Bangladesh Journal of Medical Education
ISSN: 2306-0654(Print), 2313-4224 (Online)
DOI: https://doi.org/10.3329/bjme.v17i1.87079

Vol.-17, Issue-01, January, 2026

Original Article

Evaluation of Training on Teaching Methodology & Assessment of the Teachers of different Medical Colleges in Bangladesh

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Abstract

Background: With the evolution of healthcare needs for the community and the changing trends in medical education in the 21st century, medical teachers need to be prepared for their tasks in the coming decades. Although many reports describe various faculty development interventions, there is a very few research indicating their effectiveness. **Objective:** To find out the impact of training programme on teaching methodology and assessment in medical education. **Methods:** This mixed method study was carried out in different medical and dental colleges of Bangladesh during the period of July 2024 to June 2025. A pretested self-administered semi-structured questionnaire was administered upon medical teachers and 10 medical teachers were selected from different medical colleges of Bangladesh for in depth interview. **Results:** This study revealed that out of 331 medical teachers 95% received formal training/course in Teaching Methodology & Assessment. Of them around 78% received offline training, more than 91% received training on Teaching Methodology & Assessment and around 80% received training from Centre for Medical Education (CME). Near 58% medical teachers responded that most of the times the objectives of the session were prepared according to SMART criteria, more than 50% responded that SGT was interactive, around 44% responded that teachers prepared lesson plan. Most of the medical teachers (78%) responded that integrated teaching and learning was practiced. Regarding assessment, teachers were satisfied in learning different tools for assessment. Medical teachers responded regarding different issues related to teaching methodology and assessment and also some challenges and barriers to implement them with recommendations. **Conclusions:** Training on teaching methodology and assessment appear highly valued by participants, who also report changes in behavior. Nevertheless certain limitations may affect the effectiveness of the research work. Further research to explore these associations and outcomes, at the individual and organizational level, is required to explore in-depth.

Keywords: *Teaching Methodology, Assessment, Evaluation, Medical Teacher*

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Introduction

Academic strength depends upon faculty members' awareness and expertise faculty development has a critical role in promoting academic excellence and innovation[1]. The

increasing complexity and pressures of healthcare delivery, new approaches to teaching and learning and challenging demands on teachers' time, faculty members require a broad range of teaching and learning approaches that can be used in diverse settings. To help faculty members fulfill their multiple roles, a variety of faculty development programmes and activities have been designed and implemented. These activities include workshops and seminars, short courses and site visits, fellowships and other longitudinal programmes. Many of these activities have been designed to improve teacher efficiency across the medical education continuum (e.g. undergraduate and postgraduate education)[2,3].

The initiative for continuous improvement in medical teaching is focused on educational theory and research evidence, which is subsequently changing the traditional requirements of a medical teachers[4-7]. Therefore, many medical faculties acknowledge-training programmes to improve their teaching skills[8-10]. A range of different approaches have been measured, however, establishing the effectiveness of new faculty development programmes and their impact on student education remains a challenge[11-13]. A systematic review revealed the effects of faculty development interventions on knowledge, attitudes and skills of teachers on quality of education delivered as well as on the institutions where they worked [13]. This review identified that repetitive interventions over time, using a deliberate adoption of the theory of learning and educational principles and the support of reflection and learning among participants were effective. It was recommended that such interventions should be accompanied by process and outcome oriented research, using multiple methods (quantitative as well as qualitative)[13].

However, although there are numerous descriptions of teachers' training programmes in Bangladesh, there is a lack of research representing the success of these types of teachers training programme. In international contexts, the more encompassing term educational development is used to cover the related initiatives for academic development, staff development, and quality enhancement[14]. In a study, Sorcinelli et al. polled faculty developers facing challenges in higher education institutions where respondents reported a range of priorities with five concerns: balancing increasingly complex and

demanding faculty roles, assessment of teaching and student learning, the impact of technology, addressing the needs of part-time faculty and the demands of interdisciplinary leadership development for institutions[15].

