User Experience: Main Component in Engagement and Retention Rate in MOOCs

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**ABSTRACT**

Massive Open Online Courses (MOOCs) Model are commonly used in online learning environments but there are still challenges such as engagement of participants and low course-completion rates (drop-out rates). Interface and interactivity of the environment and the course itself can affect the engagement of participants in an online course which can be indirectly correlated to the drop-out rate in a MOOCs model. Improving the environment such as adding activities in videos, easier access to discussion through chat, and less distractive layout can help in improving the engagement of participants. In order to determine the effectiveness of the solution, log-in rate of the participant will be measured for the whole semester in a weekly basis. The consistency of the data will be used to assess the participants’ engagement. In addition, these data will be used to correlate engagement with low course-completion rate.

**INTRODUCTION**

Massive Open Online Courses (MOOCs) Model widely used nowadays. There are many websites that offers online courses using MOOCs such as Udacity, edX, Coursera, Khan Academy and others that uses videos as a medium for their lecture videos [4]. Courses in these websites can either be free or paid. Courses can also be accessed anywhere and anytime which gives the advantage of flexibility in schedule. Also, since there is no pressure on deadlines, participants will be engage in enrolling in a course of their interest. Millions of users are joining each month because of these characteristics of MOOCs which can also give diversity. This diversity can be seen as benefit since there will be different ideas when discussing in a course [9].

Even with the current success of MOOCs model, there are two main challenges that it faces. Most of its courses are free which encourages lots of users to join the course but at some point, their interest and engagement waver overtime especially when they already know the answer to what they’re seeking for. This is one of the challenges where it results into large number of “lurkers”. These “lurkers” are often the ones leaving a course after a sometime without finishing the course. Due to this event, the drop-out rates of MOOCs is high.

Accessibility and interactivity can play a big role in engaging users. Integrating assessments and discussions in the lecture video itself can create an impact on the user [9]. By doing so, it creates an interactive course because every aspect such as simultaneous assessments and discussion are integrated all throughout the course. This solution can help but further improving the layout of MOOCs model can help boost engagement. A layout with less distraction such as scattered texts and icons will be implemented. Easier accessibility by creating toggle options of sub chapters of a course will also be added. Improving MOOCs can help in alternative way of teaching not only in the ICS but also in other online courses facing the same challenge.

**RELATED WORK**

MOOCs is highly self-motivated learning [10]. There are two types of motivation. Intrinsic motivation is the person’s drive to do something because they are having fun doing it or because of the challenge. On the other hand, extrinsic motivation is the drive to do something because of reward or punishment that they will receive upon completion/incompletion of the said task [8].

Applying the way of motivation in the MOOCs, there are two main types of learner. The auditing learner and the completing learner. Auditing learners usually watch videos. These learners tend to become “lurkers” overtime. On the other hand, completing learners take the traditional way of watching videos and taking assessments. Furthermore, these learners usually enrol in a course either for their career benefit or challenge of the course which can be associated with both the intrinsic and extrinsic motivation [3].

Even if many users are registering on MOOCs because of their motivation on the course or the topic the challenge still exists that drop-out rates are high. Since it is highly self-motivated, user experience is important in engaging these user to complete a course [10]. But even with the current state of MOOCs, drop-out rate is still high. According to the data gathered from MIT, Standford, and UC Berkley, some MOOCs providers, the drop-out rate ranges from 80%-90% [9]. There were eight (8) identified factors associated with retention problem according to the interview conducted by Zheng and his co-researchers: high workload, challenging course content, lack of time, lack of pressure, lack of awareness features, social influence, long course start-up, and learning on demand [10]. There are several studies that tried to solve challenges of MOOCs such as L.IVE and integrated chats.

L.IVE project specifically targets the retention of information by integrating the assessment inside the lecture video itself. The study shown significant result in information retention thus the sample group got higher assessment scores as compared to the normal structure of MOOCs with assessments at the end of each video [4].

On the other hand, MOOCs only offer discussion forum which is asynchronous technology. The forum questions are not answered right away. Because of the lack of way to communicate through MOOCs, student prefer other websites such as Stackoverflow or Google Docs to get answers immediately [10]. Synchronous communication through chats, or video conferencing is important in online learning because you can easily discuss information and topics in a real time basis [2].

The study conducted by Zheng and his colleagues about integration of chat in MOOCs did not give significant result in improving participant’s motivation since not all of the individuals use this functionality [10]. The review of Johnson also states that there is no comprehensive data regarding synchronous chat’s effect on student’s performance in online learning. Although according to the development program for Mathematics teacher which used synchronous chat as a medium for communication, it was reported that the participants did not have hard time using the feature. In addition, the discussion was substantive since they can give comments and feedbacks on an idea and they can easily assess these ideas right away [2].

This research will attempt to integrate these two features in MOOCs in order to create a better user experience. Although the factors identified by Zheng in retention rate of participants will not be directly answered, this research will try to approach the problem on a different perspective.

**METHODOLOGY**

There will be two different MOOCs layout for the experimentation process. The first layout will be the normal structure of MOOCs that contains videos, assessment after every video and a separate discussion forum. The improved layout will contain integrated assessment and a chat for easier discussion after every break on the lecture video. In addition, the layout will maximize the video screen coverage to minimize distractive texts and icons and there will be an easy access sub topic navigation for better user experience.

These two layouts will be subjected to the hypothesis that the new layout will increase the motivation of the participants which is directly related to their course engagement.

Since MOOCs is highly extrinsic motivated way of learning, the Organismic Integration Theory (OIT) by Deci and Ryan will be the basis on interpreting the data according to the participant’s behaviour. According to the theory, extrinsic motivation increases and somehow becomes intrinsic motivation if there is greater internalization. “This suggests that relatedness, the need to feel belongingess[sic] and connectedness with others, is centrally important for internalization.” [5]

**EVALUATION**

Since engagement is the main problem of this research, the participant’s log-in rate and the time of watching videos will be measured. Also, the consistency of the data for each participant will be measured on a weekly basis. These data can be used to correlate engagement with retention rate.

Both system will be subjected to the experiment using two randomly selected section in the same course in ICS which will one system each section. The data will be used to evaluate effectiveness on participant’s engagement and motivation.

**TIMELINE**

Initial prototype should be ready before 2016. During the first month (January) of 2016, the two systems will be polished before deployment.

The experimentation process will start when the classes resume for second semester of A.Y. 2015-2016 until the end of the said semester.

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