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ORIGINAL ARTICLE

Perceptions of students regarding teaching and learning methodology for an integrated modular system.

Sadia Sharif[1], Ayesha Masood[2], Iram Imran[3], Wafa Najeeb[4], Muhammad Khalid Masood[5], Afsheen Zakir[6]

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ABSTRACT… Objective: To evaluate the perceptions' of medical students regarding different integrated module's teaching and learning methodology at a private medical college Lahore. **Study Design:** Descriptive Cross-sectional study. **Setting:** University College of Medicine UOL. **Period:** July 2020 to Jan 2021. **Material & Methods:** The questionnaire used for this study was already validated from Liverpool University. It was sent to 150 students of 3rd year MBBS. The questionnaire was further validated through piloting with students through a focus group discussion and from expert opinion of Medical educationists. The quantitative data was analysed by SPSS. **Results:** This research has found that the students rated small group discussion, PBL, more beneficial regarding different integrated module's teaching and learning methodologies. Overall, the small group discussion was the best teaching methodologies. **Conclusion:** The students rated small Group teaching and learning strategies as the most beneficial of all teaching and learning methodologies' in this integrated modular system through which students have claimed to acquire good communication skills, problem solving and critical thinking.

Key words: Integrated Modules, Medical Students, Perceptions.

INTRODUCTION

The integrated curriculum comprising of modular system is major paradigm shift in medical education for last two decades. The basic aim of integration is to break down the barriers between the clinical and basic sciences.[1] On international and national level it has gained popularity with the belief that through integration of clinical and basic sciences the connections between these disciplines can improve. Likewise, it can enhance the medical graduate's retention of knowledge and can improve their clinical skills.[1]

During the last few years, a number of medical institutes have introduced the integrated curriculum.[2] Primary data from these institutions can provide evidence for other colleges, about the success of this integrated modular system.[2] According to a study the modular system is more efficient in the field of medicine for both teachers and students.[3]

The vertical integrated system, demands massive change in teaching and learning methodologies, assessment and Institutional facilities, including equipped library, classrooms, laboratories, to support the objectives of the program.[4]

Students need adequate support in terms of learning strategies and assessment methods to fulfill the program objectives. There should be ongoing evaluation of this integrated modular system effectiveness for quality assurance.[4]

The ongoing evaluation provides the robust evidence to streamline the modular system. The evaluation and feedback generates a research, which ultimately help to achieve the integrated modular system's outcomes and objectives.[5]

For the underpinning of the integrated program evaluation, the Context, Input, Process and Product (CIPP model) was used.[6] The first

1. M.Phil (Histopathology), MHPE (UHS), Associate Professor, Amna Innayat Medical College, Sheikhupura.
2. M.Phil (Microbiolgy), Assistant Professor, University College of Medicine and Dentistry, UOL.
3. M.Phil (Pharmacology), Associate Professor Pharmacology, Amna Inayat Medical College, Sheikhupura.
4. FCPS (Obstetrics & Gynaecology), Senior Registrar, University College of Medicine and Dentistry, Lahore.
5. MBBS-FCPS (Paeds Medicine), Associate Professor, SIMS Lahore.
6. MBBS, M.Phil, Associate Professor Physiology, Faryal Dental College, Lahore.

Correspondence Address:
Dr. Sadia Sharif
250 –A Block Abdalian Housing Society
Johar Town Lahore.
saadia.shaarif@gmail.com

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component, context evaluation, is useful when an established program is going through a planned change or must adjust to the conditions changed. The second part, input, helps to establish an appropriate program model to assure the identified needs. Process evaluation provides formative data for guiding revisions whilst the program is running. The last component, product evaluation, produces valuable information in order to judge program outcomes.[7]

As for as medical education is concerned It is not possible to conduct a productive class without input from students. Giving feedback itself, promotes critical thinking among students.[8]

The perception of the students about the integrated teaching the main area of interest whenever the new curriculum methodology been introduced.[9] According to a study, the students were questioned regarding their approaches towards integration, in order to expose the barriers to integration. This evaluation survey was done to identify a pros and cons in the implementation of the integrated curriculum.[10]

Various positive aspects were noticed that according to students they have improved their communication skills, logical thinking, confidence, and teamwork. Most of the students liked and enjoyed active learning methodologies like the small group teaching, interactive sessions and Problem based learning.[10]

MATERIAL & METHODS

This was a cross sectional research study. The place of study was UCM –UOL. It was conducted for 6 months during July 2020 till January 2021. Ethical review board of UCM&D UOL ethically approved it (Ref: ERC/06/20/06).

