

Role of Student Seminars in Teaching Physiology

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ABSTRACT

Objective: To assess usefulness of student's seminars in teaching of physiology.

Methods: A cross sectional study conducted from January 2010 to December 2011. The students seminars were scheduled once in two months for a duration of 2 hours with at least three presentations. Presentation of 30 minutes carried by a group of four students was, followed by question and answer session. The response of students on usefulness of seminars was acquired through a questionnaire with three components; I) usefulness of seminars in understanding of Physiology acquired on 5 point Likert Scale strongly disagree (0) to strongly agree (5); II) useful for learning capabilities on three point scale, not at all, to some extent and to a great extent, and III) comprised the free comment section. Frequency of responses was analyzed by SPSS version 11.

Results: A total of 13 seminars were conducted by Department of Physiology. Response showed that 62 (71%) and 71(82%) were not able to understand content and difficult concepts of Physiology. Only 2(2%) rated its usefulness to understand pathological aspects, it did not help altogether in theory examination and only 5 (6%) rated its efficacy for practical examination. Working in group enabled them 42(48%) to interact with each other. Seminars helped in self directed learning with development of presentation and communication skills in 21(24%), 28 (32 %) and 32(37%) respectively. The students recommended this to be conducted in small groups.

Conclusion: Students were not satisfied with the utility of seminars in teaching of Physiology and improvement in their learning capabilities.

KEY WORDS: *Seminars, Teaching Methodologies, Learning Capabilities.*

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INTRODUCTION

The term "Best Evidence Medical Education" is used for the implementation of teaching methodologies and learning approaches on the basis of best available evidence.¹ The subject of Physiology is a host of concepts and mechanisms which need tangible strategies for understanding and perception.² The pedagogical effectiveness of teaching tools can be evaluated on account of scores in assessment or by feedback response from students.^{3,4}

Students who step forward in medical profession are imposed with a tough curriculum, which can be made interesting, inquisitive and pertinent to desired outcome with the introduction of novel teaching strategies.⁵ The teaching of Physiology forms the basis of coherent medical practice focused on explanation of mechanisms focused on learning.¹ The curriculum of Physiology at Bahria University Medical & Dental College (BUMDC) is endowed with a combination of interactive lectures, small group discussions, laboratory sessions and problem based learning.

A seminar is a forum of knowledge dissemination among large group of people at an institution or professional organizations. This is usually led by a seminar leader often accomplished through a continuing Socratic dialogue with a formal presentation of research followed by question answer sessions.⁶ The authors introduced students seminar (SS) in teaching of Physiology to familiarize students more extensively with the methodology of their chosen topic, to allow them to interact with each other, develop presentation skills and acquire the confidence to face the audience. The strength or weakness of any system can be acquired with the help of feed backs gained from the stake holders which gives information on all features, experiences, problems, analysis and suggestions.^{1,2,3,4} The objective of the study was to evaluate SS in view of responses from students of Physiology.

METHODOLOGY

A cross sectional study was conducted from January 2010 to December 2011 with participation of students of batch 2009-2014 of BUMDC. The topics for Physiology SS decided

and scheduled by the Department of Physiology were followed by allocation of group of students with their respective advisers. The seminars were conducted by senior faculty members for a duration of 2 hours with 30 minutes presentation by each group (of four students each), followed by question and answer session.

Participants were awarded marks on the basis of checklist given to judges (Table 1). The response of students on usefulness of seminars was acquired through a questionnaire which had three sections; I) usefulness of seminars in understanding of Physiology was acquired on 5 point Likert Scale strongly disagree (0) to strongly agree (5), II) useful for leaning capabilities on three point scale, not at all, to some extent and to a great extent, III) was the free comment section. Frequency of responses was analyzed by SPSS version 11.

RESULTS

Figure 1 describes a total of 13 seminars conducted by department of Physiology in first and second year MBBS course. The feedback Performa was responded by 87 students; 87% response rate. Response of students in Table 2 shows that 62 (71%) and 71 (82%) were not able to understand content of Physiology, difficult concepts. Only 2 (2%) rated its usefulness to understand pathological aspects, it did not help in theory examination and 5 (6%) rated its efficacy for practical examination.

Figure 1: Number of Students seminars for teaching of Physiology

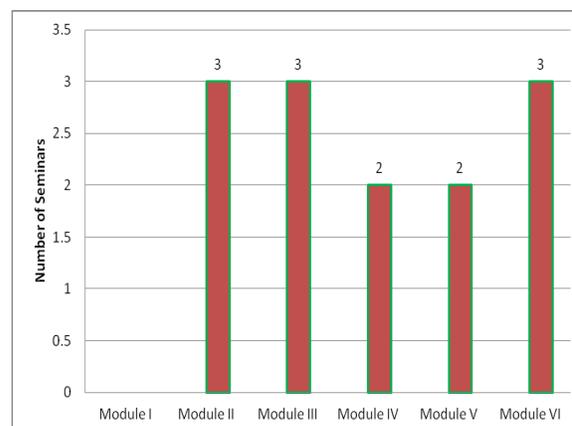


Table 3 shows that 17 (19%) students agreed to its usefulness for critical reasoning. Seminars

helped towards self directed learning (SDL) of 21 (24%) students. The presentation and communication skills were improved in 28 (32%) and 32 (37%) students respectively.

