A STUDY ON IMPACT OF MOOC LEARNING ON PARTICIPANT ENGAGEMENT AND RETENTION

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1. INTRODUCTION

Massive Open Online Courses, or MOOC‟s, are online courses that allow participants free access and unrestricted participation to any course of their choice. Besides the traditional modes of teaching like lectures, videos and reading material; MOOC‟s also provide a platform for interactive forums. There are millions of people in this world use MOOCs to get more understanding of new concepts including: career development, cooperate e-learning and also for college preparations and more.

Online courses provide a big amount of enrolment within education institutions. In fact, many education institutions offer programs with only a web component. As web based education and technology integration still increase, innovative approaches to deliver online learning also will occur. One such approach is that the massive open online course (MOOC) the name suggests, MOOC‟s are designed so hundreds and even thousands of people with no limit to geographical location are ready to participate during a course, usually freed from charge. The primary MOOC was implemented in 2008 with 25 paid enrolments (for credit) and approximately 2,200 non -credit, non-fee paying students. The course was titled "Connectivist and Connective Knowledge" and quickly gained attention by some prominent universities. In 2012, MOOC‟s were recognized as a well-liked mode of learning within the online environment with a plethora of courses starting from computing to philosophy and fine arts to medicine. Since MOOC‟s generally provide free access, participants enrol for a spread of reasons including a desire to find out a few new topics or to increase current knowledge, simple curiosity about MOOC‟s and the way they operate, or possibly the necessity for private challenge. As education institutions continue experimenting with MOOC‟s, opportunities to interact individuals as lifelong learners will rise. Massive open online courses (MOOC‟s) provide how of structuring student‟s online learning experience. Online courses are massive because they often thousands of scholars,they're open for everyone because they're free, they're online because the course is delivered by the web as they're open because they're free of cost.

RETENTION AND ENGAGEMENT

They have various formats, but most involve listening to online lectures, completing tasks, reading articles and completing self- assessments. Importantly, most have online forums that provide students with the opportunity to engage with fellow students and teachers from around the world. They are becoming increasingly popular because they are inexpensive to run and provide access for students from all countries to the same level of education. When massive open online courses (MOOC‟s) began, they held the promise of bringing high-quality, college -level courses from leading academic institutions to people who otherwise would not have access to that type of content. Even though MOOC‟s have been broadly accepted, there is still plenty of room for improvement as far as the actual needs of students are considered. This is evident if we take into consideration that the student retention rates are very low. At the same time, the huge popularity in starting students shows that the time is ripe for MOOC‟s .Nevertheless, it is the duty of the academic community to shed light on the problems of MOOC‟s, trying to both understand their causes and provide actionable solutions in order to open education to achieve its potential and not fail.

LITERATURE REVIEW:

1) **Oswald** (2015): The aim was to study the number of hours given by aparticipant to a mooc and intention to enrol for moocs.In this study they used the hypothesis method to find the hours given and completion of moocs.It is found that learners expected investment, including level of commitments; students were devoting less number of hours as they should be devoting and main reason for enrolment was to obtain a certificate.

2) **S Hone.R El** (2016): The aim of the report was to find the effect of instructor behaviour on the retention of moocs and to find the impact of course structure on learner‟s retention. Survey design, sampling, procedure, data analysis method, data screening and measurement tools were used as research methodology. The results from the study showed that moocs course content had

a significant effect on retention. Study also revealed that course instructor had a direct influence on the retention. Retention was higher when interaction with the instructor was higher.

3) **Zheng, C Shih, M Carrol** (2015): To study users' motivation to register for a particular course and to study the factors which affect the retention rate for moocs? Data and data collection: recruited participants using a snowball sampling method through social media account and personal networking. Data analysis: applied grounded theory, emphasises the simultaneous processes of data collection and analysis. Learner‟smotivation, perception and learning behaviour were identified as the key concepts from the first step of study. Identified four types of student motivations for joining Moocs, fulfilling current needs, preparing for the future, satisfyingcuriosity, connecting with people. Lack of pressure, no sense of others, high workload,challenging course content,lack of time. Also reasons like finding internship,travelling and preparing for semester exams resulted in giving up moocs.

4)**M Stein, Allione (2014)**: The aim of this report was to study the dropout pattern in students regarding the moocs.They modelled the probability of dropping the course by means of a Coxproportional hazards. The independent variables were taken to either measure of cours connectivity or demographic data, measured dropping out rate in two ways, no longer watching videos and no longer submitting quizzes.Students who participated in the forum, but did not completed the first quiz or assessment were more likely to dropout from the courses. Students who engaged in the course during the first days, by either completing the first quiz or submitting a peer assessment exercise were less likely to dropout the course.

5) Phan, McNeil (2015): to study the relationships between learners pattern and motives of engagement also to study the prior subject knowledgewith their course performance in the digital storytelling mooc. data sources of this study included archival data of learners course grade and post course survey responses of participants in the DS moocs. These data exists on the coursera platform and are accessible by mooc instructor. Learners who demonstrated active engagement in the mooc tended to outperform other learners who do not practise this trait. learners whose motives for participation involves earning of continuous professional certificates, gaining skills, ideas and inspiration outperform who value these traits less.

