Learning through Massive Open Online Courses (MOOCs)

A case of the first international MOOC offered by University of Oslo in 2015

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Abstract

The Massive Open Online Courses (MOOCs) are claimed to be ushering new trajectories in higher education as top elite universities around the world are said to be offering high quality online courses free of cost. Since the number of learners joining the MOOCs is exponentially growing despite the fact that the dropout rates are extremely high, it is very important to understand how pedagogical practices take place in the MOOC context and how students perceive them. This study aims at exploring the pedagogical practices and learners' experiences in the very first international Massive Open Online Course (MOOC), entitled "What Works: Promising Practices in International Development" offered by University of Oslo in collaboration with other institutions in 2015 through the FutureLearn platform, and their relevance in higher education context.

The data were collected through mixed methods using the web based surveys administered by the course provider and participant observation of learners' activities in the FutureLearn platform. Both quantitative and qualitative data were used to explore the research questions. Since there was a great variation in the response rates of the survey questions, the qualitative data were used to generate an understanding about pedagogical practices and learners' experiences of engagement in the MOOC and their relevance in higher education context.

The data show that the pedagogical practices in the MOOC are neither entirely new nor radically innovative. They tend to rather reproduce the banking model of higher education where expert teachers create better teaching and learning materials and transmit them through an online platform, and learners receive and discuss them with their mentors and fellow leaners. Teaching through video lectures, suggested reading materials, automated quizzes, questions, video conferences etc., have long been used in the practices of distance education. By and large, the pedagogical practices resembled the characteristics of the xMOOCs as the teacher had the prime role in curating the whole educational process. Though FutureLearn is claimed to be promoting learner-centeredness, its pedagogical practices are mainly based on the tenets, of visible learning (Hattie, 2009, 2012) and the conversation framework (Laurillard, 2002a, 2012) which encourage the greater role of teachers in the process of teaching and learning. In fact, they seem to be the reproduction of the tenets of behaviorist pedagogy, which has long been criticized for failing to promoting learner-centeredness in teaching and learning process. In addition, a huge dropout rate suggests that the pedagogical

practices may not be relevant for learning in higher education. However, the discussion forums, video conferences and peer review based assignment, which provide collaborative learning opportunities, foster learner-oriented learning of the course.

Concerning the experiences of learning in the MOOC, the data reveal that the majority of the learners had overall good learning experience (see figure 13, p. 49). They found the course good, thought-provoking, challenging and liked the pedagogical practices. But some learners perceived the course contents as the dissemination of propaganda material, very occidental in nature, fuzzy and unclear. Some learners could not understand the course contents because of a lack of mastery of English language skills. Data also show that only a few learners actively took part in the course. Out of about seven thousand course registrants, the number of learners who joined the course in the first week was around nine hundred, which slowly dropped to less than a hundred during the last week of the course because of lack of time, demotivation, negative perception of course materials, etc. (see table 3, p. 52). The majority of the learners met their expectation of learning by interacting with fellow learners and learning more flexibly around their other commitments. The discussion forums were the main tools for communication and interaction between mentors and leaners and leaners and leaners. For the live interactions there were two video conferences. The forums enhanced the idea of community supported learning that the FutureLearn aims to achieve by implementing the principles of conversational framework (Laurillard, ibid.). Thus, the forums were the main communicative tools for enabling collaborative learning in the MOOC.

Thus, despite a growing fascination towards MOOCs, they do not seem to produce what they are claimed to do in higher education, but the digital materials shared through the platform can be fertile means for referential learning. Technologies can be better explored and used for designing a better online learning environment for better delivery of course materials and enhanced communication, connection and engagement for collaborative learning. Technology in itself has little to do with learning (Laurillard, 2016), but it the mechanism that fosters connection, engagement, interaction and collaboration for learning, which seems to be largely missing in the MOOCs. The MOOCs have a great potential to be the next frontier for learning and lifelong education if they are structured in such a way that enables self-paced learning by catering different needs and learning styles of a diverse mass of learners. In addition, the FutureLearn has a great potential for creating highly quality MOOCs as it promotes teacher collaboration for content creation and delivery.

Acknowledgement

List of figures and tables

Abbreviations

CF   Conversational Framework

cMOOCs: Connectivist MOOCs

HE   Higher Education

MMR   Mixed Methods Research

MOOC   Massive Open Online Course

MOOCs   Massive Open Online Courses

P   Participant

M   Mentor

NORAD   Norwegian Agency for Development Cooperation

UiO   Universitetet i Oslo (University of Oslo)

VL   Visible Learning

xMOOCs   eXtended' MOOCs/ extension of traditional university courses

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1 Introduction

Massive Open Online Courses (MOOCs) have been the recent hype and hit in higher education (HE) sector. They are getting worldwide popularity and media attention since the top elite universities around the world are offering MOOCs free of costs, which have been extremely successful in attracting thousands of learners from diverse backgrounds with different sorts of experiences. Therefore, the year 2012 is referred to as "the year of MOOC" (Pappano, 2012; Siemens, 2012a) and MOOCs are now being perceived as a change agent for HE provision.

Rooted within the ideals of openness in education, MOOCs are said to build upon the "active engagement of several hundred to several thousands of learners who self-organize their participation according to their learning goals, prior knowledge and skills, and common interests" (McAuley et al., 2010, p.5). The MOOCs have now turned out to be a new instructional form in HE for engaging a huge diverse mass of learners in the activities of online learning. Although the impacts and sustainability of the MOOCs are not explored yet, they have gained an influential ground in HE sector because of the competition of top universities from all over the world for providing MOOCs free of cost. They are also providing additional opportunities for learning anytime and anywhere learners like to learn. This has resulted in the growth of universities offering the MOOCs and learners who like to give a try to a MOOC. So universities that do not offer a MOOC are likely to be viewed as traditional ones now.

Knowledge is no longer confined only within the brick and mortar campuses. It is scattered infinitely in the virtual world and the development of Web 2.0 makes it possible to obtain it anytime and anywhere if the learners want to know. Furthermore, connection and enhanced communication that Web 2.0 offers dramatically allows much more interaction, collaboration and modification by the people who use it. Because of growing use of information technology (IT) devices such as laptop, tablet, smartphones, etc., the consumers (students) desire to have information and learning materials available on their personal devices wherever they need. More and more students tend to combine study and work as the cost of HE is rising for the last decade, and want to learn without attending the classes in person. Online learning platforms such as edX, Udacity, Khan Academy, Coursera, FutureLearn, etc., are flooding in HE market for catering the needs of learners,

experimenting learning analytics, exploring marketing models, and competing with other universities to be atop in online HE provision. MOOCs are now emerging as powerful educational responses to the changes that are taking place locally, nationally, and globally due to the incorporation Web 2.0 technology in HE.

Following the footsteps of global online trends in HE, University of Oslo offered its very first international MOOC, which started on February 23 and ended on 5 April, 2015. About seven thousand participants from all over the world signed up the MOOC entitled "What Works: Promising Practices in International Development". In this thesis, I have focused on analyzing the very first international MOOC of the university from pedagogical practices and learners' experiences of engagement perspectives.

Learners can learn and join the MOOC any place and time convenient to them through connection, sharing, collaboration and interaction with other participants. It is claimed that MOOCs are providing a superior educational experience to the learners as they are connected to a diverse learning community. Even though opinions are sharply divided about the revolutionary nature of MOOCs, proponents contend that MOOCs are going to transform or blow up the existing system entirely. If so, what are the bases? Are the MOOCs entirely different from the traditional courses in terms of pedagogical structures and delivery, and the way learners learn and discuss? Additionally, the hype attached to MOOCs is said to be fading away, but the number of students wishing to take MOOCs and the number of universities offering MOOCs are exponentially growing faster. Since there is a dearth of research on real potentialities of how students learn through MOOCs and enhance their learning experiences, I have attempted to explore these challenging issues in this thesis by analyzing the survey questions and by observations of interactions among participants of the "What Works" MOOC on the FutureLearn platform.

1.1 Statement of the problem

Although much controversy surrounds around the idea of MOOCs, they are becoming dominant in the online HE market by attracting thousands of students. MOOCs have been cited as the most beneficial to increasing accessibility, potential for student engagement, and expanding lifelong learning opportunities (Carr, 2012; Duderstadt, 2012). On the other hand, MOOCs are criticized for just transmitting the facts, which is

not regarded as a sound educational practice. Good teaching does not imply only giving or taking information or facts, but also making students active and inquisitive to explore on their own for creation and innovation in HE context. Similarly, MOOC learning seems to be largely detached from the systematic and standard tools of assessment as there is only the provision of assessment in the forms of automated quizzes and has at least one assignment. They provide only formative indication of the progress of student, not a summative measure of assessing learners' performance or ability in xMOOCs, in particular. However, the charm that MOOCs have cast upon the learning community is getting stronger, faster and wider as hundreds of universities are offering MOOCs free of cost to thousands of students. Students enrolling in MOOCs are growing faster in huge numbers. It cannot be simply overlooked as hype or infatuation towards opportunities provided by technology. It indicates that the way students prefer to learn, acquire knowledge and enhance their skill is shifting and HE institutions should take this shift into consideration in order to address the changes. Furthermore, it also implies that technological developments need to be incorporated in HE in order to extend learning opportunities out of the campuses.

Taking the increased online education market and practices in HE provision into consideration, University of Oslo started offering the MOOC on FutureLearn platform in 2015. About seven thousand students enrolled in the "What Work" MOOC, but how these students found it still remains largely unexplored. People from diverse backgrounds with real life experiences joined the course and how their experiences could be tapped for creative and innovative learning practices need to be explored. Furthermore, the FutureLearn MOOC is said to promote community supported learning and takes a learner-centered approach to teaching and learning. Therefore, it is important to explore what the pedagogical practices and leaners' experiences of engagement of taking part in the MOOC suggest concerning such claims.

1.2 Research questions

This study attempted to answer the following questions:

i. What are the pedagogical practices in the "What Works" MOOC, and how relevant are they for learning in higher education?

ii.   What are the experiences of the MOOC learners and what do they indicate about the teaching-learning practices in the MOOCs?

1.3   Significance of the study

This study will be significant in a number of ways:

- This study will make a small but important contribution by discerning the pedagogical practices and experiences of learners through the FutureLearn MOOCs and shed light on how relevant they are in HE context.

- It will be helpful to understand how students use a MOOC platform for learning and what factors promote and hinder student engagement for collaborative learning. Thus, it can help the MOOC providers design a better MOOC platform that can enhance connection, interaction, and collaboration for better social learning

- Students' experiences of learning through the MOOC can have significant implications in the MOOC learning context regarding how to design a student centered learning platform to promote a collaborative and creative learning. This research can shed some light on this crucial issue too.

1.4   The structure of the thesis

The rest of this thesis is organized in order to address the aforementioned research questions. The second chapter gives a description of the MOOC, the platform through which the MOOC was offered and learners' demographics. The third chapter consists of literature review and discusses analytical frameworks for understanding the research questions. The fourth chapter explains how the data for this research was collected, and how issues of validity and ethical considerations were addressed. The fifth chapter presents the data with their analyses: the first part of the chapter presents the quantitative data and the second part consists of the qualitative data. The sixth chapter discusses the data relating to literature and theoretical perspectives, and the seventh chapter summarizes the research, gives conclusions, and suggests some recommendations for improvement and mentions the limitations of the study and direction for further research.

2   Background of the study

"*What Works: Promising Practices in International Development*" was the maiden MOOC that University of Oslo Offered from 23 February to 5 April 2015. It was also Norway's first online class that was open to the whole world. It was a free online course that explored issues concerning development and poverty reduction in international arena. In close collaboration with Stanford University in the United States, the University of Malawi's Chancellor College in Malawi, China Agricultural University in Beijing, and Norwegian Agency for Development Cooperation (NORAD), Associate Professor and Research Director, Dr. Dan Banik, at University of Oslo's Centre for Development and the Environment developed and launched this very first international interdisciplinary MOOC in Norway through the FutureLearn platform. Dr. Banik was also the speaker of the course. The interdisciplinary researchers, scholars and development specialists from the collaborating universities and organizations contributed to delivering video lectures, reading materials, etc. to the six-week course.

About 7000 participants from different walks of life from all over the world signed up for the MOOC. The participants kept enrolling even after the course was over. The MOOC was hosted on the FutureLearn platform. The platform is said to be designed to promote social learning and is inspired by the concepts of Laurillard (1993, 2002a, 2012) conversational framework (Ferguson & Sharples 2014) and Hattie's (2009) visible learning (https://www.futurelearn.com/about/why-it-works).

2.1   Description of course and course structure

The first four units of the MOOC contained the aims and ways of learning through the course. The first unit mentioned the objectives, scope, approaches of looking into the issues, and collaborating HE institutions and agencies. The second unit explained how to use the FutureLearn platform to navigate the course. For the navigation, there were four icons: *to do, activity, replies*, and *progress*, at the top of each page to help the learners make the most from their learning experience. The learner could easily see the activities to do, their own or fellow learners' comments, and progress (i.e. the percentage of the course steps they had completed). They could also easily keep track of the fellow learners' comments by following them. In the third unit, the speaker of the course

provided a detailed course plan for six weeks in a 5:59 minute video lecture. They included the issues to be presented by different instructors from different institutions. In the fourth unit, an international team of mentors, comprised of seven development scholars, were introduced to the learners, and learners were also told to introduce themselves to the mentors. The contents of the course were presented from the fifth unit.

The course contents and activities for a week-long learning were presented once a week. The course mainly consisted of video lectures, which were followed by suggested reading materials, discussion forums, quizzes, assignments, and questions. All video lectures were downloadable and with a copy of transcript in pdf format. The course had also two video conferences too. There were seven international mentors. Out of about seven thousand course registrants, only 950 participants (till 30 August, 2015) introduced themselves to the mentors.

The MOOC only provided a non-credit bearing certificate e.g. a statement of participation both in digital and printed formats. Out of total 35 participants who replied to a post course survey question about the purchase of a statement of the participation, 25.71% purchased, 68.57% did not purchase and 5.71% did not know that a statement of the participation was available. It supports the argument that the majority of the learners took the course to update their knowledge and skills, enhance their career and learn something new, but not to buy a certificate for career prospects. The certificate does not say anything about what the participants have learned, but only mentions that they have completed the course.

There existed mainly two types of assignment: e-assessment and peer-assessment to gauge the performance of the participants. The e-assessment in course was restricted to closed questions formats such as multiple choice questions. However, there was only one assignment for peer assessment in the 5th week. The format for the assignment was given by the mentors and the participants were told to write and submit the assignment on the course platform. Those who submitted were notified by the mentors by emails after their assignments were reviewed by the fellow participants. All participants were encouraged to write, read, and comments on each other's assignments. There were 65 comments on the discussion forum concerning the assignment, but it was not clear how many of the participants actually submitted and gave feedback on fellow submitters' tasks. FutureLearn provided a 250-words space for comments and discussions on its platform

for participants. For longer work, the students were recommended to use an external tool or a personal blog and then paste its link into the discussion forums.

