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MOOC in Indian School Education Scenario: A Study towards Understanding the Preparedness In Terms Of Awareness among Teachers of Indian Schools

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Abstract: *The most immediate transformation that the education system is undergoing today is the blending in of educational technology for the purpose of teaching and learning. There are many types, dimensions and aspects of distance education, however, the most recent and current one that is receiving immense attention worldwide comes in the form of Massive Open Online Courses, or MOOCs. MOOCs are the future in Education and a source of lifelong learning. This paper attempts to understand the extent of awareness about MOOC, perception about applicability about MOOC, usability of MOOC among teachers from secondary schools of West Bengal. It also figures out the challenges faced for development of MOOC in India and highlights upon the ways to improve the awareness among the students and teachers regarding MOOC and its usability and applicability.*

Keywords: *MOOC, awareness, usability, applicability*

Massive Open Online Course (MOOC) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs provide interactive user forums that help build a community for students, professors, and teaching assistants. A great deal of attention is received by MOOCs from the media, entrepreneurial vendors, education professionals and technologically literate sections of the public. It is expected that MOOC will cater towards providing low cost or almost free education to students of schools and colleges. Various Universities worldwide has put their courses online by setting up open learning platforms, such as edX. Commercial start-ups such as Cours era and Uda city have also been launched in collaboration with prestigious universities, offering online courses for free or charging a small fee for certification. The rapid expansion of MOOCs has sparked commercial interest from venture capitalists and major corporations who want to enter the Higher Education (HE) market using a MOOC approach.

The combinations of technology, pedagogical frameworks and instructional designs vary considerably between individual MOOCs. Some MOOCs reproduce offline models of teaching and learning, focusing on the organisation and presentation of course material while drawing on the Internet to open up these opportunities to a wider audience (Margaryan, Bianco, & Littlejohn, 2015). Others combine the opportunities presented by digital technologies with new pedagogical approaches and the flexibility of OER to design new learning experiences (Gilliani & Eynon, 2015).

Designing MOOCs involves considering how to disseminate content effectively and support meaningful interactions between learners (Downes, 2013) as well as how to devise new forms of education that enable high quality teaching and learning opportunities to occur at scale. Successful large-scale online education is expensive to produce and deliver (Ferguson & Sharples, 2014, 98). Also learning 'though mass public media' is limited in its effectiveness for several reasons. First, learning usually requires a high degree of agency and self-regulation by the learner (Ferguson & Sharples, 2014, 98; Milligan, Littlejohn & Margaryan, 2013). Second, learners are able to 'drop in' or 'drop out' of a MOOC, largely due to the open nature of courses where registration is open for the duration of the course. High dropout rates should be anticipated, since not all learners intend to complete the course or gain a certificate, bringing into question 'drop out' measures (Littlejohn & Milligan, 2015; Jordan, 2015). Third, MOOCs potentially attract diverse types of learners, which leads to complex design requirements, though the early MOOCs have tended to attract learners who have already participated in university education (Zhenghao et al., 2015).

Open has multiple meanings in relation to MOOCs. It may refer to access; anyone, no matter his or her background, prior experience or current context may enroll in a MOOC. . Open can also refer to cost; that is, a MOOC is available

free of charge. A third meaning of open relates to the open nature of knowledge acquisition in a MOOC, including the employment of open educational resources (OER) or Open Course Ware (OCW) which is available under a Creative Commons licence. Open also relates to knowledge production and the opportunity for the remixing and reuse of the resources developed during a MOOC by the instructors and by the learners themselves to create new knowledge (Milligan, Littlejohn & Margaryan, 2013). Thus the philosophy of openness MOOCs were founded on is being challenged.

