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What do star rates for MOOCs tell you? An analysis of pedagogy and review rates to identify effective pedagogical model

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Abstract: Massive open Online Courses (MOOCs) are trending in online learning. Number of MOOCs and participants for MOOCs are increasing every day. With the increase number students taking MOOCs, they experience varied effectiveness in courses. We analyzed the students' feedback reviews from an external review portal which has facility to rate courses. We examined 137 MOOCs and the pedagogical differences between 5 star rated courses and 1 star rated courses. Our results showed that 5 star rated courses has no significant difference in pedagogy for the 1 star rated courses. However, 5 star rated courses commonly had easy to understand content with the excellent instructors' presentation of the content. Low rate courses had many issues with content, flow of the course and the tools they use. Our analysis revealed students never reviewed anything about collaboration, peer learning and interaction, networking and other major aspects which affect to an effective MOOC yet the rating were mostly based on their personal experience on the total delivery of the course. However, the star rates resemble the reputation of the courses which assist in many other students to make enrolling decisions and it has found that many universities who create courses in MOOCs do not pay much attention to their instructional design or the pedagogy and improve the following iterations based on the students' reviews.

Keywords: MOOC, pedagogy, course reputation, MOOC review rate, effectiveness of MOOC

1. Introduction

Massive Open Online Courses became the hype since many xMOOCs were introduced to the community. xMOOCs are typically following a pedagogical style similar to university didactic education where there are lectures and assignments. It was the year 2012, when giant MOOC providers Coursera, edX and Udacity came into the online education and because of that, the New York Times pounced 2012 "the year of MOOC" (Pappano, 2012). Few other emergent popular xMOOC platforms are FutureLearn, Open2learn, Udemy, NovoEd, Iversity. MOOC is an open eLearning concept. The first models of xMOOCs started by allowing any interested participants to attend, access courses materials and complete with a certification free of charge. These lead thousands of participants sign up to MOOCs every day. At the same time numbers of MOOC providers increase due to the demand and interest towards the highly emerging concept. However, with the time some MOOC providers have changed the model where they charge for certification after completion or at the enrollment state (Gaebel, 2014). This has affected the MOOC enrollments which lead many students to consider external factors before committing or enrolling to a course. Mainly the course fee, time commitment, pedagogy, opportunities after the course were considered before taking a MOOC. Higher dropout rates found common in many MOOCs and researchers found many reasons including lack of time, lack of interest to the course and lack of self-efficacy. On the other hand, many courses offered by MOOC platforms varied in effectiveness (Gamage, Fernando and Perera, 2016). Student would not know the effectiveness until they enroll and experience the course for few weeks. However, students who search for MOOC's have many options with a growing number of providers, course titles and universities. Yet only handful of web sites popped up over the past few months to help students assist in deciding which course is better upon their interest. These sites offer students to review the MOOCs they have taken or taking so that the new students may be able to get an overview of the courses. This is similar to

consumers make their purchase decisions based on online reviews and rates provided by web sites (Hu, Liu, & Zhang, 2008). Some of the sites let students review the MOOC's they've taken, incorporating their views into the sites' as an overall guidance. Typically, students who completed any course or experienced for few weeks leave their experience in reviews on an external MOOC review platforms or the same MOOC platform who facilitate reviews or even in their personal blogs. This created a reputation for MOOC courses and it affected any new students' decision to participate the course and at the same time it act as a recommender system. This reputation is positive or negative depending on the previous students' reviews. Students who never experience any MOOC or if they are interested in specific course offered in MOOC platform subject, it is likely that they read reviews before they enroll. Many students and universities invest considerable amounts of time and monetary values for MOOCs, yet in the end there is a possibility that the university or course design crew losing the credibility due to bad reviews. Some universities already promote the fact of having highest rated courses in their MOOC list. Hence it is important for MOOC designers to pay attention to what students felt in previous course offering and improve the courses when they offer next time. Nevertheless, attention given to reviews are very less by the course designers. In this research we analyzed 137 computer science MOOC reviews rates. We sought to identify pedagogical designs which lead to positive reputation rates. Our contribution support to MOOC designers to design a best case instructional design.