6) **Gomez-Zermeno(2016)**: The aim is to identify the terminal efficiency of the Massive Online Open Course. A quantitative methodology was used, combining descriptive statistics and probabilistic models to analyze the levels of retention, completion, and desertion, as well as the characteristics of the students who completed the course. The results show a 14% of student retention and an 11.7% of student completion, relative to the total number of participants.

7)Yuan, Xi Cun(2015): the aim is to analysis of factors which influence the perceived effectiveness and satisfaction in MOOC. Data has collected by sending questionnaires to students who have attended at least one online course, in order to verify the five sets of hypotheses (Sample size, population) and the finding of this study is the educational

level of MOOC users is high, mostly from developed countries and most of them are men.

Developing countries and regions such as Africa and Asia have relatively low retention rates of MOOC, ranging from 5% to 15% despite having a large population with lower education levels.

8) **Sujatha, Kavitha(2018):**the aim was to study the factors that influence retention. Binomial Logistic Regression model was used to determine the extent to which learner motivation, self-efficacy and perceived effectiveness of the course predict the learner retention in a MOOC environment.
And the findings were The model indicated an overall fit for the independent variables included in the study (-2Log Likelihood= 176.43). The model accounted for a 49.8% of variance in learner retention according to the Cox & Snell‟s R2 value and 70.2% variance according to Nagelkerke R2.

9) **Christensen(2014)**: the aim of the study was to find How do MOOCS reflect effective practices within the digital economy. report findings based on simple descriptive statistics and cross-tabulations with Pearson‟s Chi-Squared tests to determine significant relationships. findings are MOOC students have very high levels of educational attainment: 83.0% of students have a post-secondary degree (2 or 4 years), 79.4% of students have a Bachelor‟s degree or higher and 44.2% report education beyond a Bachelor‟s degree. (mismatch with objectives)

10) **El-Hmoudova(2013):**the aim of the study was to find how teaching method effects moocs retention. research and methodology is used Learning style theory and definition of Felder-Silverman model and Index of Learning style (ILS). Data showed that while a typical MOOC may attract thousands of participants, less than 10% will complete the course.

11) **Bonafini, Chae,Park, and Jablokow(2017)**: the aim of the study was to find what extent was students‟ achievement in MOOCs associated with the number of posts made and the number of videos watched? Students‟ responses to the online survey along with their course interactions (i.e., number of videos watched and number of posts) were used in statistical analyses to build answers to research questions. Results indicated that participant engagement in forums had a bigger impact on the probability of MOOC completion (32%) when compared to the contribution of videos watched (6%).

13) **Greene,Oswald,Pomeran(2015)**: The focus of this study was to investigate predictors of student retention and achievement in a MOOC offered by the University of North Carolina at Chapel Hill Data for this study come from the „„Metadata: Organization and Discovering Information"" MOOC that was offered by the University of North Carolina at Chapel Hill via the Coursera Platform. The course ran for eight weeks in the summer of 2013. Coursera registration data indicated that 33,938 learners from 183 different countries initially signed up for the course and findings are level of schooling and intended hours spent on the MOOC had a positive, statistically significant relationship with achievement. Prior experience and investment were unsurprising predictors of learner success. On the other hand, the degree to which the MOOC supported the learners‟ current academic program had a statistically significant but negative relationship with achievement.

14) **Hone, R El(2015)**: The aim of the report is to find the effect of instructor behavior on the retention of moocs and to find the impact of course structure on learner‟s retention. Survey design, sampling, procedure, data analysis method, data screening and measurement tools were used as research methodology.The results from the study showed that moocs course content has a significant effect on retention. Study also revealed that course instructor has a direct influence on the retention. Retention is higher when interaction with the instructor is higher.

15)**Khalil and Ebner(2014)**: The objective of study investigates why students dropped out or failed their MOOC. The data source of this research was from 42 MOOCs analyses of the course completion rates, content, documents, and class discussions. These 42 offered through most popular platforms (Coursera, Edx, Udacity, MITx, and Moodle). When its comes to finding of the study they found lack of time, lack of learners‟ motivation, feelings of isolation and the lack of inter activity in MOOCs, insufficient background and skills, and finally hidden costs.

16) **Gütl, Rizzardini,Chang, Morales**(2014). The objective of the study was to finding out the

drop our rate and
completion rate from MOOC. The data source of this report is based on course completion rate, online survey through various platforms. In line with findings from other MOOC experiments, the drop-out rate is very high, with only 143 participants or 8.50% of the enrolled users completed the course.

17) **Kloft, Stiehler,,Niels,Pinkwart**(2014): To find the reason behind huge dropout rate of studentsfrom online courses(MOOC) on weekly basis. They used an approach that works on click-stream data. Among other features, the machine learning algorithm takes the weekly history of student data into account and thus is able to notice changes in student behavior over time. They used an approach that works on click-stream data. Among other features, the machine learning algorithm takes the weekly history of student data into account and thus is able to notice changes in student behavior over time.

18) **Greene,Oswald ,Pomerantz(2015**). The objective of this study was find numbers of hours given by participant to the MOOC, to get to know the intention of students to get a certificate. In this study they used the hypothesis method to find the retention and completion of MOOC. In this paper I found that learners‟ expected investment, including level of commitment, expected
number of hours devoted to the MOOC, and intention to obtain a certificate, related to retention likelihood. Prior level of schooling and expected hours devoted to the MOOC predicted achievement.

