

Poster Presentation as an Education tool: Use, Views and Reviews from Undergraduate Medical students

Bhavya Khattri¹, Chhavi Kiran Gupta², Manish Garg³, Rijul Ranjan⁴, Bhawana Pant⁵, Surbhi Gupta⁶

¹Department of Medicine, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, Uttar Pradesh

^{2,4}Department of Community Medicine, Subharti Medical College, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh

³Department of Community Medicine, Rama Medical College, Hapur, Uttar Pradesh

⁵Department of Community Medicine, National Capital Region Institute of Medical Sciences, Meerut, Uttar Pradesh

⁶Department of Pharmacology, Subharti Medical College, Meerut, SVSU, Uttar Pradesh

CORRESPONDING AUTHOR

Dr. Rijul Ranjan, Associate Professor, Department of Community Medicine, Subharti Medical College, Meerut, SVSU, Uttar Pradesh India 250002

Email: rrrijulranjan26@gmail.com

CITATION

Khattri B, Gupta CK, Garg M, Ranjan R, Pant B, Gupta S. Poster Presentation as an Education tool: Use, Views and Reviews from Undergraduate Medical students. Indian J Comm Health. 2025;37(1):95-99.

<https://doi.org/10.47203/IJCH.2025.v37i01.016>

ARTICLE CYCLE

Received: 25/10/2024; Accepted: 05/02/2025; Published: 28/02/2025

This work is licensed under a Creative Commons Attribution 4.0 International License.

©The Author(s). 2025 Open Access

ABSTRACT

Background: Medical education has entered its modern era in our country with the new NMC devised Competency Based Curriculum de-emphasizing autocratic teaching techniques and in turn replacing them with continuous stress upon critical thinking, parallel reading, creative expression and information evaluation. **Aims & Objectives:** 1. To assess the use of Poster Presentations as an Educational Tool for Under Graduate (UG) Medical Students. 2. To assess the views of Under Graduate (UG) Medical Students on Poster Presentation as an Educational Tool. 3. To assess the reviews of Under Graduate (UG) Medical Students on Poster Presentation as an Educational Tool. **Methodology:** After ethical clearance and face validity of the questionnaire students who had participated in poster competition, were asked to fill the form for study and analysis of both open and close ended questions was done. **Result:** The average response recorded on Likert scale was of 4.21 ($\pm$ 0.65); Cronbach's alpha for the set of questions asked was found to be 0.914 depicting excellent internal consistency and showing that the data is very much reliable. **Conclusion:** Academic poster competition can be an innovative teaching and learning tool for both academic and soft skills.

KEYWORDS

Academic Posters; CBME; Teaching Learning

INTRODUCTION

Medical education has entered its modern era in our country with CBME de-emphasizing autocratic teaching and replacing them with critical thinking, parallel reading, creative expression and information evaluation. (1,2) According to NMC, critical thinking is an indispensable skill which needs to be developed at under grad level to aid better IMG performance at work place. Critical thinking leads to problem evaluation abilities and helps reach creative solutions. These skills will help IMGs to develop effective clinical reasoning and acumen in their practice of medicine. (1,3,4)

A big factor to consider in medical curriculum is its vastness. Multiple subjects and an extensive curriculum can be a strain on student's memory. Students usually feel like everything is stored as a short-term memory and most of the knowledge is lost within a short period of time. (5,6) Interactive tools of learning, like poster presentation, leads to interactive discussions with other team mates and also enable scope for personalized feedback among each other. (7,8,9)

Innovative teaching techniques such as poster presentation improves cognitive ability among students, and also helps to create a relevant and engaging learning environment. An academic poster presentation also improves communication skills and builds confidence in students with direct student involvement. (10-13) A poster can be used not only as a separate learning activity but also during lectures to help students retain and learn faster by serving as a visual aid that helps the students understand any material in depth (14,15). An eye catching and engaging poster also helps students to get engaged within their lessons. It can also be used after the lessons, to remind them of take-home messages or lesson summary. (16-18) Innovative teaching tools have been put to lime light in latest NMC guidelines. Although they have been approved at policy level but things are still changing slowly at ground level as they effort intensive and time heavy tools (10,19). Keeping current medical curriculum changes in mind, researchers conducted a poster making and presentation competition in their medical college. Through this first-hand experience true opinions and review could be obtained from participating students regarding poster presentation as an educational tool.

