

How to Cite:

Begum, J., Ali, S. I., Shankar, N., & Lalitha, D. L. (2023). Discussion, disagreement & dialogue (3D): A preventive learning approach for undergraduate MBBS students to embrace what is right, rather than who!!!. *International Journal of Health Sciences*, 7(S1), 1295–1305. <https://doi.org/10.53730/ijhs.v7nS1.14256>

Discussion, disagreement & dialogue (3D): A preventive learning approach for undergraduate MBBS students to embrace what is right, rather than who!!!

Jarina Begum

Professor & head in department of Community Medicine, at MTMC, Jamshedpur, Jharkhand, 831017, Manipal academy of Higher Education, Manipal, India
Corresponding author email: jarina.begum@manipal.edu

Syed Irfan Ali

Associate professor in department of Community medicine at MTMC, Jamshedpur, Jharkhand, 831017, Manipal academy of Higher Education, Manipal, India

Nachiket Shankar

Professor of Anatomy & Medical Education St. John's Medical College, Sarjapur Road, John Nagar, Koramangala, Bengaluru, Karnataka, 560034

D Lakshmi Lalitha

Dean & Professor in department of Biochemistry at Great eastern medical school, Ragolu, Srikakulam.532484

Abstract---The present medical education system is mostly a one-way communication, whereas discussion improves student's critical thinking, disagreement values for decision making. Aim of the study is to evaluate the feasibility and impact of 3D (Discussion, disagreement, and dialogue) learning approach among undergraduate MBBS students in terms of their perception & impact on learning outcomes. An interventional study was carried out among 84 students in a tertiary health care institute. The knowledge was assessed before and after intervention. Total 4 sessions were conducted with 20 randomly selected students in each session discussing 5 statements. Each statement was discussed by 4 (2 for 2 against) students at a time and followed by moderator's summary & audience interaction, followed by a feedback survey. The increase in knowledge was found to be statistically significant at $p < 0.0001$. Majority of them were either strongly agree or agree to the statement of improved understanding (90.4%), communication (90.4%), interest (86.4%), satisfaction (86.4%) & speaking skills (80.8%) after the intervention. Although sessions

were interactive and fun learning few challenges encountered time constraint, non-participation, stage fear, language, adaptation to the environment. Conclusions: 3D learning approach was successful in improving student's performance in terms of knowledge, communication, understanding, speaking skills, satisfaction.

Keywords---3D (discussion, disagreement & dialogue), learning approach, session, statement, feedback, knowledge, communication skills.

Introduction

The traditional system is less interactive as information flows in one direction. Although different subjects are taught in different phases of MBBS curriculum, community medicine is taught across all phases, but summative assessment is planned only at the end of 3rd phase. This is useful in terms of early clinical exposure yet less valued as topics taught during initial phases are forgotten by many, subjected to decay in knowledge and lack of interest in the subject Community Medicine. [1] On the other hand, we have known about group discussion which engages learners, help to develop critical thinking & communication skills. Discussion is student centred where teacher provides the context, gives support and uses the discussion to assess learner's understanding. [2] Similarly during the process of disagreement practical instructions are provided to locate underlying assumptions , value other's opinion, which helps identifying overlapping points and guide through reaching to an agreement and decision making.[3] The present study planned to explore the role of discussion, disagreement and dialogues all together as an effective learning approach (3D) among the undergraduate MBBS students which is a transformation of competitive debate to a modified form of learning approach called 3D with producing a common dialogue at the end helping them to reinforce & transfer of knowledge.

Aim

Aim of the study is to evaluate the feasibility and impact of 3D (Discussion, disagreement and dialogue) learning approach introduced among undergraduate MBBS students.

Objectives

1. To assess the perception of students introduced to 3 D Learning approach.
2. To evaluate the impact of the intervention (3D approach) on the learning outcomes.

Materials & Methods

An educational intervention was carried out in a tertiary health care center among MBBS undergraduate students (84) from December 2019 to February 2020. The sample was selected through process of complete enumeration including all the 7th semester undergraduate MBBS students in the institute. Students who missed

any of the 4 planned sessions or gave incompletely filled forms were excluded from the analysis.

Intervention: 3D (Discussion, disagreement, and dialogue) learning approach [Figure-1]

Discussion: where both group students has to speak on behalf of their team to begin the discussion. This was a process of active listening and sharing opinion with others.