There were two online video conferences through *Talkabout* platform. The participants talked to each other live to share and discuss their reflections and views on the issues discussed in the MOOC. Students were also encouraged to make their own video sharing their experiences. Facebook and Twitter were extensively used to advertise and share the contents of the course. The mentors gave feedback on students' activities, shared resources, and assisted the students on quizzes. Video lectures, suggested reading materials, automated assessments, discussion/reflection forums, questions and video conferences were the key pedagogical features of the MOOC.

2.2 FutureLearn MOOC platform

FutureLearn is a private company wholly owned by The Open University, UK. It is competing with American platforms such as Coursera and EdX. Since its launch in September 2013, 3,296,336 people have joined the FutureLearn plaform (FutureLearn, March 22, 2016). It offers a diverse range of courses from leading universities and cultural institutions from around the world. These are delivered one step at a time, and are easily accessible on mobile, tablet and desktop, and the idea being that individuals can fit learning around their other commitments (Kerr et al., 2015). In its website, FutureLearn has mentioned ten guiding principles of its mission: openness in course content, listening to learners, storytelling, provoking conversation, embracing massiveness, creating connections, keeping it simple, learning from others, celebrating progress, and embracing the idea of FutureLearners or lifelong learners.

In case of pedagogical practices of FutureLearn MOOC platform, Chung (2015) mentions that it is design-centered and social learning focused approach to learning online. It makes use of minimalist design that suggests the "simplicity of what it is like to learn on the platform". FutureLearn team believes that "the lack of visual clutters keeps your mind clear for the learning that should be the focus of your attention". Its minimalist design makes FutureLearn simple, and easy for use by the learners. However, Leon et al. (2015) claims that "FutureLearn platform on its own may not fully engage the learners through the course and many of them may feel unsupported and isolated" and

mentors need to play essential role to foster a fully social and connected learning experience (p.13). Unfortunately, such activities are often not included in the design and development of MOOCs (Martindale; 2014; Merrill, 2013).

2.3 Learner/participant demographics

One of the most fascinating traits of the MOOC is its huge diversity in learner participation in terms of geography, profession, level of education, age group, etc. Responses to a pre-survey question concerning learner participation in terms of gender show that the majority of the learners in the course were females. The following figure makes the patterns of participation by gender clear. The female learners counted up 596 (65.57 %) out of total 909 respondents while the number of male learners was just 305 (33.55%). Seven (0.77%) respondents did not mention about their gender while just one (0.11) learner was other than female and male.
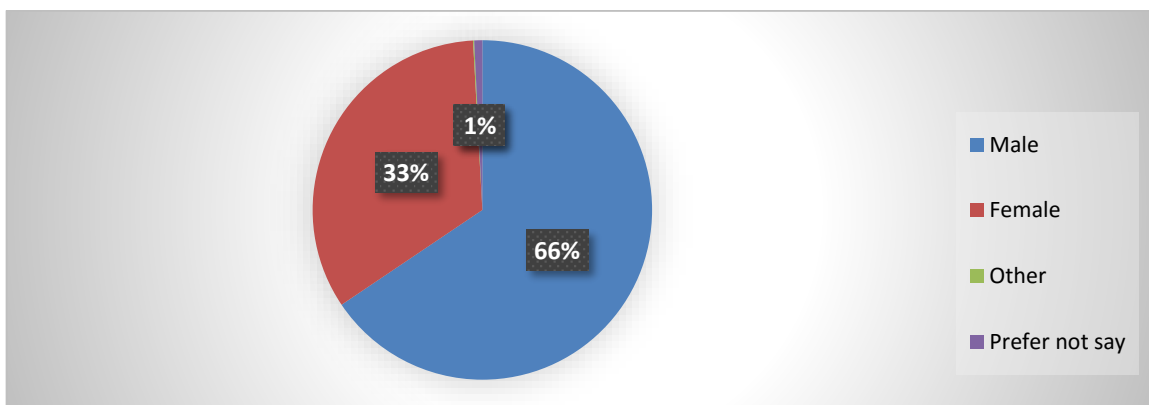
Figure 1- Learner participation in the MOOC in terms of gender (N=909)

Similarly, total 910 respondents revealed their age group in a pre-course survey question. More than a third of the learners (36.48%) belonged to the age group of 26-35 years old making this group the largest one in the course. The second largest number of learners (24.95%) belonged to the age group of 18-25 years old. As a whole, as shown in the figure 2, the majority of the learners were of the age group of the university goers. Similarly, the number of learners that belonged to the age group of 36-45 years of old was 13.63%, of 46-55 years old was 10.77%,56-65 years old was 8.13%, and 66 years old or over was 4.18 %.
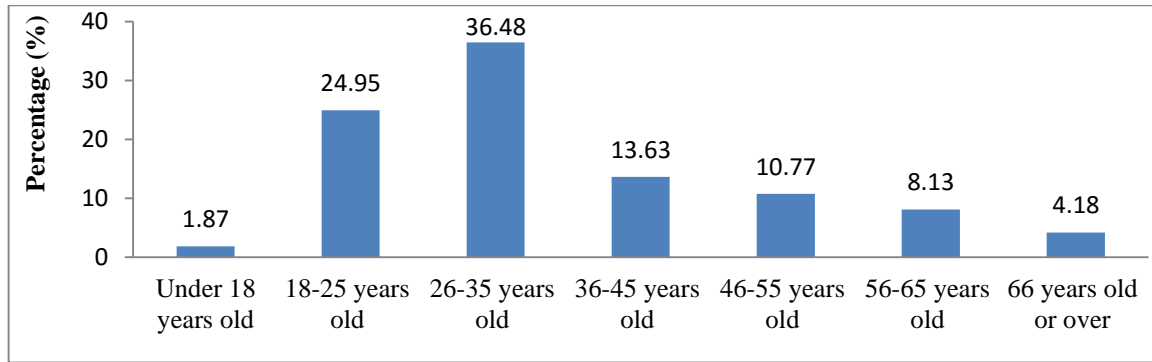
Figure 2- Learner participation in the MOOC in terms of age groups (N=910)

Furthermore, learners from more 265 locations across the world enrolled the course. However, data shows that the level of participation was slightly screwed as majority of the learners were from the United Kingdom (30.31%), Norway (6.93%), the United States (4.98%), India (2.65%), Canada (2.21%), Australia (2.10%), France (1.88%), Germany (1.88%), etc. Most countries had less than 15 participants in the course.

Likewise, total 910 respondents revealed their employment status (figure 3). The data shows that about half of the learners (48.79%) were full time workers who were working 35 or more hours per week, 17.69 % were in full time education or students, 14.29% were part-time workers (working less than 35 hours per week), 11.98% were looking for work, 5.38% were the retired, and 1.87% were not available for the work. It can be concluded that the majority of the learners joined the course in order to update their knowledge and skills, and to enhance their professional life while others joined it to learn and enhance their career prospects.
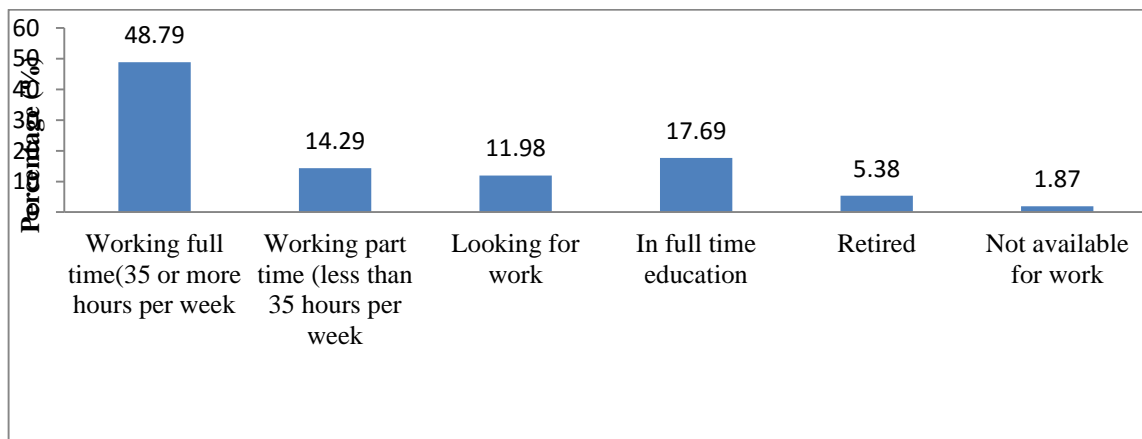
Figure 3- Learner participation in the MOOC in terms of employment status (N=910)

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Total 905 respondents replied to a pre-course survey question concerning their level of education (figure 4) and data shows that the majority of the learners had already completed bachelor's degree (40.99%) and master's degree (40.44%). If combined, more than 81% of the learners had already obtained a university degree. Those who had completed high/secondary school represented about 12.38%, and those with doctorate degree covered 4.86%. Those with less than high school counted 1.33% of the population.
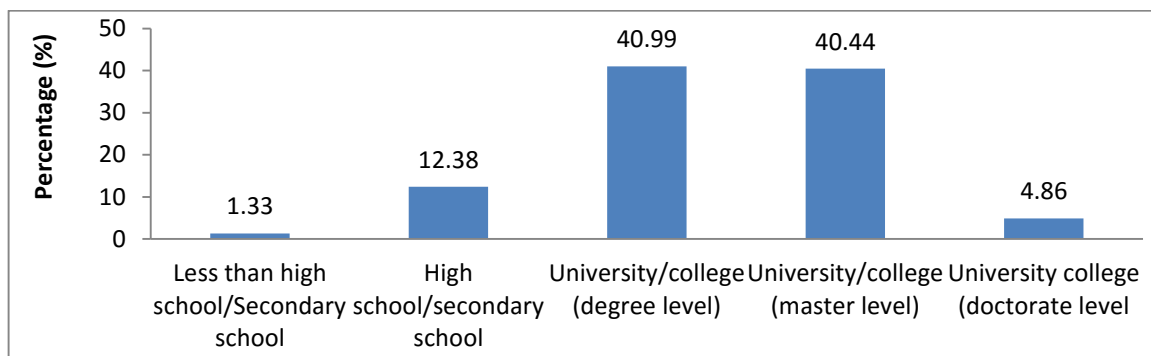
Figure 4- Learner participation in the MOOC in terms of the leavel of education they have completed (N=905)

Concerning the types of devices they used to study the course, 33 learners responded to a post-course survey. Data shows that as a main device for learning the course, 67.68% used a laptop, 28.57% a desktop, 22.73% a tablet, 8.70% a smart phone. However, 43.48% used a smart phone as other device for learning. This data implies that the MOOCs need to be designed to fit to the devices that are recently being used by the learners, for example smartphones. Moreover, the majority of the learners (71.88% out of total 32) were very likely to recommend FutureLearn to a friend based upon their experiences, 25.00% were fairly liked to recommend while 2.13% neither likely nor unlikely. It implies that those who completed the course thought that FutureLearn MOOCs are worth taking.

2.4 What is a MOOC?

Generally speaking, a MOOC refers to an online course that resembles an on-campus course in many ways. For example, it has a video lecture, discussion forums, and e-assessment. However, the students and instructors are not in face-to face like they become in real campus classes. Dave Cormier first used the term MOOC as acronym in

2008 to describe an online course entitled as 'The Connectivism and Connective Knowledge 2008' offered by University of Manitoba, organized by George Siemens and Stephen Downes (Bates 2014a; Yuan & Powell, 2013). The initial MOOCs, called cMOOCs, tended to have a decentralized, network- based, nonlinear structured focused on exploration and conversation rather than the instructor provided contents (Margaryan, Bianco, & Litteljohn, 2015). As the fastest growing technological developments, MOOCs have gained a 10% increase over the years since the launch of the first MOOC in 2008 (Toven-Lindsey, Rhoads, & Lozano, 2015). But now the term is used more broadly including the widely differing perspectives on learning theory, pedagogy, support and even the meaning of the basic terms, 'massive', 'open' and 'course'. The xMOOC has now become a dominant model rather than the cMOOCs (Sinclair et al., 2014; Yuan & Powell, 2013). The majority of MOOCs share common characteristics: they are free of costs, they are delivered online, and anyone from anywhere can join the MOOCs anytime they like, but some MOOCs charge tuition fees. Although it is difficult to define the term MOOC because the term is changing rapidly, I have used some of definitions of MOOCs given by different scholars to make the phenomenon clear.

McAuley et al. (2010) defines a MOOC as "an online course with the option of free and open registration, a publicly shared curriculum and open-ended outcomes" (p.10). They further explain the phenomenon as:

> *A MOOC integrates the connectivity of social networking, the facilitation of an acknowledged expert in a field of study, and a collection of freely accessible online resources. Perhaps most importantly, however, a MOOC builds on the active engagement of several hundred to several thousand 'students' who self-organize their participation according to learning goals, prior knowledge and skills, and common interests. Although it may share in some of the conventions of an ordinary course, such as a pre-defined timeline and weekly topics for consideration, a MOOC generally carries no fees, no prerequisites other than Internet access and interest (p.5).*

European Commission gives a definition of a MOOC, which seems to be relevant to define a course provided by online learning platforms such a Coursera, Udacity, edX, FutureLearn. Commission (2014) notes that

> *A MOOC as an online course is open to anyone without restrictions (free of charge and without a limit to attendance), usually structured around a set of learning goals in an*

area of study, which often runs over a specific period of time (with a beginning and end date) on an online platform with interactive possibilities (between peers or between students and instructors) that facilitate the creation of a learning community. As it is the case for any online course, it provides some course materials and (self) assessment tools for independent studying (p.2).

T. Anderson (2013, pp. 1-3) explores the four aspects of the acronym MOOC, notably the massiveness, the openness, the online nature and the course features. He notes that MOOCs' massiveness refers more to the scalability rather than a specific number of students. He also acknowledges the massiveness in terms of the number of students, but recommends a careful use of students' numbers at the registration, course start, first assignment/quiz completion and course completion phases in the discussion of MOOCs' completion rates. Anderson identifies six types of openness: (a) expansion of education beyond geographical barriers, (b) freedom of speech, (c) removal of restrictions on the learning content, (d) enrolment without prerequisite, (e) the freedom to determine the learning pace, and (f) the provision of a course free of charge. Regarding the online aspect, he points out that MOOCs are not necessarily entirely online as some students in the same geographical location can meet face-to-face for mutual support and meet-ups are encouraged in some courses. The course aspect points out that MOOCs run for a specific time duration.

Daniel (2012) contends MOOCs are commonly defined by signature characteristics that include: free courses and short video lectures combined with formative quizzes that are easily accessible through technology devices that have Internet connectivity. However, Hvam (2015) states that all MOOCs are not free and non-credit bearing. Some of the MOOCs are degree awarding and charge tuition fees. Thus, a single definition does not cover all MOOCs. Siemens (2012a) describes two types of MOOCs; cMOOCs and xMOOCs. The "cMOOC model emphasizes creation, creativity, autonomy and social networking learning" while xMOOC model emphasizes "a more traditional learning approach through video presentations and short quizzes and testing. Put another way, cMOOCs focus on knowledge creation and generation whereas xMOOCs focus on knowledge duplication" (p.5).