Aims & Objectives:

1. To assess the use of Poster Presentations as an Educational Tool for Under Graduate (UG) Medical Students.
2. To assess the views of Under Graduate (UG) Medical Students on Poster Presentation as an Educational Tool.
3. To assess the reviews of Under Graduate (UG) Medical Students on Poster Presentation as an Educational Tool.

MATERIAL & METHODS

Study Design: Cross-Sectional study

Study Settings: Subharti Medical College, Meerut

Study Population: 2nd year MBBS students

Study Duration: August 2024 to September 2024

Sampling Technique: Purposive sampling

The methodology of this research is based on ADDIE model, which is used for analyzing, designing, developing, implementing and evaluating (20). At the analysis stage, literature review and document analysis were conducted to see the effectiveness of poster presentation as an innovative teaching and learning technique.

Before conducting the study, ethical clearance was taken from institutional ethical committee and the face of validity of questionnaire was done by distributing the questionnaire to senior medical faculty after explaining them the intent of the study. They were then asked to evaluate whether the questions effectively capture the topic under research and whether the question were free of confusing or leading questions.

The final Questionnaire consisted of both closed-ended and open-ended questions for better understanding of the subject matter. The final Questionnaire consisted of student review related questions regarding the activity, barriers students felt with poster presentation as a teaching learning tool and other interactive tools they want to be inculcated in future. Poster topics for presentation were given from pharmacology and students were divided into teams as per their roll numbers. Students filled the questionnaire after (but on the same day) poster presentation and prize distribution of 3 best posters was done. Judgement of the poster presentation was done by two senior professors of the medical college with subject clarity, way of presentation, team involvement and overall look of the poster as deciding points.

RESULTS

Twenty-two topics was allotted to participating groups for presentation of the poster. (Table 1)

Interpretation of Likert scale on Participant Views on Poster Presentation as an innovative learning tool was high. (Table 2)

Shows analysis chart of Likert scale responses regarding poster activity experience. (Figure 1)

Table-1: Topics allotted to participating groups for presentation of the poster.

SN	Allotted Poster Topics	SN	Allotted Poster Topics
1	Therapeutic Drug Monitoring	12	Drugs Used In Glaucoma
2	Gout	13	Mechanism Of Action Of Anti-Fungals
3	Drugs In Cosmetic World	14	Good Prescribing Practices
4	Guidelines For Mx Of Hypertension	15	NSAIDS
5	Pharmacovigilance	16	Superbugs
6	Mechanism Of Action Of Anti-	17	Junctures Of Ethical Dilemma
7	Tuberculars	18	Ototoxicity
8	Adverse Drug Reactions	19	Advancement In Cancer Therapeutics
9	Pharmacogenomics	20	Antibiotic Stop Policy
10	Antibiotic Stewardship Program	21	Fixed Drug Combinations
11	Gina Guidelines For Mx Of Asthma	22	Novel Antibiotics

Table 2. Mean and Standard deviation of Likert scale on Participant Views on Poster Presentation as an innovative learning tool

SN	Items (Statements)	Mean	St. Dev.	Interpretation
1.	I think poster activity has enhanced the interest of students in learning	4.28	0.66	High
2.	I think poster activity helped me understand the topic better	4.40	0.57	High
3.	I think poster activity was fun to do	4.10	0.75	High
4.	I think poster activity increased my knowledge of using latest technology	4.18	0.70	High
5.	I think poster activity helped me improve my soft skills (creative thinking, co-ordination, conflict resolution, time management, decision making)	4.20	0.62	High
6.	I think poster activity instilled the teamwork spirit in me	4.15	0.68	High
7.	I think poster activity helped me to increase my confidence/ improve my public speaking	4.23	0.66	High
8.	I think poster activity helped me appreciate what I've learned	4.17	0.62	High
9.	I think to make the activity, a competition and awarding the winners, is a good appreciation to students' efforts	4.29	0.64	High
10.	I think such activities should be encouraged time to time	4.11	0.75	High
Total Mean		4.21	0.66	High

Figure 1. Summary of Likert scale responses regarding poster activity experience – Analysis chart.