In the free comment section majority of students responded it to be boring with lack of concentration and recommended it to be for small groups.

Table1. Checklist for evaluation of Student’s Seminar presentation

Item	Score (Out of 10) (A)	Relative weight of the item (B)	Total score (AxB)
Introduction of seminar topic		0.05	
Learning Objectives		0.10	
Way of Presentation (clear communication, AV aids, sequencing, organization)		0.20	
Scientific content		0.40	
Student encourages discussion		0.10	
Responds to questions		0.10	
Makes summary		0.05	
Total score			/10

Evaluator’s Name _____

Signatures _____

Table2. Perception of students on usefulness of student seminars

Objective	Strongly disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly agree n (%)
Able to understand content of the subject	41 (47)	21(24)	17 (20)	5(6)	3(3)
Able to understand the difficult concepts	46(53)	25(29)	8(9)	7(8)	1(1)
Able to understand associated pathologies	46 (53)	21(24)	14(16)	4(5)	2 (2)
Able to apply this knowledge	48(55)	24(28)	5(6)	7(8)	3(3)
Helped in your theory examination	2 (3)	85(97)	Zero	zero	Zero
Helped in your practical examination	5 (6)	64 (74)	3 (3)	10 (11)	5 (6)

Table 3. Responses acquired from students on the basis of learning

Learning skills	Not at all n (%)	To some extent n (%)	To a great extent n (%)
Critical Reasoning	51(59)	19 (22)	17 (19)
Self directed learning	52 (60)	14 (16)	21 (24)
Working in a group	38 (44)	15 (17)	34 (39)
Interaction in a group	17(19)	28 (33)	42 (48)
Presentation skills	34 (39)	25 (29)	28 (32)
Communication skills	30 (34)	25 (29)	32 (37)

DISCUSSION

Medical educationists tend to address a teaching paradigm which is focused on integration of multiple dimensions of learning approaches and teaching methodologies with an attempt to modify in terms of perspectives of learner.⁷ The impact of change in strategies is part of thoughtful practice, which encourages ongoing learning, understanding and

improvement in constructive mental activity.^{8, 9} The curriculum in a medical university thus needs to be planned and frequently revised in terms of availability and competency of teaching staff, logistics and learning styles of medical students.¹⁰

The problem solving ability is developed by critical thinking which initiates a higher order cognitive skill as defined in Bloom’s taxonomy.¹¹

In our study majority of student's responded to ineffectiveness of seminars for development of critical reasoning. Guided inquiry learning which uses questions and problems to provide contexts with a sufficient level of challenge helps students to develop better thinking skills and encourages SDL.¹⁴ It has been documented that students improve their learning when exposed to strategies of SDL.¹⁵ In our survey; it was observed that SS did not improve SRL in students.

Literature supports that perception of students can be used for a series of reforms in the process of improving the quality of teaching and assessment methods.³ In the journey of evaluation of teaching methodologies at BUMDC medical students considered IL to be an effective teaching strategy in understanding the content of the subject.¹³ The students understand difficult concepts when explained with the help of framework of a disease, explanations and experimentation during laboratory sessions.^{4,9} The presentation of topics in seminar neither helped in understanding of content nor difficult concepts of Physiology. It was found that medical students were not convinced with its usefulness to understand the applied pathological aspects as well.

The objective of introduction of SS was to acclimatize students with the presentation skills so that they develop an inspirational motivation to talk, communicate and reciprocate with the examiners/ audience/listeners. It was observed that 28 (32%) students developed presentation skills. The activity helped students to work in a group and interact with each other.

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Assessment of students is an objective oriented process which reflects a multi dimensional integrated learning and compares performance with reference to enlightening rationale and expectations.³ The assessment is made possible in university by written (Single best choice and short essay questions) and viva with objective structured practical examination. The medical students were not convinced with its utility in either examination.

The final implementation of any program is exclusive to each institution. The introduction, execution and modification need reception, motivation, commitment and passion to acquire an objective.¹⁵ The outcome cannot always be positive, as was in our research, yet we are convinced that this is a unique study done first time in Pakistan on the basis of which change in teaching methodologies can be recommended.

CONCLUSION

SS conducted for large groups were considered to be an ineffective teaching tool in terms of perception of students. It did not help students to understand content of Physiology, concepts of pathological aspects, theory and practical examination. It is recommended that the student's seminars should be organized for small groups to retain their effectiveness.

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