Crowley (2013) highlights the differences between two dominant branches of MOOCs in Campus Technology

	xMOOCs	**cMOOCs**
What is the ultimate goal?	Efficiently deliver content to larger audiences; award learners with certificates/certifications; reach new audiences; experiment with new courses outside the university structure; increase access to Ivy League content or provide free access to education	Foster connections and collaborations among learners; kindle future collaborations rather than provide a contained experience with a defined end date; spawn smaller niche communities
What learning or instructional theories are informing the instructor's decisions?	Instructionism (teacher-centered): The learning process focuses on moving knowledge from the instructor to the student.	Connectivism and/connected learning: The learning process focuses on the connections and collaborations between learners.
What is the role of instructor?	The creator of content, assessments, activities, goals, and learning path.	A co-learner, working collaboratively with other learners to create content, shape goals, generate new knowledge, etc.
What role does the learner play?	The learner receives knowledge (usually in video format), participates in small group, and responds to quizzes and assessments.	The learner is a co-creator of the MOOC.
How are learners building knowledge?	Learners view content developed by the instructor and apply that content to problem sets or projects defined by the instructor.	Learner create production-centred projects that relate to course themes; share knowledge they developed during the production process; give feedback and support to peers; share resources; etc.
How is learning assessed?	Learners complete assessment (quizzes or peer-reviewed assignments) that evaluate their comprehension of a topic as it is understood from the instructor's view	Learners share their insights as they go through the knowledge-building process (e.g., via status updates or blog posts) and self-assess their learning paths.
Who is creating the content?	The content is created by the instructor.	The weekly activities are created by a core group of motivated learners and additional content is created by participants
What types of interactions are taking place?	Learners view content created by the instructor and work in small groups to solve problems/work on projects	Interactions take place between learners as they go through the knowledge-building process. The course contents are shaped by these interactions as the learners contribute new materials to the MOOC.
How flexible are the course path and the course goals?	The syllabus, activities, and assessments are determined by the instructor before the course launches. Pre-recorded video content works well for xMOOCs since the learning path is set.	The general themes/topics are collaboratively determined by a small group of learners and shaped throughout the course by the whole group. Course goals are determined in response to the community, on a week-by-week basis.

Table 1- Differences between xMOOCs and cMOOCs

3 Analytical frameworks

This chapter establishes a discussion on the main concepts, theories, trends and issues that have come into light supporting or opposing MOOCs and their possible impacts on HE. MOOC development and expansion is exponentially growing, but scholars and researchers are still struggling to find a comprehensive theory that can explain a MOOC phenomenon well. They are also sharply divided on which learning theories can best describe the nature of teaching/learning practices in MOOCs. Even though elements of MOOC came into practice along ago in the forms of *distance learning*, the MOOC phenomenon first emerged in 2008 and lacks solid scientific research foundations. The xMOOCs are even more recent as the advent of the first truly massive xMOOCs emerged in 2011. Putting this challenging situation of the phenomenon into consideration, I have attempted to explain the phenomenon from *two different perspectives*. First, I have reviewed the existing literature in order to *make a sense of MOOCs*, the nature of teaching and learning, and learners' engagement in them. Second, as an analytical framework, I have reviewed the concepts of *visible learning*, and *conversational framework* to explain how teaching and learning practices take place into the MOOC.

3.1 Literature review

The first part of this section focuses on different scholars' views on how MOOCs evolve, what opportunities they offer and challenges they pose for teaching/learning in HE provision. The second part emphasizes to bring out the perspectives of teachers, and learners' engagement and their motivations for MOOCs. Latest journal articles, blog posts, books, etc., have been used to critically review and reflect deeply on the phenomenon. Since MOOCs are the recent phenomenon, their development is still in infancy and research on them is steadily growing. There is small quantity of systematic scholarly writings (Daniel, 2012). There is dearth of thorough research about social understandings of the needs of the MOOC learners, ways of addressing them, and figuring out how MOOCs will bring changes in higher educational practices. Therefore, much more research is needed to understand MOOC learners; for instance, how to design and deliver contents successfully across a range of subjects and at a range of levels, ensuring that MOOC experience is helpful to learners (Haywood, 2012).

Existing literature about MOOCs suggests that they bring an impetus to reform, research and innovation in HE. MOOCs will ignite "disruptive revolution" in learning practices and become a harbinger of the end of residential colleges, while others call MOOCs at best "mere marketing" or at worst an abject failure, singling out low completion rates (Harvard Gazette, 2015). Similarly, MOOCs have been termed as a 'noble' endeavor in bringing changes in HE (Caplan, 2013), potential forces "to provoke major shifts in educational practices" (Sharples et al., 2012, p.3) and "to unlock a billion more brains to solve the world's biggest problems" (Friedman, 2013), disruptive technology (Yuan & Powell, 2013; Christensen & Weise, 2014), and a movement that threatens to fragment HE (Daniel, 2012; Harden, 2012). In addition, MOOCs are claimed to minimize "barriers to learning and increase the autonomy of learners as they create, engage and share in global interactions" (McAuley et al., 2010, pp.55-56), and provide institutions with opportunities for "expanding access to HE to all", creating space for "experimentation with online teaching and learning", enhancing institutional reach and reputation, and analyzing and exploiting the large and potentially valuable datasets that MOOC activities produce (Yuan & Powell, 2013, pp.8-9). They also strengthen retrieval learning and enhance learning outcome and performance through the "exposure to other students' approaches" which help learners "to develop their ability of 'self-learning', to identify their strengths and weaknesses that would contribute to the development of professional skills" (Glance, Forsey, & Riley, 2013, p 5). They foster both academic and skill-based learning (Miller et al., 2014) and cater the needs of 'knowledge workers' in keeping abreast of their skills and serving the continued professional development (Liyanagunawardena, 2015). Thus, top universities around the world like Harvard, MIT, Stanford, etc., are rushing to provide free online courses for all via MOOC platforms such as coursera, edX, Udacity, FutureLearn, etc., which has increased the expansion, importance and popularity of MOOCs. The MOOCs have now become HE buzzword (Siemens, 2012a).

On the contrary, the skeptics claim that MOOCs are not conceptually as revolutionary as they seem to be. They are the next logical step in two increasingly growing phenomena: online learning, which has been growing since the start of the millennium with distance education (Butcher & Wilson-Strydom, 2013). MOOCs will solve global scarcities in education is 'a cruel myth' (Laurillard, 2014), and their arrival is a means of reproducing, rather than reducing inequalities McGhee (2012). Haggard (2013) questioned their

scalability, sustainability and educational quality, identifying the absence of a workable business model as the single biggest challenge to providers. Daniel (2012) also argues that rushing of elite universities in delivering xMOOCs does not suggest that they are particularly talented in online teaching and it is a myth that non-credit bearing courses will address the challenges of expanding HE in developing countries, and professors distinguished for their research output are competent to create online courses without help. Much of the pedagogy that xMOOCs are using now is already well known in distance learning and their complete rate is too low. However, there are possibilities MOOCs will improve teaching and encourage host institutions develop distinct missions. MOOCs have also been criticized for narrowing the learning scope, removing a human element from the processes of teaching and learning, replacing reflection from the student learning process, manipulating the knowledge they present and consequently limiting the connection with social and cultural aspects of knowledge acquisition (Cooper, 2013). Cooper further comments that the concept of knowledge presented by the MOOCs can be limiting learning to the transformation of information based on the outdated behaviorist pedagogy and the MOOCs run the risk of reducing assessment to merely understanding concepts. Furthermore, MOOCs do not improve the nature of learning but only change the form of learning and do not address the type of learning needed in the 21st century (Bogost, 2013; Bates, 2014a). The MOOCs, particularly the xMOOCs largely reproduce the banking model of HE (e.g., Freire, 1970) through video lectures and digitized resources and automated assessment (Morris, 2014). Thus, it can be argued that MOOCs are just a more modern version of distance learning and technology in itself has a little to do with learning, but it is a mechanism that fosters connection, engagement, interaction and collaboration for learning.

In addition, MOOCs are not a recent and original phenomenon but rather as a step forward in the ongoing effort to improve participation and lifelong learning experience in HE, (Gaebel, 2013). There are still some optimisms that MOOCs would provide revolutionary opportunities for online learning through the development of learner-centered pedagogy that allows students to learn from one another through the use of peer support and assignment strategies (Yuan & Powell, 2013). Thus, we need be skeptical of simplistic utopian and dystopian accounts of MOOCs as "the reality of open online learning is that learners' experiences are neither as overwhelmingly positive as optimists make them out to be, nor as poor as critics suggest they are" (Veletsianos, 2013, p.2).

3.1.1 Pedagogical practices in MOOCs

The first MOOC was designed to test principles of connectivism developed by Downes (2005) and Siemens (2005) to attempt to explain the nature of learning in highly networked settings, which focused on co-construction of knowledge as an integral part of learning. So, the initial MOOCs, or cMOOCs, tended to have a decentralized, network based, and nonlinear structure that focused on exploration and conversation rather than emphasizing instructor-provided content (Margaryan, Bianco, & Littlejohn, 2015). But now the term is used more broadly including the widely differing perspectives on learning theory, pedagogy, support and even the meaning of the basic terms, 'massive', 'open' and 'course, and the xMOOC has now become a dominant model rather than the cMOOCs (Sinclair et al., 2014; Yuan & Powell, 2013). The pedagogy of MOOCs is not "embedded in MOOC platforms, but is negotiated and emergent" (Bayne & Ross, 2014, p.57). "The MOOCs themselves are not seen as necessarily innovative but they provide the opportunity for new thinking and working and in offering courses in non-traditional ways" (Fox, 2016, p.159). The existing version of MOOCs offer traditional, technology-enriched teacher centered instruction through video lecturing, automated assessments and online discussions which have efficiency in delivering information (Cuban, 2012).

Ample attempts have been made to distinguish between cMOOC and xMOOCs on the basis of how teaching learning takes place on these two kinds of MOOCs. The fact is that binary classification of the MOOCs holds the perennially unresolved debates of how teaching and learning ought to take place. The cMOOCs are disaggregated from social mode of learning while xMOOCs are institutionally focused, overtly reliant on video-lecture contents and automated assessment, and characterized by pedagogy short on social contract (Bayne & Ross, 2014). The recent literature is starting to move away from the simplistic binary categorization towards more nuanced and micro level discussion of what is happening in different kinds of MOOCs because it may misinterpret what happens in MOOCs and constrains future MOOC developments (Bayne & Ross, 2014). Therefore, some scholars like Waite et al. (2013) have proposed the notion of 'hybrid MOOC' or a process by which educators might mediate the dichotomy between xMOOCs and cMOOCs (Grunewald et al., 2013). Likewise, cMOOCs focus on connection and collaborative learning while xMOOCs emphasizes the extension of existing pedagogical model which is dominated by the "drill and grill" method (Yuan &

Powell, 2013). The underlying philosophy of cMOOCs is learner empowerment through peer learning process and the contents of them are emergent, generated and contributed by learners while of xMOOCs is content consumption (Ahn et al., 2013). That's why cMOOCs are claimed to be based on "a sophisticated and innovative conceptualization of what it means to know and to learn (Clow, 2013, p. 185) while xMOOCs on a very old and outdated behaviorist pedagogy, relying primarily on information transmission (Bates, 2012; Yuan & Powell, 2013). Unfortunately, the cMOOCs are not mainstreamed yet as many educators do not feel comfortable with online learning and lack tech skills to cope with (Morrison, 2013).

However, Bali (2014) analyzed many xMOOCs and concluded that most xMOOCs have similar characteristics; however, "they are not all offered in exactly the same way; some provide sounder pedagogy that develops higher order thinking, whereas others do not" (p. 44). The majority of xMOOCs involve original videos (Glance, Forsey, & Riley, 2013; Kolowich, 2013) as primary teaching and learning materials, to which Guzdial (2013) calls "a fundamental misperception of how teaching works". FutureLearn, Udacity, Coursera and edX courses consist mainly of lecture videos, course materials, quizzes, and assignments. Even though some of them contain wikis and discussion forums, they are not extensively promoted or used (Conole, 2013). Offering such lectures online allows students to watch videos multiple times at their own pace, but this is not necessarily the best way for every person to learn (Prensky, 2011), and meaningful learning is unlikely to result from this kind of pre-packaged instruction (Morris & Stommel, 2013). The pure programmed instruction of xMOOCs as traditional lectures serves as a means for imparting information (Schulmeister, 2014). Thus, success of xMOOCs needs to be evaluated with respect to how efficient they are in imparting knowledge

Nielsen (2014) claims that instructors of the MOOCs spend much time in curating the available resources, and deliver them online with marginal cost, in terms of both time and money. However, some do not see much change in instructor's' role. The instructors of xMOOCs tend to structure their courses very similar to traditional HE courses. xMOOCs mainly have a syllabus, along with a course content which consists of readings, discussions via online forums or chat rooms, assignments which usually comprise of auto-graded quizzes, essays or activities/projects, and videos of lectures that are pre-

recorded by the instructors prior to the lessons (Belanger & Thornton, 2013; Agrawal, 2012; Chamberlin & Parish, 2011). While in cMOOC the instructors also provide a course outline, but the actual course materials and course content are defined by students during the course, rather than defined by the instructors before the course (Rodriguez, 2012). Learner autonomy is the focal point in cMOOCs (Mackness, Mak & Williams, 2010), and students are encouraged to create their own personal learning environments and networks of co-learners (Colone, 2013). The cMOOC instructor acts more like a discussion moderator while xMOOC as a tutor in xMOOCs (Rodriguez, 2012).

Ferguson & Whitelock (2014) analyzed six FutureLearn MOOCs and outlined the roles of instructors as a member of academic community in a university, assessor of student work, course team member, emotionally engaged, evaluator, host, instructors, lead educator, outliner, recommender, explainer, and social media user. Chung (2015) also contends that, among major MOOC providers, FutureLearn takes a unique perspective on online learning and crafting its offering on that basis. It aims at "fostering social engagement on topic content in a simple, elegant environment".

3.1.2 Learner engagement in MOOCs

Student engagement refers to the time and effort students invest in learning activities. Research concerning face-to-face student engagement indicates that students learn better when they engage in their academic materials and make meaningful connections with their faculty and peers. The same is assumed with reference to MOOCs. The overwhelmingly growing number of students taking MOOCs remains a challenge for MOOC provider to make them meaningfully engage in learning. The factors such as timely feedback, opportunity for interaction with peers, supporting learning environment, challenging learning opportunities are said to contribute to promoting student engagement in MOOCs. The provision discussion forums integrated into each step of the course activities enables experiential learning which Kolb & Kolb (2005) define as a process of learning, but not the outcomes of learning.

Hung & Yuen (2010) observed that social networking sites engender favorable feelings regarding learning experiences among college students. Wintrup et al. (2015) concluded that learners enjoyed MOOCs and found their fellow learners and MOOC education teams as main force to their success, and state that FutureLearn MOOC platform

"encourages social engagement and interaction" (p.32). Likewise, Belanger & Thornton (2013) surveyed the participants of Duke University's first xMOOC and found that majority of the respondents rated the courses highly regardless of whether they completed the course. By examining MOOC videos styles and student performance, Guo, Kim, & Rubin (2014) found that shorter videos, inclusion of instructor talking-head videos, and presence of drawing-hand style instructions resulted in better student engagement in MOOCs.