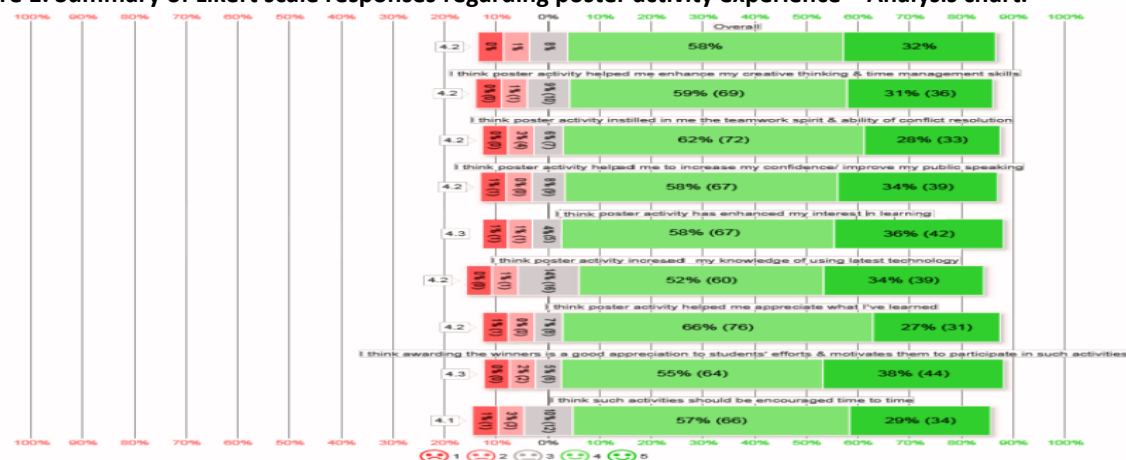


Figure 2. Barriers experienced by the participant in preparation or presentation of the poster.

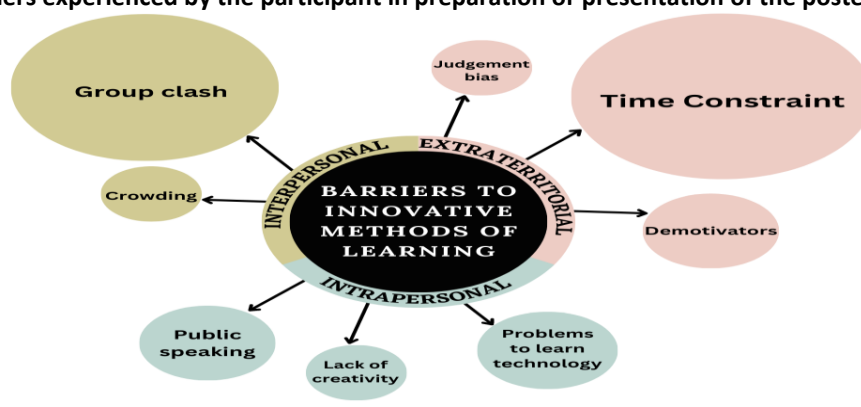
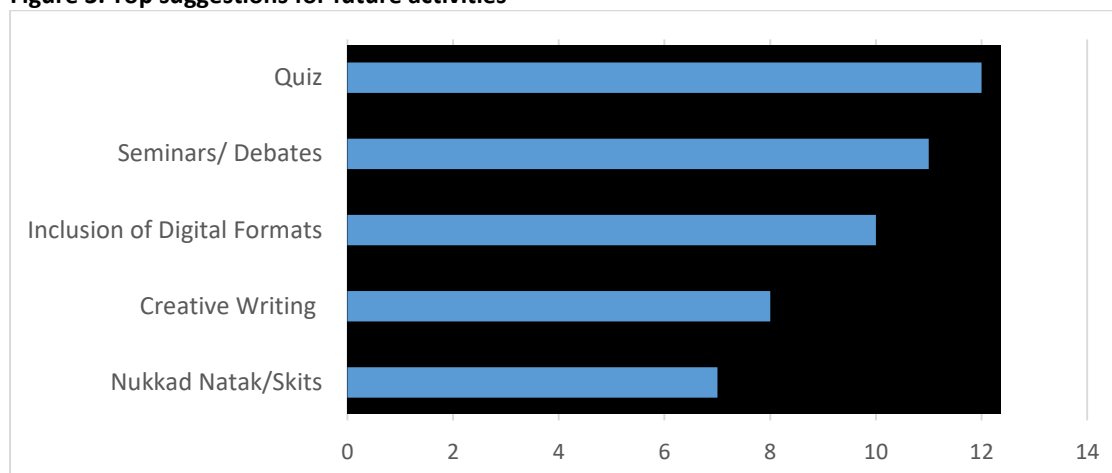


