Exploring teaching assistant intervention

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ABSTRACT

In Massive Open Online Courses (MOOCs), discussion forum is a platform that provides communication and interaction between its learners, such as students, teachers and teaching assistants. In this research, we focus on the teaching assistants’ interactions with other learners within the discussion forum of two courses with different subject matter, a computer science and a humanities course. We aim to scaffold teaching assistants’ discussions and study if there are differences in their intervention through the two courses. To achieve that we first employed a coding manual in order to categorize the messages of teaching assistants within the forum. Two coders performed the labeling on a subset of the discussion data. Secondly, we performed a topic modeling analysis using Latent Dirichlet Allocation (LDA) algorithm to uncover the topics of teaching assistants’ discussions. The results reveal quite big differences in the intervention of the teaching assistants. Despite the common aspects of their behavior, which include answering to students’ questions about the course material and helping learners with their problems on assignments, differences were found on the characteristics of their messages. In the computer science course, teaching assistants were more formal in their dialogues, with shorter messages and with a more robust way of speaking. On the other hand, in humanities course, teaching assistants’ vocabulary was more informal, their messages were bigger and dialogues were more extended.

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KEYWORDS

Learning analytics, Massive Open Online Courses, discussion forum, teaching assistant

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1 Introduction

MOOCs nowadays have become a very popular tool for distance education due to the variety of the available courses found online and the flexibility they provide with the course material. Through technology-based platforms, such as discussion forums, they provide opportunity for interactions among learners inside the course’s environment. In discussion forum, learners can interact with their peers, instructors and teaching assistants to explore deeper the course’s content, search for solutions in their problems and help other learners. Prior work has shown that the active participation in the discussion forum help learners improve their learning performance [1, 5, 6].

To provide a more engaging and effective learning experience to learners, there has been a lot of research on interventions that might enrich learners’ interaction within discussion forum [4]. The role of instructors and teaching assistants within the discussion forum is an important factor in the evolution of the learners’ participation and outcome. The level of instructor intervention may influence discussion and participation of learners in unexpected ways [2]. In his research, Mazzolini [3] studied the effect of instructor intervention on student participation in online discussion forums. The findings of this study showed that higher frequency of instructor posting resulted to shorter dialogues and less frequent learner posting. Another study by MS Balaji [7] revealed that facilitating discourse has a strong positive effect on the students’ interactions in discussion forums. The findings of this study also indicate that the instructor’s role in online discussion is essential for maintaining the interest and motivation of learners to participate and engage with the course material.

In this study, we collected data from the discussion forum of two completed courses in different subjects, one related to technology (Introduction to Programming) and the other in humanities (World History of Religion). They were collected from Mathesis, a Greek MOOCs platform based on OpenEdX technology. In this platform, there is a distinction in the roles of the instructor, the forum moderator and teaching assistant of an online course. Instructor is the main teacher of the course, he performs the video lectures, provides the course’s content and rarely participates in the forum to answer to other learners’ questions. The moderator’s role is to maintain a healthy climate within the course’s discussion forum, delete improper messages and intervene if a message does not comply with the forum’s rules (e.g. posting solutions of course’s assignments). Teaching assistant is a learner, who is informally authorized by the course’s staff to help other learners within discussion forum, answer to their questions and help them overcome their problems. He is usually a high-graded learner, with high-level of engagement and he voluntarily accepts this role. This role is quite unusual because in most MOOC platforms the course’s personnel provides this kind of assistance to learners, within specific restrictions and rules. In this context, teaching assistants’ role is quite different because they are also learners of the course and their behavior might reveal notable characteristics. In both courses, teaching assistants intervened in discussion forum and offered help to other learners, but the question is if the different subject matter of the courses can result in different characteristics in this type of interaction.

Specifically, in this work we ask the following research questions:

1. Are there any differences in teaching assistant intervention within the discussion forum of two courses with different subject matter?
2. If yes, then what differences are there observed in teaching assistants’ interaction with other learners ?

The updated template, user manuals, samples, and required fonts, all are available at the URL <https://www.acm.org/publications/proceedings-template>. It contains said information for all three versions of MS Word (Windows and 2 versions of Mac). There are also separate links to the user guide, which can be referred to by the user. This URL also contains some useful video links, which describe how to add the template, structure the paper, and generate the layout, in different clips. **Display Formula with Number**

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Figure 1: Figure Caption and Image above the caption [In draft mode, Image will not appear on the screen]

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1.1 Heading Level 2

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1. In a Word 2010 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. Select the **Alt Txt** option from the left-side panel options.
4. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

Below are steps to place alt-txt value in **MS Word 2013/2016**. To add alternative text to a picture in Word 2013/2016, follow these steps:

1. In a Word 2013/2016 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. In the settings at the right side of the window, click on the "Layout & Properties" icon (3rd option).
4. Expand **Alt Txt** option.
5. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

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