Grainger (2013) observes that MOOCs are basically based on three areas of student engagement. They are video lectures, assessment and forums. Milligan, Littlejohn & Margaryan (2013) have recognized three distinct types of engagement; a) active participation, b) passive participation, and c) lurking. These patterns of engagement were affected by confidence level, prior experiences and motivation. They further note that active participants were highly motivated and actively engaged to continue the course by overcoming challenges. They were active bloggers and Twitter users and developed strategies to encourage connections with other participants through commenting on others' blogs; and created new contents contributing new resources back into the course. Similarly, they also found the largest number of lurking participants, who actively followed course but did not actively engage in connection and discussion with other participants. Therefore, they did not contribute to the course and exhibited a lack of confidence. Finally, the passive participation showed their apparent frustration and dissatisfaction with the course, as they were unable to find how to connect with other participants. Hill (2013) has observed four patterns of student behavior within MOOCs; viz. lurkers, drops-ins, passive participants and active participants. These four types of students keep changing between behaviors. The passive participants decide to become active participants, even active participants get frustrated and become lurkers. Such change occurs once per course at the most for any individual student. Kizilcec, Piech, & Schneider (2013) analyzed patterns of engagement and disengagement in three MOOCs on the Coursera platform and found four patterns of engagement with these courses: completing learners who completed the majority of assessments; auditing learners who watched most of the videos but completed assessments infrequently, if at all; disengaging learners who completed assessments at the start of the course, then reduced their engagement; and sampling learners who explored some course videos. This also suggests

that learners have different learning styles hence prefer to learn in different ways (c.f. Felder & Silverman, 1988).

Ferguson & Clow (2015) observed four FutureLearn MOOCs and found seven distinct pattern of learner engagement such as samplers, strong starters, returners, midway dropouts, nearly there; late completers and keen completers, and these patterns of engagement are influenced by the pedagogical decisions. Similarly, the CEO of FutureLearn, Simon Nelson (2014) has categorized the FutureLearn participants into following six categories: joiners, learners, active learners, returning learners, fully participating learners, and social learners. The *joiners* refer to all who sign up the course. More than seven thousand people signed up the "What Works" MOOC. The course joiners may or may not complete the course. The *learners* are those who actually visit the course after they join it. FutureLearn has taken different promotional and scheduling approaches to encourage more joiners to become learners, and offer learning experience to the course registrants by making the content more open and discoverable (Nelson, 2014). The *active learners* are those who go through the steps (e.g., 'Mark as complete', 'Next' etc.) that FutureLearn has designed to start learning the course and assess themselves what they have learnt on the course. The *returning learners*, who begin the course, continue to learn for some time, disappear after some time, say after a week, and come back and follow the courses. The *fully participating learners* are those who complete majority of steps and all of the assessment. Finally, the *social learners* post the comments, view the comments, and learn from the comments. It is crucial to encourage social learning in order to make learning effective.

The course completers tend to be more interested in the course contents, whereas the non-completers in taking the MOOCs as type of learning experience (Wang & Baker, 2015). The students who initiate the conversation and frequently post the comments are more likely to complete the courses (Yang et al., 2013). The presence of the forum reputation is also correlated with higher course retention (Coetzee et al., 2014). However, participation in MOOCs does not seem to be constant: it is "emergent, fragmented, diffuse and diverse" (McAuley et al., 2010, p. 5); and there are steeply unequal patterns of participation in comparison with formal learning (Clow, 2013). Learner participation and engagement in cMOOCs contexts take on varied form and online learning platforms enhance participatory learning environment (Ahn et al., 2013).

The learners who enrolled with friends were more likely to be engaged with course materials than their counterparts (Kizilcec, Piech & Schneider, 2013). MOOC participants who were engaged in significant interactions with peers were less likely to dropout (Ferguson & Clow, 2015; Halawa, Greene, & Mitchell, 2014; Jordan, 2014; Onah, Sinclair, & Boyatt, 2014). But the completer and non-completer dichotomy of MOOC participants seems to be poor and incomplete measurement of students' engagement on MOOCs as there take various forms of learning patterns.

3.1.3 Motivation for enrolling in MOOCs

Learners are motivated to join MOOCs for different purposes. Regarding why thousands of students enroll MOOCs, Anderson (2013) points out that many participants join the MOOCs only to satisfy their initial curiosity with no intention of completing the courses. Learners sign up the MOOCs for "the desire to learn about a new topic or to extend current knowledge, they were curious about MOOCs, for personal challenge, and the desire to collect as many completion certificates as possible" (Hew & Cheung, 2014, p. 45).

Zheng et al. (2015) have identified four broad types of student motivation. They are "fulfilling current needs, preparing for the future, satisfying curiosity, and connecting with people" (p.1886). They further detail that a common factor of motivation for students in enrolling in MOOC is to complement other courses they are taking. Students feel pressurized to achieve high grades for a school course and MOOCs are good at making them clear about the course contents. Furthermore, some students feel that that course content in a class do not meet their need; so they take MOOCs to supplement their learning. Sooryanarayan & Gupta (2015) observe that "a majority of learners subscribe to MOOCs based on valuing the knowledge proposition it holds rather than other benefits or end goals" (p.934). There are also other motives for MOOC sign up. Some students sign up MOOCs because they want to learn about new subject or to increase their knowledge on something they have already learned (Agrawal, 2012; Belanger & Thornton, 2013; Breslow et al., 2013), while some are curious about MOOCs (Young, 2013). Similarly, some want to take MOOCs for personal challenge to see if they could make it through an MIT course (Breslow et al, 2013) while other want to get as many as course certificate as possible (Young, 2013). Many learners do not seek credit toward

any credential (Fini, 2009; Kolowich, 2013). MOOC learners' motivations and its correlations with course completion shows that the course completers are likely to be interested in the course content while the non-completers in MOOCs as a type of learning experience (Wang & Baker, 2015). Morris & Lambe (2014, pp. 17-19) have detailed following types of learners and their motivations for taking MOOCs the following table.

Pre-university learner	Increase understanding of a current subject. 'Tasters' of possible subjects to study at degree level. Improving knowledge of university level study for use in UCAS application. Gain accreditation for university applications.
University learner	Increase understanding of a current subject. Gain different perspectives on subjects being learned from a variety of subject experts. Explore potential areas for further study. Gain competencies and skills for professional development purposes.
Professional learners	Employer requirement for continuing professional development purposes. Gain competencies and skills to improve career prospects. Gain experiences and/or competencies in new subject areas to facilitate a change in a career direction.
Self-directed learner	Gain competencies and skills to achieve a defined goal. Gain increased knowledge and understanding of new subject areas. Gain accreditation to increase credibility. Building a professional network.
Leisure learner	Learning to general interest. Providing experiences and wisdom to the learning community Supporting professional, community or voluntary commitments.

Table 2- Types of leaners and their motivations for taking MOOCs

3.1.4 Student dropouts

Student number registering on MOOCs remains higher (Colombo 2014) and those who participate seem to enjoy MOOC learning, reporting high levels of satisfaction (Anderson 2013). However, MOOCs are backfired because they have a higher rate of

dropouts. On average, less than ten percent of the enrollees complete the MOOCs (Breslow et al., 2013; Ho et al., 2014; Jordan, 2014; Kolowich, 2013; Liyanagunawardena, Adams, & Williams, 2013; Daniel, 2012). Though completion rate may not be the best measure to evaluate learning in MOOCs (Ho et al., 2014; Jordan, 2014) depleting completion rates do raise questions regarding their effectiveness. Several factors can make the MOOC participants leave the course. These factors can be roughly divided into internal motivational factors that influence participants' desire to persist and external factors like outside life commitments (Lee & Choi, 2011). External factors are "virtually impossible to detect through the digital traces of behavioral data of the learners" and are "practically impossible to intervene upon" (Halawa, Greene, & Mitchell, 2014, p. 59). "A lack of incentive, failure to understand the content material and having no one to turn to for help, and having other priorities to fulfill" results in up to 90 % learner drop out in the MOOCs. (Hew & Cheung, 2014, p. 45).

Zheng et al. (2015) have identified eight factors associated with low student retention rate. They are high workload, challenging course content, lack of time, lack of pressure, lack of a sense of community, social influence, lengthy course start-up, and learning on demand. To retain the learners, the MOOC providers should diversify learning modules to support the diverse goals and needs of the learners, enhance mechanisms that facilitate social interaction, provide a sense of community to the participants, design strategies to stimulate a passion for learning in students, etc. Likewise, Onah, Sinchlair, & Boyatt (2014, pp. 4-5) have also found out a number of reasons for student drop out. They are: (a) real intention to complete, (b) lack of time, (c) course difficulty and lack of support, (d) lack of digital skills or learning skills, (e) bad experiences, (f) expectations, (g) starting late, and (h) peer review. Siemens (2012b) himself points out three significant concerns about MOOCs and puts the onus on facilitator to address those concerns. They are a) high drop outs and declining participation as courses progress, b) requirement of high degree of technical skills, and c) scaling social learning by increasing opportunities for peers to help each other.

Learners' complete withdrawal from MOOCs may reflect self-directed learners' choice to 'climb out' (rather than drop-out) and this mirrors these learners' variable levels of activity over the MOOC duration (Clow, 2013). Therefore, there is a need to rethink the understanding of learners' engagement and disengagement because the existing

monolithic distinction between completers and drop-outs is in many ways inadequate to describe the diversity of learning engagement patterns (Clow, 2013 Kizilcec, Piech, & Schneider, 2013); Seaton et al., 2013). There may be different levels of completion among completers, and different levels of non-completion (Cisel, 2014). For example, Kizilcec, Piech, & Schneider (2013) distinguishe auditing learners from disengaging learners, among other types of learners, and auditing learners usually watch video lectures, but do not submit the assignments, whilst disengaging learners usually follow the beginning of the course diligently and eventually give up. The understanding of this issue could be used to tailor the course for different types of learners (Grunewald et al., 2013). I, however, attribute the low completion rate of MOOCs to the free factor, which may attract learners who want to give a try, but not committed to complete the MOOC, and expectation of too much prior knowledge from learners. Since the aim of offering a MOOC is to provide the opportunity to learn from high quality courses offered freely from world class universities, dropout rates should not be of primary concern (Yuan & Powell, 2013). "From current evidence, it can be seen that for MOOC participants, drop out means achieving their aims (or not) in a course rather than finishing the course by completing all parts" (Liyanagunawardena, Parslow, & Williams, 2014, p.99).

3.2 Analytical frameworks

This section discusses the theoretical bases the FutureLearn MOOCs are built upon and how the idea of open learning, knowledge production, collaborative learning, etc., can be realized through the mechanisms the MOOC providers make use of. The pedagogical models of initial cMOOC and xMOOC are said to be different from each other despite they share some common features like use of social media for learning, assessment, discussion forum etc. Even if some scholars (e.g. Coelho, 2015) take the connectivism as the de facto learning theory for the MOOCs, on its website (https://www.futurelearn.com/about/why-it-works) the FutureLearn states that its MOOCs are based on the concepts of *Visible Learning* (VL) of John Hattie (2009, 2012), and community support model based on *Conversational Framework* (CF) of Diana Laurillard (1993, 2002a, 2012) for teaching and learning activities that take place in online setting. Ferguson et al. (2015) and Littlejohn, (2013) also state that FutureLearn MOOCs employ the principles of social constructivism that is based on the CF approach.

Thus, concepts of visible teaching and learning and the CF as framework for analysis of the issues that emerged in this research are discussed in the following sections.

3.2.1 Theory of visible learning (VL)

According to Hattie (2009), the term 'visible' suggests two things here. First, it implies that student learning should be made visible to teachers so they can know whether they are having an impact on learning. Second, it also implies that teaching should be made visible to the student as well so that students learn to become their own teachers, which is an important component of becoming lifelong learners that is what we want students to value. Visible teaching helps the student know what to do and how to do it and visible learning helps the teacher know if learning is occurring or not. Challenging and explicit goals of learning make teaching and learning visible. Thus, "The more the student becomes the teacher and the more the teacher becomes the learner, then the more successful are the outcomes" (p. 25). Hattie (2009) further explains the underlying assumption of visible teaching and learning as;

> *Learning occurs when the learning is the explicit goal, when it is appropriately challenging, and when the teacher and the student both (in their various ways seek to ascertain whether and to what degree the challenging goal is attained, where there is deliberate practice aimed at attaining mastery of the goal, when there is feedback given and sought, and when there are active, passionate, and engaging people (teacher, student, peers, and so on) participating in the act of learning (p.22).*

Hattie further states that learning is "spontaneous, individualistic, and often earned through effort. It is timeworn, slow and gradual, fits-and-starts kind of process, which can have a flow of its own, but requires passion, patience, and attention to detail (from the teacher and students" (p. 2). Knowledge creation in VL, as Hattie & Gan (2011) suggest "is an individual, shared, and interactive process", which is "based on developing strategies of learning used to regulate understanding", and "learning involves social and evaluative negotiation of meaning" (p.252). They pinpoint the crucial role of feedback as a social negotiation through the development of cognitive and evaluative skills, which helps in developing understanding. For Hattie (2009), quality feedback is the most powerful single influence that enhances achievement and it has the greatest effect when teachers receive more and better feedback about their teaching. Feedback should be

given and sought for successful learning. In addition, Hattie (2012) mentions that feedback helps the students know where they are going concerning obtaining the leaning goal, how they are going there, and what the next step is. He distinguishes three feedback levels: task/product level feedback for the novice leaners, process level feedback for the proficient learners, and self-regulation level feedback for the competent learners. Hattie (2009) also states that students' prior knowledge of learning, expectations, degree of openness to experiences, emerging beliefs about the value and work to them from investing in learning, engagement, ability to build a sense of self from engagement in learning, and seeking feedback, are the main contributors to successful learning for students.

Drawing upon the ideas of constructive alignment of John Biggs, Hattie (2009, 2012) points out three levels of understanding; surface, deep and constructed or conceptual. Surface learning focuses on understanding ideas or concepts; deep understanding is demonstrated by relating and elaborating ideas "which constitute a change in the quality of thinking that is cognitively more challenging than surface questions" (Hattie, 2009, p. 28), and conceptual learning involves abstract processing to extend ideas. Learners construct conceptual understanding through surface and deep understanding of the ideas. Thus, in planning the lessons, instructors need to consider these three levels of understanding and explicitly state learning intentions or goals at the different levels. Visibility of intentions of learning at these three different levels help learners better engage in the activities of learning, which in turn results in better learning outcomes.