In Bangladesh there are total 112 medical colleges, 36 dental colleges & units, 111 IHT, 211 MATS. There are altogether 9000 teachers[16]. To make them competent as a teacher training on teaching methodology and assessment is imparted by CME since long before. Apart from CME many other organization & institutions also conduct training on teaching methodology and assessment. The aim of this study was to find out the impact of training programmes on teaching methodology and assessment in medical education. It is expected that such a research will help to aware us regarding effectiveness of such types of trainings in the field of medical education in Bangladesh and guide future programme development and evaluation.

Methods

This was a mixed method study. The study period was from July, 2024 to June, 2025. The study places were different government & non-government medical colleges of Bangladesh. Medical teachers of selected medical colleges were study population. Sample size was 331 medical teachers for quantitative study where cross sectional descriptive method was adopted to collect data. A self-administered semi-structured questionnaire was prepared for data collection. In-depth interview schedule was used for qualitative part of research to gain insight of the 10 medical teachers to triangulate the data.

Quantitative data was checked and edited immediately after collection manually. Then this was entered into computer Software Program SPSS version 19. The computerized data was again checked and edited if needed. Then this was analyzed as per the specific objectives of the study. Necessary statistical tests was done that is applicable.

Qualitative data was checked and edited for any inconsistency. Any obscured point was corrected reviewing the audio record of the discussion. Important opinion was noted on the left margin of the sheet and important comments w note down the right margin of the sheet.

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Results

Results of Quantitative Section

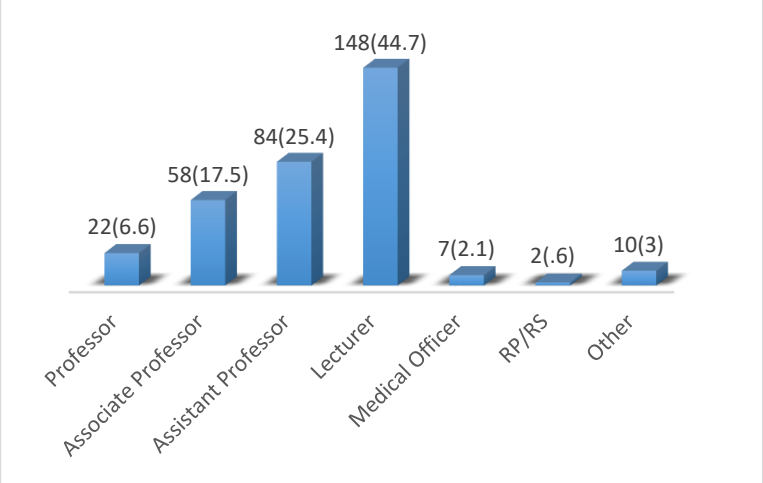

Figure 1: Distribution of the medical teachers by their designation (n=331)

Figure 1: shows that out of 331 respondents 148(44.7%) were lecturer, 84 (25.4%) were Assistant Professor, 58(17.5) were Associate Professor and 22(6.6%) were Professor.

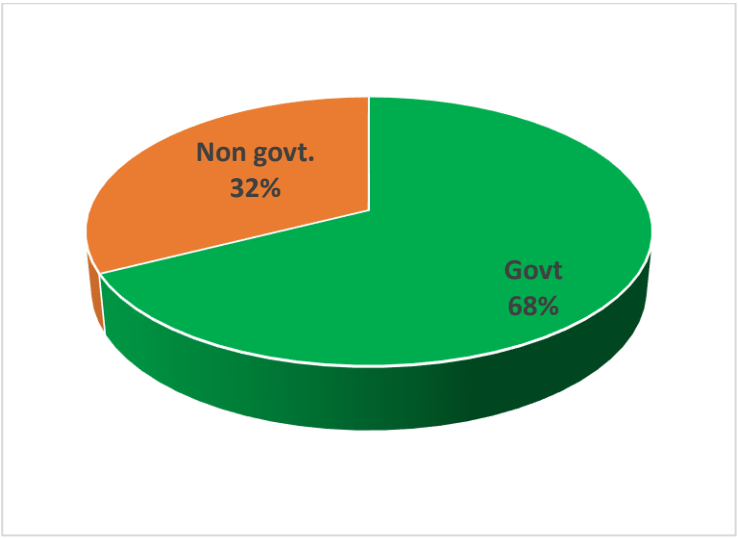

Figure 2: Distribution of the respondents by their medical colleges (n=331)

Figure 2: shows that out of 331 (68%) teachers are from Govt. medical colleges and 32% were from non Govt. medical colleges.

