Research Paper

Team- Based Capacity Building Program on Curricular Design: An Online Experience

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ABSTRACT:
The revised medical undergraduate competency-based curriculum introduced in 2019 with new teaching learning strategies and innovative methods of assessment is a paradigm shift to improve the competency of health professionals.The newer curriculum often needs modifications in keeping pace with the health care need of the society and periodic curriculum design, development and reviewsare inevitable.With the changing contours of medical education,the medical educatorsneed to bewell equipped and empowered to overcome the challenges ofthe competency- based curriculum as envisaged by MCI.Online learning has emerged as an important mode of capacity building for self -directed learners.But effectiveness of many of these e-learning courses and practises has yet to be established. Here, our objective is to bring forth quantity and quality of a team-based learning in a scholarly way using Glassick's six standards.Our results show that various unique strategies adopted grounded on team building, group dynamics, adult learning principles, active learning and distance learning principles helped to impart high-quality online discussions.
KEYWORDS: Curriculum, Medicaleducation, Capacity building, Team Based Learning

I. INTRODUCTION

Medical curriculum is constantly evolving. The revised undergraduate medical curriculum CBME curriculum introduced in 2019 with new teaching learning strategies and innovative methods of assessment is a paradigm shift to improve the competency of health professionals [1]. Now focus is on student centred, outcome based approach which can promote self-directed, active learning[2].A curriculum prepares an individual with the knowledge to be successful, confident and responsible citizens. Designing a curriculum involves the interaction of several participants, reaching beyond the academic wall to impact the entire community. Curriculum design anddevelopment process has its impact not best at the health of citizens however additionally at the future improvement and sustainability of the health professions. The newer curriculum often needs modifications in keeping with the health care need of the society and periodic curriculum design, development and reviewsareinevitable. The simulated technology and online learning are unavoidable in this modern era. This is evident in this pandemic period when education all over the world is supported by virtual platforms. They have immense potential for critical thinking, capacity building and facilitate explorative learning [3]. Online learning has emerged as an important mode of capacity building for self-directed learners.But effectiveness of many of these e-learning courses and practises are yet to be established. Here our objective is to bring forth quantity and quality of this team-based learning in a scholarly way using Glassick's six standards [4].

II. MATERIALS & METHODS

The study was conducted among the participants in the listserv discussion who were multidisciplinary. Only the mails attached to the weekly thread of the topic were included for analysis and social mails and other mails during the period were excluded. The objective was to evaluate the collaborative learning and understanding of the participantson the topic "curriculum design and module development "using Kirkpatrick model and adult learning principles. Informed consent for participation was taken. A pre-discussion survey was drafted to identify the priority learning needs.There were four questions to rank the preferred topics of the week

and one open ended question to suggest any other topics of need. Validation was done. About a week prior to discussions, it was sent across to all the participants for their preferences in an online questionnaire platform called Survey monkey[5]. Based on the inputs, week-wise learning objectives were prepared and the activities were planned to attain them[Table 1].

The topic categorized into fourweekly sub-topics moderated by the team members.To proceed from simple to complex, the discussion has two phases.The first two weeks of thediscussion focussed on theoretical aspects of curriculum and the last twoweeks the practical aspects. Reading materials and templates for activities wereprovided to have a nonthreatening environment, captivate thoughts more easily andfacilitate co-learning. For supportive and flexible learning there was a provision forchoosing the questions to be answered.

The discussion was initiated by the moderator posting the first week schedule, withan interesting quote and a brief introduction of the topic.Questions were based onSMART objectives [6]. This was followed by a series of appropriate responses from the participants as emails in the same thread. Many resources were shared as attachmentwith the mail [Table 2]. Each week discussion was carried out in different threads andmaintained till the end of the month for late responders. In between the discussions the moderator explained the concepts, acknowledgedthe participants by providing a tabulated summary of their contributions. This briefs the discussion, in addition, it remindsthe participants who haven't contributed to the discussion until then and motivated them to participate. This method was followed in all the four weeks. "Scaffolding" by the expert senior mentor faculty was another highlight of this self-directed learning [7].