Concerning teaching, Hattie (2009) argues that;

> *The act of teaching reaches its epitome of success after the lesson has been structured, after the content has been delivered, and after the classroom has been organized. The art of teaching, and its major success, relate to "what happens next"-the manner in which the teacher reacts to how the students interprets, accommodates, rejects, and/or reinvents the contents and skills, how the students relates and applies the contents to other tasks, and how the students reacts in light of success and failure apropos the content and methods that the teacher has taught (pp.1-2).*

Hattie (2009) further explains that "visible teaching relates to teachers as activators, as deliberate agents, and as directors of learning" but not the "guide on the side" (p. 25) in the instructional process. On the opposite end of the continuum, this does not advocate

teachers standing in front of the students and doing what Hattie calls "drilling and trilling to the less than willing" (p.25), but rather an enhanced role of teachers in seeking the impacts of their teaching on the students. It helps the teachers make real-decisions and interferences about which strategies are or are not working. Teachers also work within collaborative groups to find out more deeply the possible root causes of students' misconceptions and strategies for tackling errors in understanding. They also provide the students with "multiple opportunities and alternatives for developing learning strategies" (p. 24) based on surface and deep thinking. Thus, visible teaching requires making learning the explicit goal, sharing challenging learning intentions and success criteria, planning interventions that deliberately encourage mastery of these intentions, seeking and giving feedback, quality teaching and adapting teaching as a result of feedback from learners. Furthermore, Hattie (2012) argues that teachers must consider themselves as 'change agents' because their beliefs and commitments influences greatly the achievement of the student, which somehow controlled by the teacher. He has also identified five major dimensions of excellent teachers who identify the most important ways to present the contents by integrating with the prior knowledge of the students, create optimal climate for learning, actively monitor learning and provide feedback for knowing the effect they are having on learning, believe that all students can succeed in learning, and influence a wide range of student outcomes; improving test score to helping them to develop into active citizens of the world. He also suggests that the teachers should talk less, but listen more because listening more helps teachers learn about students' prior knowledge and understanding, which are crucial to learning. The role of peers needs to be fostered because peers build up a cooperative climate, which has a more powerful impact on student learning than individualistic and completive learning. The teachers should select a method and focus on evaluating its impacts on students learning. Knowing the impact of teaching and learning develops critical mind frame, which is important for deep learning to happen even in HE (Hattie, 2015)

There are some criticisms against the VL. Hattie (2009) attributes success to effort rather than ability, but in practice both practice and ability are essential for successful learning. The concepts of the VL do not deal with circumstances in and out of the classrooms and focus on only measurable performance indicators. However, factors both in and out of the classrooms play significant role in making the learning successful. Hattie also excludes the role of students' socio-economic factors for learning, but research show that

they contribute significantly to successful learning. Furthermore, the VL is said to result in pure instrumentalism in teaching and learning process because it instructs the teachers and students what to do and how, but not how they want to do. The concepts of the VL only focus on the conditions of successful school learning (Terhart, 2011), and whether these concepts are applicable in higher education context is yet to be explored.

3.2.2 Conversational framework (CF)

Laurillard (1993) posited that universities should rethink their educational strategies and teaching practices considering emerging technologies in order to take advantage of the changing classroom dynamics. She proposed the CF model, which consists of a balance set of learning experiences to students, and an emphasis on having dialogue in the student learning process. In other words, the learning process must consist of a combination of discursive, adaptive, interactive and reflective activities to effectively engage students in deep meaningful learning. The CF approach to learning highlights the necessity of *conversation between teacher and students, and between students and students* for learning.

Drawing on the ideas of the Socratic tradition of dialectic, the social constructivist learning theories of Vygotsky and Piaget and the conversation theory of Pask, and integrating the principles of main learning theories such as instructionism, social learning, constructionism, and collaborative learning for providing "a simplified representation of what it takes to learn" (Laurillard, 2009, p. 11), the CF, provides "a framework for the design of learning and teaching...whose representation is based on Pask's (1976) analysis of learning as a form of conversation" (Laurillard, 2009, p.12). Even though some scholars like Ferguson & Sharples (2014), Ferguson et al (2015), etc., call the CF a general theory of effective learning through conversation with oneself and peers, Laurillard (2009) terms it a framework for designing teaching and learning "not and an explanatory theory"(p.12) as conversational theory of Pask (1976). She further claims that:

> *The Conversation Framework goes beyond providing a description of the components of a collaborative process, to an account of how different components of the pedagogical design interrelate to motivate learners to conceptualize, adapt, act, reflect, revise, negotiate, share, and produce, that is, to rehearse and repeat what it takes to learn (p. 18).*

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Explaining prescriptively the process of learning, Laurillard (2002a) maintains that all complex learning involves:

A continuing iterative dialogue between teacher and student, which reveals the participants' conceptions and the variations between them… There is no escape from the need for dialogue, no room for mere telling, nor for practice without description, nor for experimentation without reflection, nor for student action without feedback (p.71).

Laurillard (2002b) claims that CF is a progressive model for learning compatible with reflective practices rather than transmission model of teaching and learning, and transmission model "is just one part of much more complex model of learning as a shared understanding" (p.22). Laurillard (2002a) also claims that the CF is theoretically comprehensive framework for capturing what it takes to learn. Clarifying about the need of the CF, Ljubojevic & Laurillard (2011) argue that a pedagogically grounded model is needed to resolve the problem of adequate support to practitioners, and the CF as an analytical tool focuses on properties of learning design. Here the support refers to how to identify and provide what it takes to learn (Laurillard 2008). Thus, the CF gives a way of thinking about learning that accounts for teacher and learner activity, individual and social aspects of learning and the integration of theory and practice.

Laurillard (1993, 2002a) argues that the nature of much academic learning is largely defined by the acquisition of complex concepts and creation of conceptual distinctions. Efficient learning consists of the four components; teacher's concepts, teacher's constructed learning environment, student's concepts, and the student's specific action related to learning tasks. A two way dialogue, which is iterative in nature, between tutors and students or students and students, at each of these conceptual levels is necessary for learning. For the higher level learning to take place, dialogue or conversation must occur at both a theoretical and practical level. For successful conservations to take place, teacher and students involved in the process of teaching and learning need to have access to a shared representation of the subject matter as well as tools for commenting, responding, and reflecting. The CF model focuses on producing a learning environment

rich in information/knowledge, which is acquired by the students by the support of the teachers. It emphasizes the equal role of teachers and learners in the task of learning.
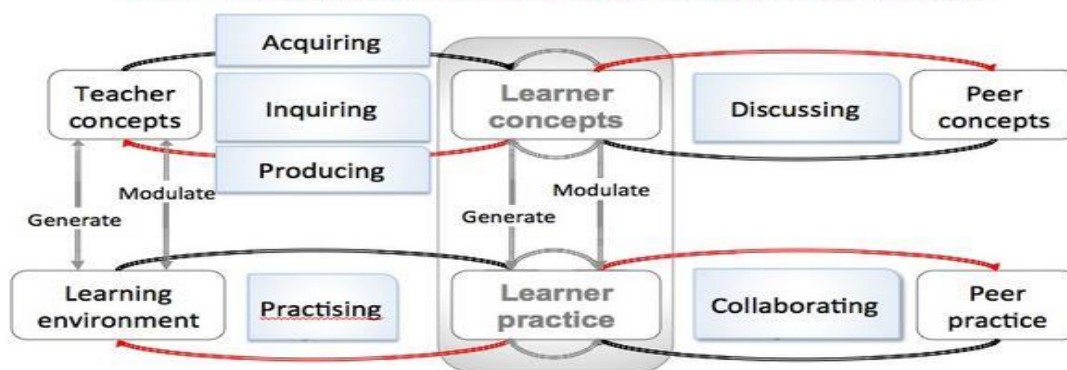
Figure 5- This pictorial representation of CF model has been taken from Laurillard's Twitter post (Laurillard, 2013, December 4 https://twitter.com/thinksitthrough)

The abovementioned framework provides a useful basis for the reflection on complex issues of what it takes to learning. However, student learning is a complex process and does not happen at once. As Laurillard (1993) suggests:

> *Students will not suddenly switch to being the model of holistic, deep and epistemologically sophisticated learners...Teaching must create a learning environment...at every level of description of the learning situation: i.e. conceptual structure, actions, feedback and goal must relate to each other so that integration can work (93).*

Since continual conversation is the core aspect of teaching and learning process, Laurillard (2002a) divides learning conversation into four phases; discursive, interactive, adaptive and reflective, which are the basic characteristics of every learning encounter and can be supported by technologies. In a *discursive phase*, the teacher presents a new concept, which is somehow linked to prior knowledge of the students, and students start conversing with teachers to make an idea out of it. In an *interactive phase*, students interact with the tasks constructed by teachers for learning and try to put the new concepts into practice. The teachers focus on support for task, give appropriate feedback to the students on their performance, and support the students to revise their conceptions and adapt the tasks to learning needs. In an *adaptive phase*, by integrating the feedback

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and linking it to their conceptualization, students attempt to put their ideas into practice through modification of their ideas and adaption of their action in light of what they have learned. They attempt to make their own link between concepts and events. Finally, in a *reflective phase*, teachers and students reflect upon students' performance, support students to revise their conceptions and adapt the tasks to learning needs. Learners should reflect on all stages of learning process (i.e. initial concepts, tasks, objectives and feedback). Teachers use their conceptual knowledge to reflect upon and respond to student performance and adapt learning environment accordingly. In the iterative conversational process of learning in the CF, "students are encouraged and enabled to engage repeatedly in the goal-action-feedback-adaptation- revision cycle" (Laurillard, 2002a, p.14).

Laurillard (2002a) distinguishes taxonomy of learning experiences and provides a map of corresponding digital technologies to support these learning experiences. She has categorized five types of learning technologies on the basis their ability to afford learning activities: narrative, interactive, communicative, adaptive and productive, and "in combination they cover all essential activities in learning process" (p.173). These learning technologies are interdependent on each other: for example, the interactive technologies offer resources for student to explore, and communicative technologies enhance communication of resources through interactive media. These technologies can support different kinds of learning such acquisition, inquiry, discussion, practice and collaboration (Laurillard, 2012). FutureLearn is said to be the blend of these technologies for delivering high quality contents produced by experts. Comments forums, discussion/reflection forums are integrated into each video lecture. As Laurillard (2012) suggests, learners collaborate through comments, discussion and reflection forums. The conversation that takes places at the level of actions directs discussion towards interpreting the learning materials (Ferguson & Sharples, 2014). Optimized pedagogical patterns can be effective means of exchanging ideas through digital technologies and thus adapting teaching as a design science can be effective to address the needs of the increased diversity and global nature of the MOOC learner cohorts who have different types of emotional and intellectual characteristics, and prior learning experiences (Laurillard, 2012).

The different kinds of roles played by teachers and learners in terms of the requirements are derived from conceptual learning, experiential learning, social constructivism, constructivism, and collaborative learning, and the corresponding principles of designing and learning activities in the instructional design literature (Laurillard, 2002b). Moreover, teachers need to be aware of students' likely misconceptions (Laurillard, 1999) about a given subject and teachers should elicit these errors and provide guidance and opportunities for clarifications. The teachers are supposed to get deeply involved in scaffolding the way students think and how they develop the new kinds of skills required for the digital literacies (Laurillard, 2012). As an important aspect of the CF model, both intrinsic and extrinsic feedback, as argued by Laurillard (2002b), aid learning process and are important for deep learning to happen. Students should be able to integrate the feedback they get with larger learning goals of the course. Students' actions without feedback become completely unproductive. Assessment should not be an endpoint of learning, but rather as a step in the cycle of learning that provides opportunities to the students to describe their conceptions of materials and concepts they have learned.

However, Millner (2008) argues that the CF is intended to define a formal learning situation and the lists of technologies mentioned above poses the question, which "technologies are best suited to supporting the range of experiences needed for significant online learning to take place?" As a design analysis tool, the CF exposes also the inherent constraints for learning through a MOOC design. The CF seems to represent give and take deal between students and teachers, and less passivity on the part of students. It lays emphasis on the primary role of teacher in designing teaching/learning activities and students are supposed to respond to them. Leon et al. (2015) also claim that "FutureLearn platform on its own may not fully engage the learners through the course and many of them may feel unsupported and isolated" and mentors need to pay essential role to foster a fully and social and connected learning experience (p.13). Unfortunately, such activities are often not included in the design and development of MOOCs (Martindale; 2014; Merrill, 2013). There is very little timely and informative feedback on learner performance as formative assessment is only superficial and summative assessment comes in the form of certificates showing that the participants lasted until the end of the MOOCs rather than providing a graded assessment of competence obtained by the learners (Spector, 2014).

4 Research methodology

This chapter discusses the research methods used for collecting the data from a range of sources and participants engaged in the FutureLearn MOOC. Both primary and secondary sources of data were used. The primary sources were the available comments and feedbacks that participant had left on the platform, and the pre-and post-course survey responses of the FutureLearn MOOC entitled "What Works" offered by the UiO. The secondary sources are books, journal articles, blog articles, newspaper articles, etc. related to MOOCs. The participants were the learners who responded to the survey questions and gave their views on the course through comments during the operation of the course.

4.1 Mixed methods research (MMR)

According to Johnson & Onwuegbuzie (2004), the MMR refers to a research paradigm where;

> *The researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. Mixed methods research also is an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers' choices (i.e., it rejects dogmatism). It is an expansive and creative form of research, not a limiting form of research. It is inclusive, pluralistic, and complementary, and it suggests that researchers take an eclectic approach to method selection and the thinking about and conduct of research (pp. 17–18).*

Creswell (2009) also states that the MMR employs different philosophical assumptions, strategies of inquiry and methods of data collections, analysis and interpretation, which is crucial to understanding the issues that have emerged in this research. It also provides comprehensive information and helps to deconstruct concepts or issues by allowing different methods from two different research paradigms: quantitative and qualitative. According to Creswell (2015), there are three MMR designs of carrying out research: convergent design, explanatory sequential design and exploratory sequential design. I used the *convergent design*, which Creswell (2015) defines as a process of merging "the results of quantitative and qualitative data analyses" for seeing the problem or issue

"from multiple angles and multiple perspectives" (pp.35-36), to discuss and explain the issues emerged in this research. This design is used when both forms of data collection and analysis take place during the same phase of research process (Creswell & Clark, 2011). I got the quantitative data during the process of collecting qualitative data. It helped me a lot in sorting out the themes that could best explain the research questions of the study. It also helped me to get focused on the sorted out themes and find other possible themes during the process of observation. In fact, the data collection process took place almost concurrently.

Both quantitative and qualitative data collection process took place in an online setting. The surveys were undertaken by the course provider and observations by me. By and large, data collecting took place in the online world. As Hine (2000) suggests, virtual ethnography focuses on experiential aspect on the internet rather than a physical travelling, and it is possible for an ethnographer to explore the social spaces of the internet by sitting in a desk in an office or at home. The researcher develops an understanding of the activities and experiences of the research participants through their participation and observation. Virtual ethnography engages with virtual contents used to represent and construct the everyday lives online. Morton (2001) also states the two ways of conducting ethnography on the internet- "distanced or involved" (p.6). Distanced research refers to the evaluation of sources such as texts, images, emotions, and the observation (but not participation in) of social interactions in online world. On the contrary, in the involved research, the researcher identifies her or himself and interacts with others through computer mediated communication. S/he participates with the subjects of research.

As quantitative data, I have used the pre-and post-course surveys that I obtained from the course provider. As qualitative data, I observed the comments that participants posted on the discussion forums of the MOOC. Since qualitative data collection process takes place in online setting, a qualitative virtual ethnography observation with reference to the MOOC learning setting was used to collect the data required. Because, as Hine (2000) contends, virtual ethnography is an ideal method for the study of everyday practices around the Internet, and it is informative of the complex interactions between online and offline identities, cultures, behaviors, etc. It also allows 'thick description' of the issues from participants' perspectives.

