

TRAINING WORKSHOP ON ASSESSMENT FOR FACULTY MEMBERS OF BILAWAL MEDICAL COLLEGE, JAMSHORO: FEEDBACK OF PARTICIPANTS AT NEW WORLD KIRKPATRICK' MODEL LEVEL-2

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ABSTRACT

INTRODUCTION

Faculty training in understanding basics of assessment is among key tasks of medical school and faculty members. So, Bilawal Medical College Jamshoro, organized 1-day Training Workshop on Assessment in Medical Education. As feedback is necessary for bringing improvement in conducting such workshops in future, so, feedback from faculty participants was taken and evaluated at New-World Kirkpatrick' Model Level-2.

MATERIAL AND METHODS

This cross-sectional study was conducted utilizing self-administered questionnaire having 4-parts: 1) Demographics; 2) Retro-pre-questionnaire on knowledge and understanding about basics of assessment at Likert-scale 1-4 (1=not-understand; 4=completely-understand); 3) Retro-pre-questionnaire on participants' confidence on Likert-scale 1-4 (1=Not-confident, 4=Extremely-confident); and 4) Open-ended questions on strengths and areas for improvement. Data was analyzed for frequency and central tendency and mean of items of before and after participation compared using paired t-test. Open-ended questions' data was examined manually.

RESULTS

Significant improvement ($p < 0.001$) in knowledge and understanding on items related to basics of assessment, such as difference between evaluation, assessment and research; fundamentals- why to assess, why assessment needed, what to assess, when to assess, how to assess; Miller's Pyramid; curricular alignment; tools for assessment; blueprinting for assessment; developing blueprint; purpose of assessment; formative and summative assessment; utility, reliability and validity of tools; why multiple tools used for assessment; and criteria for effective assessment. The confidence of participants significantly enhanced ($p < 0.001$) in developing blueprint and choosing tools for assessment.

CONCLUSION

Gain in participants knowledge and understanding related to basics of assessment was significant and participants confidence was significantly enhanced in developing blueprint and choosing tools.

KEYWORDS

Assessment, Faculty, Feedback, Kirkpatrick's evaluation model, Retro-pre-questionnaire, Training, Workshop

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INTRODUCTION

Assessment is a strategy to appraise the content and learning process in medical education. It provides us the evidence that learning has happened and learning objectives have been achieved with respect to the cognitive, psychomotor, and affective domain of learning.¹⁻⁴ Assessment needs to be planned in such a fashion that learning objectives, learning activities and assessment methods linked with each other, so, the intended learning outcome will be accomplished.^{1,5} The tool or instrument utilized for the assessment must be valid, reliable, feasible, acceptable, objective, cost-effective and have an educational impact. Tools must be chosen appropriate to the level of Millers' Pyramid of clinical competence and specify in the blueprint of assessment and test.^{1,5-6}

Faculty members must grasp the command on attributes of assessment including interpreting and reporting the results of assessment.¹ Before choosing tools of assessment faculty members (assessor) must understand the fundamentals of assessment such as why to assess, what to assess, when to assess, how to assess. Thus, assessors' capacity building is indispensable.^{2,4} Faculty development training in understanding the basics of assessment is one of the key tasks and obligations of the medical teaching school and its faculty members. So, Bilawal Medical College for boys, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan organized 1-day Training Workshop on Assessment in Medical Education. Evaluation of training workshop through feedback helps in updating the training program in future.¹ Hence, written feedback from the participant faculty members was taken. The objectives of the study were to evaluate the feedback of participants of "Training Workshop on Assessment" at Kirkpatrick's evaluation model level-2 as per New World Kirkpatrick' Model (knowledge and understanding and confidence) before and after participation in training workshop utilizing the retro-pre-questionnaire.^{1,7}

The New World Kirkpatrick' Model redefines Kirkpatrick's evaluation model levels (1); accordingly, Level 1—Reaction: The level to which participants find the training constructive, engaging and relevant to their jobs; Level 2—Learning: The level to which participants attain the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training; Level 3—Behavior: The level to which participants apply what is learned during training when back on the job; and Level 4—Results: The level to which intended outcomes occur as a result of the training and the support and accountability package.^{1,7}

MATERIAL AND METHODS

This is a descriptive cross-sectional study conducted at Bilawal Medical College (BMC) for Boys, Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro, Sindh, Pakistan. The study evaluated the feedback of the participants faculty members at Kirkpatrick's evaluation model level-2 as per New World Kirkpatrick' Model.¹⁻⁷

One-day "Training Workshop on Assessment in Medical Education" was organized by Medical Education Department

of BMC, LUMHS, on June 23, 2021 in Academic Committee Meeting Hall of BMC. The general objective of the training workshop was to enable the participant faculty members describe the basics of assessment in medical education. The specific objectives were to: 1) differentiate between evaluation, assessment & research, 2) discuss the fundamentals of assessment, 3) develop blueprint for the assessment, 4) explain the purpose of assessment, and 5) select the appropriate tool for the assessment.