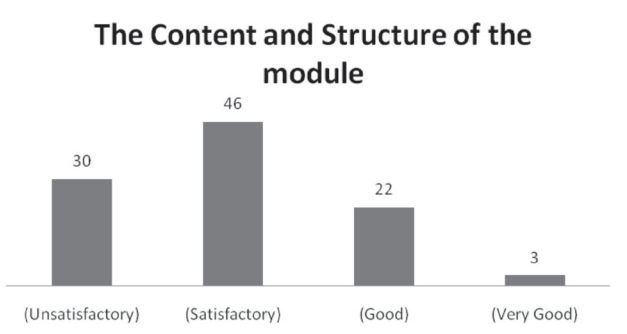
The convenient sampling technique for sample collection was used. An already validated questionnaire of Liverpool University for module evaluation was used for this study. For, which an official permission through email was taken. Furthermore, a pilot study was run with 20 students for their interpretation of these questions. After that, some of the questions were changed. This questionnaire was also then discussed with medical education experts in consecutive meetings. Final questionnaire was sent through Qualtrics generated link to all 150 students. Of which 97 students of 3rd year MBBS responded. This survey was sent for six months in an academic year. After every module, students were asked to fill in this survey form to record their feedback.

The survey questionnaire was given to the participants to be filled in through Qualtrics software. This survey questionnaire composed of both closed ended questions, comprising of 5-point Likert scale: 1-strongly agree. 2-Somewhat agree, 3- somewhat agree, and a few open ended questions.

The statistical analysis was done through automatic generated report through qualtrics software. Data was analysed as percentage and mean score. Result was shown in a table and written form.

RESULTS

The 101 students who participated, the 40 (37.7%) were male and 66 (62.3%) were female in our study. For answering about the content and the structure of module the student's response showed less variability. Total of 101 students 45.4 % counted it as satisfactory while 21.8 % taken it as good. 29.7 students counted it as unsatisfactory.



For the question about teaching and learning strategies in integrated module, the 23 students ranked it as good, while 53 graded this as satisfactory and 24 students marked it as un satisfactory and there was 1 student who was very unsatisfied with the teaching of this module.

There was no one who perceived it as very good.

For the involvement through SGDs and tutorials, the 37.4% and 38.5% students strongly agreed and somewhat agreed and counted it as effective method of teaching and learning.

While responding for the overall impact of combined module Evaluation only 15 participants perceived these as unsatisfactory, while 67 participants as satisfactory and total of 19 evaluated this as good module. The result for other questions are shown in following table as percentage and the mean score. Overall the response range lies between strongly agree to somewhat agree.

In response to a few open ended questions, which were analysed through content analysis, the respondents have also claimed to acquire certain attributes (better communication skills, problem solving and critical thinking) by these active learning methodologies.

Question	SA	SWA	N	SWD	SD	Mean
Learning outcomes were clearly stated.	47.3	36.3	8.8	5.5	2.2	4.7
learning outcomes were achieved fully	36.3	44.0	9.9	8.8	1.1	4.5
Subjects were covered in breadth and depth	25.6	34.4	8.9	16.7	14.4	3.8
was well structured in terms of building up your knowledge	27.5	37.4	11.0	17.6	6.6	4.0
The duration was adequate	24.2	18.7	6.6	18.7	31.9	3.2
Was well organized (e.g. timely access to materials notification of changes, etc.)	22.0	48.4	8.8	11.0	9.9	4.0
The workload was manageable	18.7	27.5	5.5	13.2	35.2	3.1
The pace of module was manageable	23.1	29.7	7.7	11.0	28.6	3.4
The objects were explained well (before the start of each teaching session)	36.7	45.6	10.0	4.4	3.3	4.5
Students were encouraged to ask questions and participate in class discussions	38.9	40.0	11.1	7.8	2.2	4.5
Lectures were well organized and presented	42.2	38.9	4.4	12.2	2.2	4.5
Tutorials/SGDs were well organized	37.4	38.5	8.8	8.8	6.6	4.3
Lectures and other methodologies helped in achieving the course objectives	28.4	48.9	11.4	6.8	4.6	4.3
The ratio between small group discussions, lectures and practicals was appropriate	27.8	33.3	16.7	14.4	7.8	4.0
The ideas and concepts were presented clearly	36.7	41.1	5.6	10.0	6.7	4.3
The information was provided in the module handbook/study guide	43.8	43.8	4.5	4.5	3.4	4.7
The recommended textbook(s) were indicated	41.6	33.7	9.0	7.9	7.9	4.4
The handouts (if provided) were useful	26.1	26.1	30.7	8.0	9.1	3.9
The materials on Moodle (if provided) were useful	30.3	34.8	21.4	3.4	10.1	4.1
The recommended reading list (s) was useful	37.1	36.0	11.2	9.0	6.7	4.3
The advice provided by the lecturer (s) on assignment (if any) was adequate	29.6	36.4	14.8	11.4	8.0	4.1
The advice provided by the lecturer (s) on examination requirements was clear	25.6	44.4	7.8	12.2	10.0	4.0
Computer and internet connections were adequate	20.0	20.0	13.3	12.2	34.4	3.1
Any learning resources identified were addressed appropriately	23.3	41.1	20.0	7.8	7.8	4.0
Your attendance at lectures	38.9	33.3	14.4	6.7	6.7	4.3
Your participation in class discussions	22.2	38.9	23.3	7.8	7.8	4.0
Your attendance at tutorials/SGDs	38.9	35.6	10.0	8.9	6.7	4.3
Your preparation for and participation in tutorials/SGDs	27.8	34.4	20.0	10.0	7.8	4.0
Your completion of recommended reading	27.8	37.8	23.3	4.4	6.7	4.2
Your satisfaction regarding your effort in this course	31.5	34.8	19.1	7.9	6.7	4.2
The Questions asked in the paper (MCQS) were from the LOs	30.3	34.8	12.4	14.6	7.9	4.1
Appropriate time was given for MCQ paper	44.9	28.1	9.0	10.1	7.9	4.4
OSPE examination was conducted smoothly	36.0	36.0	4.5	10.1	13.5	4.1
The questions asked in the OSPE were from the LOs	39.3	37.1	4.5	9.0	10.1	4.3
Appropriate time was given for the OSPE	30.3	32.6	5.6	13.5	18.0	3.8
Feedback provided enhanced learning	21.8	35.6	14.9	11.5	16.1	3.7
Feedback was given timely	30.3	22.5	15.7	9.0	22.5	3.7

