

Blended MOOCs: A Commitment to Quality Education

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Abstract- MOOCs are designed to work in standalone mode. They can be scheduled or self-paced. MOOCs are popular in worldwide e-learning community. Although they have limitations and tend to have more dropout rates. Learners without proper motivation cannot stick to submission schedule while learning and find the course material difficult. MOOCs are flexible platform and access the expertise without any physical attendance. Indian universities have started adapting the MOOCs through SWAYAM platform of Government of India. This approach can be implemented when there is no teacher available for the subject concern or offer the novel course as an elective or use the online course to supplement the traditional classroom teaching. Blended MOOC is all about implementing MOOC along with the face-to-face interaction. In this paper blended MOOC approach is implemented through online SWAYAM Platform and results are concluded.

Keywords- MOOC, e-learning, Blended MOOC, SWAYAM.

I. INTRODUCTION

Online education content popularly known as MOOCs has been adopted by the worldwide learning community. It is rich source of teaching, learning and research material. [3,4]. Topmost educational institute and many private companies joined hands together to develop the high quality massive online open courses [6]. Online education contents are provided by many e-learning platforms such as edX, Coursera, Udacity, Udemy and SWAYAM. Every MOOCs platform facilitates the online discussion forum to exchange a dialogue in form of messages. The discussion forum is a repository for the user's post. The registered users for MOOCs may initiate the MOOCs. MOOCs offer opportunities to wrap on-campus courses around existing MOOCs [5,7]. This paper describes a paradigm where, MOOCs by SWAYAM was blended with the traditional classroom teaching to teach the subjects based on Natural Language processing and text mining. MOOCs conceptualization has been evolving up to the extent of the field of opinion mining and is widely used in business, government, politics and education [1,2].

This paper aims to review the work where the MOOCs has been offered and integrated in traditional classroom environment. It leads to answer the following research questions viz. What are the possible reasons to incorporate MOOCs with classroom teaching? What are the challenges to offer the MOOCs in academia? What could be the effective methodology to implement the MOOCs in blended learning environment?, Up to what extent the MOOCs are acceptable by teaching community? Do the students assume that MOOCs will help in their professional growth? Paper is organized in four distinctive fragments viz. introduction, related work, data and methodology; Conclusion statements are the part of last section

II. BLENDED MOOCs: A REVIEW

This section provides the literature review regarding the challenges of MOOCs and blended methodology of teaching various courses by incorporating MOOCs. Standalone MOOCs and online learners have many identified challenges. Approximately 10% of the participant can complete the course who are driven by the motivational forces like incentive. Failure to understand the content material and having no one to turn for the help, and having other priorities to fulfill are the reasons for dropouts [10]. Lack of IT infrastructure with the high speed internet facility is the biggest challenge for MOOC [11]. There is no recognition for MOOCs. Recently Ministry of Human Resource and Development launches the credit framework for online courses through SWAYAM. [12], which offers the validity of online course on SWAYAM platform for calculation of grades. Blended learning approach is used by Bralic and Divjak where a MOOC has been integrated in a traditional classroom [8]. A case study by Yosef et al. reported new Technology-Enhanced Learning (TEL) methodology in higher education and beyond. Limitations of standalone MOOCs is explored over blended MOOCs (bMOOCs). bMOOCs offer face-to-face interactions and online learning components together. Proposed bMOOCs model imposed the student-centric learning through the online video lectures as well as caters with the traditional

teaching benefits [9]. Characteristics of the various MOOCs platform are specified in the tabular format [12] where the MOOCs platforms such as coursera, edX, Udacity are described with the various attributes.

These attributes are available languages, accreditation, Technology, Market Strategy. 306 blog posts related to MOOCs were analyzed by Chen [13]. Text-mining technique is used to analyze the blogs. The result shows that there are many opportunities for learners, faculty members, universities, and MOOC providers. Blended learning approach is used by Bruffet. al. which integrates the coursera platform with classroom teaching [14]. All the above studies stated in review section reveal the benefits of self-paced, blended MOOCs.

III. METHODOLOGY

The methodology adopted here for blended MOOCs is based on the SWAYAM platform. According to UGC Regulation 2016 for credit framework for online courses through SWAYAM (Study Web of Active Learning by Young and Aspiring Minds) education has to widen the access to higher education and bring down its cost by using technological advances and is emerging as a viable model [15]. MOOCs have four pillars of design. These are e-tutorial, e-content, web resources and self-assessment. In Indian scenario MOOCs are beneficial to students in case of non-availability of the expertise in universities and colleges. Elective papers can be taught through the online papers where students can be exposed to wide options of studying the courses of their own choice. Apart from the benefit posed by the online courses, they can be the best source to supplement the classroom teaching and add the benefit to access the world class expertise at doorstep. The approach used in this study is for the betterment of the students in existing traditional teaching learning process. The course selected for this hybrid approach is "Joy of Computing" on SWAYAM platform offered by IIT Kanpur. This course is self-paced and carries no credits. It is used for learning the basic concept of python programming as a supplement. It facilitates the traditional classroom teaching of the course text mining taught at Centre for Information and Language Engineering, Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya, Wardha, India. Online course analyzed and chosen due to several reasons. There is lot of hands on practice sessions, quizzes and explanatory videos. Total 30 hours of video focuses primarily to inspire the learner's mind to think logically and arrive at a solution programmatically [16]. It is structured in 30 hours of video content with the 3-15 minutes of smaller videos inside

each module. It covers the topics on motivation for computing, variables and expressions, loops and conditionals, lists, tuples, Google translate, sorting, searching, substitution cipher etc..