19) **Breakwell and Cassidy**(2013). Paper described a model of online content development and delivery, known as COACT, which aims to ensuring that higher-order learning and reflection is embedded within the learning process and that, as a result, learner engagement is enhanced. using the COACT framework and will explore whether MOOC content developed in this format can improve learner engagement and retention as they have used secondary data. This finding strongly suggests that a model of online content development and delivery that is specifically designed to encourage interaction, or COACTion, between learner and facilitator and can significantly enhance students' impressions of tutor interaction and tutors' teaching quality. For instance, it is highly unlikely that the tutors enhanced their levels of subject knowledge in between the delivery of this module.

20) **Phan*, McNeil, Robin**(2015). This paper reported on the relationships between learners' patterns and motives of engagement and their prior subject knowledge with their course performance in the Digital Storytelling MOOC. Data sources for this study included archival data of learners' course grades and the post- course survey responses of participants in the DS MOOC. These data exist on the Coursera platform and are accessible by the MOOC instructors and teaching staff who are also the authors of the paper. Findings from this study indicate that learners who demonstrated active engagement in the MOOC tended to outperform other learners who did not practice this trait. Learners whose motives for participation involved earning the Continuing Professional Development certificate, gaining skills, ideas and inspirations, and improving their professional practice outperformed the students who valued these traits less. Learners who possessed moderate level of content knowledge seemed to benefit most from the course.

20) **FoonHew(2016)**. Objective of this study was to find what factors do students consider important in terms of their perceived ability to promote a satisfying or engaging online learning experience. This present study adopts a qualitative multiple case study approach. It is based on

the grounded approach analysis of participants‟ review comments collected on May 15, 2014, using coursetalk. Coursetalk was selected as the data source. Analysis of the qualitative data yielded a number of design factors that participants perceived as engaging. These factors were:

problem-centric learning with clear expositions, instructor accessibility and passion, peer interaction, active learning, and course resources to address participant learning needs.

22) **Shapiro, Lee,WymanRoth,Rundel a ,Canelas** (2016).Objectives of the study was to understand why learners take the courses, specifically Introduction to Chemistry or Data Analysis and Statistical Inference, and to identify factors both inside and outside of the course setting that impacted engagement and learning. In this paper they have used sentimental analysis in which participants were recruited from both courses through announcements on the Coursera course sites, email messages, and posts on the courses' Facebook pages. There are 10,954 total interviewee statements: 6183 from participants in the chemistry course, and 3576 from participants in the statistics course. Sentiment analysis of the students' transcripts showed that about 80 percent of the comments were neutral (8993 neutral comments, see Fig. 1). That means that, in a particular statement, there were just as many positive phrases as there were negative. Overall, the average sentiment score was about 0.162, which means that the comments had a slightly positive skew.

RESEARCH METHODOLOGIES:

Research Design

The research design is elucidated to be of descriptive type, as the present study tries to showcase the existing population characteristics of the learners. Descriptive research design has guided the study to focus upon description and retention rate of Massive Open Online Courses.

Study Population

The purpose of the study was to carry out two objectives related with participant‟s engagement with MOOC learning and participant‟s retention with moocs. For the purpose of the study, all the internet users from state of Haryana wastaken into account. The scope of present study has been narrowed down to one state i.e. Haryana in order to bring sharp focus on proposed objectives. The population of the study consist the learner‟s students in Haryana belonging to age category of 14 to 30 years.(top five mooc courses).

Sample Size

A sample survey was conducted in the present study to collect first hand data from learners. Large size of the population coupled with data‟s quantitative character is advocating the use of sample survey method. The sample size of the present study was 120 users of MOOC‟s in state of Haryana. Depending of the population under study at 5% margin of error and considering 95 % confidence interval.

Data Collection Technique

Primary data in the form of the response of MOOC‟s users was obtained from respondents with the help of widely used and well known method of sample survey, utilizing structured questionnaire.

SCOPE OF THE STUDY:

MOOC‟s provide a way of structuring student‟s online learning experience. Online courses aremassive because they sometimes have thousands of student, they are open because many of them are free because the course is delivered by the Internet. They are openbecause they are free of cost and have various formats, but mostly involve listening to onlinelectures, completing tasks in given time, reading articles and completing self-assessments. Mostimportantly they have online forums that provide students with the opportunity to engage with their colleagues andteachers from around the world. Talking about where this study can be helpful we can say that students will get help from our study, as from our report they are able to see which courses got more engagement so they can opt for that online courses and they could also find the retention rate of different courses which gave them an idea that in which courses they don‟t have to enrol by seeing their dropout rate of the students from particular MOOC course, as these courses are becoming increasingly popular because they are inexpensive to run and provide access for students from all countries but students need to know that which courses are good for them through their engagement rate and which are not good for them through their retention ratethat‟s why we make this report to help students to know which courses is good for them. Even though MOOC‟s have been broadly accepted, there is still plenty of room for improvement as far as the actual needs of students are considered.

Data Analysis

This research paper is all supported the primary data and forits completion of the necessity of the stated objectives of this research paper are collected by the primary survey through well-structured question naire over impact on mooc learning on participants engagement and retention.

