine,
2. To assess their perception of strength and weakness in the present T-L methods.
3. To identify their felt need for modification in the T-L approach.

Material & Methods

A Cross sectional qualitative study among students pursuing internship (N=86) in a Government Medical College in Rajasthan was conducted over a period of two months from June 2015 to July 2015. All Students registered for internship at the institute. Inclusion Criteria: The interns who had passed final MBBS from this institute and those willing to participate in the study. Exclusion Criteria: The interns who had passed final MBBS from other institute and those who could not be contacted despite three visits to the departments where they were posted, final sample size was n=71.

Strategy for data collection:

Study Tool: A pre-tested and validated semi structured questionnaire was designed to obtain information about students' level of satisfaction with the current T-L approach, both Small Group Teaching (SGT) and Large Group Teaching (LGT), their perception of the methods, most preferred methods and their felt need regarding modifications in the current T-L approach. Validation of questionnaire was done by expert in statistics and the Medical Education Unit.

The questionnaire was divided in five sections.

Section A - to collect general information of the students relevant to the study.

Section B - to know their perception regarding the significant role of three components of effective teaching i.e. teacher, content and presentation of the content. Responses were recorded on a 5 point likert type scale ranging from highly significant (4) to least significant (0).

Section C- recorded their level of satisfaction with the currently applied T-L approach, responses were recorded on a 5- point likert- type scale ranging from strongly agree (4) to strongly disagree (0). It was followed by asking them to encircle most preferred current method.

Section D- assessed their perception regarding qualities of the current T-L methods. It comprised of MCQs with freedom of encircling more than one qualities for each method.

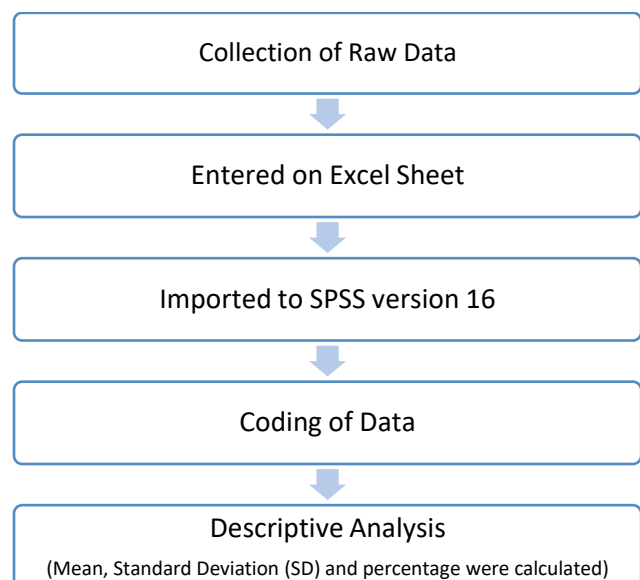
Section E- comprised of open ended questions, to find out their felt need of modifications in the current T-L Approach.

Study Technique: The students pursuing internship were visited at the wards and departments of their posting, explained about the study and asked to fill the questionnaire. **Consent:** Verbal consent was taken.

Ethical Approval: was taken from the Institutional Ethics Committee.

Data analysis: was done using software like MS Excel and SPSS version16.

Flow Diagram for Data Analysis:



Results

The total number of interns that took part in this study were 71. Majority of the respondents, 63(88.7%) were between 22 to 25 years age, only 8(11.3%) respondents were more than 25 years old. Majority were females 38(53.5%) and 33(46.5%) were males.

Almost half of the students, 30(42.3%) opined that the present T-L approach was not so good and about one fifth, 14(19.7%) said that it was just average. Only about one third, 20(28.2%) felt that it was very good. Mean 3.1 ± 1.33 (Figure 1). The respondents felt that all three components of effective T-L were important, but among all, they perceived the presentation of content as most important (mean 3.9 ± 1.39) followed by content (mean 3.7 ± 1.38) and teacher's knowledge (mean 3.5 ± 1.31) (Figure 2). Overall comparison of mean of the preferences for current T-L methods showed a mean of >3 for all methods, but Field Activities were the most preferred (mean 4.1 ± 1.25) followed by Integrated Modular Teaching (IMNCI) (mean $=3.5 \pm 1.43$) (Table 1). Although all the current T-L methods were perceived by respondents as informative yet, lectures, both chalk and talk and Power point presentations were not able to hold as much attention (45% each) as the other three methods ($>70\%$ each). They perceived that Field Visits and Integrated Modular Teaching were better methods ($> 80\%$ each) for good student-teacher and peer interaction than the rest They also felt that they could participate actively in these two methods (91.5% each) (Table 2), 47 (66.2%) respondents felt a need for modification in the current T-L approach (score 3 and above on a scale of 1 to 5) whereas 24 (33.8%) felt no need for modification (score <3) mean 3.5 ± 1.35 (Figure 3). Though good numbers were satisfied with the current T-L methods (mean 3.1 ± 1.32) but the felt need for modification in approach was high (mean 3.5 ± 1.34) (Figure 4). Majority (51%) of the respondents felt that more time should be allotted to Integrated Modular classes. One fourth (26%) were in favor of the field activities. About one fifth (19%) showed inclination for Power point presentations (Table 3). Most of the students 35 (74%) were equivocal that the modifications suggested by them would help in improving their performance in assessments. About one fourth, 12 (26%) were indecisive on it (Table 4).