Online aspects of MOOCs increasingly are being blurred, as MOOCs are used in blended learning contexts to supplement in-person school and university classes (Bates, 2014; Bruff, Fisher, McEwen, & Smith, 2014; Caulfield, Collier, Halawa, 2013; Firmin et al., 2014; Holotescu, Grosseck, Cretu, & Naaji, 2014). In a review of the evidence surrounding the integration of MOOCs into offline learning contexts, Israel (2015) determines that while the blended approach leads to comparable achievement outcomes to traditional classroom settings, their use tended to be associated with lower levels of learner satisfaction. Downes (2013) suggests that for an online course to qualify as a MOOC no required element of the course should have to take place in a specific physical location.

Keeping teacher-education in sight for improving the learning achievements of school children, the twin strategy is to (a) prepare teachers for the school system (pre-service training) and (b) improve capacity of existing school teachers (in-service training) (MHRD, 2015). Studies have been conducted with focus on the in-service teacher training and the role of online learning technology in it. Suggestions are made to integrate the existing curriculum with a specialized course to equip the teachers with skills to operating and maintaining hardware, acquiring and utilizing software of different kinds and sharing information through networking in collaborative and participative methods (Sain & Kaware, 2013). On the other hand, some small-scale studies have shown that in-service teachers are already using online resources for professional development (Ajbani, 2014). However, this phenomenon is still to become widespread. Attention has also been drawn to Massive Open Online Courses (MOOCs) for teachers. Teacher Education MOOCs can span both pre- and in-service programs supplemented as necessary and can help teachers meet their professional development needs, both pre-service and in-service (FICCI, 2014). Professional development of teachers is a lifelong process and MOOCs can prove to be a very practical and cost effective solution to increase teacher expertise and help them face the challenges of the upcoming online education era (Ambadkar, 2014). Research on the pre-service teacher education programs has also brought to light some new directions that can be further explored. With pilot run of courses like B.Ed. E-education, attempts have been made to orient the teachers in the latest pedagogies, learning theories and relevant ICTs to develop competencies and capabilities in the learners through e-learning (Deshmukh, Chougule, et. al). Thus, there is a need of technological revolution in teacher education (Nachimuthu, 2010).

There is a general consensus that new pedagogy needs to be developed to utilize new dimensions of training as provided by ICT (Agrawal, 2013). Our teachers need to master the skills like thinking, finding, creating, evaluating, analyzing and applying new content understanding with great flexibility for which technology can prove to be highly effective (Deb, 2013). It was realized that educational transformation is not possible unless teacher education programs are transformed to prepare the teachers to play their pivotal role in this process of change (Deshmukh, Chougule, et. al). In 2009, the National Council of Teacher Education (NCTE) prepared and circulated the National Curriculum Framework of Teacher Education, which would be consistent with the changed philosophy of school curriculum and had some important dimensions as: (MHRD, 2015) • Reflective practice to be the central aim of teacher education; • Opportunities for self-learning, reflection, assimilation and articulation of new ideas; • Developing capacities for self-directed learning, ability to think, be critical and to work in groups. • Providing opportunities to observe and engage with, communicate with, and relate to children. The teacher training programs were re-designed to incorporate this philosophy and the discipline of education technology was introduced to make student teachers aware of its importance and use. It is an enabling discipline designed to make the teaching of any subject more efficient and effective to meet the goals for which the subject is being taught (NCERT, 2006). But technology still seems to be far from realizing its full potential in the field of education. It has been realized that there is a need to adopt a two-pronged strategy: training and educating teachers through the use of technology and training teachers in the use of technology (Sain & Kaware, 2013).

There are studies on improving the technical aspects of MOOC especially on 'open' and 'online' characteristics by appropriate use of Technology. However there is no work on understanding the extent of awareness about MOOC, perception about applicability about MOOC, usability of MOOC among teachers from secondary schools of West Bengal.

Objectives of the study:-

1. To evaluate the extent of awareness about MOOC among secondary school teachers
2. To understand the perception among secondary school teachers towards applicability of MOOC in fulfilling curricular needs through MOOC.
3. To understand the perception among secondary school teachers towards the usability of MOOC in preparing the students for the future.
4. To understand the perception among secondary school teachers in the usability of MOOC in satisfying innovation and curiosity among students

Research Questions:

- What are the challenges faced for development of MOOC in India
- What are the ways to improve the awareness among the students and teachers regarding MOOC and its usability and applicability?

