

Participatory Role of Discussion Forum Moderators in Learner-Centric MOOCs

Natasha GOMES^{a*}, Daisy WADHWA^b, & Sameer SAHASRABUDHE^c

^aGoa University, India

^bGuru Nanak Khalsa College for Women, Ludhiana, India

^cEducational MultiMedia Research Centre, Savitribai Phule Pune University, India

*natasha@unigoa.ac.in

Abstract: This paper provides insights into participants' behaviour in a Learner-Centric MOOC (LCM) titled 'Digital Transformation in Teaching Learning Process' that was conducted by Indian Institute of Technology Bombay and offered under the aegis of Technical Education Quality Improvement Program Phase-III, a project by the Ministry of Human Resource Development, Government of India. This study reports that the application of the LCM model has shown positive results regarding the active participation in the Discussion Forum (DF). Majority of surveyed participants have acknowledged the positive impact of the DF on their learning. Interventions implemented by the authors provided support to the Discussion Forum Moderators for enhancing participant engagement. The participation in Learner eXperience Interactions was reported with ~83% completing the corresponding graded quizzes. Further research is needed to ascertain correlation between DF and impact in the graded activities.

Keywords: Discussion Forum Moderation, MOOCs, Learner-Centric MOOC model, Learner engagement, Learner eXperience Interactions

1. Introduction

Discussion Forums (DFs) are an integral component of online courses having the potential to impact participants' experience in a course. MOOCs generally focus more on dissemination of content than fostering interactions between the participants of the course (Naidu, 2017). The forums can be unstructured, participation in forums is low in general (Anbalagan, Kumar, & Bijlani, 2015) and interaction may also decrease in further iterations of the course (Poquet, Dowell, Brooks, & Dawson, 2018). Nonetheless, studies have pointed to a strong association between various kinds of interactions on the forum and outcomes (Bernard et al., 2009).

One of the recommended strategies to increase participation on Forum apart from creating a structured environment for threaded posts and incentivising participation is to have forum moderators (Anbalagan, Kumar, & Bijlani, 2015). It is therefore not surprising to find courses and manuals related to online teaching which acknowledge the presence and role of Discussion Forum Moderators (DFMs) for answering various kinds of queries (edX Inc, 2020; McIntyre & Mirriahi, 2020). It is observed that in many courses, the Course instructors and/or Teaching Assistants (TAs) along with the technical staff moderate and answer queries on the forum. But there is extremely little information on how to equip DFMs with the requisite skills required to not only effectively answer technical or administration queries but also to foster peer learning and elicit deeper analysis from participants about the concepts being discussed. There is limited documentation on the collaborative strategies that the course team and moderators can use to effectively orchestrate a course with thousands of participants.

2. Related work

DFs are a place where learners can resolve their doubts, learn from their peers and get a deeper

understanding of the concept being taught. It is observed that a relatively small percentage of active learners of a course participate in DFs (Breslow et al., 2013). Learners who constantly participate have a positive impact on the discussions in the forum (Wong, Pursel, Divinsky, & Jansen, 2015), have better grades, higher retention and perform better overall (Cheng, Paré, Collimore, & Joordens, 2011; Coetzee, Fox, Hearst, & Hartmann, 2014; Fielder & Siragusa, 2013).

Considering the scale of MOOCs and the volume of queries in the DF, several models have been developed to overcome challenges and facilitate interaction. The Learner eXperience Interaction (LxI) component of the Learner-Centric MOOC (LCM) model aims at encouraging participation in the DFs through focused discussions followed by a reflection quiz based on the discussions (Murthy, Warriem, Sahasrabudhe, & Iyer, 2018; Banerjee, Warriem, & Mishra, 2018). Tracking the activities of the participants is used by the instructors to plan “learning activities” (Brace-Govan, 2003). Posts that require attention from the instructors to “prioritize responses” can also be tracked (Almatrafi, Johri, & Rangwala, 2018).

This requires a team of dedicated and trained Teaching Assistants (TAs) and Discussion Forum Moderators (DFMs), who can handle the volume, establish learner-connect, and also address the diversity. DFMs play a positive role in enhancing discussions (Guan, Ysai & Hwang, 2006). This paper makes a case for orienting, managing, and supporting DFMs as they are a catalyst for creating a conducive environment for learner participation in the DFs.

3. Our Approach

The context of this study is a course titled Digital Transformation in Teaching Learning Process (DTITLP) that was conducted by Indian Institute of Technology Bombay (IIT Bombay) and offered under the aegis of Technical Education Quality Improvement Program Phase-III (TEQIP-III), a project by the Ministry of Education, Government of India, assisted by the World Bank and implemented by National Project Implementation Unit (NPIU). The DTITLP course was designed to support faculty from 100 institutions in India to use Smartboards received from TEQIP.