There are four reasons of conflating both quantitative and qualitative research methods. Firstly, there was huge inconsistency in the number of responses in pre-and post-survey questions so that the qualitative data helped to give a complete picture of the responses. Secondly, as Driscoll et al. (2007) argue, qualitative data provide "a deep understanding of survey responses and statistical analysis can provide detailed assessment of patterns of responses" (p.26). Thirdly, triangulation of quantitative and qualitative data helps to maintain credibility by enhancing the integrity of findings, gives a more comprehensive account of the phenomenon, and increases validity and reliability of the research (Bryman, 2012). It can also result in "greater confidence in findings" (Clark & Creswell, 2008, p. 105). And, fourthly, mixing both methods help better construct the meanings and augment interpretations of the issues emerged during the analysis of the data.

4.2   Methods of data collection

This research has used triangulation of quantitative and qualitative methods in order to collect the data about the online communications and interactions that took place in the "What Works" MOOC on the FutureLearn platform. The surveys and observations are the two methods used for the collection of the data.

4.2.1 Survey questionnaires

Here the survey questionnaires refer to the questions sent out to the MOOC enrollees by the MOOC provider. These were both generic pre-course and post-course survey questionnaires prepared by the course administrators. Important themes were extracted from pre- and post-course questionnaires. The number of participants that replied to the pre-course survey questionnaires was far higher than those who replied to the post-course survey questionnaires. The course provider upon request provided these web-based surveys. Not all survey questions were used. Only the questions related to the MOOC pedagogy, contents, learning styles, perceptions, participation, etc., were used to address the research questions. Information about learner demographics such as gender, age groups, education level, etc., was also extracted from the pre-course survey questions. The responses to the survey questions were not constant. There was a great variation rate in the responses. About 885 to 936 participants replied to different questions of the pre-course survey. The number of participants who replied to the total 17 questions was not

the same. More than 100 participants skipped the questions. The only one question replied by the highest number of participants was concerning their expectation from the course. Similarly, the variation rate in the responses of the post-course survey questions was even greater. About 9-36 participants replied to the total 28 questions, and about 28 participants skipped the questions. Because of this high inconsistency in the response rate, the surveys were only used to generate an understanding of the research questions, but not to prove or refute a concept or theory.

There, however, are some advantages of using these surveys. The responses of the survey automatically store in databases, which eliminate errors that are likely to take place during the process of verification (Andrews, Nonnecke & Preece, 2003). It also eliminates the taxing task of coding the data (Bryman, 2012). Furthermore, such surveys are said to be much cheaper, and increase quality of answers. On the contrary, such surveys have low response rates, participants not having internet access and specific type of browser cannot reply to the questions (Guråu, 2007). Perhaps these factors might have hindered a large number of participants taking part in the surveys.

4.2.2 Online participant observation

Participant observation refers to "engaging with people in as many different situations as possible" Hammersely & Atkinson (1995, p.65). Here it refers to active engagement with comments that participants have left in the MOOC platform in order to decipher their meaning in light of the research questions. This method of reaching to the activities of the participants allowed me to gain access to participants' learning activities in the MOOC. I used this method in order to gain a thorough understanding of the issues sorted out in the pre- and post-course survey questions and explore other possible issues.

I enrolled myself into the "What Works" MOOC. I remained active throughout the whole six weeks of the course. I introduced myself as a learner plus observer of learning activities of fellow learners. I honestly revealed my intention of joining the course. I got opportunity to view lived experiences, insights, and emotions of the participants. However, my role was not to influence the fellow participants, but to see how often they viewed the learning materials and what comments they left about the course contents delivered online in order to check against learners' subjective reflection of what they believed and did. It helped me tremendously to gain an understanding of the physical,

social, cultural, and economic contexts in which the learners lived in. To keep track of the observed data, an observation log, which contained a check list for coding positive and negative experiences of the learners and gathering pertinent information related to the themes extracted through the surveys, was used so that the misleading information was checked while interpreting the data.

My role as a participant observer extended even after the course was over because of the huge amount the data that I had to comb through. I went through the data for about three months after the course was over to find out common patterns of engagement and interactions in the course. The course contents, the exchanges of interactions among participants remain stored in the FutureLearn platform. As a participant with valid log in ID, I can approach the content anytime and anywhere I want. I became the observer of the real-time interactions as well as archived interactions. So, I describe my role at the best as being both a synchronous and asynchronous observer of the data.

I used the qualitative content analysis approach, which Bryman (2012) defines as "an approach to documents that emphasizes the role of investigators in the construction of the meanings of and in texts" (p.714) in order to explore the emerging themes and information related to the themes extracted from quantitative data.

According to Spradley (1980), the participant observer to a social situation has two purposes; (a) "to engage in activities appropriate to the situation, and (b) to observe the activities, people and physical artifacts of the situation" (p.54). As a researcher my role was to identify and meanings and cultural patterns by engaging with and observing the activities of the participants. Spradley has delineated five levels of participation: non-participation, passive participation, moderate participation, active participation and complete participation. In this study, I acted on a moderate level of participation while observing learners during the course period. This level allowed me to maintain a balance between "being an insider and an outsider, between participation and observation" (Spradley, 1980, p.60). However, my role as moderate participant observer changed into complete observer after the course was over so that I could observe every piece of texts without affecting the participants. This unobtrusive and prolonged engagement in collecting data, as Onwuegbuzie & Leech (2007) suggest, helped me to minimize biases in the research. Spradley has also figured out three observational categories; descriptive, focused, and selective. The descriptive observation refers to observing everything that is

encountered. The focused observation narrows perspectives on processes and problems most essential for research questions. And, selective observation focuses on finding further evidence about the research questions. I went through these three categories, but focused mainly on selecting the exchanges of interaction that were more related to research questions.

However, it became too much time consuming as I had to read all the comments posted on the discussion forums. I also faced difficulty in screening out the data needed for the research.

4.3   The sample and sampling technique

The learners who enrolled the "What Works" MOOC in FutureLearn platform were the population of the research. The learners who replied to survey questions and who left comments after lectures, readings, and questions on the FutureLearn platforms were the sample population because they were the only ways to learn about the respondents' activities in the course. The learners' comments that corresponded to the underlying meanings of research questions were intensively read and purposefully selected for the analysis and discussion.

Purposive sampling was used to collect data from both quantitative and qualitative methods. Not all the survey questions were used. Only the questions that addressed the issues raised by the research questions were purposefully selected. Purposive sampling attempts to choose a sample that gives us the widest range, to include as much information as possible. The sampling is emergent; serial; continually focused and selected to the point of redundancy (Glaser & Strauss, 1967). The selection of the data or participants is based on "their anticipated richness and relevance of information in relation to the study's research questions" and the richness and relevance of information are "presumed to challenge and not just support a researcher's thinking about the research questions" (Yin, 2011, p.311).

While observing the comments of the learners on the discussion forums of the MOOC platform, I also used a qualitative purposive sampling to collect and generate data that would address research questions. As Creswell (2015) argues, qualitative sampling helps in selecting participants who can best help the researcher understand the phenomenon

that the researcher is exploring. Since the themes of research were already well known and defined from the survey, only the data that complemented the themes emerged from quantitative data were selected through observation. There are still a huge mass of data available in the platform. I particularly focused on coding the data that explained the experiences of learning, knowledge sharing, participation, motivation, demotivation, etc. As the majority of the comments made by the learners were positive about the course contents and its pedagogies, I mainly selected those comments that reflected the mix of motivating/demotivating and critical aspects of the course perceived by the learners.

4.3.1 Approaches to data presentation, analysis and interpretation

I have presented quantitative and qualitative separately in order to have a good understanding of the data and avoid confusion. I have presented the quantitative data in the first part and the qualitative data in the second part of the fifth chapter. I have reduced the quantitative data to descriptive forms using figures and tables to make them more explicit and clear. I extracted some of the themes of the qualitative data from the analysis of quantitative data and I identified others during the process of coding the data collected through online observation. I have also presented the qualitative data in a way that explains the issues emerged in quantitative data analysis.

First I described and analyzed quantitative data and then qualitative data because both data were described and analyzed independently under convergent design of the MMR in order to obtain different but complementary data to elicit the best understanding of the research questions (Creswell & Clark, 2011). I have attempted to analyze the data according to the seven stages of mixed data analysis process outlined by Onwuegbuzie & Teddlie (2003). They are (a) data reduction; reducing the dimensionality of quantitative and qualitative data, (b) data display; displaying the data in graphs, tables, charts, (c) data transformation; converting quantitative data into narrative data that can be analyzed qualitatively, (d) data correlation; correlating quantitative data with qualitative data and vice versa, (e) data consolidation; combing quantitative and qualitative data to create new data sets, (f) data comparison; comparing qualitative and quantitative data, and (g) data integration; both forms of data are integrated into either a coherent whole or two separate sets of coherent wholes. In addition, I have incorporated the last three processes; data consolidation, data comparison and data integration into data discussion and

interpretation section within the analytical framework mentioned in the third chapter. I have used interactive and iterative approach of merging quantitative and qualitative data through a blend of deductive and inductive interpretations.

4.3.2 Validity and reliability

Validity and reliability are the most important part of the research. According to Bryman (2012), validity as whole refers to "the integrity of the conclusion" (p.717), and "the issue of whether indicators designed to gauge a concept really measure the concept" (p. 171). Kleven (2008) takes validity as "a property of inferences" and various aspects of validity depend upon the kinds of inferences drawn, but "not on the kind of data used as basis for the inference" (p.221). On the other hand, reliability refers to "the consistency of a measure of a concept" (Bryman, ibid., p. 169).

According to Onwuegbuzie & Johnson, (2006), validity depends upon the complementary strengths of the use of different approaches, methods, and strategies in multiple and creative ways. They recommend us use the term legitimation instead of validity in the MMR because "some qualitative researchers (e.g. postmodernists) view the concept of validity (and the world) as representing a debunked modernist perspective that champions universal rationality, rules, order, logic, and the like" (p. 55), and the term legitimation is also used by both quantitative researchers and qualitative researchers. Legitimation as outcome refers to a procedure for assessing the quality of inferences and legitimation assessment naturally takes place after data have been collected. This is consistent with the notion of inference quality, which consists of two research components: design quality (i.e. criteria used for assessing the methodological rigor of the mixed research study) and interpretive rigor (i.e. criteria used for assessing the validity of conclusions). Legitimation can also be enhanced by ensuring that inferences stem directly from the underlying sample of units (Onwuegbuzie & Collins, 2007).

The readymade pre-and post-course survey questionnaires were developed by the provider of the MOOC. It is assumed that the questions used in the survey were pilot-tested and expert reviewed so that the respondents could get the intended meaning of them. Because of a greater variation rate in the responses, these questions have been used to reflect on the issues and generate an understanding of the research questions.

According to Cuba & Lincoln (1994, as cited in Bryman, 2012, p. 390), there are other alternative criteria for assessing the concepts of validity and reliability in qualitative research. They are trustworthiness and authenticity. Trustworthiness consists of four criteria: credibility (replacement for quantitative concept of internal validity), transferability (replacement of quantitative concept of external validity), dependability (replacement for quantitative concept of reliability), and confirmability (replacement of for quantitative concept of objectivity). Authenticity here refers to the degree to which researchers faithfully and fairly describe research participants' experiences.

Qualitative validity is based on determining if the findings are accurate from the standpoint of the researcher, the participants or the readers (Creswell, 2009). The notion of reliability in this research is related to eliciting quality information and a good qualitative study helps us to understand how teaching and learning takes place in the MOOC learning context. It is concerned with "generating understanding" (Stenbacka, 2001).Triangulation of methods and data, prolonged and persistent observation helped to minimize biases in the research through constant process of checking, rechecking, and avoiding irrelevant data. Furthermore, this research is not designed to confirm or refute any research or theory. It is all about making sense of how teaching and learning takes place in the MOOC and what the experiences of the learners suggest through interpretation and constructions of realities.

4.3.3 Ethical considerations

The researcher has an ethical responsibility towards the people studied and should protect their welfare, dignity and privacy (Spradley, 1980). Prior to data collection, an application as a legal requirement containing the details of the thesis research project such as types of data to be collected and methods to be used was sent to the Norwegian Social Science Data Services (NSD) to inform and ensure the protection of personal data of all the informants. Similarly, a meeting through the collaboration of my supervisor was held with administrative consultant directly related to the MOOC at UiO and both oral and written consent was taken to protect the privacy of the data obtained and ensure that the data would be used only for the research purpose.

Bryman (2012) mentions some ways of maintaining ethical issues in the qualitative research, which are also applicable to the MMR, such as not harming the participants,

informed consent, protecting privacy and being honest to participants. In order to maintain honesty to the participants of the MOOC, I revealed my identity and primary purpose of joining the course in the introductory section of the course. I requested the participants to join me if they liked to talk to me concerning their experiences, but unfortunately no one replied to my request and I was compelled to solely depend upon their comments on different forums of the course. I also made it clear through writing in in the introductory forum that their information would be collected and was only used for the research purpose on the condition of anonymity. I have nicknamed the real names of the participants in order to protect their identity. However, as argued by Bryman (2012), "it is more difficult to guarantee confidentiality, because that data are often accessible to other participants" (p.680) as the MOOC platform is open for all and the course and data are archived in the platform and anyone wishing to see them can access the data. My extended role as non-participant observer helped me to remain unobtrusive to the participants.

Furthermore, I planned the study well in terms of how to collect data, document them and make meaning out of them. I made an observation log, which contained the coding of the observed data such statements of the participants supporting and opposing the themes outlined in the survey data, to make meaning of the observed data in a proper manner so that I could check the likely misleading information to take place in the writing. The log helped me to eliminate the biases in writing by double-checking the extracted information against what was there in the platform.

5 Presentation and analyses of the data

This chapter presents quantitative survey data obtained from the course provider, and qualitative data collected through online observation of learning activities of the learners stored in the FutureLearn platform. Both quantitative and qualitative data have been analyzed and explained separately in order to make a clear presentation and have a good understanding of them.

5.1 Presentation and analysis of the quantitative data

In this section, quantitative data have been presented and analyzed. Much of these data have already been quantified by the course provider. The data relevant to my research questions have been extracted from the surveys and presented in bar-diagrams to make them clearer.

5.1.1 Structure of the course

The "What Work" MOOC was divided into six weeks. It contained a number of activities to complete within a week, each one built from a sequence of straightforward steps, to help learners grasp them with greater degree of understanding. Each week was given a descriptive name, for example, the first week was entitled with "Introduction: 'What Works' & Framing Development", so that the learners could know what is expected, and could even navigate between them, to see what is coming up, or catch up from the beginning if they are late starting.

The course was mainly comprised of video lectures, reading materials, quizzes, discussion forums, and questions. At least four topics were presented per week. Each topic consisted of at least one video lecture, reading materials, quizzes and discussion forum. There was a room for comments after each section and the participants clicked on the mark as 'complete' button and entered into the next section; however, they could do it without clicking on the mark as 'complete' button. Computer mediated quizzes were the tools to assess what the learners had understood about the topics. There was also a discussion step under each topic each week. The instructors, particularly the mentors presented a number of issues or questions and asked the participants to reply to them. In

order to trace their own learning activities like comments, questions, etc., there were four icons on the dashboard such as *'to do', 'activity', 'replies'* and *'progress'* which helped the learners easily navigate the course contents, their own comments, etc. Similarly, if there was anybody making interesting points and asking great questions, there was 'follow' button on the profile page of them so that one could keep easy track of the issues he/she found interesting.