Descriptive statistics was used for need assessment survey analysis. Post discussion survey was conducted to get a feedback from the participants of the web discussion about the learning happened. A validated mixed type survey questionnaire was used to analyse at Kirkpatrick's 'know how' level[8]. Also skill attained was analysed based on rating before and after intervention. [Table 3]

III. RESULTS

The weekly schedule for one month learning and activity evolved after need assessment survey analysis in survey monkey and from the core group discussion is depicted in Table1. Quantitative analysis of information shared during discussions is compiled in Table2. Rating the skills in approach to curriculum design and module development before and after web discussion is given in Table 3.

Analysis of post discussion survey is depicted in Figures1-6.

Table1: Topics selected for discussion

Week	Topics for discussion
1	Curriculum: Fundamental concepts
2	Principles of curriculum design
3	Steps involved in module development
4	Different modules and their impact

Table 2: Analysis of Web discussions

Week	Topic	No: of emails exchanged	No: of attachments/ articles shared
1	Fundamentals of curriculum	112	30 articles, 20 pictures, 20 links
2	Principles of curricular design	77	38 articles, 11 pictures, 4 links
3	Steps involved in Module development	99	26 articles, 18 pictures, 3 links
4	Different modules and their impact	78	16 articles, 2 templates, 1 video

Table 3: Rating the skills in approach to curriculum design and module Development **before and after** web

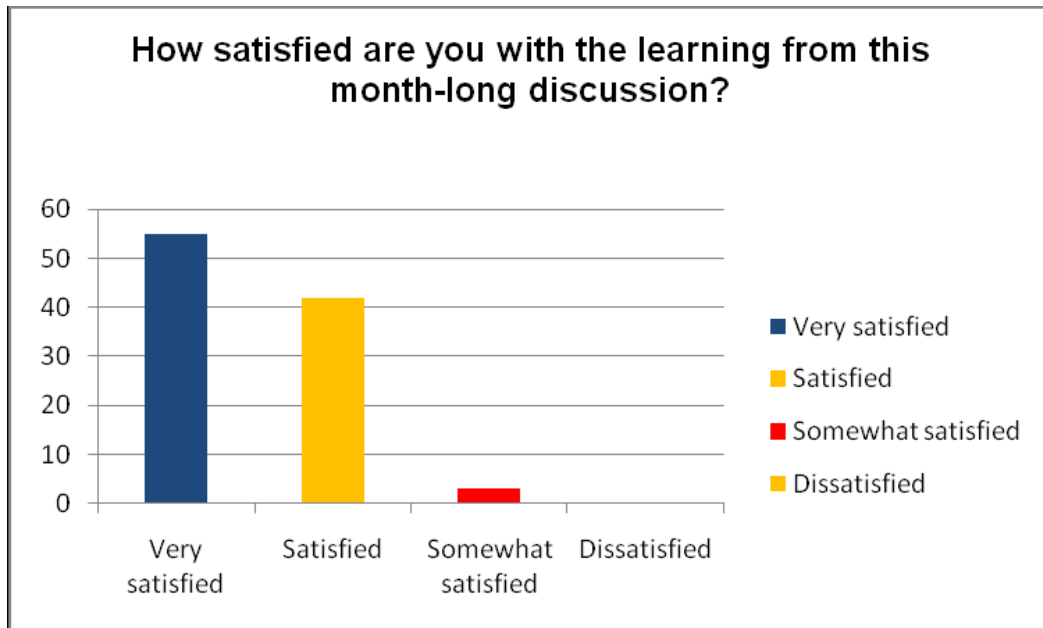| Questions	Not confident		Less confident		Confident		Very confident		Weighted Average	
	Before %	After %	Before %	After %	Before %	After %	Before %	After %	Before %	After %
Planning Curriculum	12.9	0	45.16	3.23	41.94	74.19	0	22.58	2.29	3.19
Authenticating Curriculum	12.9	0	61.29	9.68	25.81	74.19	0	16.13	2.13	3.06
Evaluating effectiveness of curriculum	12.9	0	64.52	9.68	22.58	70.97	0	19.35	2.10	3.10