The course was hosted on an Online Degree portal of SWAYAM, Ministry of Education, Government of India and was offered in four batches. This study focuses on analysis of participation in the DF in the fourth iteration of the course held from 6th to 22nd April 2020. As opposed to generally low completion rates of MOOCs (Jordan, 2015), the DTITLP course had a completion rate of 68%. The course team was headed by instructors from IIT Bombay and included Teaching Associates (TAs) and Discussion Forum Moderators (DFMs) who were faculty from various institutions in the country.

The course was designed based on the LCM model, which consisted of elements such as: course videos or Learning Dialogues (LeDs), practice exercises or Learning by Doing activities (LbDs), additional learning resources or Learning eXtension Trajectories (LxTs), and Learner eXperience Interactions (LxIs) (Murthy et al., 2018). This included graded activities based on the course content, additional resources and discussions.

The course structure included a component called LxI that offered opportunities for peer interaction. LxIs comprises a Focus Question (FQ) for each week to guide the discussion on the given topic, avoid scattering of discussion threads and offer the opportunity to understand diverse viewpoints. The course included Reflection Quiz (RQ) based on the discussions around the FQ to encourage and incentivize participation in the discussion forum. To leverage the power of peer learning through focussed discussions, there was a need for DFMs to steer the discussions in a constructive manner.

3.1 DFM strategy-1: Selection of DFMs and the number of DFMs

Due to the massive nature of the course, it was decided to have a team of DFMs to support learners and manage interactions on the forum. For this purpose, the toppers from the previous batches of the course ‘Designing Learner- Centric MOOCs (LCM)’ conducted by IIT, Bombay on SWAYAM NPTEL platform were shortlisted as DFMs.

DFMs were selected through a rigorous selection process where they were asked to watch a

video from the course and then reply to three questions that were frequently asked by participants in previous iterations of the course. Their replies were assessed using an evaluation rubric and nine top performers were selected as DFMs. The strategic decision of choosing nine DFMs facilitated timetabling to handle forum activity. This ensured that there was at least one DFM per day in the forum and on days of high Forum activity additional DFMs were also assigned responsibility of managing discussions.

3.2 DFM strategy-2: Capacity building

In order to familiarize the DFMs with the modalities of the course and to inform them about their working schedule an orientation session was conducted by the course team. This strategy of organizing an initial hand-holding session offered the opportunity for deliberation on the structured approach that the DFMs could follow to facilitate conversations and exchange of ideas among the participants. In addition, a capacity building workshop was organized for the DFMs during the course. It provided an opportunity to the DFMs to understand the ways of enhancing the interactions on the forum and providing constructive discussion opportunities for participants.

3.3 DFM strategy-3: Handover policy

A strategy based on the clinical handover policy was implemented to ensure efficient communication among the DFMs when the forum responsibility was transferred. In order to ensure that the DFMs were updated with the happenings in the forum, a daily debrief session was held at the end of the day between the DFM of the day and the DFM for the following day. During the session, the DFM of the day described her/his experience, identified the post of the day, conveyed details about the unanswered queries or about any aspects of the forum that needed attention. The record of unanswered posts was maintained in a shared document for easy and convenient reference. The results of implementing these strategies and interventions are documented in the next sections.

4. Research Method

This study is based on quantitative analysis of data gathered from the course. The research questions that we attempt to answer are as follows:

1. What are participants' perceptions of the Discussion Forum?
2. What are participants' perceptions of the Discussion Forum moderation?

4.1 Sample

A total of 2986 participants from 69 technical institutions across India registered for the fourth iteration of the course. Out of these registered participants, 2064 were active participants. Active participants are those who logged in to the course at least once. Out of this, 533 participants have registered onto the DF of the MOOC platform.

4.2 Instrument

We collected data based on a survey questionnaire that was sent to all the participants at the end of the course. A total of 175 participants filled the survey and this data is being used as an input for purposive sampling. In addition, we have supplemented data from SWAYAM logs. The survey was developed to determine the participants' perception regarding the DF and DFM. The survey included a blend of questions regarding participants' perceptions of the DF and the aspects of DF like FQ, RQ, Moderation, that allowed the participants to record their responses on a five-point Likert scale (Strongly Disagree-Strongly Agree).

5. Data Analysis and Discussion

The responses received through the survey form were analysed to understand participants' perception regarding DF and DF moderation. In this section, we present an interpretation of the results in light of the research questions.

5.1. Demographic data and frequency of posting

26% of the active participants, who registered onto the forum, have posted a total of 3912 posts. After removing the duplicate posts, 92% of total posts had more than three words and 8.17% posts had three or more replies.

22% of total surveyed participants indicated that they have posted almost daily on the forum, 35% have posted several times a week, and 39% have posted at least once during the course. The survey was answered by 98 Male participants and 75 female participants, 42% of female participants and 21% of male participants have indicated that they have posted at least once on the forum. The data logs from the portal show that among the top 15 participants with the most posts, 12 were male participants.