Disagreement: where students were allowed to disagree with the statement. A process of Rebuttal and cross questions.

Dialogue: where all the discussion and disagreements dissent down to synthesize a common dialogue coming out of their own understanding.

Which was refined by the moderator of the session for effective transfer of learning to all. 3D approach is a modified exercise of debate with few modifications in terms of added components.

Thompson in Inoue (1996) described distinction between debate and discussion in referring to a decision-making process. In debate, participants argue for and against the pre-fixed proposition and defend the same ideology with strict rules of time and order of speech, where a third party (moderator) makes the decision based on arguments. [4] More sort of a competition to prove who is right, role of moderator limited to guide and audience to participate to some extent who may or may not fully aware of the topic.

But in 3D learning approach, one will of course start with an ideology and evolve gradually as it progresses, with disagreements and evidence to find the actual solution to problem with different alternatives. Finally creates a dialogue which is based on what is right rather than who. There is no winner or losers here, this more of a process of learning from each other. The role of moderator (teacher) is like a facilitator who guides the session and refines the dialogues as well to disseminate correct information, likewise audience (students) are aware of the topic and actively involved.

Implementation

The pre-post-test & feedback questionnaire, module for 3D sessions were prepared after getting the ethical committee approval. The same were validated by experts in the subject and medical education faculties and a pilot study was conducted with 5th semester students. The reliability was tested using internal consistency test with Cronbach's alpha 0.87 which is an accepted value. 5 statements from topic of Nutrition used for pilot study and 3D session was conducted. Based on their response and experts' views involved in the session, few revisions were made in the module and feedback questionnaire. A study sample of 84 was selected by complete enumeration of 7th semester students, after an initial sensitization programme on the 3D sessions where they were informed about the ground rules, topics and process. A WhatsApp group was created to provide constant help and support to the students along with guiding them for preparing for the same.

A pre-test was conducted to assess the knowledge of the student before intervention which constituted of 20 multiple choice questions, 5 from each of the

4 topics already taught to them long back in 5th semester. A total 4 sessions were conducted every Saturday afternoon from 2 to 4 pm. 20 students were selected randomly for each session with the use of random number app in android mobile. 4 topics (1. Epidemiological studies, 2. Vaccines & Immunology, 3. Screening of diseases, 4. Demography & Family Planning) were selected for 4 sessions.

In each session there were 5 statements

For eg: Topic: Screening of Diseases with 5 statements: a. Screening test should be widely used at peripheral level compared to diagnostic tests, b. Screening tests are useful only if done in appropriate screening time, c. A test is reliable means it should be valid & vice versa, d. False positives are more dangerous than false negatives Justify, e. Predictive accuracy and yield are different, but depends on same factors...)

Although the 4 topics were known to students, specific topic for each session was disclosed 1 day prior to the actual session planned. Statements were given on the same day of discussion at the beginning of session. Once statements were given students were allowed to read for 10 minutes, then each statement was conducted through 3D approach by 4 (2 for, 2 against) students at a time among the 20 who were randomly selected. Likewise, each statement was subjected to the cycle of discussion (1 minute opening statement by each team), disagreement (5-minute rebuttals by each team including questioning and answering), dialogue (2 minutes closing statement by each team) and audience interaction amounting to 20 minutes. After that rest 4 statements were conducted in the same pattern, one after another by the selected students calling out the selected roll numbers. It was followed by moderator's final summary with refined dialogues (last 10 minutes) at the end of session.

After completion of all the 4 sessions post-test was conducted on the next day. To avoid cheating written format of questionnaire was used with mention of student's details, whereas feedback was taken through online Google survey forms maintaining anonymity from students and in-depth interviews done for involved 4 faculties. The results were analysed using SPSS version 23 in terms of frequency, percentages, statistical test like paired t test where $P < 0.05$ was considered as significant.

Results

Student's Profile

Out of 84 student's majority 45 (52%) were females, 79 (94%) were from regular batch and rest from referred batch. Similarly, 68 (81%) students were hostellers. Around 28 (33%) students already had experienced debate earlier, who participated some sort of debate in school time as a part of competition.

