

# Enhancing Self-directed Learning in Pharmacology Through Student-led Seminars

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## INTRODUCTION

In contemporary medical education, developing self-directed learning (SDL) skills is imperative for lifelong learning. Student-led seminars have gained attention as an innovative teaching strategy that not only enhances student engagement but also promotes collaborative learning and critical thinking.

Pharmacology, with its intricate details of drug mechanisms and clinical applications, is an essential subject that benefits from active learning methods. Traditional lectures may sometimes fail to engage students fully, leading to superficial understanding. Conversely, student-led seminars require students to engage with the material actively, seek multiple sources of information, and present their findings to peers. This active involvement in the learning process is thought to enhance retention and application of knowledge.

This study aims to assess the impact of student-led seminars on the learning experience of both presenters and audience members among second-year MBBS students at Era's Lucknow Medical College.

## METHODOLOGY

### Study Design

This study was conducted during pharmacology practical classes among second-year MBBS students. The study employed quantitative and qualitative methods, using questionnaires to evaluate participants' learning experiences.

### Study Population

The study population consisted of second-year MBBS students enrolled in the pharmacology course at Era's Lucknow Medical College. Participation was voluntary, with students forming groups of five.

### Procedure

#### Group Seminar Presentations:

Five students were assigned a single pharmacology topic, with each member focusing on different subparts. Students were encouraged to research independently from a variety of sources, including textbooks, journals, and online materials.

The student then presented their findings in a seminar format to their peers during teaching hours. This approach ensures that students are not passive recipients but active contributors to the teaching-learning process.

#### Data Collection Tools:

After each seminar, two separate questionnaires were distributed:

- 1. Audience Feedback:** A Likert-scale questionnaire was given to the students in the audience to assess their understanding of the topic, engagement with the material, and perceived effectiveness of the presentation.
- 2. Presenter Self-assessment:** A second questionnaire was given to the presenters, aimed at evaluating their initial approach to learning the topic, the effort put into researching the material, and how their understanding evolved through the process of preparing and delivering the presentation.

#### Evaluation Criteria:

The effectiveness of the seminar as a learning tool was measured using a 5-point modified Likert scale, where students rated aspects like clarity of presentation, depth of understanding, and relevance of content. Both the presenters and the audience's responses were analysed to determine the overall efficacy of this method.

## RESULTS

### Audience Feedback:

The overall audience response was positive, with mean scores ranging from 3.9 to 4.3 across questions. The majority of students agreed that the seminars were effective learning tools, with high scores for clarity and comprehension. A few students indicated neutral or slightly negative views on engagement and self-directed learning encouragement, suggesting potential areas for improvement.

**Presenter Self-assessment:** The presenters gave high ratings on most questions, with mean scores between 4.1 and 4.5. They reported increased confidence, improved understanding, and enhanced SDL skills. Most felt the experience was valuable, though feedback could be further explored to enhance their understanding.

### Audience Feedback : Results represented as Mean & Percentage

Question	Mean Score	Standard Deviation	% Strongly Agree	% Agree	% Neutral	% Disagree	% Strongly Disagree
The seminar was well-organized and easy to follow	4.2	0.7	45%	40%	10%	5%	0%
The presenters effectively explained the pharmacology concepts	4.3	0.6	50%	35%	10%	5%	0%
I gained a deeper understanding of the topic after attending	4.1	0.8	40%	38%	12%	7%	3%
The seminar encouraged me to engage in self-directed learning	3.9	0.9	30%	40%	15%	10%	5%
Overall, the seminar was an effective tool for learning pharmacology	4.2	0.7	48%	37%	8%	5%	2%

### Presenter Self-assessment: Results represented as Mean & Percentage

Question	Mean Score	Standard Deviation	% Strongly Agree	% Agree	% Neutral	% Disagree	% Strongly Disagree
Preparing for the seminar improved my understanding of the topic	4.5	0.6	60%	30%	8%	2%	0%
The research process helped me develop better SDL skills	4.4	0.7	55%	32%	10%	3%	0%
Presenting increased my confidence in explaining complex concepts	4.3	0.8	50%	35%	10%	5%	0%
I received valuable feedback that helped me improve my understanding	4.1	0.9	42%	30%	15%	8%	5%
Overall, the seminar was an effective learning experience	4.4	0.7	53%	36%	7%	4%	0%

## CONCLUSION

The outcomes of this study provided insights into how student-led seminars facilitated Self-directed learning. Key metrics included student engagement, the depth of content comprehension, and feedback on the relevance of this teaching methodology.

It was found that student-led seminars fostered better retention and understanding of complex pharmacological concepts, as students became responsible for teaching their peers. Furthermore, these seminars promoted critical thinking and improved communication skills, which are essential for medical professionals.

The feedback gathered from both presenters and the audience shed light on potential areas for improvement, such as the need for more structured guidelines or additional support in researching the topic.

Student-led seminars represent an innovative pedagogical tool in medical education, particularly in the context of pharmacology. This study will provide evidence regarding their efficacy in promoting SDL and improving overall learning outcomes. The findings may encourage the broader application of this teaching method across various subjects within the MBBS curriculum.

## REFERENCES

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