Analysis andInterpretation:

[FIGURE 1]

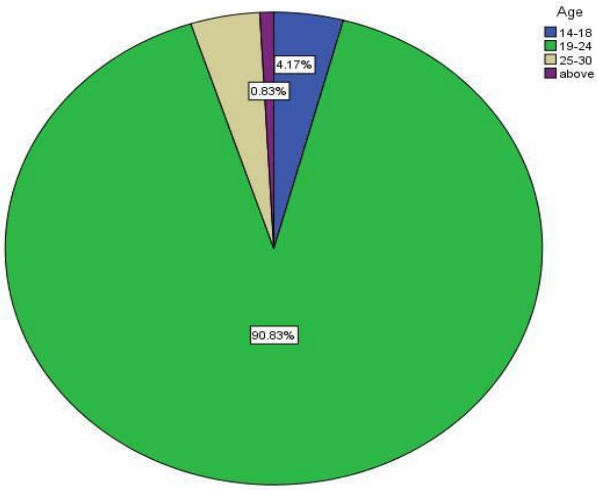


FIGURE 2

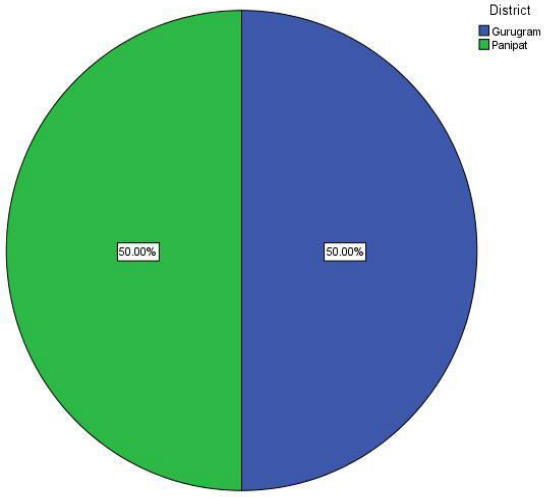


Fig. 1: The above figure shows that there 90.83% people are from 19-24 age which shows that number of people who are doing MOOC course were from this age there are very less number of people who were from other age group.

Fig 2: The above graph shows that 50% of response are from Gurugram and other 50 % were from Panipat as our study is based on 2 district of Haryana.

FIGURE 3

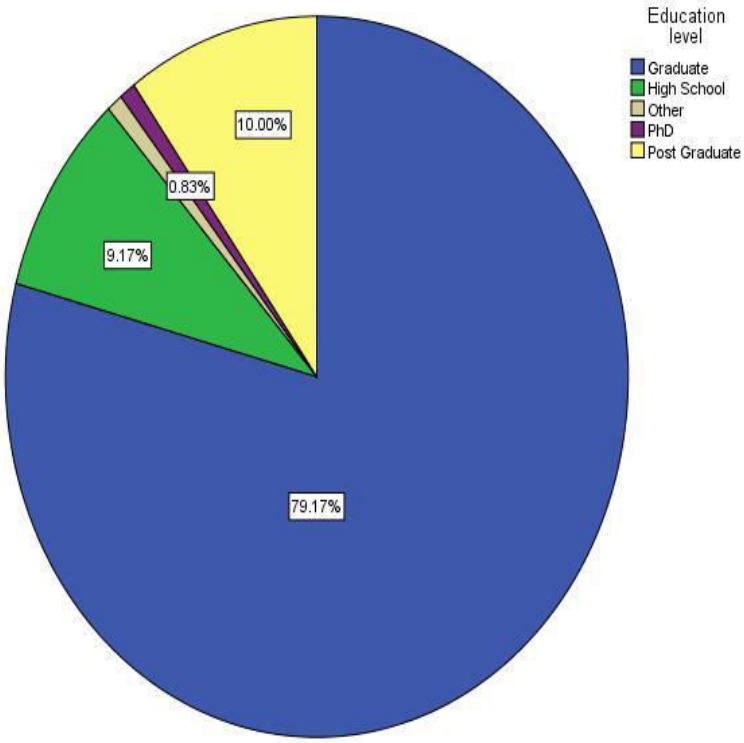


FIG.3: The above figure shows that 79% respondent were graduate who fill the form in both district there were only 10% respondent were post graduate which means most of the questionnaire was filled by these respondent.