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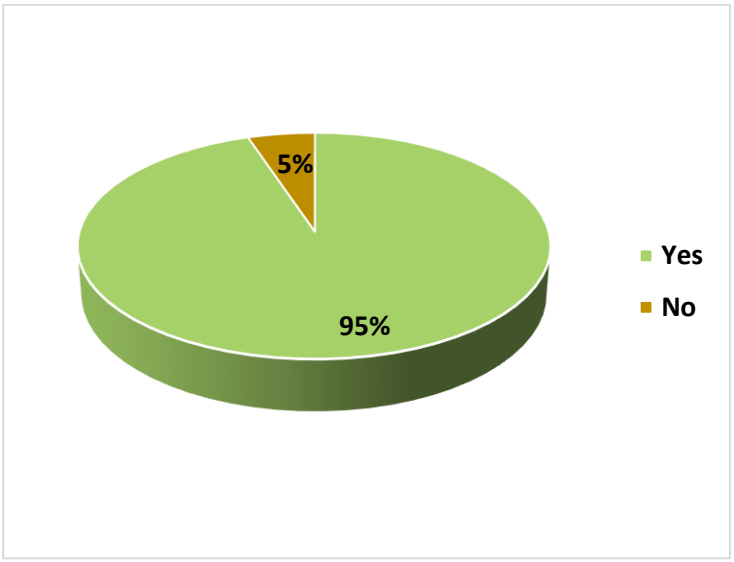

Figure 3: Distribution of the respondents by receiving formal training/course in teaching methodology & assessment (n=331)

Figure 3: shows that out of 331 teachers 95% received formal training/course as teaching methodology & assessment and 5% did not receive any training on teaching methodology & assessment.

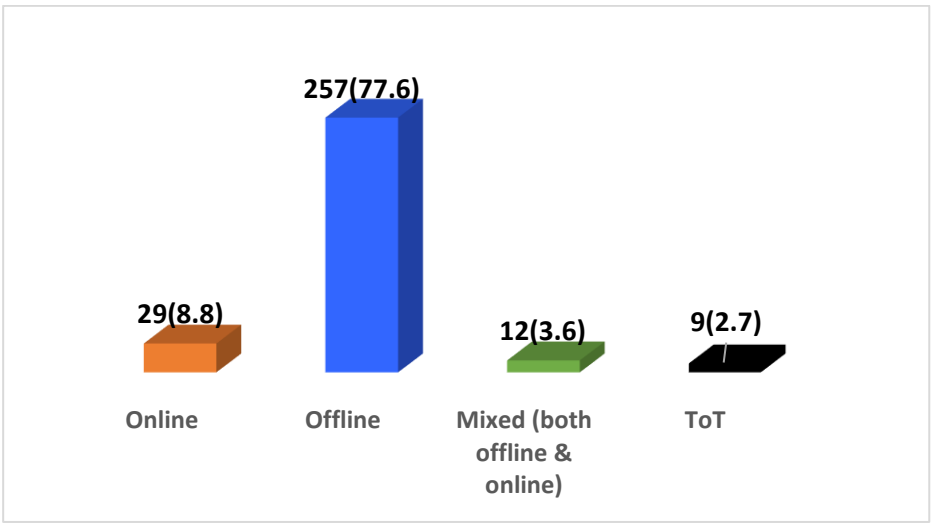

Figure 5: Distribution of the respondents by the modalities of receiving training/course (n=331)

Figure 5: shows that out of 331, 257 (77.6%) teachers received offline training, 29(8.8%) received by online training, 12(3.6%) received training by mixed method.