Pre and post-test Analysis

The pre-test was conducted at the beginning to assess the knowledge of the student before intervention and post-test was conducted after completion of all the sessions. The means of pre and post test scores were compared using paired t test and the difference was found to be statistically significant. ($p < 0.0001$). [Table-1]

Feedback Analysis

About the sessions, majority of them either agreed or strongly agreed to the appropriateness of content 79 (94%), followed by adequate duration of sessions 69 (82%) and good planning 77 (92%). Likewise, most of the students were either strongly agreed or agreed, 3D approach in improving their interaction with peer and teachers, understanding concepts, communication skills, interest in subject, satisfaction & leadership skills, public speaking, self-directed learning, and confidence. [Fig-2]

When asked about the scope & feasibility of this learning approach in future most of them (84%) either strongly agreed or agreed that 3D approach was a good way of knowledge reinforcement, (75%) helpful for tackling difficult clinical situation & (88%) leaning as a team. Moreover, majority (80%) had opinion of including 3D sessions in medical education curriculum along with a 78% wishing to attend other 3D T/L sessions in future for other topics in community medicine and other subjects.

When students were asked to rate the 4 sessions as per their perception towards effectiveness of 3D approach on their learning outcomes in a scale of 1 to 5 (where 1 is lowest 5 is highest) majority liked the 3D session on screening of diseases followed by Epidemiological studies, demography & Family planning then vaccine & Immunology. [Table-2]

The thematic analysis of qualitative data obtained by open ended questions revealed that students enjoyed the 3D sessions through peer interaction, speaking in front of class, knowing others perspective, active participation and fun learning with spontaneity and creative thoughts. Although sessions were interactive and fun learning few challenges encountered by students like time constraint, non-participation, stage fear, language, and adaptation to the environment. [Fig-3]

Faculties involved also enjoyed the 3D sessions, however few challenges were highlighted as revealed by in-depth interview like planning and organizational difficulty, time constraint, loss of control etc.

Discussion

As we are approaching to a new system of medical education with implementation of CBME curriculum, adaptation to e-learning, using diverse T/L methods to engage neo-millennial generation, which is need of the hour indeed, where teachers become facilitator, learning becomes student centred and IMG becomes competent with acquiring competencies of a clinician, communicator, leader, professional and lifelong learner. Therefore, there is a need for a single paradigm to be put in place to assist our students in effectively managing their own classrooms and to help them fully express their talent and learning. [5]

Participation in class discussion enhances student learning, which increases engagement, ability to retain & remember information, validate the existing knowledge, provides clarification, and helps in deep learning through hands-on

practices and experiences through application-based opportunities for learning. [6]

Similarly Debates promotes active engagement and makes them capable of attaining proficiency level by evaluating the competing choices. Vygotsky's (1978) described about the zone of proximal development an area where the learner learns from others and from existing tools with the guidance & social interaction, which allows the student to develop higher order mental functions and cognitive learning in blooms taxonomy in terms of analysing, evaluating & creating. It provides a space to students in a classroom to teach and learn from each other beyond the comfort zone of being taught by a teacher as in traditional lectures. It also helps to critically view the contents of discussion and develop soft skills like teamwork, communication, leadership etc. [7-9].

Similarly, studies have found dialogic learning condition has beneficial effect on the critical thinking, reasoning skills and enhanced quality of educational systems. [10] Our study where we used the combination of Discussion, Disagreement and Dialogue in a single 3 D approach, which showed improvement in knowledge scores among students and observed to be a good method for reinforcing knowledge, tackling difficult clinical situation in future, working as team as suggested by them. Few other studies also concur with the findings where clinical debates as a teaching tool helped in developing confidence in various skills, improving student performance and competencies. Debate was found to be an effective tool for learning with active involvement, interaction between participants for long term retention of knowledge. A study on guided university debate (GUD) used for teaching nursing undergraduates helped them to bridge the gap between clinics and classroom. [11-13]