FIGURE 4FIGURE 5

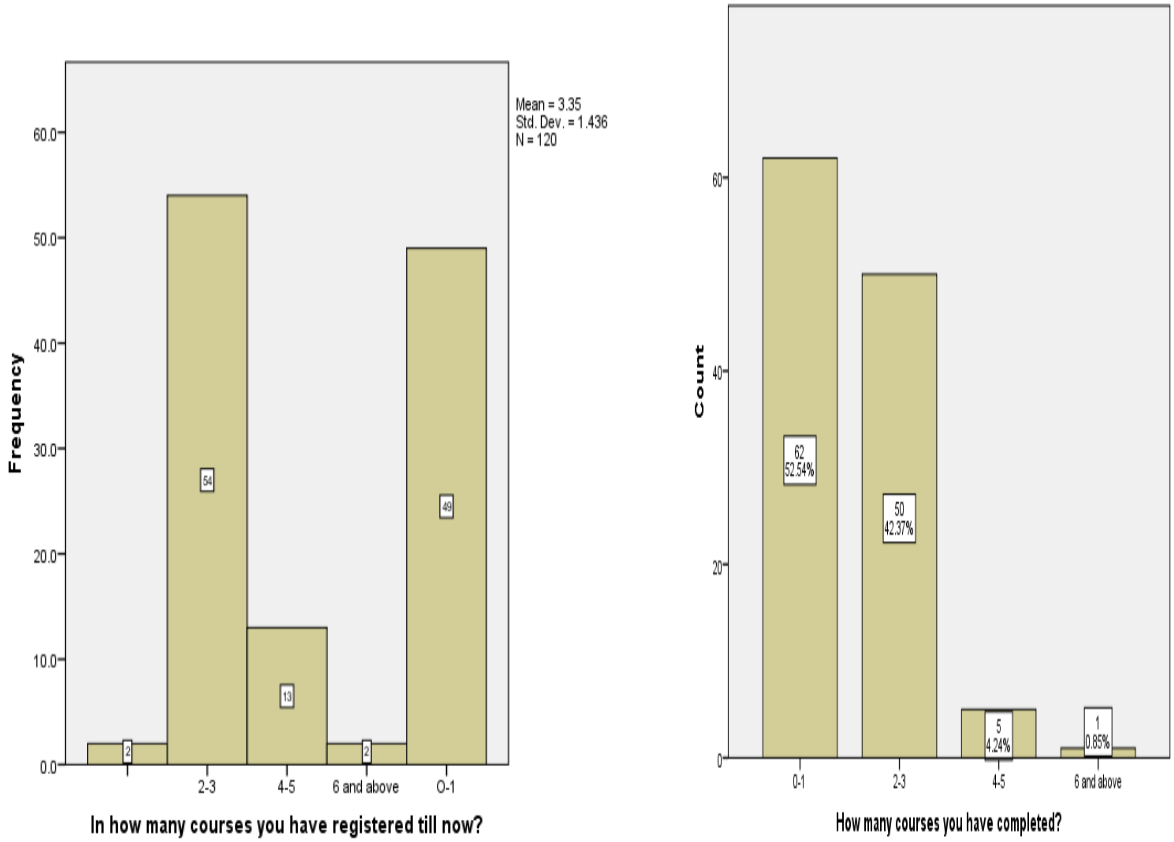


FIGURE.6

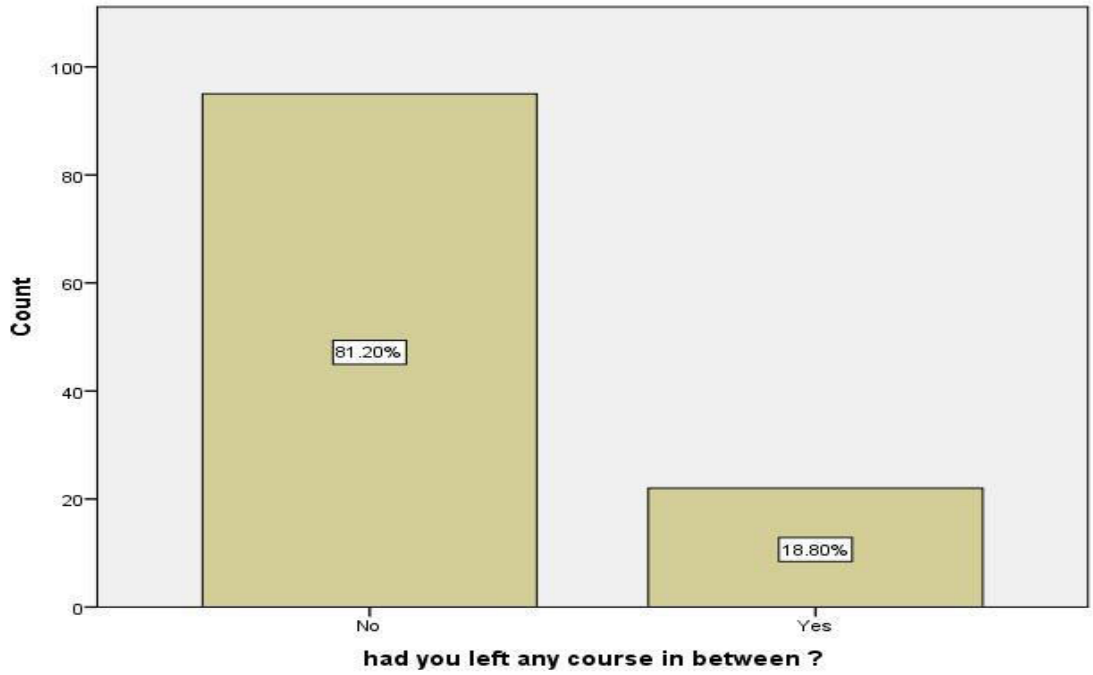


FIG.4: The above figure shows that out of 120 only 54 respondents were those who had registered for 2-3 online MOOC courses and there were 49 respondents who had just registered for only 1 courses so there were very people who had registered for more than 6 courses.

FIG.5: Above graph shows that only 42% had completed 2-3 courses and 52% respondent completed 1 course there were less no. of respondent who had completed 4 and above course.

FIG.6: The above graph shows that there were only 18% people who had not completed their mooc course which shows respondent of Gurugram and Panipat were very engaged in completing their courses.