Due credits are assigned for completing the quizzes and programming assignments. There is facility to exchange point

of view by participating in discussion forums. SWAYAM Platform doesn't possess cognitive and artificial intelligent capabilities and not able to process the authenticity of the students. For this purpose, students are asked to submit the screenshots of submitted quizzes and programming assignments and send it to course instructor. The due provision is made so that completed quizzes and assignment can contribute to the students' grades in the final exam. The topics not covered in MOOC are provided by the instructor in form of additional reading. These additional readings will help in their upcoming research projects. Total ten students were involved in the blended MOOC methodology. The experience of teaching-learning processes through the traditional classroom was discussed with these informants. Before introducing them with the MOOC. The course of text mining was then supplemented with the SWAYAM MOOC on python. The students were asked to register on the SWAYAM portal for the period of July-December 2018. Online course material in form of videos was analyzed by the instructor before finalizing it as supplement material in classroom teaching. MOOC on python was synchronized in classroom teaching so that along with the classroom instructions students can watch the videos on related topic and simultaneously their doubts can also be discussed. It facilitates students with the practical approach to learn the subject in depth. The environment created due to this add one-learning material creates the interest on part of teacher as well as students. This result has been drawn after the joint group discussions after each class and is recorded. Till date course is active on SWAYAM portal and intermediate analysis is part of this publication.

IV. CONCLUSION

Standalone MOOCs neither cater the educational need of diverse group nor assure the academic integrity. Blending the MOOCs with the traditional classroom teaching is the hybrid approach which addresses the challenges posed by the standalone MOOCs. Blended methodology offers opportunity to learn the course from the highly qualified quality instructor as well as accessibility to personal

interaction. Text mining, big Data, natural language processing are the most demanded areas in industry as well as academics. Students' response for the blended MOOCs for these subjects is favorable and enthusiastic. This conclusion and discussion can give insight and motivation for the teachers to adapt the new teaching.

REFERENCES

1. A. Ceron, L. Curini, S. M. Iacus, and G. Porro, "Every tweet counts? How sentiment analysis of social media can improve our knowledge of citizens' political preferences with an application to Italy and France," *New Media & Society*, vol. 16, no. 2, pp. 340–358, Mar. 2014.
2. Y. Yu, W. Duan, and Q. Cao, "The impact of social and conventional media on firm equity value: A sentiment analysis approach," *Decision Support Systems*, vol. 55, no. 4, pp. 919–926, Nov. 2013.
3. A. Bralić and B. Divjak, "Integrating MOOCs in traditionally taught courses: achieving learning outcomes with blended learning," *International Journal of Educational Technology in Higher Education*, vol. 15, no. 1, Dec. 2018.
4. M. J. Israel, "Effectiveness of Integrating MOOCs in Traditional Classrooms for Undergraduate Students," *The International Review of Research in Open and Distributed Learning*, vol. 16, no. 5, Sep. 2015.
5. C. Severance, "Teaching the World: Daphne Koller and Coursera," *Computer*, vol. 45, no. 8, pp. 8–9, Aug. 2012.
6. T. A. Baran, R. G. Baraniuk, A. V. Oppenheim, P. Prandoni, and M. Vetterli, "MOOC Adventures in Signal Processing: Bringing DSP to the era of massive open online courses," *IEEE Signal Processing Magazine*, vol. 33, no. 4, pp. 62–83, Jul. 2016.
7. P. Kharb and P. P. Samanta, "Blended learning approach for teaching and learning anatomy: Students' and teachers' perspective," *Journal of the Anatomical Society of India*, vol. 65, no. 1, pp. 43–47, Jun. 2016.
8. A. Bralić and B. Divjak, "Integrating MOOCs in traditionally taught courses: achieving learning outcomes with blended learning," *International Journal of Educational Technology in Higher Education*, vol. 15, no. 1, Dec. 2018.
9. A. M. F. Yousef, M. A. Chatti, U. Schroeder, and M. Wosnitza, "Usability evaluation of a blended MOOC environment: An experimental case study," *The International Review of Research in Open and Distributed Learning*, vol. 16, no. 2, Apr. 2015.
10. K. F. Hew and W. S. Cheung, "Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges," *Educational Research Review*, vol. 12, pp. 45–58, Jun. 2014.
11. P. N. Rao, M. Komaraiah, and P. Narasimha Reddy, "A Case for MOOCs in Indian Higher Education System," *Journal of Engineering Education Transformations*, vol. 29, no. 1, p. 15, Jul. 2015.

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12. Taneja, S., & Goel, A. (2014). MOOC Providers and their Strategies. *International Journal of Computer Science and Mobile Computing*, 3(5), 222-228
 13. Y. Chen, "Investigating MOOCs through blog mining," *The International Review of Research in Open and Distributed Learning*, vol. 15, no. 2, Apr. 2014.
 14. Bruff, D. O., Fisher, D. H., McEwen, K. E., & Smith, B. E. (2013). Wrapping a MOOC: Student Perceptions of an Experiment in Blended Learning. *Journal of Online Learning & Teaching*, 9(2)
 15. [https://www.ugc.ac.in/pdfnews/4064990_UGC-\(Credit-Framework-for-Online-Learning-Courses-through-SWAYAM\)-Regulation,2016.pdf](https://www.ugc.ac.in/pdfnews/4064990_UGC-(Credit-Framework-for-Online-Learning-Courses-through-SWAYAM)-Regulation,2016.pdf), Retrieved on 10th Sept 2018.
 16. <https://swayam.gov.in/courses/4718-july-2018-the-joy-of-computing-using-python> retrieved on 15th Sept 2018.