Moreover, debates have increased student's motivation and interest levels on the topics discussed which made them critically appraise the existing literature and analyse, evaluate the authenticity along with identify the need, use & areas for further research for new knowledge by reflecting on it. [14, 15] The present study found that 3D sessions were helpful in increasing student-student interaction, understanding concepts, communication skills, interest in the content, leadership, speaking skills along with self-directed learning, confidence, and satisfaction in majority of students. Similar findings were shown by few other studies where medical students found that debating enhanced their analytic decision-making, communication, critical thinking skills and reported an improvement in self-perceived abilities to evaluate the literature, check for authenticity, take evidence-based clinical decisions, and dispense the knowledge gained. Likewise debate as a method of assessment, found to be successful in making students think beyond the entrenched belief and helping them to unlearn to relearn new knowledge to appreciate the complexities involved in real life practice. Preparing for debates can be a useful active learning process for the presenting groups, and the interest generated by the debates provides the motivation and necessary engagement for active learning among the audience in the classroom. [16-19]

Debates occurring in classroom can have its own challenges and drawbacks. Many are sceptical about this as students are seen to be actively involved, deeply immersed resulting in bias towards duality as different persons may perceive the same viewpoint in many ways. [9] This bias can be prevented by learners acting as

conciliators for substitute or peace-making positions to both sides. It can also be tackled by instructing the students to study both sides of statement as it encourages flexible thinking and adaptability. [20, 21] Talking about limitations all students may not get the chance to apply their critical thinking skills, acquire a deep and meaningful understanding of the debate topic. [22]

However, in this study 3D approach is unique in the sense, as there was no winners or losers, the final dialogue was made based on the evidence provided by students, analysed by audience and validated by facilitator. Students also encountered many challenges like time constraint, non-participation, stage fear, language problem, losing control and adaptation to new tool (3D approach) etc which was taken care of by assigning the topics 1 week before and statements 1 day before the sessions. The students were selected randomly for speaking for or against the statement, to avoid any kind of bias, similarly the apprehension, fear, language problem was taken care of by grooming them thorough interacting regularly through WhatsApp.

Faculties found it feasible and students perceived the entire process of organization of 3D sessions positively attributed to their willingness to learn, curiosity, enthusiasm & self-determining behaviour which must be to transform today's classrooms.

Conclusion

After introduction of 3D sessions, student performance was increased in terms of gain in knowledge, better communication and understanding of subject and satisfaction which could be introduced as an effective learning approach among undergraduate MBBS students.

Limitation

Only 4 topics included, Time constraint, only 7th semester MBBS students were involved, selecting debatable topics and RCT could be used as study design.

References

1. Begum J, Ali SI, Panda M. Introduction of interactive teaching for undergraduate students in community medicine. Indian J Community Med [Internet]. 2020 [cited 2022 Jan 27];45(1):72–6. Available from: <https://www.ijcm.org.in/article.asp?issn=0970-0218;year=2020;volume=45;issue=1;spage=72;epage=76;aualast=Begum;type=0>
2. Pollock, Philip & Hamann, Kerstin & Wilson, Bruce. (2011). Learning Through Discussions: Comparing the Benefits of Small-Group and Large-Class Settings. Journal of Political Science Education. 7. 48-64. 10.1080/15512169.2011.539913.
3. Learning through Disagreement, A Workbook for the Ethics of Business, by: Marvin T. Brown, published on June 5, 2014, ISBN: 9781554812172 / 1554812178 (88 pg) Available at: <https://broadviewpress.com/product/learning-through-disagreement/#tab-description> (last assessed on 20/4/2020)