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Table 1: Distribution of the respondents regarding institution from where the respondents have received training/course (n=331)

Institution that conducted the training/course	Frequency	Percent
Centre for Medical Education (CME)	255	79.9
Directorate General of Medical Education (DGME)	25	7.8
Line Director, Medical Education & Health Manpower Development (ME&HMD)	3	0.9
BIRDEM academy	15	4.7
Bangladesh College of Physicians & Surgeons (BCPS)	6	1.9
Others	15	4.7
Total	319	100.0

Table 1 show that out of 331 teachers 255 (79.9%) received training from Centre for Medical Education (CME), 25 (7.8%) from DGME, 15(4.7%) from BIRDEM academy, 3(0.9%) from LD, ME&HMD and 6(1.9%) from BCPS.

Table 2: Distribution of the respondents regarding issues related to the implication of acquired training for improving the quality of teaching learning activities (n=331)

Statements related to the implication of acquired training	Level of agreement				
	Never f (%)	Once in a while f (%)	Some times f (%)	Most of the times f (%)	Almost always f (%)
	1	2	3	4	5
Gaining the attention of students at the beginning of the session (n=323)	2(0.6)	13(4)	32(9.9)	182(56.3)	94(29.1)
Informing the objectives of the session (n=323)	4(1.2)	3(0.9)	44(13.6)	139(43)	133(41.2)
The objectives of the session are prepared according to SMART criteria (n=321)	1(0.3)	9(2.8)	63(19.6)	186(57.9)	62(19.3)
Checking students previous knowledge related to the topic of the class (n=320)	4(1.3)	8(2.5)	103(32)	146(45.6)	59(18.4)
Preparing relevant audio visual/teaching aids for each session (n=319)	6(1.9)	9(2.7)	52(16.3)	136(42.6)	116(36.4)
Encouraging students' participation by encouraging to speak up or random questioning in every 15-20 minutes (n=319)	2(0.6)	9(2.8)	95(29.8)	142(44.5)	71(22.3)

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Learning by doing is encouraged in SGT sessions for Ensuring students' active participation (n=318)	1(0.3)	7(2.2)	60(18.9)	160(50.3)	90(28.3)
Emphasizing important point & summarizing at the end of the class (n=320)	3(0.9)	4(1.3)	37(11.6)	123(38.4)	153(47.8)
Providing useful & relevant references /sources for further study (n=319)	1(0.3)	10(3.1)	74(23.2)	138(43.3)	96(30.1)
Preparing lesson plan for each session (n=316)	3(0.9)	4(1.3)	54(17.1)	138(43.7)	117(37)
Assessing students learning within the class (n=319)	1(0.3)	5(1.6)	84(26.3)	155(49)	74(23.2)
Willing to accept own error (n=319)	2(0.6)	4(1.3)	49(15.4)	129(41)	135(42.3)
Accepting students' feedback (n=317)	5(1.6)	3(0.9)	42(13.2)	133(42)	134(42.3)
Emphasizing good academic environment within & outside the class (n=318)	31(9.7)	12(3.8)	32(10.1)	121(38)	122(38.4)

Table 2 show that out of 331 teachers 182 (56.3%) responded that gaining attention of students are done at the beginning of the session**,** , 139 (43%) responded that informing the objectives were done, 186 (57.9%) respondent that the objectives of the session are prepared according to SMART criteria, 160 (50.3%) responded that learning by doing is encouraged in small group teaching sessions, 138 (43.7%) responded that teachers prepare lesson plan for each session most of the times, 122(38.4%) responded that good academic environment within & outside the class was emphasized almost always.

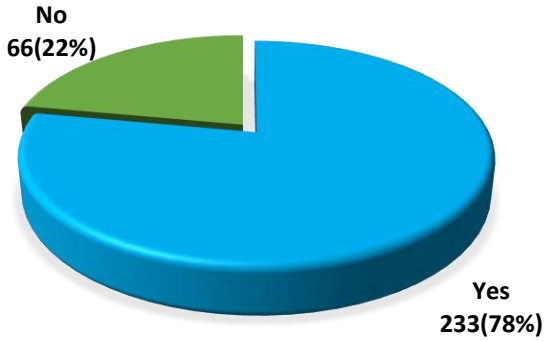

Figure 6: Distribution of the views of medical teachers regarding the practice of integrated teaching learning (n=331)

Figure 6: shows that out of 331 teachers 233 (78%) responded that integrated teaching learning is practiced in their medical colleges and 66(22%) responded respectively.

