Feedback of the faculty participants on training workshop on developing multiple choice questions

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ABSTRACT

Introduction: Multiple choice questions are commonly used tools for the written assessment of undergraduate health professions students. Faculty members need training for the development of valid and reliable multiple choice questions. For this purpose, Bilwal medical college organized one-day training workshop on developing multiple choice questions for newly recruited faculty members in March 2021. The main objective of the study was to assess the feedback of the participants on training workshop. **Methods:** This descriptive cross-sectional study assessed the feedback of the participants of training workshop on developing multiple choice questions. The feedback questionnaire had four questions. First was on "rating training workshop on scale 1 to 10 (1=poor, 10=excellent) for usefulness, content, relevance, facilitation and overall". Second was on confidence of the participants in developing MCQs after participation based on Likert scale 1 to 4 (1=not confident to 4=extremely confident). Third was on perceptions of the participants on strengths of training workshop. Lastly, fourth was on areas for improvement. The data was analyzed for central tendency using microsoft excel. **Results**: Participants' feedback rating about usefulness (8.82±1.51), content (8.12±1.69), relevance (8.35±1.46), facilitation (8.41±1.46) and overall (global) rating (8.35±1.41) was remarkable. Their confidence level after participation (3.41±0.51) was noticeable. **Conclusions:** The perceptions of the participants immediate after the training workshop i.e, their reaction was positive.

Keywords: Assessment, feedback, MCQs, training.

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Submitted: July 23, 2022
Accepted: December 6, 2022

To cite: Piryani RM, Piryani S and Zeba N. Feedback of the faculty participants on training workshop on developing multiple choice questions. JGMC Nepal. 2022;15(2):103-6.
DOI: 10.3126/jgmcn.v15i2.46902

INTRODUCTION

Multiple Choice Questions (MCQs) are one of the commonest written methods of assessment for cognitive domain. Well-constructed MCQs without flaws can assess the learning of cognition even at higher order of thinking skills such as application and analysis according to Bloom's modified taxonomy and at 'know how' level of the Miller's Pyramid for assessing the competence maintaining optimal level of validity and reliability.[1-5] This tool of assessment, first time was used in 1914 by Kelly. Since then various types or styles of MCQs have been developed such as Classical or Modified single best option (SBO) or single best answer (SBA) type, true/false statements type, extended matching type, situational judgement, script concordance questions but most commonly used type is modified MCQs i.e., SBO or SBA.[1,4]

The standard guidelines for the development of MCQs are available but their availability and reading is not enough to facilitate the process of construction of flawless quality MCQs especially those MCQs which test the higher cognitive thinking skills.[2,6] In many medical schools of south asian countries, faculty members may be asked to do the tasks (for example, develop MCQs) for which they have no experience and or received no prescribed training.[2] Even experienced faculty

members make flaws in constructing MCQs but faculty members having formal training in constructing effective MCQs may make comparably less errors and over the time continued practice make them perfect in developing flawless MCQs.[6]

It has been found that proper formal training of faculty members in developing MCQs improves MCQs constructing skills of the faculty members and the quality of MCQs.[2,7,8] While, the satisfactions of the faculty members with the training is found to be another important feature for short to long term impact of the training; the feature that improves the quality of MCQs.[2,9]

Keeping this in mind, Bilwal Medical College (BMC) for Boys established in 2018, a constituent of Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro organized one-day training workshop on developing multiple choice questions for newly recruited faculty members in March 2021. The key objective of the training workshop was to enable participants and faculty members of basic sciences to develop MCQs following the scientific standard and guidelines. The main objective of the study was to assess the feedback of the participants on training workshop.

METHODS

This descriptive cross-sectional study was done at BMC for Boys, LUMHS in March, 2021. The main objective of the study was to assess the feedback of the participants on training workshop developing MCQs. First one-day "Training Workshop on developing MCQs" was organized by BMC for Boys, LUMHS on March 24, 2021 and the group practice session was conducted on March 30, 2021. The objective of the training workshop was to enable participant faculty members (lecturers) of basic sciences to develop MCQs following scientific standard and guidelines while the objective of the group practice session was to discuss and critically analyze the MCQs developed by the participant faculty members.

The workshop was conducted by principal author as a resource person. The 17 faculty members (lecturer and assistant professor level) from different departments of basic sciences participated in the training workshop. The methods used for conducting training workshop were Interactive tutorial, experience sharing exercise, brainstorming, individual work exercise and presentation and group work exercise and presentation in plenary. The contents discussed in the training workshop were: 1) brief overview of assessment and types of MCQs, 2) anatomy of MCQs, 3) constructing MCQs; problems, pitfalls, flaws & tips and 4) guidelines for developing MCQs including Guidelines of College of Physicians & Surgeons Pakistan. 5) format for writing MCQS. (As shown in MCQ submission form) Informed consent was taken from the participants and study was approved by institutional review committee of BMC. All participants provided their feedback; the response rate was 100%. The data collected was checked for completeness, accuracy and consistency; entered in microsoft excel and; analyzed for the central tendency.