Figure1: Level of satisfaction
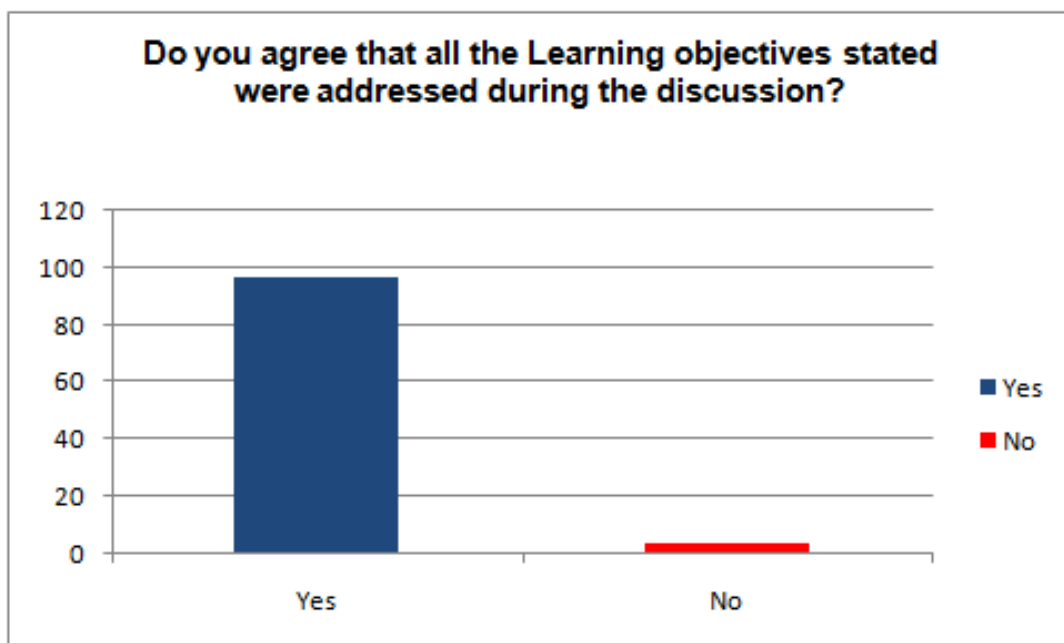

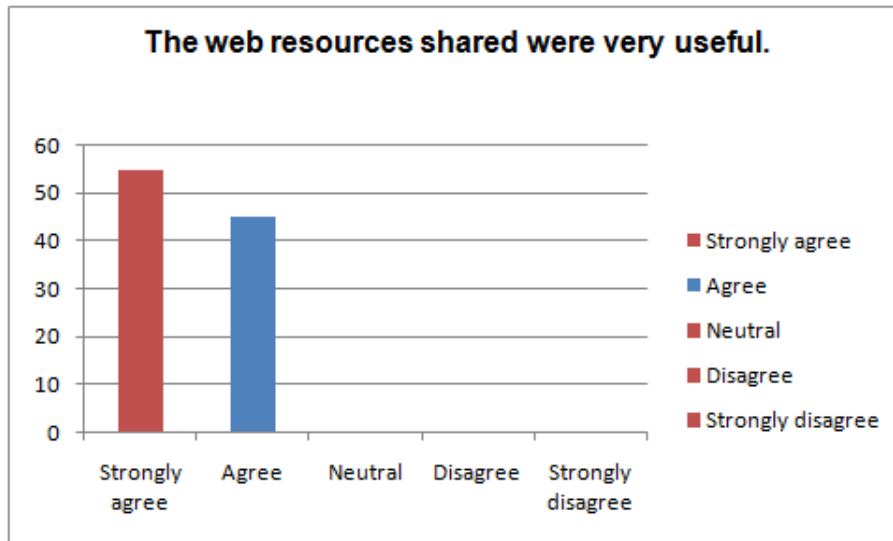**Figure 2**: Addressing of learning objective
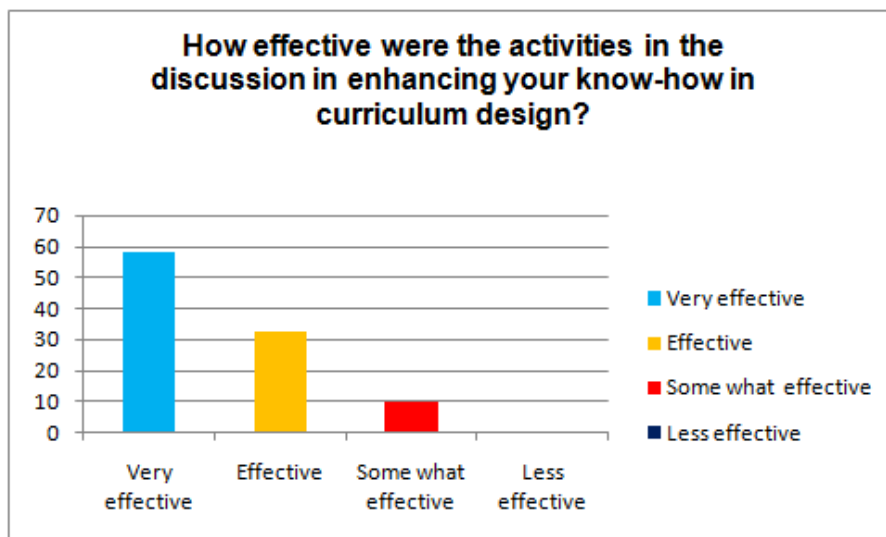
Figure 3: Usefulness of resources shared