Discussion

Community Medicine is the branch of medicine concerned with the health of populations. It strives to protect and promote the health and well-being of the community through Primary Health Care approach. The mission of Community Medicine teaching is to contribute to the development of a well-rounded (holistic) medical professional (6). The students' view can be a useful basis for improving the quality of the educational service and improving students' performance as well (7).

In the present study, almost half of the students ($\approx 47\%$) were not satisfied with the current T-L approach in Community Medicine and majority (66.2%) felt that it needed to be modified. The respondents voted presentation of content as the most important pillar of effective teaching as compared to teacher's knowledge and the material (mean 3.9 ± 1.34). The significance of presentation is also endorsed by The Teaching Centre, Washington University in St. Louis: 'An effective teacher is an excellent communicator and therefore thinks about improving his or her presentation skills. One of the most important aspects of communicating is shaping both content and style to fit your audience' (8). Patil and Choudhary on the other hand found that students' perception was more positive towards how knowledgeable and well prepared the teachers were for their classes. (9)

Out of all current methods applied for SGT and LGT in Community Medicine at this institute, Chalk and Talk lectures were least preferred (mean 3.1 ± 1.22) because the students felt that these were monotonous and boring since they could not actively participate in the sessions. Power point presentations were preferred slightly more (mean 3.2 ± 1.31), this was because display of colourful slides with illustrations are able to captivate audience attention to some extent. Chavan *et al* found that Students in primary phase show preference to PPT and mixed A-V aids while the students in further phases prefer chalkboard as method of choice (10). Another study done in West Bengal also showed that Lecture method was preferred by only 16.2% students. 55.7% students responded that lectures can be improved with addition of audio visual aids (11). Florence and Samanada observed that majority of medical students as well as dental students prefer PPT presentations mainly because PPT presentations

avoid the issue of poor handwriting and dirty Black Board (12). Rafique and Rafique from Pakistan also report that majority of the students (56%) favoured multimedia as a supporting teaching tool compared to the traditional blackboard teaching and transparencies.(13) Contrary to this, students' perception assessed by Harshia Sagili showed that both Power point presentations and Chalk and Talk were rated as interesting by similar proportion of the subjects. (14). Study results of Petimani and Adake showed that 81.6% students preferred blackboard as flow of thought is better, 77.5% students opined blackboard teaching stimulate interest (14).

SGT has been advocated on the ground that it facilitates better recollection of material which is taught (16)

The highly preferred SGT methods in our study were interactive approaches like Integrated Modular Teaching (mean 3.5±1.43) and field visits (mean 4.1±1.25). The subjects perceived that these methods made it easier for them to understand the topic, facilitated their active participation also and made learning more interesting.

Usha Chalawada assessed students' performance after training in PSM by SGT and reported that performance of 65% students was very good and 20% good (17).

Several other studies have also advocated integrated teaching as effective tool for better understanding of subject and improvement in learning and documented students' preference for it (18,19,20).

Probing in the felt need revealed that majority (51.5%) of subjects felt that more time should be allotted for small group integrated modular classes, 26% wanted more time allocation to field activities. Most of the subjects (74%) were equivocal that such modification would help in improving their performance in the summative assessments.

Conclusion

The students preferred SGTs like field visits and Integrated Modular teaching followed by LGT like Power point presentation as they felt that these allowed their active participation and good interaction with teachers and peers and helped them in understanding the topics better. There was a felt need for more time allotment to these methods as compared to chalk and talk lectures.