FIGURE.7

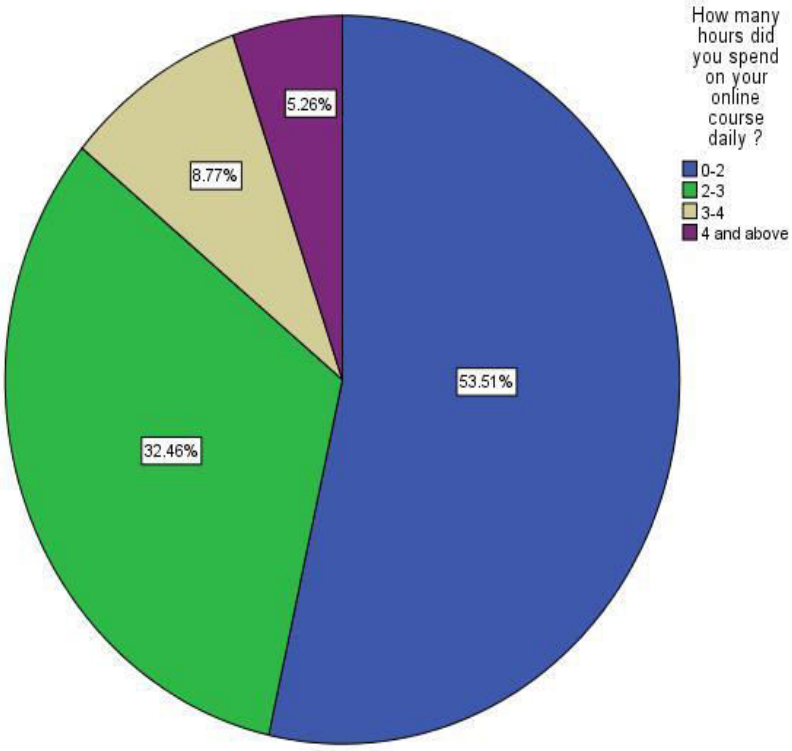
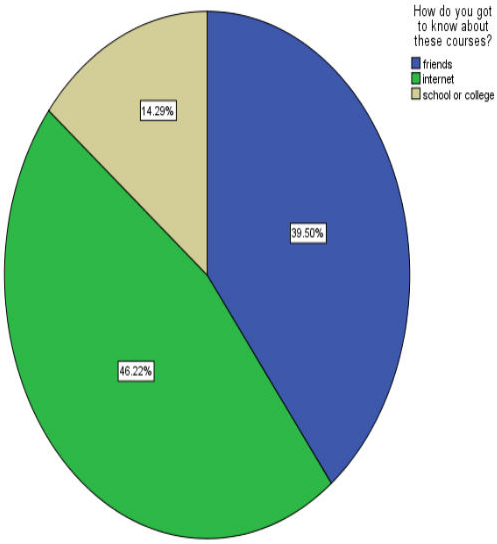


FIG.7: The above shows the 53.51% respondent spent average of 2 hours on their online course which shows the involvement of respondent and there were 32% respondent spent 2-3 hour daily on their courses which vary from time duration of their course.

FIGURE.8FIGURE.9



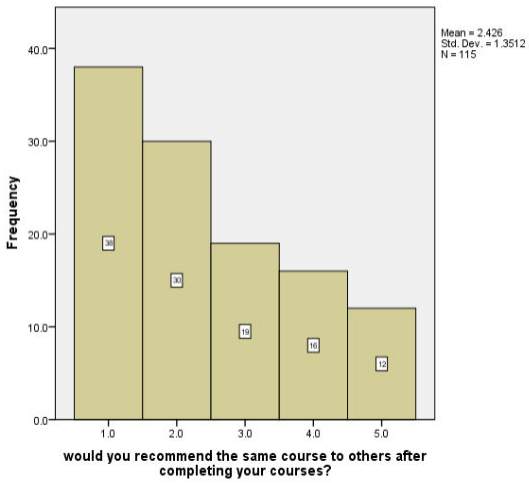
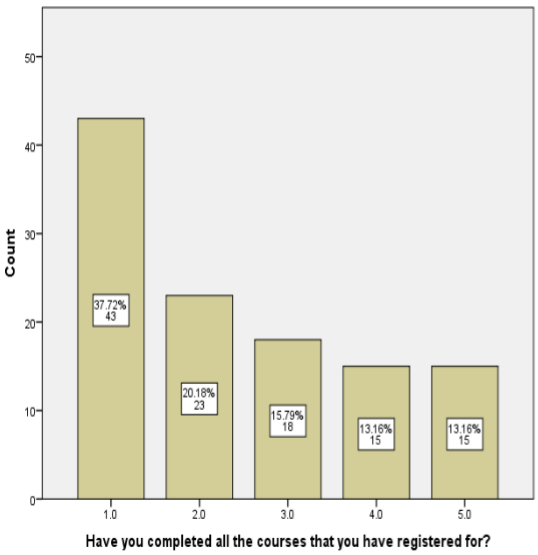