The figure 6 makes it clear about the number of lectures, articles, quizzes, discussions, reflections and assignments that the course had per week. It shows that the course was laden with video lectures rather than discussion/reflection forums. It means teacher had much more role to play than the learners. Similarly, at least 4 topics for discussions presented each week were solely determined by the teachers. At least two sections for assessment through quizzes presented each week were not enough to gauge the deep learning of the learners. There was only one assignment in the fifth week for assessing deep learning was not enough too.
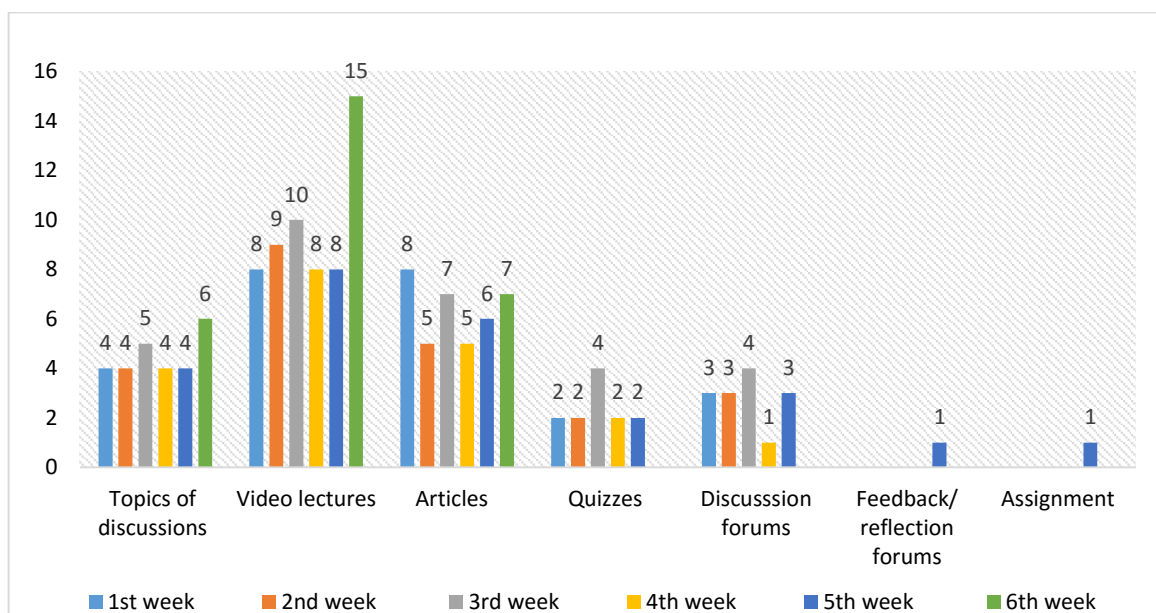
Figure 6- Overall number of topics, videos, articles, quizzes, discussion/feedback/reflection forums and assignment presented per week.

The figure 7 shows that the majority of the learners found the structure of the course very clear (62.86%) and more than one third of them (34.29% out the total 35 participants) found it fairly clear. As a whole, the majority of the learners found the structure clear to follow and learn and none of them found it unclear.
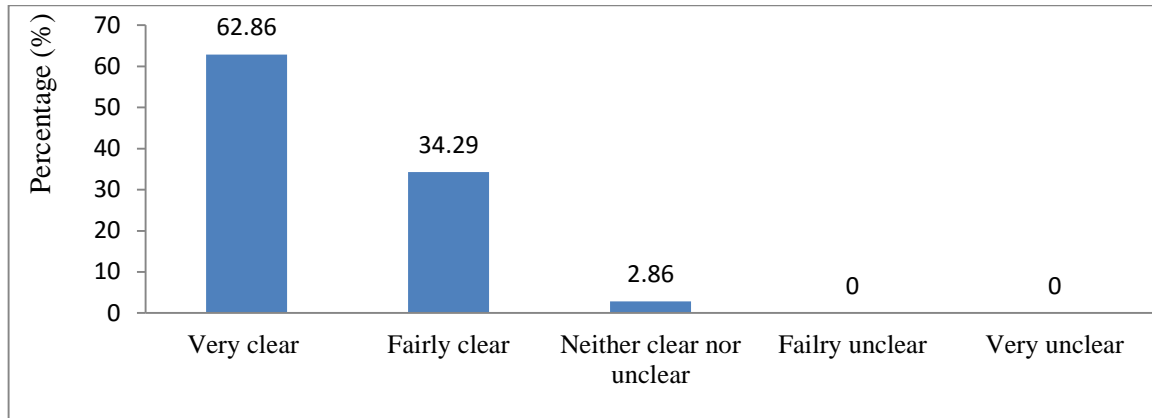
Figure 7- Structure of the course perceived by learners (N=35)

5.1.2 Level of the course

Total 33 respondents replied to a question on their rating the level of the course. About 75.56 % of the respondents found the course just about right. Around 9.09% found it a bit advanced and 3.03% too much advanced. However, about 12.12% found it a bit too basic. Thus, as a whole the majority of the learners found the course about right.
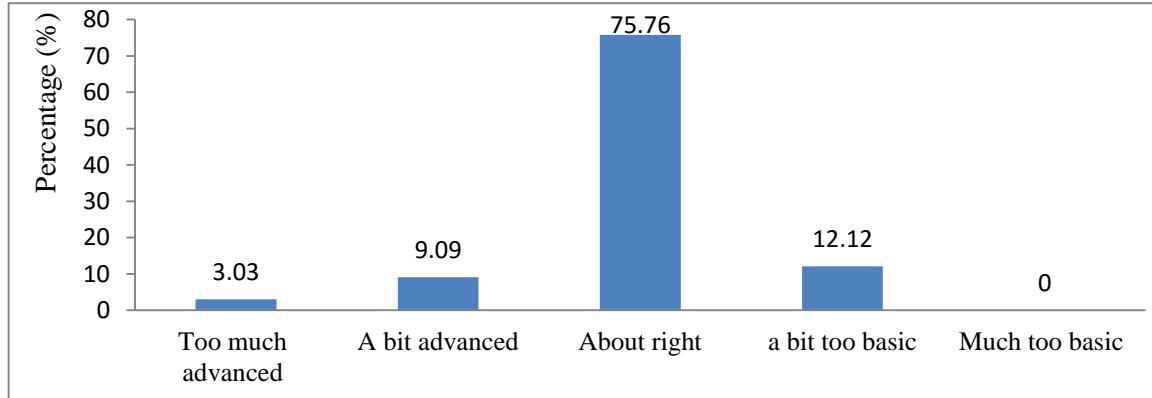
Figure 8- The level of the course perceived by the learners (N=33)

5.1.3 Learners' expectations

Total 936 participants responded to a pre-course survey question on learners' expectations from the course (figure 9). There were a number of expectations that learners had before the course start. The majority of the learners (69.87%) expected to learn new things from the course while many of them expected to improve their career prospects (42.52%) and add a fresh perspective to their current work (42.09%).

Similarly, other wanted to supplement their existing studies by taking the course (38.78%).
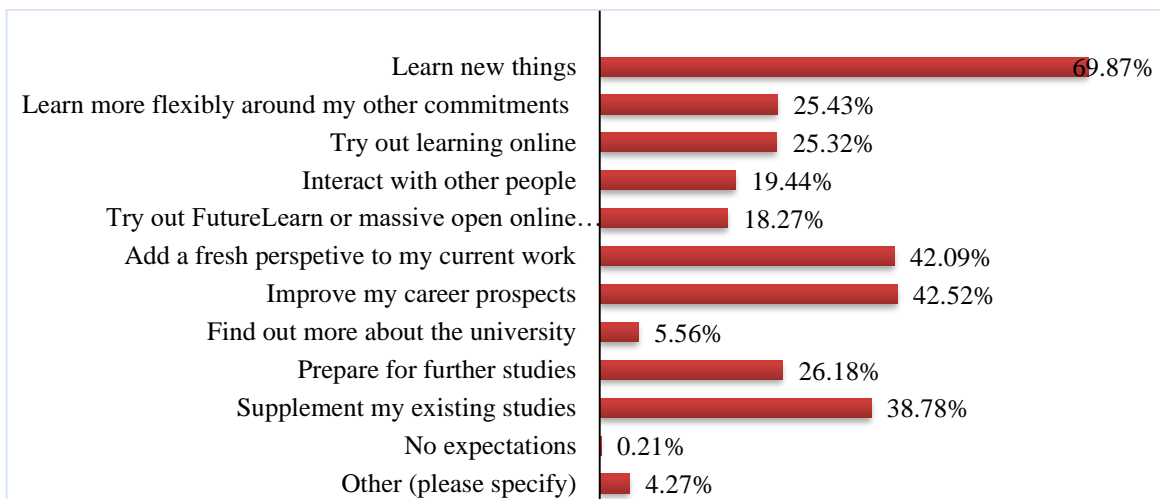
Figure 9- Learners' expectations from the course (N=936)

The figure 10 below, however, shows that students fulfilled different expectations than they had before the course start after the course was over. The majority of the learners expected to learn new things (69.78%) before the course started, but after the course was over the majority of them fulfilled their expectations to learn more flexibly around their other commitments and to interact with other fellow learners (65.63%) while the number of learners who expected so before the course start was 25.43% and 19.44% respectively. Only less than half of the respondents (48.39%) learned something new from the course while around 69.87% expected to learn new things prior to the course start.
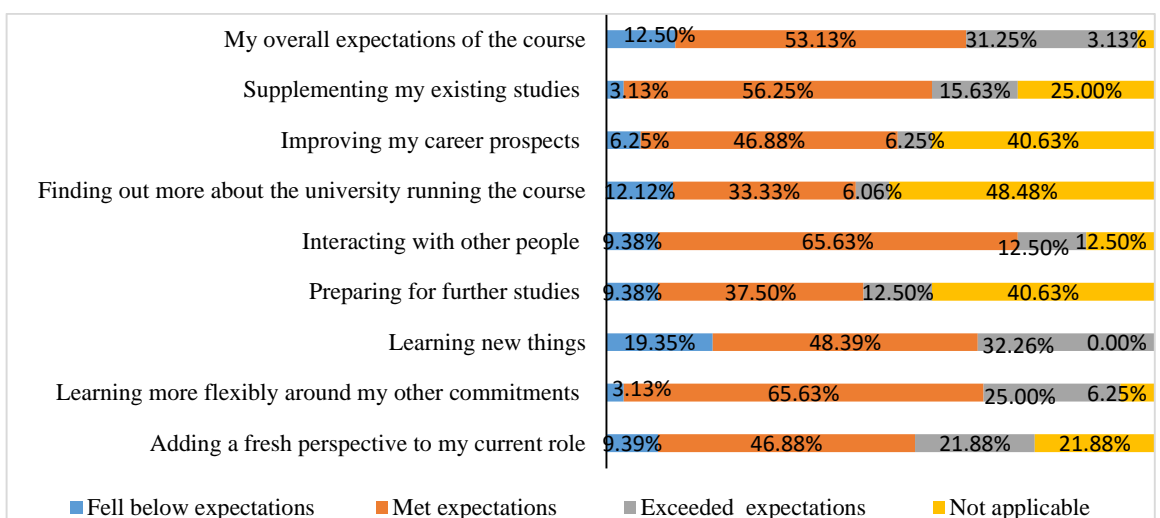
Figure 10- Fulfillment of learners' expectations of the course (N=33)

5.1.4 Learners' perceptions about the course design and contents

Total 32-35 participants responded to a question on learners' feelings about course design and contents. As shown in the figure 11, many of the learners liked the course contents, video lectures, debates, reading materials, advice, subtitles. However, 52.49% of the respondents strongly liked the transcript of the lectures. It means they faced some difficulty in discerning video lectures and transcripts of the lectures helped them better understand the contents or issues.
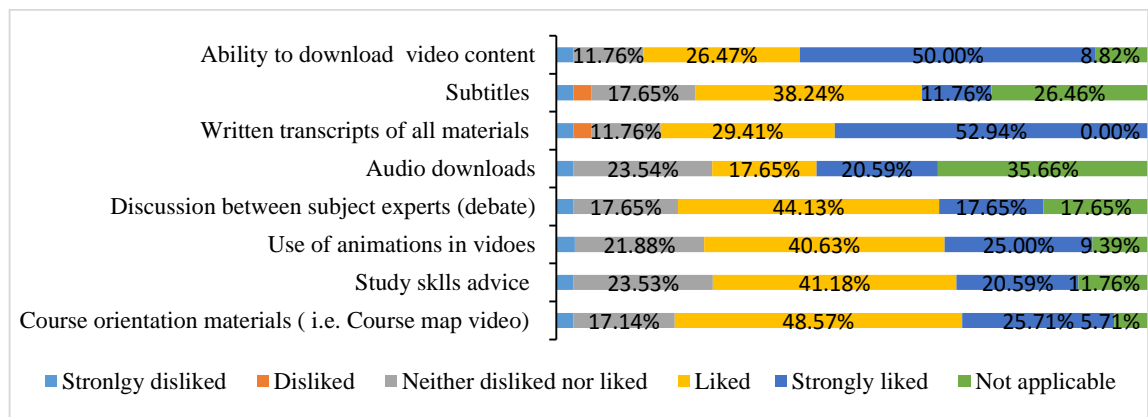
Figure 11- Learners' perceptions of course design and contents (N=35)

5.1.5 Educators' engagement in facilitating the course

Total 32 respondents replied to a question about educators'/mentors' engagement in facilitating the learning process. There were seven mentors in the course. Many of them found the educators very engaging (43.75%) and fairly engaging (40.36%). Thus, it can be said that the majority of the learners found the educators or mentors engaging in facilitating their learning process. However, some learners (12.5%) found the educator neither engaging nor unengaging, and 3.13% found them very unengaging.
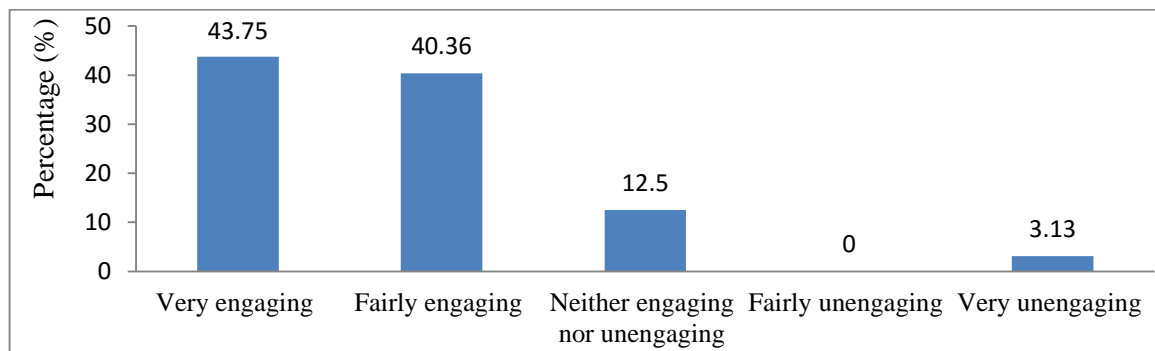
Figure 12- Learners' perception of educators' engagement in facilitating the course (N=32)