Figure 4: Effectiveness of activities in enhancing 'knows how level' in curriculum design
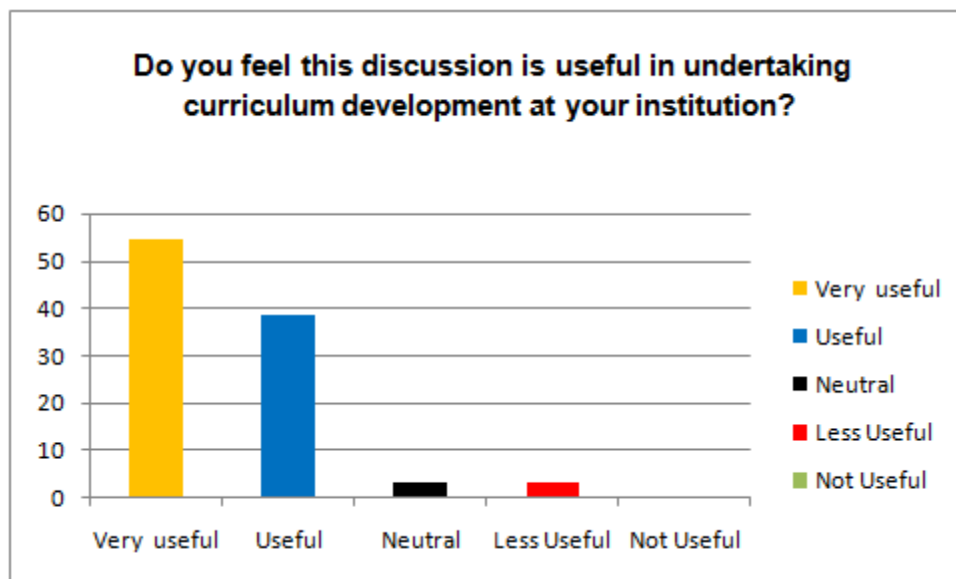
Figure 6: Usefulness in application

IV. DISCUSSION

Our study analysed collaborative learning and understanding of medical educators on curriculum design and establishes its effectiveness explicitly. Our result shows that various unique strategies adopted grounded on team building, group dynamics, adult learning principles, activelearning and distance learning principles helped to impart high-quality onlinediscussions. It was blended, holistic and promoted high degree of exploratorylearning. The need assessment survey based on the responses obtained through Survey Monkey identified needs of the participants on the topic, help to select the subtopics for discussion and blue printed the discussion. The participants made optimal use of this well-designed online learning opportunity reflected by their participation and contributions [Table2]. They were able to find learning issues and learning needs more efficiently and effectively. The visual charts, mnemonics, flow charts which wereused to communicate ideas were well received and highly appreciated. Our second week's discussions were focused on answering ten key questions in curricular design. Numerous studies suggested that act of writing, thinking about and composing a text-based post in web learning encourages students to attaintheir higher order thinking skills[9]. The post discussion survey analysis suggested that there is improvement in the knowledge of the participants.

V. CONCLUSION

With the changing contours of medical education,the medical educators need to have a pragmatic approach towards the problems in curricular development. Further they need to bewell equipped and empowered to overcome the challenges of the competency- based curriculum as envisaged by MCI[10]. The enormity of the topic became apparent in such a way that capacity building of medical educators by quality training is theneed of the hour.

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