Methodology and Design of Study:

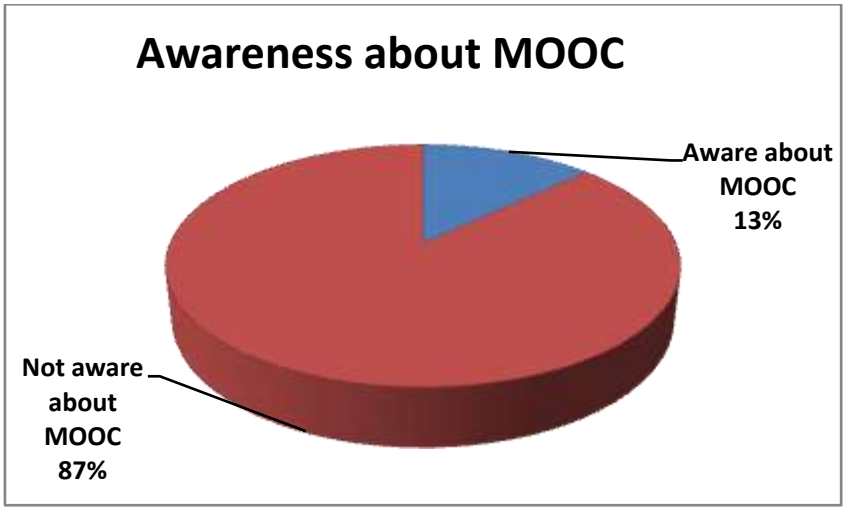
- Survey technique was employed for the study. The researcher prepared tool for the survey. The overall reliability (Cronbach's alpha reliability coefficient) was 0.89. The overall discrimination index was 0.7.

Sample of the study:

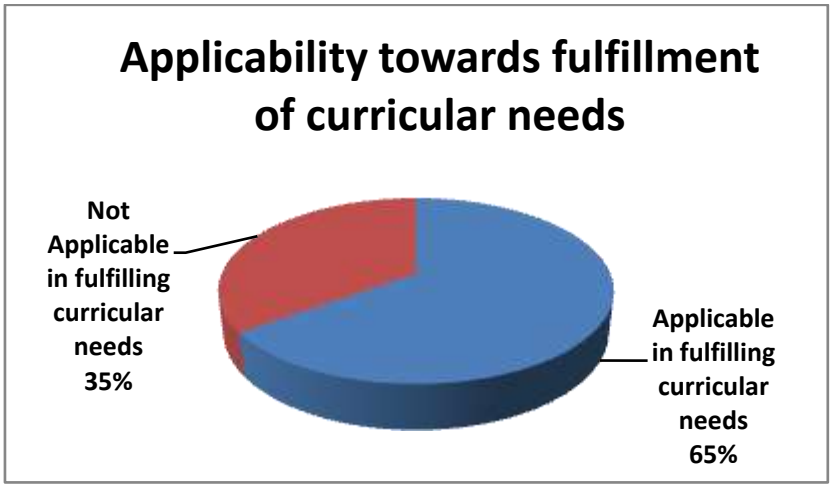
Sample for the present study were 70 school teachers of Hooghly district serving at various schools belonging to West Bengal State Board, CBSE, ICSE etc. Convenient sampling technique was employed for the study.