2. Review of Literature

Previous research which focused on reviewing factors, recommender systems in online learning were considered. The factors mostly considered in rating an online course are pedagogy, interactions, completion rates, satisfaction, collaboration and many more. Many researchers' review MOOCs and many of them follow a systematic approach in providing reviews (Kennedy, 2014). A review of MOOC effectiveness from learner's perspective using grounded theory methodology was found by (Gamage, Perera and Fernando, 2015) and a review of pedagogical models explained by experiencing 12 MOOCs explained by (Bali, 2014). It is evidence that many MOOC experience reviews in participants' perspective has been shared by many researchers (Cross, 2013), (Guàrdia, Maina, & Sangrà, 2013), (Zutshi, O'Hare, & Rodafinos, 2013). Pedagogy of the MOOCs are concern by some researchers (Bali, 2014) (Bates, 2014) (Daniel, 2012) (Downes, 2013), but according to (Glance, Forsey, & Riley, 2013), MOOC has a sound pedagogy. Daniel (2012) specially argues that MOOC is following the traditional didactic pedagogy which faces many problems itself. However, there were no evidence of research which consider review rates of MOOCs to consider the effective pedagogical approaches.

3. Methodology

In order to explore the best practiced pedagogical models of the MOOCs, we analyzed MOOC reviews and rates. The reviews were extracted data from an external platform Class Central. For many years it has assist students to find courses they desire to take from reputable MOOC providers (Class Central FAQs, 2016). Since it is independednt of the MOOC providers, the reviews in Class Central has equal space for possive and negetive reviews. We used the content analysis method to analyze the categories and criteria for the pedagogy. Then we compared the pedagogical design in courses which has 5-star rating to 1-star rating. Our total data represent more than 4000 MOOC courses in Class Central and sample derived from Computer Science MOOCs further filtered number of MOOC platforms and courses depending on whether there is a review on that particular course in Class Central portal because there were courses without students being reviewed or rated. This filtering resulted 137 courses from Cousera, edX, FutureLearn, Udacity, Iversity, Canvas and few Independent MOOCs platforms from Universities. In order to analysis the content of the reviews, we used content analysis tool which is a widely used qualitative research technique and in this research. We performed content analysis to the descriptions in the reviews by students in order to identify effective pedagogical patterns.

4. Results and Conclusion

First, the Class Central rates were analyzed. The 136 courses in total distributed in start rates 1 to 5. Figure 3 depicts the frequency chart of the star rate.

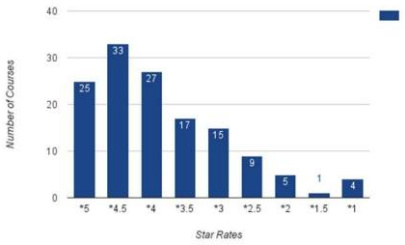

Figure 3. The Class Central star rate distribution in the MOOCs Computer Science courses

In the content analysis, we found that the students did not review about learner empowerment, collaborative learning, social networking, peer assistance, quality knowledge creation, interest groups, assessment and peer feedback or any codes which we benchmarked to provide effective pedagogy. However, we found that students are highly reviewing about the course content, the instructor and assessments. The courses which had review star rates between 1-3 mostly had confusing course materials, Technical problems, less interactions while star rates of 4-5 had content which is easy to navigate & digest, it was fun and interactive, flexible scheduling, apply real world examples and connection.

5. Conclusion and Future work

In this research, we analyzed the star rates given by student to the MOOCs which explains their experience in taking the MOOC, so it will help the rest students to take decisions in selecting MOOCs. It is critical that institutions that create courses in MOOC platforms need to pay attention to what students really experience from MOOCs than just creating a MOOC for the sake of publicity. The research found MOOC pedagogical model followed by 5 star rated courses to 1 star rated courses has less variances which means, the pedagogy is very similar to each other in courses. This also resulted the typical MOOC pedagogical structure which has been following by many universities has not much impact on the effectiveness of MOOCs. However, we found that students pay attention to "Content" and "Institution/ Instructor" flow of the instructional design and those themes been highly reviewed.

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