The session conducted in workshop were: 1) Overview on evaluation, assessment and research; 2) Fundamentals of assessment- a) why do we assess, b) what should we assess, c) when should we assess and d) how should we assess; 3) Developing blueprint; 4) Purpose of assessment and 5) Selection of tools for the assessment. The methods used for conducting the training workshop were interactive tutorials; brainstorming; Think, Pair and Share interactive session; individual work exercise and presentation; and group work discussion and presentation. The workshop was conducted by first author. Twelve faculty members, from basic and clinical sciences departments participated in the training workshop. The written feedback of the participants was taken as an evaluation of training workshop utilizing valid self-administered questionnaire. The questionnaire was comprised of four parts:

Part I- Demographic Information: In this part participants were asked to mention their age in years, gender, department, designation, teaching experience teaching undergraduate and postgraduate students and received any assessment related training before.

Part II- Self reported knowledge and understanding. In this section participants were asked to report knowledge and understanding related to the basics of assessment on Likert scale 1-4 (1=Not-understand; 4= Completely-understand) utilizing retro-pre-questionnaire.

Part III- Self reported confidence. In this section participants were asked to report confidence in developing blueprint for assessment and choosing tools for the assessment of cognition and performance at Likert scale 1-4 (1=Not-confident; 4=Completely confident") through retro-pre-questionnaire.

Part IV- Open-ended questions: In this section, participants had to mention strengths/good points of workshop and areas for the improvement/suggestions.

Informed consent was taken from the participants and study was approved by the Principal of BMC. The data collected was checked for completeness, accuracy and consistency and entered in SPSS Version 23. The data was analyzed for frequency and central tendency (mean, standard deviation, range). The data of items (statements) related to assessment of retro-pre-questionnaires before and after participation was compared using paired t-test and p-value computed for significance. The data of two open ended questions strengths/good points of workshop and areas for improvement/suggestions was scrutinized manually.

RESULTS

The demographic characteristics of the participants of Training Workshop on Assessment in Medical Education are mentioned in Table 1.

Table 1. Demographic characteristics of the participants of training workshop on assessment in medical education

Characteristics	Results
1. Age (in years)	44.83±11.15 (Range 30-64)
2. Gender	Male= 5 (41.7%); Female= 7 (58.3%)
3. Designation	
a. Lecturer/Demonstrator	2 (16.67%)
b. Assistant Professor	5 (41.67%)
c. Associate Professor	4 (33.33%)
d. Professor	1 (8.33%)
4. Teaching experiences (in years)	
a. Undergraduate	10.63±10.23 (Range1-39)
b. Postgraduate	4.00±4.33 (0-12)
5. Any training received earlier on assessment	Yes 9 (75%); No 3 (25%)

The self-reported enhancement in knowledge and understanding of participants about assessment in medical education after participation in Training Workshop on Assessment at Liker scale 1-4 (1=Not-understand; 4=Completely-understand) is mentioned in Table 2.

Table 2. Self-reported knowledge and understanding of participants about assessment in medical education before and after participation in Training Workshop on Assessment

Statement (Item)	Before participation	After participation	p value
1. Acquire knowledge and understand the difference between process of evaluation, assessment and research	1.75±0.45	3.17±0.58	<0.001
2. Acquire knowledge and understand the fundamentals of assessment.	1.83±0.72	3.42±0.67	<0.001
3. Acquire knowledge and understand why do we assess.	2.25±0.75	3.33±0.78	<0.001
4. Acquire knowledge and understand why assessment is needed.	2.00±0.60	3.42±0.51	<0.001
5. Acquire knowledge and understand what should we assess.	1.67±0.65	3.42±0.67	<0.001
6. Acquire knowledge and understand Miller's Pyramid for assessment	1.83±0.58	3.33±0.65	<0.001
7. Acquire knowledge and understand curricular alignment	1.92±0.79	3.42±0.51	<0.001
8. Acquire knowledge and understand the tools used for the assessment of cognition.	2.00±0.74	3.50±0.52	<0.001
9. Acquire and understand the tools used for the assessment of performance	2.00±0.85	3.50±0.52	<0.001
10. Acquire knowledge and understand blueprinting for assessment	1.58±0.67	3.25±0.75	<0.001
11. Acquire knowledge and understand the need for developing blueprint	1.58±0.90	3.33±0.65	<0.001
12. Acquire and understand when should we assess	2.08±0.79	3.42±0.67	<0.001
13. Acquire knowledge and understand how should we assess	2.08±0.79	3.42±0.67	<0.001
14. Acquire knowledge and understand purpose of assessment	1.92±0.90	3.42±0.67	<0.001
15. Acquire knowledge and understand formative assessment	1.92±0.97	3.50±0.67	<0.001
16. Acquire knowledge and understand summative assessment	2.08±0.90	3.50±0.67	<0.001
17. Acquire knowledge and understand the utility of assessment tools / instrument / method	2.00±0.85	3.42±0.51	<0.001
18. Acquire knowledge and understand the reliability of assessment tool/instrument /method	1.67±0.89	3.42±0.67	<0.001
19. Acquire knowledge and understand validity of assessment tool / instrument / method	1.58±0.67	3.33±0.78	<0.001
20. Acquire knowledge and understand why multiple tools / methods / instruments are used for assessment	1.92±0.51	3.42±0.67	<0.001
21. Acquire knowledge and understand the criteria for effective assessment	1.83±0.58	3.50±0.52	<0.001