Data analysis and interpretation:

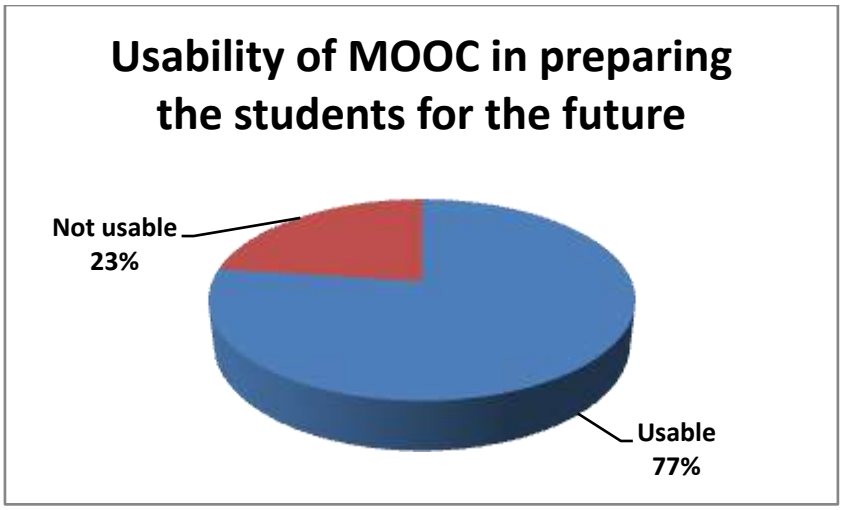
The analysis of the survey reveals the following. Regarding awareness the data reveal 87% of the teachers were not aware about MOOC. Lack of knowledge or ignorance about MOOC is an important observation while survey. Conducting awareness programmes in schools could go a long way in spreading awareness and information about MOOC.



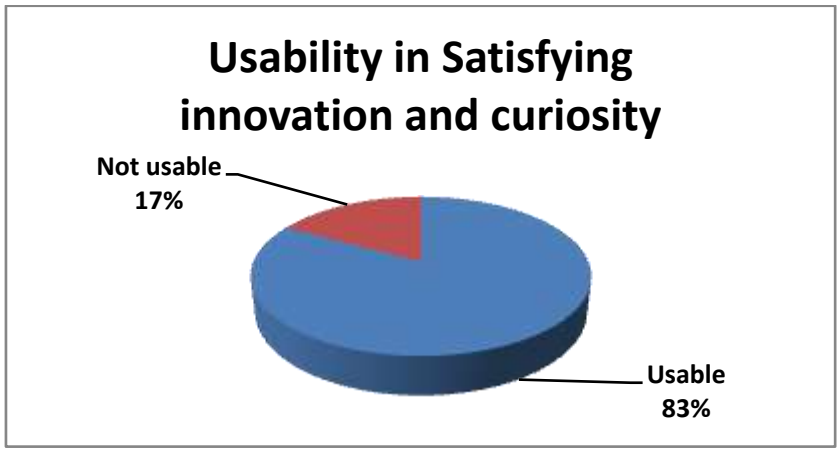
When enquired about the applicability of MOOC in fulfilling curricular needs, 65% of the teachers had agreed that MOOC helps in fulfilling curricular needs.



With respect to usability of MOOC in preparing students for the future, 77% of the secondary school teachers agree about the usability of MOOC in preparing students for the future. 23% of the teachers find it not usable.



Innovativeness and curiosity are the important factors in the teaching–learning process. Regarding usability in satisfying innovation and curiosity, 83% find it usable in satisfying innovativeness and curiosity, the rest 17% find it not usable.



Challenges for development of MOOC in India

The analysis reveals that awareness and extent of the use of MOOC in secondary school is to very less extent. This is due to the various challenges which are enlisted as under-