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Table 3: Distribution of the respondent regarding the activities to implement integrated teaching (n=331)

Statement related to activation to implement integrated teaching learning sessions	Level of agreement				
	Never	Once in a while	Sometimes	Most of the times	Almost always
Integrated teaching is conducted as per specified objectives (n=288)	30 (10.4)	7 (2.4)	51 (17.7)	134 (46.5)	66 (22.9)
Overall organization/arrangement of integrated teaching-learning session in my phase is satisfactory (n=291)	24 (8.2)	8 (2.7)	64 (22)	150 (51.5)	45 (15.5)

Table 3 show that out of 331 teachers 134 (46.5%) responded that integrated teaching is conducted as per specified objectives and 150 (51.5%) responded that overall organization/arrangement of integrated teaching -learning session in his/her phase is satisfactory most of the times.

Table 4: Distribution of the medical respondent regarding satisfaction level in constructing different tools for assessment (n=331)

Different types of Assessment tools	Level of satisfaction in constructing different tools for assessment				
	Highly Dis-Satisfactory f (%)	Dis-Satisfactory f (%)	Average f (%)	Satisfactory f (%)	Highly Satisfactory f (%)
MCQ (MTF/SBA) n=318	4(1.3)	3(0.9)	47 (14.8)	205 (64.5)	59 (18.6)
Short Answer Question (SAQ) n=316	2 (0.6)	1 (0.3)	37 (11.7)	218 (69)	58 (18.4)
Structured Essay Question (SEQ) n=302	2 (0.7)	11 (3.6)	69(22.8)	185 (61.3)	35 (11.6)
Structured Oral Examination (SOE) n=316	1(0.3)	5 (1.6)	45 (14.2)	208 (65.8)	57 (18)
OSCE/OSPE n=317	1 (0.3)	2 (0.6)	44 (13.9)	201 (63.4)	69 (21.8)

Table 4 show that out of 331 teachers satisfaction level is satisfactory in constructing MCQ (MTF/SBA)- 205(64.5%), Short Answer Question - (SAQ) 218(69%), Structured Essay Question (SEQ)- 185(61.3%), Structured Oral Examination (SOE)- 208(65.8%) and OSCE/OSPE-201(63.4%)

Results of Qualitative section

Findings of in-depth interviews of teachers have been summarized and given below:

A few teachers opined that gaining attention of the students was done at the beginning of the session. All the teachers said that objectives of the session were informed but sometimes those were not prepared according to SMART criteria. Maximum teacher told that they had lesson plan for their own session. They noticed that it was a very recent issue and they thought it might be due to accreditation issue in Bangladesh context. All of them mentioned that preparation of relevant audio visual aid was done by each teacher for their session and the quality was also improved.

All the teachers mentioned that interactive lecturing were practiced by most of the teachers of their medical/dental college. A few of them told teachers were willing to accept their own error and students' feedback. Most of them opined that emphasizing and summarizing of key points were done in the class and relevant references for further reading were given in the form of handout.

Most of the teacher opined that small group teaching session were mini lecture in most of the cases. Maximum teacher told that overall non-threatening academic environment was encouraged by faculty members within in and outside the class.

All the teachers mentioned that integrated teaching sessions were conducted in the medical colleges. Some of them told that sometimes there were difficulty to organize the integrated teaching learning sessions but all of them noticed that students enjoyed to participate in the session and they thought it might help students to improve problem solving capability, communication skills and work in a team.

Regarding different assessment tools most of the teachers opined that Structured Oral Examination (SOE) were not followed as per the standard methodologies of construction and implementation. Lack of prepared questions, structured rating scale and reluctant to follow the norms of SOE were the background causes for poor implementation of SOE. Maximum of teachers said that the standard OSCE/OSPE were not maintained appropriately. Regarding written assessment tools (MCQ-MTF/SBA) most of the teachers mentioned that they feel difficulty in constructing SBA appropriately. Few of them opined that adequate content coverage were not done

during constructing SAQs and also mentioned that, it might be not preparing questions according to test matrix. Regarding SEQ all of the teachers noticed that the standard of the question not always up to the mark, they need more training to construct SEQ.