Table-I. Percent of responses to each question with mean score for each question

SA = Strongly agree; SWA = Somewhat agree; N = Neither agree nor disagree; SWD = Somewhat disagree; SD = Strongly disagree

DISCUSSION

For the improvement of medical education, the ongoing evaluation is key to success. For quality assurance of any program, the internal evaluation plays vital role, which opens new windows for the major stakeholders (students) to be part of the decision-making. Following this any, medical college can claim for quality assurance. Hence, this evaluation practice would proof to be dynamic process for quality enhancement of medical education at any medical college.[11]

It has been recommended that by including students the medical curriculum reforms process can be achieved.[12]

This study is in consistent with many similar studies, which revealed the students satisfaction with the integrated teaching methodologies. The feedback from the students provided a strong evidence in a study conducted by Khyber medical university. Where the 70% of the students gave positive feedback about integrated modular system, 58% students were satisfied with the teaching and learning methodologies. More over 80% of the students were satisfied with the learning resource.[5]

Furthermore, a study reported that the medical students appraised the integrated modular system through which they had the better understanding of the topics. In addition, they also suggested sharing of the learning material with student.[13] The small group discussion was the preferred teaching methodology in an integrated modular system by most of the students.[14] Therefore, this study result are in alliance with my study, which also concluded that the small group discussion are the most preferable teaching methodology in integrated modular system.

Another Study showed that more than half of their students are completely agreed with the reformed methods of active teaching and learning methodology. As this has led to a more motivation to learn, more profound understanding of the subject and reduced amount of duplication of material.[15,16] Two of the studies, one conducted in Australian university and the other in Khyber medical university supported our finding in which researcher described that feedback which was given timely enhances the learning of students.[17,18]

Through an integrated modular system, learner have better chance to integrate the basic science with clinical scenarios. These small group discussions have enhanced their interaction, understanding of subject material, confidence, communication skills and self-directed leaning.[19,20]

CONCLUSION

Majority of the medical students showed satisfaction regarding integrated module's teaching and learning methodology at a private medical college Lahore.

RECOMMENDATIONS

It is highly recommended to evaluate this newly introduced integrated modular program in those medical colleges where it has been introduced. This Evaluation study about teaching and learning methodology should be extended and evaluation of other components of modular system should be evaluated. There should also be 360-degree evaluation of each module by involving the teacher's feedback as well.

LIMITATIONS

This study has a few limitations like those that this study was conducted with 3rd year MBBS students, which otherwise can be extended to whole program. The other limitation is that regardless of the teaching and learning perspectives of students, other curricular aspects for integrated modular curriculum should also be explored.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Sadia Sharif	Data collection.	
2	Ayesha Masood	Literature review.	
3	Iram Imran	Material & Methods.	
4	Wafa Najeeb	Results.	
5	M. Khalid Masood	Discussion.	
6	Afsheen Zakir	Discussion, Conclusion	