Recommendation

In order to sensitize Indian Medical Graduates (IMG) towards Public Health and build their competencies,

T-L in Community Medicine should be planned using a judicious combination of LGT using Power point presentations with SGT like interactive modular sessions and field visits, with more time assigned to later two.

Limitation of the study

Limitation: Results are based on students' perceptions only, faculty perception is not a part of this study. Only one batch of interns could be contacted. It's true value will emerge only when more such studies are done in different medical colleges.

Relevance of the study

The Medical Council of India has adopted a need based curriculum for undergraduate medical education in India, "Regulations on Graduate Medical Education, 1997 has recommended Integrated Teaching. In this context, the present study gives an insight into the students' perceptions and felt need and will help in planning an effective T-L Approach.

Authors Contribution

RS: Concept and Design, interpretation of data, drafting and reviewing for intellectual content and final approval; SMY: Design, interpretation, revising and final approval; SMJ: Acquisition of data, analysis, drafting and final approval; PBK: Analysis of data, drafting and final approval.

References

1. Eiman Abdel Meguid, Matthew Collins. Students' perceptions of lecturing approaches: traditional versus interactive teaching. *Adv Med Educ Pract.* 2017; 8: 229–241. Published online 2017 Mar 17. Accessed on 20/05/2017
2. Ruth N. Communicating student evaluation of teaching results: rating interpretation guides (RIG's). *Assessment & Evaluation in Higher Education* 2000; 25: 121-34.
3. Richardson BK. Feedback. *Acad Emerg Med.* 2004 Dec;11(12):e1-5. Review. PubMed PMID: 15579427. [[PubMed](#)]
4. Shoaib R, Hasaan R. Students feedback on teaching and assessment at Nishtar Medical College. *Multan, J Pakistan Med Association*, September 2013: available at http://www.jpma.org.pk/full_article_text.php?article_id=4651. Accessed on 19/05/2017 .
5. OmoAregbeyen. Students perceptions of effective teaching and effective lecturer characteristics at the University of Ibadan Nigeria. *Pakistan J of Social Sciences.* 2010; 7 (2): 62-69.
6. Guidelines for Preventive and Social Medicine / Community Medicine / Community Health Curriculum in the Undergraduate Medical Education, World Health Organization SEA-HSD-325. New Delhi. 2010; p4. [cited

2014 Oct 8] http://apps.searo.who.int/PDS_DOCS/B4451.pdf. Accessed on 20/05/2017 .

7. Mukhopadhyay DK. Students' perception of quality of medical education in a medical college in west Bengal, India. Indian J Public Health 2016;60:4-9
8. 'Improving Presentation Style', The Teaching Centre, Washington University in St. Louis, available at <https://teachingcenter.wustl.edu/resources/teaching-methods/lectures/improving-presentation-style/>. Accessed on 19/05/2007 .
9. Asmita Ashok Patil, Vijaya Laxman Chaudhari , Students' perception on the educational environment in medical college: a study based on DREEM questionnaire ,Korean J Med Educ. 2016 Sep; 28(3): 281–288.
10. Sushama K. Chavan , Kalidas D. Chavan , Purushottam A. Giri , Sandip S. Jogdand, Perceptions of Medical Students Regarding Use of Audio-visual Aids in Lecture Delivery, IOSR-JDMS , Volume 4, Issue 4 Ver. IV (Jul-Aug 2014) : 28-32
11. Mandal P.K., Chatterjee C., Joardar G.K., Sadhukhan S.K., Sardar J.C., Ghosh P. Community medicine teaching in West Bengal: an opinion survey of the students. Indian J. Prev. Soc. Med. 2010; 41 (1& 2): 42-46.
12. Florence L, L Samananda, Comparison on perception of teaching aids among medical versus dental students, National Journal of Physiology, Pharmacy and Pharmacology 2015 Vol 5 Issue 4; 303-305
13. Rafique S, Rafique H. Students' feedback on teaching and assessment at Nishtar Medical College, Multan. J Pak Med Assoc. 2013 Sep;63(9):1205-9. PubMed PMID: 24601211.[PubMed]
14. Haritha Sagili , Attitude of undergraduate medical students towards powerpoint, overhead projector and chalkboard teaching. Does it matter?, NTTC Bulletin, Volume: 20 Volume: 20.1 March2013: 5-6
15. Mahalaxmi S Petimani, Prabhakar Adake, Blackboard versus PowerPoint presentation: Students opinion in medical education, Intrrnational Journal of Educational & Psychological researchYear : 2015 | Volume: 1 | Issue Number: 4 | Page: 289-292
16. Rathnakar UP, Ullal Sheetal D, Pai PG, Rajeshwari S, Sudhakar P, Shivaprakash G, et al. (2011). Is small group teaching among the under graduate dental students really effective? Journal of Clinical and Diagnostic Research, 5(4), 822-825.
17. Usha Chadlawada, Training PSM Students in Clinico Social Case Discussion through Semi Structured Small Group Technique,NTTC Bulletin, Volume: 20 Volume: 20.1 March2013 : 7-8
VLM Raman , K. Solomon Raju, Study on Effectiveness of Integrated Lecture Module versus Didactic Lecture Module in Learning Skills , IOSR-JDMS , Volume 14, Issue 1 Ver. IV (Jan. 2015) : 14-16
18. Basu M, Das P, Chowdhury G. Introducing integrated teaching and comparison with traditional teaching in undergraduate medical curriculum: A pilot study. Med J DY Patil Univ 2015;8:431-8
19. Muhammad Luqman, integrated/modular curriculum, pakistan armed forces medical journal (Category X) , Vol 63, No. 3, JANUARY 2013