Regarding challenges and barriers, all the teachers expressed that the main barrier to implement appropriate methodologies of teaching and assessment were that they were not aware of curriculum. Some of them mentioned that sometimes teachers were reluctant to implement new methodologies. A few of them opined that there were a lack of accountability regarding the issues related to teaching methodology and assessment. All the teachers mentioned that there were no structured defined medical education unit/department which could monitor the activities at medical college's level. They also recommended for formal teachers' evaluation programme to ensure effective teaching learning in undergraduate medical education.

Discussion

Medical education is changing. To keep pace with the global standard of medical education we need efficient and dedicated medical teachers who will be able prepare the learner as a competent medical practitioner. Health service delivery is inextricably related to medical education. If we are able to focus on the issues related to teaching learning and assessment which are influencing teachers' performance at their respective working place, we can hope for better implementation of different methodologies of teaching learning and assessment.

In this study out of the 331 respondents 148(44.7%) were lecturer, 84 (25.4%) were Assistant Professor, 58(17.5) were Associate Professor and 22(6.6%) were Professor, and 68% from Govt. medical colleges and 32% were from non Govt. medical colleges. Of the total teachers, 95% received formal training/course in teaching methodology & assessment, (77.6%) received offline training, 79.9% received training from Centre for Medical Education (CME).

About 56% responded that gaining attention of students are done at the beginning of the session**,** 139 (43%) responded that informing the objectives were done in most of the times but in depth interview the reverse scenario were portrayed. Around 58% respondent that the objectives of the session are prepared according to SMART criteria most of the times but again in depth interview the teachers disagreed with

this statement. In a study by Heitzmann R revealed that to achieve the goals of the session, students should be interested and attentive in the session, so, an opening summary is an essential prerequisite of an effective teaching learning. The first step in delivering an effective lecture could start with "captivating" statements, which will stimulate students about the session[17].

More than 50% participants responded that learning by doing is encouraged in SGT sessions but in depth interview most of the teacher opined that small group teaching session were mini lecture in most of the cases. Different studies related to small group teaching shown that, acceptance of personal responsibility for own progress facilitate an adult style of learning. It encourages transferable skills such as leadership, teamwork, organization, prioritization, and encouragement to others, problem solving, and time management skills[18-20].

Around 44% responded that teachers prepare lesson plan for each session in most of the times. Maximum teacher told that they prepared lesson plan for their own session. They noticed that it was a very recent issue and they thought it might be due to accreditation issue in Bangladesh context. Around 39% responded that good academic environment within & outside the class was emphasized almost always, same type of finding were reveled in in depth interview. A study done by Mason and Strike revealed lesson plan is grounded in well-established instructional design models, instructors may feel that it restricts with their independence or flexibility. However, it is essential to base teaching plans on well-established instructional models to assist teachers and facilitators to stay on track[21].

Most of the teachers (78%) responded that integrated teaching learning is practiced in their medical colleges. From in-depth interview similar result was found where all teachers mentioned that integrated teaching sessions were conducted in their medical colleges. In this study about 47% responded that integrated teaching is conducted as per specified objectives and 150 (51.5%) responded that overall organization/arrangement of integrated teaching -learning session in their phases were satisfactory most of the times**,** but in depth interview result was dissimilar where teachers told that sometimes there were difficulty to organize the integrated teaching learning sessions. In a study conducted by Bereiter and Scardamalia showed the segmented knowledge from various disciplines taught in isolation may not be

assimilated by students for solving actual medical problems. Lack of integration results in the accumulation of so-called 'inert knowledge', which may not be effectively utilized in practice[22]. In a survey of physicians and undergraduate students regarding the simultaneous teaching of basic and clinical sciences, they reported that this approach helped them to better understand their responsibilities as a physician in the society. They also emphasized the importance of cooperation among health systems in the treatment of patients[23].