The top 40 participants who have posted the most number of posts on the DF (16 participants with 17-86 posts and the next 24 participants with 11-16 messages) have scored > 78% in the graded activities. The survey has a fairly balanced response which was answered by the top and average scorers and those who posted with varying levels of frequency- several times a day to not a single post.

5.2 Analysis of the responses

- *Focus question as a motivating factor:* The LxI components of the LCM Model had a major role to play in encouraging participation. 45% indicated that FQs and 75% indicated that RQs based on these focus questions were motivating factors. 83% of active participants completed the corresponding RQs that were based on the FQs. 26% acknowledged DFM support as a factor that encouraged them to post on the forum. The interventions that were implemented were directed towards orienting and supporting the DFMs to support participants on the DF.
- *Impact of DF on performance expectancy:* 76% of surveyed participants believe that the forum had a positive impact on their learning. Figure 1 indicates participants' perception of the advantage they have gained after using the forum. 78% feel that the forum enabled them to understand course concepts related to the usage of Smartboards and pedagogical strategies. This inturn, helped them increase their performance in the graded activities (69%).

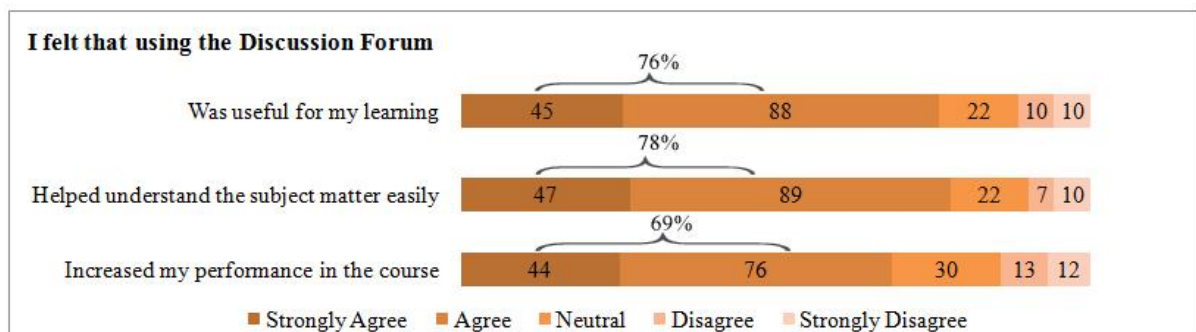


Figure 1. Participants' performance expectancy

The participant feedback regarding the three aspects of DF usability is quite encouraging (see Figure 2). 75% participants reported that DF helped in developing their thinking skills and 76% agreed that DF offered opportunities to connect and interact with the peers. 68% which is a significant number of participants responded that interactions on the DF helped address misconceptions that they faced during the course run.

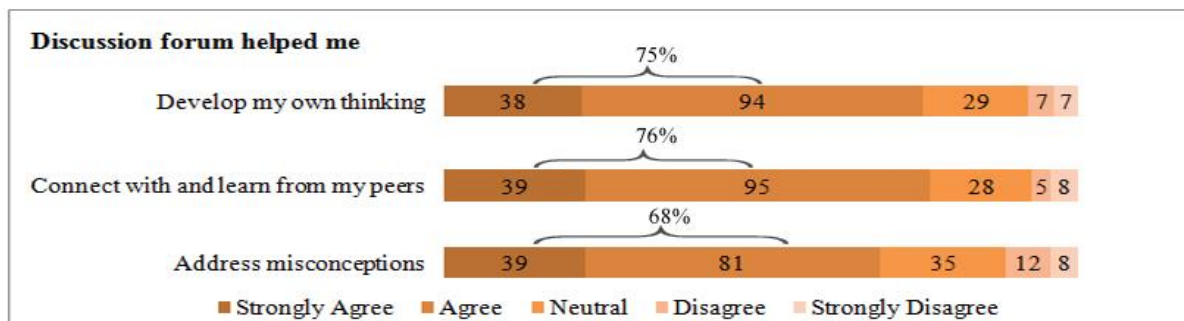


Figure 2. Participant responses regarding usefulness of DF

The survey included a question to obtain participants' feedback regarding the support provided by DFMs. While 12% felt that assistance from DFMs was lacking, 68% of the participants agreed or strongly agreed that assistance from DFMs was available. The strategy of 'One DFM a day' ensured that participant queries were answered.

6. Conclusion and Future work

The paper provides few insights into the participants' perception of DF. The analysis of the survey data suggests that the DF moderation helped in enhancing participant engagement with DF. This fostered peer interaction and created fertile grounds for better assimilation of course content. By implementing strategies related to incorporation of learner-centric principles as well as DFM management and training; forum can be made livelier and participants' experience can be enhanced. While this research paper focuses on data from a preliminary survey, it is work in progress. Future study will include quantitative and qualitative analysis of the most active discussion threads and the relation between the frequency, kinds of interactions, and the certification.

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