4. Baso, Farisha. (2016). THE IMPLEMENTATION OF DEBATE TECHNIQUE TO IMPROVE STUDENTS' ABILITY IN SPEAKING. EXPOSURE : JURNAL PENDIDIKAN BAHASA DAN SASTRA INGGRIS. 5. 154. 10.26618/ejpb.v5i2.845.
5. <https://www.educor.co.za/wp-content/uploads/2018/08/EMJ-Vol-1-No-1-20171.pdf>
6. "Creating a Community of Learning Through Classroom Discussion: Student Perceptions of the Relationships Among Participation, Learning, Comfort and Preparation," by E.J. Dallimore, J. H. Hertenstein, and M.B. Platt (2016), *Journal on Excellence in College Teaching*, 27(3), 137-171.
7. Meyers, C. and Jones, T. (1993), in Kennedy, R. (2007) Inclass debates: Fertile ground for active learning and the cultivation of critical thinking and oral communication skills. *International Journal of Teaching and Learning in Higher Education*. 19(2), pp.183-90
8. Williams-Brown, Zeta. (2015). The use of in-class debates as a teaching strategy in increasing students' critical thinking and collaborative learning skills in higher education.. *Educational futures*. 7. 39-55.
9. Walker, M. and Warhurst, C. (2000) 'In most cases you sit around very quietly at a table and get lectured at...': debates, assessment and student learning. *Teaching in Higher Education*. 5(1), pp.33-49
10. Frijters, Stan & Dam, Geert & Rijlaarsdam, Gert. (2008). Effects of dialogic on value-loaded critical thinking. *Learning and Instruction*. 18. 66-82. 10.1016/j.learninstruc.2006.11.001.
11. Eliza A. Dy-Boarmana, Ginelle A. Bryanta, Morgan S. Herring, Kendra Y. Foster, Impact of debates on student perceptions and competency scores in the advanced pharmacy practice setting, *Currents in Pharmacy Teaching and Learning*, Volume 10, Issue 1, January–February 2018, Pages 66-71.
12. Nikki Koklanaris, Andrew P. MacKenzie, M. Elizabeth Fino, Alan A. Arslan & David E. Seubert (2008) Debate Preparation/Participation: An Active, Effective Learning Tool, *Teaching and Learning in Medicine*, 20:3, 235-238, DOI: 10.1080/10401330802199534.
13. Merida D, Baratas I, Arrue M, Guided University Debate (GUD): A new promising teaching and learning strategy for undergraduate nursing students, *Nurse Education Today*, Volume 45, October 2016, Pages 69-71
14. Munakata, M. (2010), in Yang, C. and Rusli, E. (2012) Using Debate As A Pedagogical Tool In Enhancing Pre-service Teachers' Learning And Critical Thinking. *Journal of International Education Research*. 8(2), pp.135-44.
15. Chance, P. (1986), in Guiller, J., Durndell, A. and Ross, A. (2008) Peer interaction and critical thinking: Face-to-face or online discussion? *Learning and Instruction*. 18(-), pp.187-200.
16. Mumtaz S, Latif R. Learning through debate during problembased learning: an active learning strategy. *Adv Physiol Educ* 41: 390 –394, 2017; doi:10.1152/advan.00157.2016.
17. Velliyur Viswesh, Haoshu Yang, Vasudha Gupta, Evaluation of a Modified Debate Exercise Adapted to the Pedagogy of Team-Based Learning, *American Journal of Pharmaceutical Education* 2018; 82 (4) Article 6278.
18. O. Doody b, M. Condon, Increasing student involvement and learning through using debate as an assessment, *Nurse Education in Practice*, Volume 12, Issue 4, July 2012, Pages 232-237.
19. Samuel K. Peasah, Leisa L. Marshall, The use of debates as an active learning tool in a college of pharmacy healthcare delivery course, *Currents in*

Pharmacy Teaching and Learning, Volume 9, Issue 3, May 2017, Pages 433-440

20. Musselman, E., 2004. Using structured debate to achieve autonomous student discussion. *The History Teacher*, 37(3): 335-348
21. Budesheim, T. and Lundquist, A. (2000) Consider the opposite: opening minds through in-class debates on course-related controversies. *Teaching of Psychology*. 26(2), pp.106-10.
22. Zare, P. and Othman, M. (2013) Classroom debate as a systematic teaching/learning approach. *World Applied Sciences Journal*. 28(11), pp.1506-13.

Table 1: Comparison of mean scores before and after the Intervention (3D approach) by paired T test (N=84):

(N= 84)	Pre Test Score	Post Test Score	P Value
Mean /SD	8.04/2.02	15.81/2.53	<0.0001*

*Extremely statistically significant

Table 2: Student's Perception towards effectiveness of 3D approach on their learning outcomes (In a scale of 1- 5, Where 1 is lowest and 5 is highest) (N=84)

Rating Sessions	1	2	3	4	5
1. Epidemiological studies	0%	3(4%)	19 (22%)	32 (38%)	30 (36%)
2. Vaccines & Immunology	3 (4%)	3 (4%)	30 (36%)	24 (28%)	24(28%)
3. Screening of diseases	0%	2(2%)	19 (22%)	28 (34%)	35 (42%)
4. Demography & Family Planning	2 (2%)	2 (2%)	24 (28%)	33 (41%)	23 (27%)