Tables

TABLE 1 STUDENTS' PREFERENCES OF THE CURRENT T-L METHODS**

| T-L Approach | Mean± SD | percentage (total 100 %) |
|--|----------|--------------------------|
| Chalk & Talk | 3.1±1.22 | 18 |
| Power point presentations | 3.2±1.31 | 19 |
| Demonstration | 3.2±1.34 | 19 |
| Field activities | 4.1±1.25 | 24 |
| Integrated Modular Teaching (IMNCI) | 3.5±1.43 | 20 |

** 3 and above response on a 5 point scale

TABLE 2 STUDENTS' PERCEPTION REGARDING QUALITY OF CURRENT T-L METHODS

| Sr | Quality | Chalk 'n' Talk Number(%) | OHP Assisted Lectures Number(%) | Demonstrations Number(%) | Field Visits Number(%) | Integrated Modular Teaching Number(%) |
|----|-------------------------------------|--------------------------|---------------------------------|--------------------------|------------------------|---------------------------------------|
| 1 | Informative | 69(97.2) | 69(97.2) | 65(91.5) | 53(74.6) | 50(70.4) |
| 2 | Able to hold attention | 32(45.1) | 32(45.1) | 51(71.8) | 59(83.1) | 59(83.1) |
| 3 | Better understanding of the subject | 50(70.4) | 59(83.1) | 51(71.8) | 65(91.5) | 65(91.5) |
| 4 | Good student- teacher interaction | 20(28.2) | 20(28.2) | 44(62.0) | 59(83.1) | 59(83.1) |
| 5 | Good peer interaction | 32(45.1) | 27(38.0) | 32(45.1) | 57(80.3) | 60(84.5) |
| 6 | Active participation of Students | 9(12.7) | 11(15.5) | 19(26.8) | 65(91.5) | 65(91.5) |
| 7 | Effective utilization of Time | 45(63.4) | 51(71.8) | 51(71.8) | 56(78.9) | 60(84.5) |

(more than one quality perceived per Method per Student)

TABLE 3 STUDENTS' FELT NEED FOR MODIFICATION IN T-L APPROACH (N= 47)

| Sr. | Modification (more time allotment to) | Number | Percentage |
|-----|---------------------------------------|--------|------------|
| 1 | Integrated Modular Classes | 24 | 51 |
| 2 | Field Visits | 12 | 26 |
| 3 | PPT. Presentations | 9 | 19 |
| 4 | Others | 2 | 4 |
| 5 | Total | 47 | 100 |

TABLE 4 STUDENTS' PERCEPTION OF EFFECT OF MODIFICATION (N=47)

| Positive effect on performance in assessments | Number | Percentage |
|---|--------|------------|
| Yes | 35 | 74 |
| Maybe | 12 | 26 |
| No | 0 | 0 |
| Total | 47 | 100 |