The feedback questionnaire had four questions: first was on "rating training workshop on scale 1 to 10 (1=poor, 10=excellent) for usefulness, content, relevance, facilitation and overall"; second was on confidence in developing MCQs after participation on Likert scale 1 to 4 (1=not confident; extremely confident); third was on perception of the participants on strengths of training workshop and fourth was on areas for improvement.

MCQ SUBMISSION FORM

MCQ SUBMISSION FORM

MCQ Number .....
Department: **Course:** MBBS
Subject:
Module:
Theme:
Topic/Chapter:
MCQ type: Classical or Modified single best option (SBO) or single best answer (SBA)
Question STEM with lead in question (Scenario)

Options List (Correct option and Distractors)

A	
B	
C	
D	
E	

Write the correct option number: (A or B or C or D or E)
Cognition Level: C1 /C2 / C3
Importance: Essential / Important / Supplementary
Difficulty: Hard / Moderate / Easy
Reference: Author, name of the Text Book with edition / page number

Authors name & signature **Date:**

RESULTS

Perceptions rating

The rating of the participants on training workshop on developing MCQs on the scale 1 to 10 (1=poor, 10=excellent) was remarkable. (As shown in Table 1)

Table 1: The rating of the participants on the training workshop on developing MCQs on the scale 1 to 10 (1=poor, 10=excellent)

Items		Scores		
		Mean with Standard Deviation	Median	Mode
a.	Usefulness (1-10)	8.82±1.51	10	10
b.	Content (1-10)	8.12±1.69	8	8
c.	Relevance (1-10)	8.35±1.46	9	9
d.	Facilitation (1-10)	8.41±1.46	9	9
e.	Overall (1-10)	8.35±1.41	9	9

Level of confidence

The level of confidence in developing MCQs after participating in training workshop on Likert scale 1 to 4 (1=not confident; 4=extremely confident) was noteworthy (3.41±0.51).

Strengths of training workshop shared by the participants

- The resource person was friendly, cooperative and well versed. His deliberations on Miller's pyramid with reference to the applications of tools of assessment and on Bloom's modified cognitive taxonomy with reference to learning higher order of thinking skills and developing MCQs from lower order to higher order was remarkable
- Making ground rules by the participants to follow during workshop.
- Positive learning environment
- Examples of MCQs shared was impetus for learning
- Active interaction between participants and resource person

Areas for improvement suggested by the participants

- Include more practice sessions for individual and group learning in writing MCQs
- Provide certificate to the participants that likely motivate to them for continuing learning
- Organize such workshops on other methods of assessment.

DISCUSSION

A comprehensive training workshop was organized for the faculty members of BMC for Boys, LUMHS which meticulously trained the basic sciences faculty members on how to develop MCQs. Faculty members perceived that the training workshop was valuable as evident from the central tendency of rating score on usefulness, content, relevance, facilitation and overall (global) rating of the participants in feedback obtained at the end of training workshop. After participation in training workshop, their confidence level in developing MCQs seemed to be noticeable too as obvious from their rating. Deliberations on Miller's pyramid with reference to the applications of tools of assessment and on Bloom's modified cognitive taxonomy with reference to learning at higher order of thinking skills and developing MCQs from lower order to higher order, learning through example were among the strengths of training workshop. They suggested to include more practice sessions for individual and group learning in writing MCQs. The findings of present study are consistent with the findings of other studies in recent past. The high level of satisfaction of participants was reported by Sadiq et al.[11] in their study.

Ali et al.[12] documented good to excellent rating of the participants on the knowledge gained and understanding of the content of the workshop in their study. Sezari et al.[13] documented in their study reported that one-day short workshop on MCQs as a faculty development program improves capacities of the faculty members revealed by the participants. Participants reported a significant improvement in item writing skills and ability to identify flawed items immediately after participation in training workshop mentioned by Beg et al.[2] in their study.

The limitations of the present study include limited number of the participants, purposive sampling technique, conducted in one medical college and assessment of immediate feedback i.e., reaction of the participants.

CONCLUSIONS

The perceptions of the participants (immediate reaction) after the training workshop were positive. Their confidence in developing MCQs seemed to be noticeable.

ACKNOWLEDGMENT

The authors would like acknowledge the faculty members who participated in training workshop and consented to provide feedback.

CONFLICTS OF INTEREST: None declared

SOURCE OF FUNDING: None

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