Figure 1: Discussion, Disagreement and Dialogue: 3D learning Approach

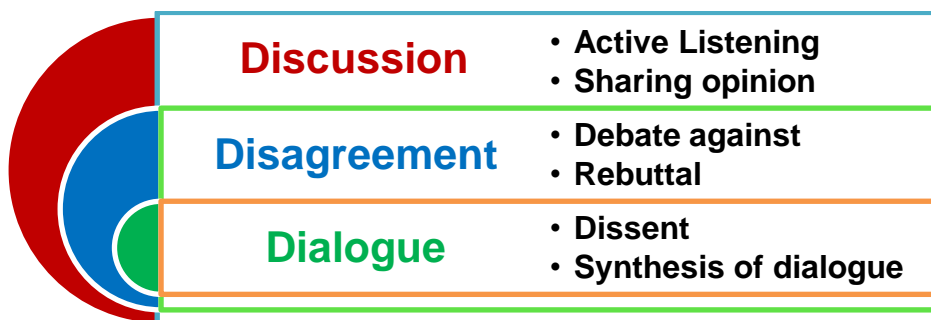


Figure 2: Perception of students towards effect of 3D sessions (n=84)

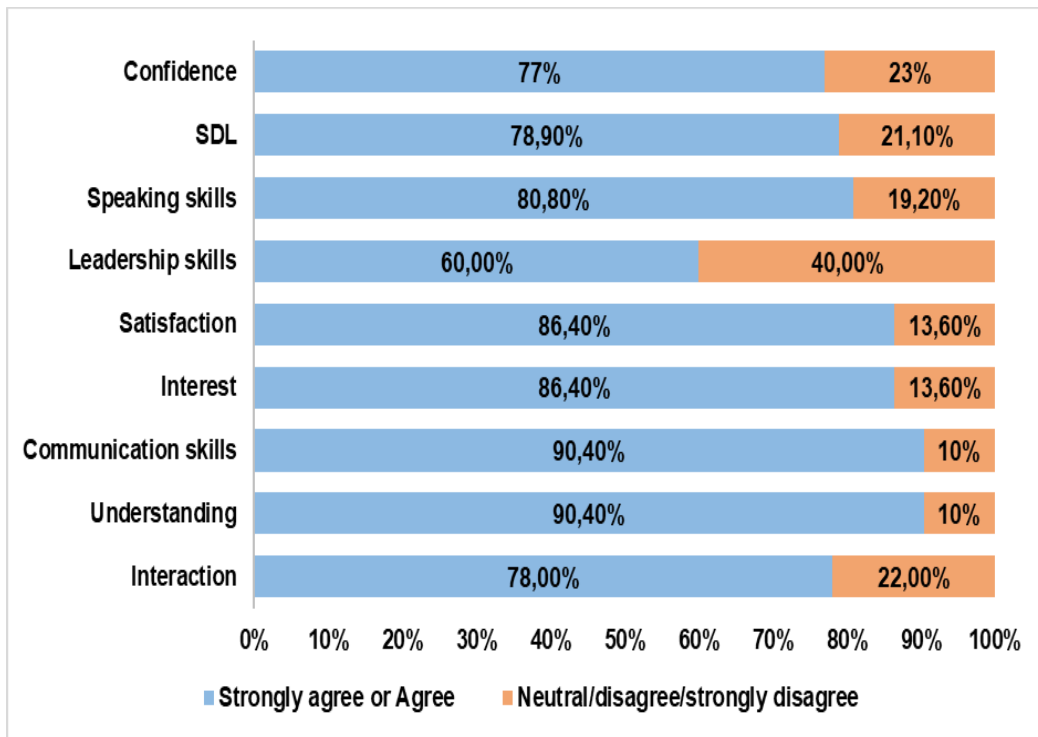
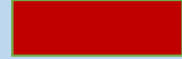


Figure 3: Thematic Analysis on Advantages and challenges of 3D sessions as perceived by students



Wow Moments

- Peer Interaction
- Speaking before large audience
- Knowing different views/perspectives
- Active/fun learning
- Spontaneous & Creative thoughts



Challenges

- Time
- Non-participation of audience
- Hesitancy/Stage fear
- Loss of control
- Language
- Adopting New approach near final exam