In this study regarding satisfaction level in constructing different tools for assessment reveled around 65% response were satisfactory for constructing MCQ (MTF/SBA), same type of opinion was given by the teachers in depth interview. Most of the teachers mentioned that they felt difficulty in constructing SBA appropriately.

Regarding Short Answer Question (SAQ), about 69% were satisfied for constructing this assessment tool and 62% were satisfied to construct Structured Essay Question (SEQ). In depth interview few of them opined that adequate content coverage were not done during constructing SAQs and also mentioned that, it might be not preparing questions according to test matrix. Regarding SEQ all of the teachers noticed that the standard of the question not always up-to the mark, they need more training to construct SEQ.

More than 65% teachers were satisfied to conduct Structured Oral Examination (SOE) but there were dissimilarity revealed in depth interview, most of the teachers opined that Structured Oral Examination (SOE) might not follow the methodologies of construction and implementation. Lack of prepared questions, structured rating scale and reluctant to follow the norms of SOE were background cause for poor implementation of SOE.

Around 64% teachers were satisfied to construct OSCE/OSPE but in depth interview maximum of teachers said that the standard OSCE/OSPE were not maintained appropriately, sometimes adequate measures were not taken.

Regarding overall assessment system all the teachers recommended for Institutional and central question bank to standardize the assessment process and also emphasized to foster a non-threatening educational environment for conduction of assessment. In a study by Miller et al. revealed regarding

assessment is concerned with "How well does the individual perform?"[24]

In another study revealed that the assessment data are used for quality assuring the pass/fail decision of a cohort of students, the effectiveness of a course and the validity and reliability of the tests. Such pass/fail decisions are based on the measurement process. Valid and reliable assessments that measure the ability of students have three main goals: "to optimize the capabilities of all learners and practitioners by providing motivation and direction for future learning; to protect the public by identifying incompetent physicians; and to provide a basis for choosing applicants or advanced training"[25].

All the teachers in in-depth interview opined that the main barrier to implement appropriate methodologies of teaching and assessment were not aware of curriculum. Some of them mentioned that sometimes teachers were reluctant to implement new methodologies. A few of them opined that there were a lack of accountability regarding the issues related to teaching methodology and assessment. They emphasized on establishment of medical education unit/department which could monitor the activities at the level of the medical colleges. They also recommended for formal teachers' evaluation programme to ensure effective teaching learning in undergraduate medical education. A study by Boucher et al. pointed out Institutional support plays a vital role in faculty development in medical education and every institution can meet its institutional mission and goals by supporting its faculty member to fulfil their certain purposes as teachers, scholars, and leaders[26]. Moreover in another study Steinert et al. revealed that many factors are hindering the faculty development, such as unsupportive leadership, resistance to change, lack of faculty motivation, and the unwillingness of faculty to acquire the teaching skills and knowledge[27].

Conclusion

This study was aimed to reflect the effect of the training on teaching methodologies and assessment in different format by different settings and their impact. These aspects have to be taken into account when designing the curricular, in order to achieve a better structuring of teaching methods and assessment for improvement of students' learning. More awareness regarding curriculum, teaching and assessment methods are needed. Institutional and central question bank can be established for a

standardized assessment process. Medical education department or at least functional medical education unit is very necessary for better implementation of different issues related to teaching methodology and assessment. A formal teachers' evaluation can be introduced as a part of faculty development. Further studies may be carried out with larger representative samples to find out barriers and way to overcome those barriers to improve the quality of implementation methods of teaching learning and assessment.