Figures

FIGURE 1 STUDENTS' SATISFACTION WITH THE CURRENT TEACHING- LEARNING APPROACH

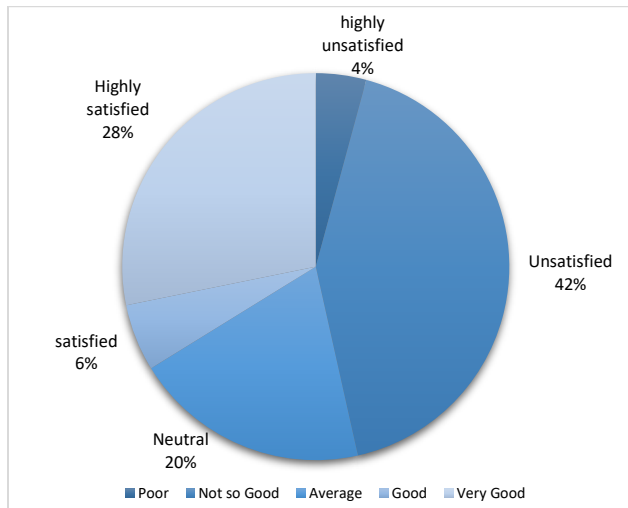
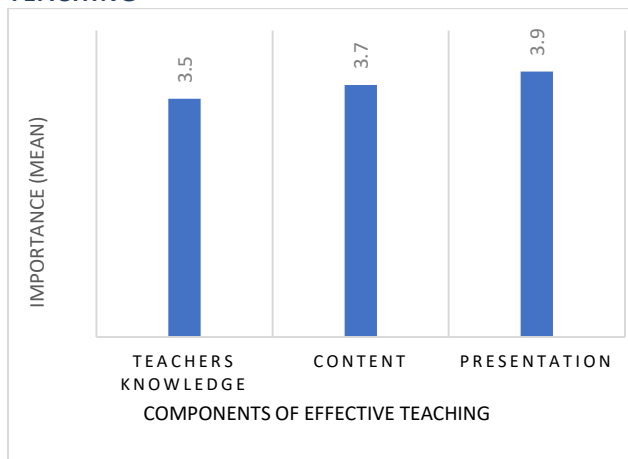


FIGURE 2 STUDENTS' PERCEPTION OF IMPORTANCE OF COMPONENTS OF EFFECTIVE TEACHING**



** 3 and above response on 5 point scale
 Mean ± SD for Teachers' knowledge = 3.5±1.31, Content= 3.7±1.38, Presentation= 3.9±1.39

FIGURE 3 CURRENT T-L APPROACH NEEDS MODIFICATION (STUDENTS' OPINION)

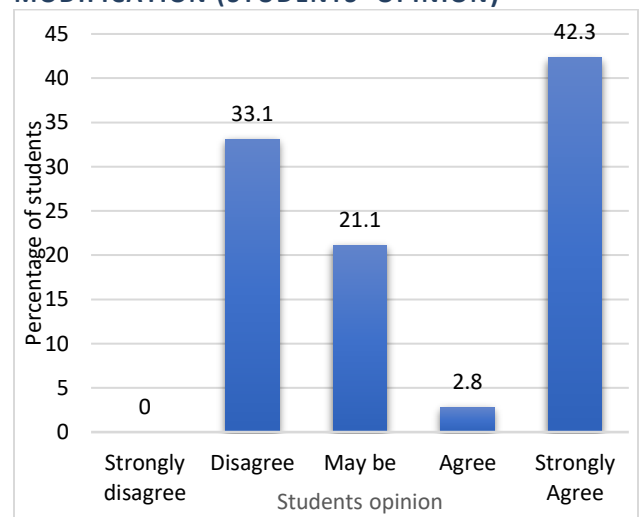
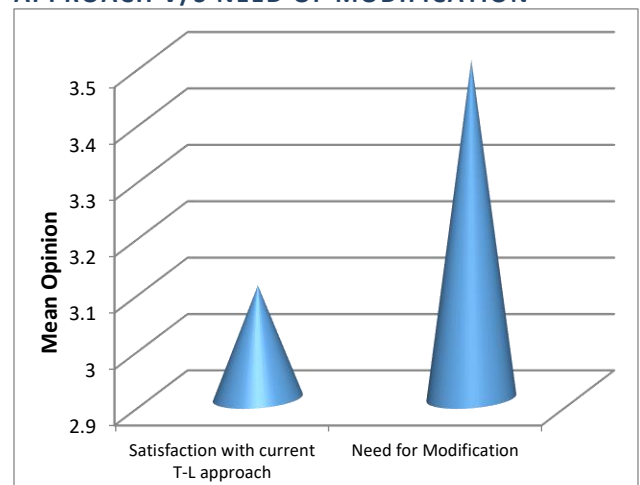


FIGURE 4 SATISFACTION WITH THE CURRENT T-L APPROACH V/S NEED OF MODIFICATION



Mean ± SD - Satisfaction with current T-L approach = 3.1±1.32, Need for modification = 3.5±1.34