FIGURE.10FIGURE.11



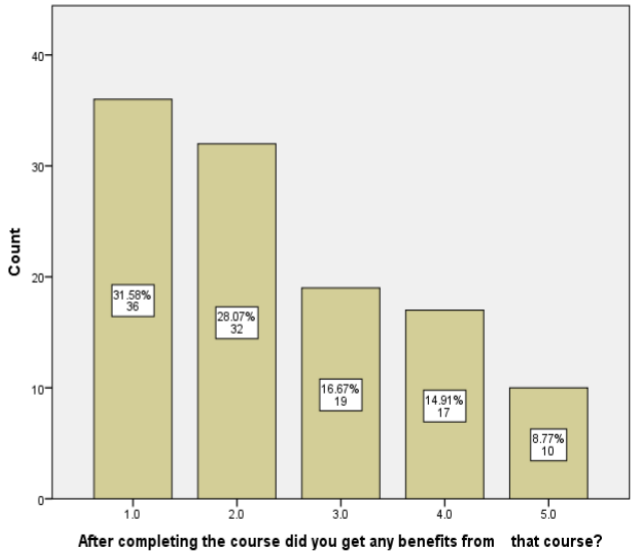


FIG.8: The above shows that 46% respondent get to know about these online courses from internet where as 32% respondent get to know about these courses from friends which means both internet and friends paly important role for engagement of people in online courses.

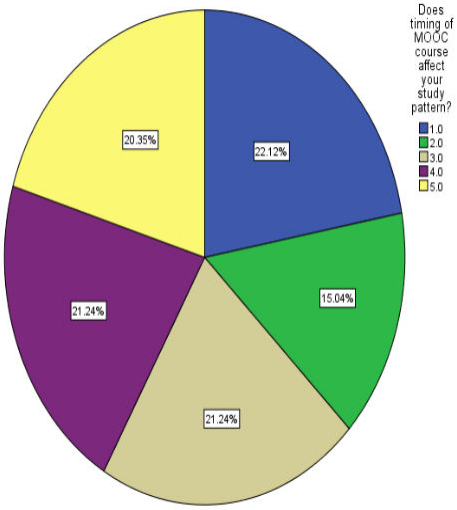
FROM FIGURE 9: 1 MEANS COMPLETELY AGREE 5 MEANS COMPLETELY DISAGREE:

FIG.9: The above figure shows that 12 respondents out of 120 are completely disagree that they were not recommend to do online course to other to go for online course which means

80% respondent will completely or partially agree that they will recommend mooc courses to other.

FIG.10: The above graph shows that there were 26% respondent who had not completed their course due to some reason but majority of the respondent had completed their course. **FIG.11:** The above figure shows that 23% respondent was not got any benefit from mooc courses these were those students who had left their course in between.

FIGURE.12FIGURE.13



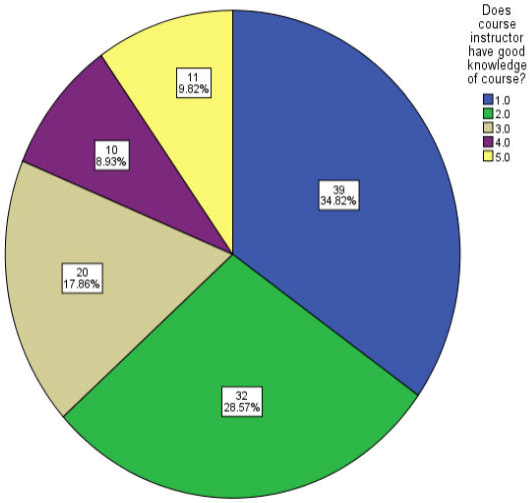
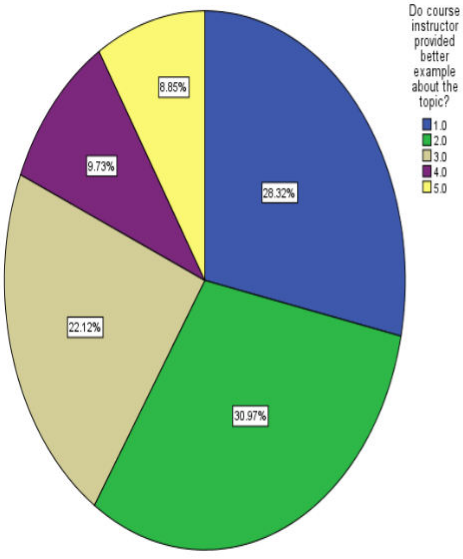