1. **Technological Infrastructure:** MOOC needs the high speed internet connections for accessing the content delivered in their courses. In a developing country like India, Internet and computers comes under luxury and their availability is confined mainly to the urban areas. Limited availability of requisite infrastructure to access MOOCs has confined the extensive spread of MOOCs. India needs to work towards providing a better Internet access for the country's population and provides worldwide connectivity.
2. **Investment:** Offering the MOOC is a costly affair that includes the cost of infrastructure, platforms, content creation, human resources and many more. In India, the institutions do not have many capitals to invest in such event so it is not easy for an individual institution to offer such services. There is need of involvement from some authorities, who can invest in the process to support the education. Even Indian government needs to liberalize conventional regulations and restrictions and encourage public private partnership for creating MOOCs in this country
3. **Diversified Needs:** India is a widely diversified country having multicultural societies and different languages spoken. For acceptance of MOOC among the huge domain of audience, they need to agree upon a common language of speaking. English as this language accepted globally, again throws away a considerable amount of audience who do not possess the knowledge or adequate fluency in English [9]. So, a switch over to mostly English based courses as offered via current MOOCs often discourages learner to continue their courses. The courses should also be offered in some regional languages, which may be a tedious task and prone to loss of uniformity and quality. Therefore, language is one of the barriers for learners from Indian origin that need to be addressed by the MOOC providers in a more realistic way. Moreover, the challenge is to deliver the lecture, designing of the course material, and the platform itself, in a way that can be understood by all. Hence forth, the main motive should be to work in the direction which can minimize the existing differences amongst the learners
4. **Adoption of MOOC among learners:** Generally in MOOC courses the communication between a teacher and learner and among learner as well is in written form. It results in the lack of oral communication skills among the learners and to improve this they need undergo a traditional program. Also, watching the course videos of other content on a computer screen can make the learner feel isolated. Due to this, motivation of learner falls resulting in dropping out from the course. Moreover, the courses that require lab or hands-on training may not fulfill the purpose completely in online mode. Therefore, the challenge faced by MOOC could be adoption of technology by learners.
5. **Quality:** To create and deliver quality content in MOOC, quality of teachers and technical staff is required. India has huge vacancies of teachers not filled, compounded by infrastructure deficit as the absence of laboratories. Also, it may be possible that teachers are not technically sound to create course content using the tools. Emerging initiatives internationally and nationally are working towards offering quality educational by providing their content as open resources, but some of them are constraint by the adoption policies of their country or organization. India should also need to leverage these initiatives as a readily available, economically viable source of quality content for adoption. Also, a national quality assessment framework to assess the quality and adoption of new approaches like, credit transfer, MOOC, integrated courses etc., should be adopted along with teacher training, their performance related appraisal and midterm reevaluation

Improving the awareness among the students and teachers regarding MOOC

Integration of credit based MOOCs in curriculum

Teachers opined that integration of credit based MOOCs in curriculum would augment the value of MOOCs and increase the motivation among students to complete the course as a part of university program requirement.

Conducting awareness program about MOOC

Not having information and awareness about MOOC and its usability was another point which was raised during survey. There should be awareness program on how to use MOOC in teaching various subjects.

Providing Technical support to use MOOC

The teachers those who had the inclination about using MOOC, had pointed out that due to lack of technical support they could not attempt to use MOOC in their curricular work. Hence there should be technical support from agencies to use MOOC in day to day curricular work.

Providing IT gadgets with internet facility

Most of the schools have meagreavailability of IT resources like computers, laptops, modem, speakers etc. Moreover there is no internet facility in some of the schools. Hence it is imperative that school management should provide all necessary technical support for propagation of MOOC.

Support and motivation from school management

Support and motivation from the school management is of paramount importance for development of MOOC and its use. The school management should motivate the teachers by providing career benefits and incentives if one would work with MOOC.

Undertaking collaborative studies with other institution for conducting MOOC

School teachers should undertake collaborative studies with other schools and other educational institutions so that there could be knowledge transfer among institution which is imperative towards use of MOOC.

Conclusion and Discussion

MOOC is in its initial phase of development in India. The analysis shows that there is an emergent need not only to develop proper understanding about MOOCs among teachers, but also to provide them facilities to develop and integrate MOOCs in their regular classroom practices. Future for MOOCs in India is bright. With the increasing population and the shortage of schools, especially government schools and adding to it the shortage of infrastructure, MOOC should go a long way in becoming the game changer if there is support from government and policy makers.

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