References

1. Wilkerson L, Irby DM. Strategies for improving teaching practices: a comprehensive approach to faculty development. Acad Med. 1998;73(4):387-96.
2. Clark JM, Houston TK, Kolodner K, Branch Jr WT, Levine RB, Kern DE. Teaching the teachers: national survey of faculty development in departments of medicine of US teaching hospitals. J Gen Intern Med. 2004;19(3):205-14.
3. Skeff KM, Stratos W, Mygdal TA, Dewitt TA, Manfred L, Quirk M, et al. Faculty development: a resource for clinical teachers. J Gen Intern Med. 1997;12(Suppl 2):56-63.
4. Harden RM, Crosby J. AMEE guide no 20: the good teacher is more than a lecturer - the twelve roles of the teacher. Med Teach. 2000;22(4):334-47.
5. Higgs J, McAllister L. Educating clinical educators: using a model of the experience of being a clinical educator. Med Teach. 2007;29(2-3):e51-7.
6. Stone S, Ellers B, Holmes D, Orgren R, Qualters D, Thompson J. Identifying oneself as a teacher: the perceptions of preceptors. Med Educ. 2002;36(2):180-5.
7. Arthur W Jr, Bennett W Jr, Edens PS, Bell ST. Effectiveness of training in organizations: a meta-analysis of design and evaluation features. J Appl Psychol. 2003;88(2):234-45.
8. McLean M, Cilliers F, Van Wyk JM. Faculty development: yesterday, today and tomorrow. Med Teach. 2008;30(6):555-84.
9. Gruppen LD, Simpson D, Searle NS, Robins L, Irby DM, Mullan PB. Educational fellowship programs: common themes and overarching issues. Acad Med. 2006;81(11):990-4.
10. Searle NS, Hatem CJ, Perkowski L, Wilkerson L. Why invest in an educational fellowship program? Acad Med. 2006;81(11):936-40.
11. Irby DM, Hekelman FP. Future directions for research on faculty development. Fam Med. 1997;29(4):287-9.
12. Reid A, Stritter FT, Arndt JE. Assessment of faculty development program outcomes. Fam Med. 1997;29(4):242-7.
13. Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, Gelula M, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME guide no. 40. Med Teach. 2006;28(6):497-526.
14. Gillespie KJ, Robertson DL. A guide to faculty development. 2nd ed. San Francisco: Jossey-Bass; 2010. p. 35.
15. Sorcinelli MD, Austin AE, Eddy PL, Beach AL. Creating the future of faculty development: Learning from the past, understanding the present. Bolton (MA): Anker Publishing; 2006.

16. Medical Education Bulletin 2023, Directorate General of Medical Education (DGME). Dhaka,Ministry of Health and Family Welfare. Available from: https://dgme.gov.bd
17. Heitzmann R. Suggestions for enhancing lecturing. Educ Digest. 2010;79:50-5.
18. O'Neill G. Small group including tutorials and large group teaching. Dublin: University College Dublin, Centre for Teaching and Learning; 2003. p. 1-12.
19. Steinert Y. Student perceptions of effective small group teaching. Med Educ. 2004;38(3):286-93.
20. Jones RW. Learning and teaching in small groups: characteristics, benefits, problems and approaches. Anaesth Intensive Care. 2007;35(4):587-92.
21. Mason WTM, Strike PW. See one, do one, teach one--is this still how it works? A comparison of the medical and nursing professions in the teaching of practical procedures. Med Teach. 2003;25(6):664-6. doi: 10.1080/01421590310001605705.
22. Bereiter C, Scardamalia M. Cognitive coping strategies and the problem of inert knowledge. In: Chipman SF, Segal JW, Glaser R, editors. Thinking and learning skills. Vol. 2. Hillsdale (NJ): Lawrence Erlbaum Associates; 1985.
23. Dandannavar VS. Effect of integrated teaching versus conventional lecturing on MBBS phase I students. Recent Res Sci Technol. 2010;2(11):11-6.
24. Miller MD, Linn RL, Gronlund NE. Measurement and assessment in teaching. 11th ed. Boston: Pearson; 2013.
25. Epstein RM. Assessment in medical education. N Engl J Med. 2007;356(4):387-96.
26. Boucher B, Chyka P, Fitzgerald W, Hak L, Miller D, Parker R, et al. A comprehensive approach to faculty development. Am J Pharm Educ. 2006;70(2):27. doi: 10.5688/aj700227.
27. Steinert Y, Mann K, Anderson B, Barnett B, Centeno A, Naismith L, et al. A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. Med Teach. 2016;38(8):769-86. doi: 10.1080/0142159x.2016.1181851.