The self-reported enhancement in confidence in developing blueprint for assessment and choosing tools for assessment of cognition and performance after participation in Training Workshop on Assessment at Liker scale 1-4 (1=Not-confident; 4=Completely confident) is mentioned in Table-3

Table 3. Self-reported confidence in developing blueprint for assessment and choosing tool for assessment of cognition and performance before and after participation in Training Workshop on Assessment.

Statement	Before participation	After participation	p value
1. Confidence in developing blueprint for assessment	1.92±0.10	3.50±0.67	<0.001
2. Confidence in choosing tool for assessment of cognition	2.17±0.72	3.58±0.67	<0.001
3. Confidence in choosing tool for assessment of performance	2.80±0.73	3.58±0.67	<0.001

Strengths of training workshop

Training workshop was up to mark; useful; goal and time oriented; interactive; and encouraging. The mode delivery of presentation was remarkable. There was clarity in content. Environment was conducive. Deliberation was on practical points. Facilitator was cooperative. Explanation on the terminology of medical education was simple and easy to understand.

Areas for improvement/suggestions

Award certificates to the participants. Share handouts of the presentations. Include short breaks after every session. Train maximum number faculty in assessment. Increase duration of workshop. More deliberation is required on blueprinting. Arrange such workshop regularly. Make improvement in PowerPoint slides.

DISCUSSION

This study evaluated the feedback of the participant faculty members of Training Workshop on Assessment in Medical education at Kirkpatrick's evaluation model level-2 as per New World Kirkpatrick' Model (1-7) utilizing retro-prequestionnaire.

This study has revealed the significant improvement (p-value less than 0.001) in self-reported knowledge and understanding on all items related to assessment mentioned in the retro-prequestionnaire, such as difference between process of evaluation, assessment and research; fundamentals of assessment; why do we assess; why assessment is needed; what should we assess; when should we assess; how should we assess; Miller's Pyramid for assessment; curricular alignment; tools used for the assessment of cognition and performance; blueprinting for assessment; need for developing blueprint; purpose of assessment; formative and summative assessment; utility, reliability and validity of assessment tools; why multiple tools are used for assessment; and criteria for the effective assessment. Furthermore, the self-reported confidence has significantly enhanced (p-value less than 0.001) in all three items included in the retro-prequestionnaire, developing blueprint for assessment and choosing tools for the assessment of cognition and performance.

The findings of our study are consistent with the findings of other studies. Taing T T et al in their study “Faculty development of medical educator: training evaluation and key challenges” mentioned training improved knowledge of the participants and heightened their confidence level.⁸ Steinert et al. in a systemic review of faculty development initiatives designed to enhance teaching effectiveness documented faculty development improves assessment skills besides teaching and leadership skills.⁹ Clinical faculty participants self-reported more gain on topics related to assessment in a study “The impact of a faculty development program: evaluation based on the self-assessment of medical educators from preclinical and clinical disciplines” conducted by Sarikaya O et al.¹⁰ A significant gain (<0.003) in the knowledge and understanding of participants of five training workshops reported by Kharkar et al in their study “Impact of basic training programme on medical teachers - a useful pathway to success”.¹¹ A study done by Baral et al at the B.P. Koirala Institute of Health Sciences, Nepal to assess the effectiveness of the medical education workshops, revealed significant gain ($p < 0.001$) in the knowledge of participants especially in advances in assessment.¹²

This descriptive cross-sectional study has certain limitations. The study was conducted in one medical college and the feedback was taken from the participants of one training workshop having less than 30 participants, so the findings of this study cannot be generalized. The findings of this study are based on the perceptual data given in writing by the participants just after completion of training workshop in the form of feedback, hence, the long-term outcome cannot be inferred from the findings of this study but just predict.

CONCLUSION

Despite the limitations, this study stipulates valuable insight. The findings show a significant gain in the knowledge and understanding of participants on basics of assessment and their confidence has enhanced in developing blueprint for assessment and choosing tools for the assessment of cognition and performance. Participants’ feedback is crucial and useful for bringing improvement in conducting such training workshops in future. The suggestions provided for the improvements are precise and practical. Follow-up study is recommended to evaluate the change in behavior of the participants with respect to assessment and overall impact of training workshop.

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CONFLICT OF INTEREST

None

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