FIGURE.14FIGURE.15



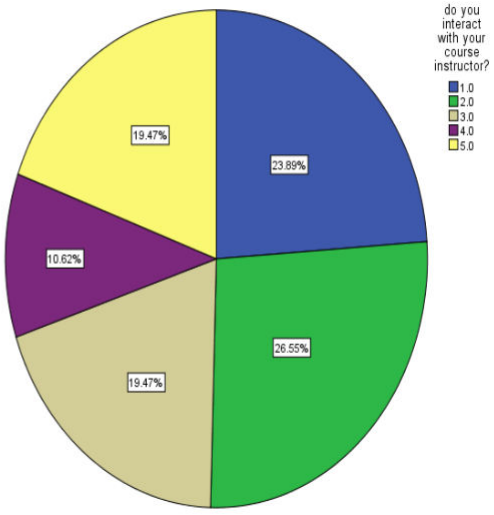


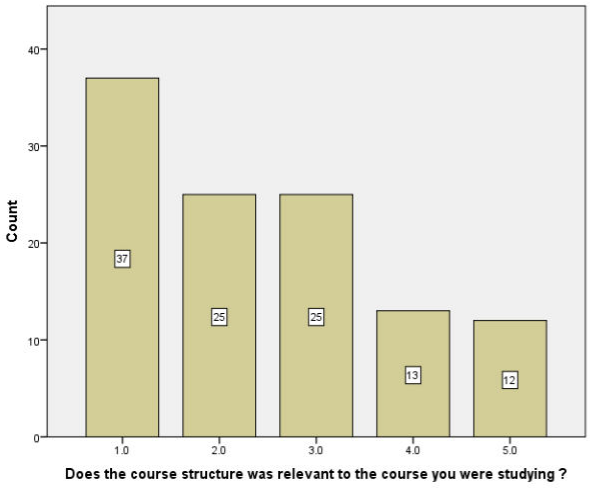
FIG.12: The above figure shows majority of respondent said that timing of mooc course affect their study pattern this must be the major reason of retention of less people in mooc course.

FIG.13: The above graph shows 70% respondent said that instructor got good knowledge of course what they were teach which shows 30% respondent believe that they don"t had good knowledge of course.

FIG.14: The above graph shows 8% believe that course instructor did not came up with good example affect them to understand the concept.

FIG.15: The above graph shows that there were more number of respondent who did not interact with their course instructor which create lack of interest in learning.

FIGURE.16: **FIGURE.17**:



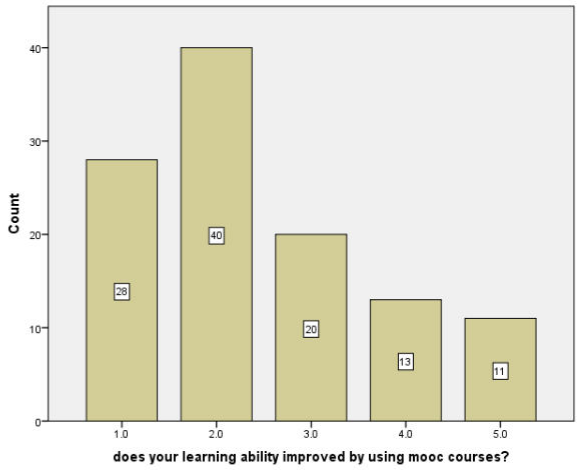


FIGURE.18

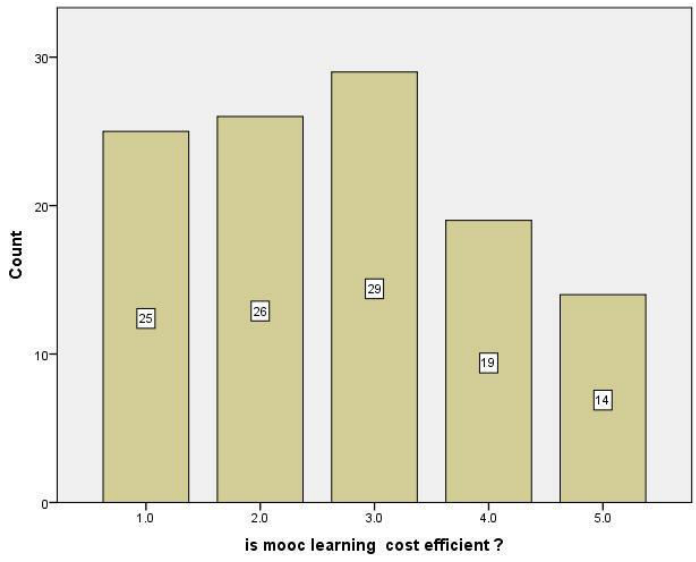


FIG.16: The above figure shows that almost 70 respondent were completely or partially agree that course structure was relevant to the course they were studying.

FIG.17: The above shows that almost 80 respondent out of 120 believe that their leaning ability had increased by studying mooc courses.

FIG.18: The above shows that mostly respondents believe that cost charged by mooc courses were relevant as it vary from person to person what they think about cost.

CONCLUSION

From this report we got to know about various aspect of mooc courses why people were not go for online course, we identify that timing of school affect the retention and engagement. There were people who left the course in between because of various reason timing is one of the important factor in it and others factors were that course instructor did not gave right example or they got less knowledge of their course as per the respondent and till now there were people who registered for the course but did not complete the course because they don‟t get proper information about course and there were people who were not aware of these courses so they sometime for irrelevant course which was not as per their expectation which affect them to drop the same course in between which increase the dropout rate in mooc leaning and after that they will not go for other course because of bad experience which increase retention in mooc courses from many years now . So you need to understand the students prospective which increase the engagement of participants for online courses.

REFERENCES

Angelino, L. M., Williams, F. K., &Natvig, D. (2007).Strategies to engage online students and reduce attrition rates. The Journal of Educators Online, 4(2), 1-14.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. Journal of Interactive Online Learning, 11(1), 19-42. https://files.eric.ed.gov/fulltext/EJ1062850.pdf

AttentiveLearner: Improving Mobile MOOC Learning via Implicit Heart Rate Tracking

Blanchard, N., Bixler, R., Joyce, T., D‟Mello, S.: Automated physiological-based detection of mind wandering during learning. In: Trausan-Matu, S., Boyer, K.E., Crosby, M., Panourgia, K. (eds.) ITS 2014. LNCS, vol. 8474, pp. 55–60. Springer, Heidelberg (2014)