Figure 2 shows the chapati diagram/ bubble map of the barriers faced by the participants in the group activity of poster competition, while preparing and/or presenting. The sizes of the circles are a cumulative representation. Barriers were categorized as: interpersonal (in between the

participants), intrapersonal (faced by self within self), and extraterritorial (other factors; not associated to self or other participants).

The highest suggested future activity should be Quiz. (Figure 3)

Figure 3. Top suggestions for future activities



DISCUSSION

As shown in Figure 1, the average response recorded on Likert scale was of 4.21 (± 0.65); Cronbach's alpha for the set of questions asked was found to be 0.914 depicting excellent internal consistency and showing that the data is very much reliable. Almost 90 % of study participants responded positively, agreeing to the statements about poster activity helping them to- hone their soft skills (creative skills, time management, teamwork spirit, conflict resolution, & public speaking), and experience a positive immersive & engaging experience (enhancing their interest in learning, knowledge of using latest technology, & appreciating what they have learned). Interestingly a statistically significant association was found between participant responses of their experience with their attitude towards innovative methods of learning (asked before starting the activity). Interestingly, the ones who were interested in the activity initially gained more out of the poster competition. In studies done on school students (7, 15), accounting courses (8), first year undergraduates (9, 12, 16 and 18) similar findings were seen. All students irrespective of their age or stream found poster presentation as an effective tool for learning and all of them emphasised on team building teachings they got from the experiences. Out of all the barriers, time constraint was found to be the most prevalent. Group clash arising due to difference of opinions in between the group members was also found to be a very

important barrier. Many experienced intrapersonal problems as well, including fear of public speaking, lack of creativity, or hesitating to use technological aids for poster presentation competition. In our reference studies (9, 12) time constraint, lack of self-confidence, tendency to work in homogenous groups, labour intensiveness was found to be a major barrier. Most participants had ideas for future activities. One activity later they seemed more charged to pursue innovative teaching learning methods in future. Quiz and debates were most preferred future activities while other activities like digital competitions, creative writing and skits followed them.

CONCLUSION & RECOMMENDATION

Overall, academic poster presentation can be utilised in improving academic knowledge and soft skills in medical graduates. Creativity, team work and communication skills will be enhanced in students with long term impact being an important advantage of the method.

LIMITATION OF THE STUDY

Limited sample size and lack of comparison from other innovative methods.

AUTHORS CONTRIBUTION

All authors have contributed equally.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

ACKNOWLEDGEMENT

The authors would like to thank the institution authorities for letting us perform the study.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

REFERENCES

1. Vaishali P. Bansod, Shraddha S. Kulkarni, Ruchita R. Khandre. Innovative teaching learning method-simulation based learning in community medicine. International Journal of Community Medicine and Public Health. 2023; 10(11): 4426-4430.
2. Faculty development initiatives for the Undergraduate Medical Education Program: ten years' experience – status report- 2009-2018. <https://www.nmc.org.in/wp-content/uploads/2020/09/FDP-initiative-UG-Med-Education.pdf> (Accessed on 25-02-2025)
3. Effective Educational Practices in Health Profession Education (A Collection of Educational Projects completed by NTTC Alumni from 2006 to 2013). <https://files.eric.ed.gov/fulltext/ED606002.pdf> Accessed on 25-02-2025)
4. Hathur, Kulkarni. Changing Roles of Medical Teachers in the Era of Competency based Medical Education. Journal of Internal Medicine.2024; 12(1): 1-3.
5. Anandhi Amaranathan, Kadambari Dharanipragada, Subitha Lakshminarayanan. Medical students' perception of the educational environment in a tertiary care teaching hospital in India. The National Medical Journal of India. 2018; 31(4): 231-236.
6. Poorvaprabha Patil, Stuti Chakraborty. Where Does Indian Medical Education Stand Amidst a Pandemic?. Journal of Medical Education and Curricular Development. 2020; 7: 1-3.
7. Cavide Demirci1, İsmail Coşkun. High School Students' Opinions about the Technique of Poster Design Based on the Cooperative Learning Approach in English Course. MANAS Journal of Social Studies. 2020; 10(3): 1564-1579.
8. Nergis Nalan Altintas, Ayca Zeynep Suer, Emre Selcuk Sari, Mirac Sema Ulker. The Use of Poster Projects as a Motivational and Learning Tool in Managerial Accounting Courses. Journal of Education for Business. 2014; 89: 196–201.
9. Bahloul Amel. Students' Awareness of the Use of Poster, Power Point and Animated Video Presentations: A Case Study of Third Year Students of the Department of English of Batna University. 2014; 8(11): 3534-3538.
10. Hayfaa A Wahabi, Lubna A Al-Ansary. Innovative teaching methods for capacity building in knowledge translation. BMC Medical Education. 2011; 11(85): 1-10.
11. P.C. Naga Subramani, V. Iyappan. Innovative methods of teaching and learning. Journal of Applied and Advanced Research. 2018; 3(1): 20-22.
12. Andrew Ross, Thembelihle Dlungwane, Jacqueline Van Wyk. Using poster presentation to assess large classes: a case study of a first-year undergraduate module at a South African university. BMC Medical Education, 2019 19(1):432: 1-9.
13. The Benefits of Fitting the Statistical Poster Competition into The Curriculum Linda M. Quinn QED Industries, Inc. USA: 183-188.
14. Renny Tarigan, Listyani. Poster Presentation as A Tool to Assess Students' Academic Speaking Performance: Teachers and Students' Perspectives. Lensa: Kajian Kebahasaan, Kesusastraan, dan Budaya. 2021; 11(1): 1-16.
15. İsmail Coşkun, Cevat Eker. The Effect of Teaching Activities Done by Using Activity Based Posters on the Students' Academic Achievements, Retention Levels in Their Learning. Universal Journal of Educational Research. 2018;6(4):585-597.
16. Özlem Öztürk. Using Poster Presentations to Facilitate Preservice EFL Teacher Learning. International Journal of Language Academy. 2017;5(4):401-415.
17. Pratiwi Kartika Sari, Deti Rostini, Andi Ahmad, Otto Fajarianto4, Nita Yulistiani. The Effect of Poster Media on Students' Learning Motivation in Social Science for Primary Students. <https://www.scitepress.org/Papers/2019/89992/89992.pdf> (Accessed on 25-02-2025)
18. Noraini Ismail, Nor Iman Nabila Abu Bakar, Muhammad Danish Amin Iswadi Efendi, Muhammad Afis Firdaus Mohamad Razali. Academic Poster Competition: A New Approach In Teaching And Learning Strategy For Introduction To Human Development Course. National Virtual Innovation Competition 2022.
19. Rashmirekha Sahoo, Shahzaib Rehan, Soumendra Sahoo. Pre-Medical Students' View Points on Integrated Poster Presentations as a Tool for Learning Medical Science. Malays Journal of Medical Sciences. 2018; 25(6): 121–126.
20. Nada Aldoobie. ADDIE Model. American International Journal of Contemporary Research. 2015; 5(6): 68-72..