5.1.6 Learners' overall experience of the course

Total 33 respondents replied to a question on how they would rate their overall experience of the course. As shown in the figure 13, if combined both excellent and good categories, about 78.48% of the respondents had overall good experience in taking part in the course, 15.15% found it just ok, around 3.03% found it poor, and 3.00% very poor. Thus, this is inspiring for the course provider because the majority of the learners enjoyed the course.
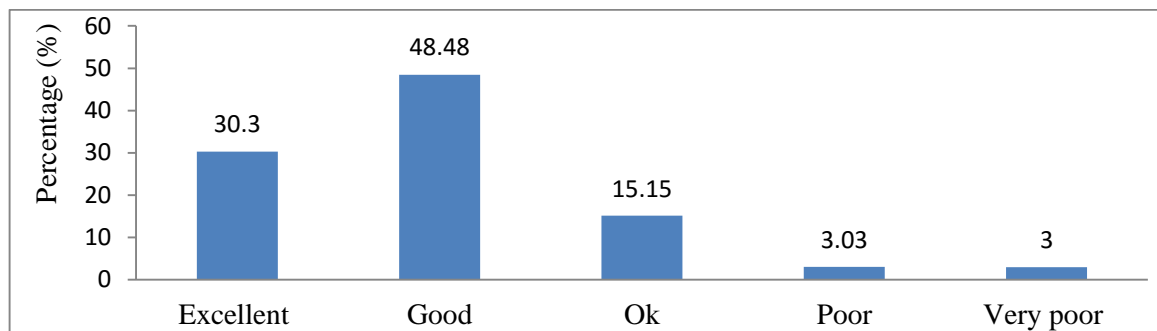
Figure 13- Learners' overall experience of the course (N=33)

5.1.7 Learners' investment of time in the course

Total 32 respondents replied to a question on how much time they spent on the course each time they visited (figure 14). The majority of the respondents (56.25%) spent from 30-60 minutes per time they visited the course. Those who visited more than two hours accounted only 12.50% of the total participants. 21.88% learners spent about 1-2 hours' time, 6.25% 10-30 minutes and 3.13% less than 10 minutes. It seems that the majority of learners spent tiny amount of time each time they visited course. The time they spent is not enough to watch video lectures, read articles, read comments and post the comments.
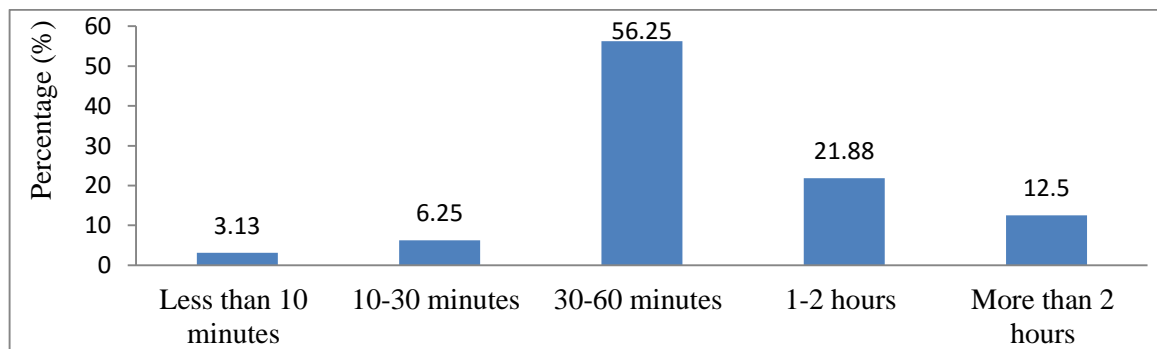
Figure 14- Amount of time that learners spent on the course each time they visited (N=32)

5.1.8   Learning styles

Learning styles can be conceived as an individual's habitual pattern of processing and acquiring information in MOOC learning situations. The majority of the participants in both pre-course (61.74% out of 920 participants) and post-course (77.14% out 35) survey questionnaires responded that they strongly liked to learn by watching videos. It clearly suggests that the majority of the participants were audio-visual learners. They prefer learning by watching videos, films, transcripts, etc. Perhaps, the course contained many video lectures because of this reason. Total 58 video lectures were presented during the course period.

Likewise, those who responded that they strongly liked to learn by reading texts or articles were 45.12% out of total 922 participants in the pre-course survey while it was 36.11% out of total 36 in the post-course survey. It also suggests that a significant number of participants were verbal/visual learners who wanted to learn through suggested reading materials, transcripts of the videos and even by reading the comments of the fellow participants.

Similarly, out of total 920 learners 41.72% liked and 19.61% strongly liked to learn by reading the comments posted by the fellow learners in the pre-course survey responses while out of the total 35 learners 45.71% liked and 37.14% strongly liked to learn by reading comments posted by fellow learners. Furthermore, out of 920 learners 40.87% liked and 22.29% strongly liked to learn by discussing things online with other learners in the pre-course survey responses while out of 35 learners 40.00% liked and 28.25% strongly liked learning by discussing things online with fellow learners. The number is roughly the same.

Nevertheless, as opposed to responses in both pre- and post-course surveys where the majority of the learners stated that they learned by watching video lectures and reading articles, the comments on discussion forums posted by the learners were much higher than the comments they posted on the forum under video lectures and reading articles (see figure 17, p.61). It suggests that there were many active and reflective learners in the course. The following figure shows how the learners preferred to learn in the MOOC.

Left chart:

By doing quizzes and gettng feedback — 13.06 | 39.41 | 42.37

By discussing things online with other learners — 27.39 | 40.87 | 22.39

By reading comments posted by other learners — 28.76 | 41.72 | 19.61

By watching videos — 29.02 | 61.74

By reading articles — 41.11 | 54.12

Legend: ■ Strongly dislike ■ Dislike ■ Neutral ■ Like ■ Strongly like ■ Don't know

Right chart:

Following links to other related contents — 25.71 | 45.71 | 28.57

By doing quizzes and tests, and gettng feedback — 11.76 | 32.35 | 52.84

By discussing things online with other learners — 22.86 | 40 | 28.57

By reading comments posted by other learners — 14.29 | 45.71 | 37.14

By watching videos — 17.14 | 77.14

By reading articles — 11.11 | 50 | 36.11

Legend: ■ Strongly disliked ■ Disliked ■ Neither disliked nor liked ■ Liked ■ Strongly liked ■ Not applicable

Figure 15- Learners' preferences of learning (pre-course survey) prior to the course start and the ways they learned during the course (post-course survey) in percentage (%)

5.1.9 Overall week-wise learner participation by comments

I observed the total number of comments made by the leaners each week under each topic of discussion in the course platform. Sixteen topics of discussions were presented in the first week. Total 3759 comments (last updated August 25, 2015) were made by the learners. The majority of the leaners visited the course contents, posted comments in the first week while the number of comments, as shown in the figure 16, posted by the learners depleted dramatically till the end of the course.

	1st week	2nd week	3rd week	4th week	5th week	6th week
Number of comments	3759	1345	1239	520	577	673
Number of course units	16	15	20	12	18	17
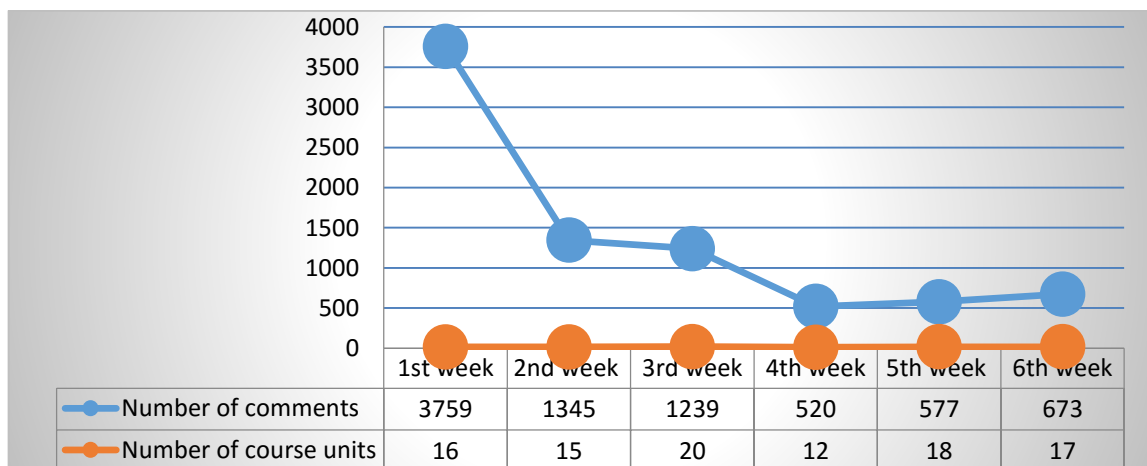
Figure 16- Week-wise number of comments posted by the learners

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5.1.10 Factors hindering learner participation in the course

Total 9 respondents (table 3) replied to a question on the factors that hindered them from participating in the course. About 29 participants skipped the question. 44.44% respondents said that time constraint (44.44%) was the main factor for stopping them in taking part in the whole course. This group of the learners is the largest one among respondents. Likewise, about 22.22 % of the respondents lost interest or motivation for continuing course. Similarly, around 11.11 % could not catch up the pace of the course, lost internet connection and was just curious about the course. However, about 22 % mentioned other reasons but did not specify what they were. Thus, temporal factor was the main cause of the drop out for these learners.

I didn't have enough time	44.44%
I lost interest/motivation	22.22%
I didn't keep up as the course progressed	11.11%
I found the site hard to use	0.00%
I'm not used to learning at this level	0.00%
I couldn't access the course materials	0.00%
I didn't have a good enough internet connection	11.11%
I never really intended to take part- I was just curious	11.11%
I never really intended to take part- I joined the course by mistake	0.00%
I was suffering from ill health	0.00%
Other (please specify)	22.22%

Table 3- Factors that stopped learners from taking part in the whole course (N=9).

5.2 Presentation and analysis of the qualitative data

In this section, the qualitative data collected through online observation of the MOOC are presented with their interpretations. Some of the themes of these data are based on quantitative data. The qualitative data have been used to make deeper understandings and interpretations of the themes presented in quantitative section. Furthermore, the responses obtained from the post-course surveys are not consistent and sufficient to make

arguable explanations, and qualitative data obtained through observation have been used to enhance and generate a better understanding of the themes.

5.2.1 Pedagogical practices of the MOOC

The speaker of the MOOC presented the topics/issues to be discussed each week and explained the objectives of the course and the activities the participants were supposed to do during the course period. Before the presentation of video lectures by the instructors, students were encouraged to introduce themselves to the mentors. He also introduced what the instructors from the collaborating universities and agency would present to them. Supporting a community and social learning was the aim of the course.

The instructors delivered video lectures and activities to do for the learners. All the videos, learning materials, and activities for learning were pre-prepared by the expert teachers and development specialists from collaborating institutions. Each video lecture was most often followed by a comment forum, quizzes, reading materials, discussion/reflection forums, and questions. There were seven international mentors, not the instructors who presented the video lectures, to assist the learners. The speaker and mentors also assisted the learners in answering the multiple choice questions of the course if the learners tried a wrong option in multiple times. The interesting part of the course was assigning the task of facilitating the learning to the mentors, not to the instructors. Why it was done is not clear. Even if the learners found the educators engaging in facilitating the learning of the learners (see figure 12, p. 48), whether they indicated the instructors or the mentors of the course is also not clearly understandable. The mentors engaged in the discussion forums, which were the only tools to communicate and share ideas or materials, except two video conferences, to support the learners. There was also a forum for questions after the end of each week, and students were encouraged to question if they found something confusing, curious, etc. Thus, the discussions forums are the main tools of learning through the FutureLearn MOOCs to "harness the power of the community, where learners can make immediate use of their newly acquired skills by sharing their knowledge with their peers" (https://www.futurelearn.com/about/why-it-works).

There existed mainly two types of assignment: e-assessment and peer-assessment to gauge the performance of the participants. The most tangible way for the learners to

know about their understanding the concepts of the course was automated multiple choices questions. Such assessments only measured the surface understanding of the concepts of the course contents. There was a peer review based assignment with a set of guidelines on what to include and how in it. On the discussion forum about the assignment, just only one learner (*P3*) mentioned that s/he reviewed an assignment. It was the only tool to assess the deep learning of the learners, but not sufficient. It was not clear how many learners submitted the assignments and got them back peer-reviewed. There was also not any mention from the mentors about how many assignments they got for the peer review, but those who submitted the assignments were notified by the mentors by emails after their assignments were reviewed by the fellow participants. All participants were encouraged to write, read, and comment on one another's assignments. The FutureLearn provided a 250-words space for comments and discussions on its platform for participants. For longer work, the students were recommended to use an external tool or a personal blog and then pasting its link into the discussion forum.

There were two online video conferences through *Talkabout* platform. The participants talked to one another live to share and discuss their reflections and views on the issues discussed in the course. Students were also encouraged to make their own video sharing their experiences. Facebook and Twitter were extensively used to advertise and share the contents of the course. The mentors gave feedback on students' activities, shared resources, and assisted the students on quizzes. As a whole, the MOOC contained *video lectures, reading materials, e-assessments, discussion/reflection forums, questions* and *video-conferences* as the key pedagogical features.

The following statement reveals that the participant 1 appreciated the course contents and their presentations by the tutors. S/he felt encouraged to give his or her view and then liked hearing views from those who had real experiences of them. This represents responses of overwhelming majority of the learners who seem to have remained active throughout the course. There were sixty six comments under the concluding video of the course in the last week. They show that the learners liked the course and learned from it.

P1. It was not just the content of the course but also the teaching process that I appreciated. I liked the way that often we, the learners, were first encouraged to give our views on some ideas as to what would work before hearing from someone on the ground who described what had happened and then being given access to papers with a deep

analysis of the issues and the evidence. I had my prejudices challenged (and even overturned!) by this process. While there were aspects that I would have liked to know more about, such as the possibility of development and capacity building even at a time of war/conflict, I recognize this was a six week course. Thank you.

The abovementioned statement further reveals that the participant found something important missing in the course, but s/he acknowledges the limitation of six weeks course. Similarly, the following statement summarizes experiences of participant 2 during the whole course. S/he learned more than expected and found the course more academic and challenging. S/he enjoyed assignment, reading many lectures, and learning from other people's experiences. But, in some lectures s/he found the theme overemphasized and exaggerated, and repetition of the same theme again in the last week was much boring.

P2: Thank you for the course, I have learnt a lot. It wasn't what I was expecting, I thought it would be videos of case studies in various countries, as I have experienced in other courses. It was more academic and more challenging. The production levels were high and there were some truly superb lectures.

The only part I didn't really enjoy was week 2. I wonder if you lost anyone that week? I have discovered a prejudice in myself: I would prefer to have received lectures on democracy from someone from Norway than someone from USA. I think putting Rule of Law as week two gave it too much emphasis, part of a week would have been enough for me, especially as the subject was returned to in week 6.

It was also interesting to read the views and experiences from learners all over the world, thank you. I enjoyed doing the assignment, though so far I have only had one review, I hope I will get another. I enjoyed reading the assignments of others. The interview with Dr Gro Harlem Brundtland was an uplifting finale. Thank you Prof. John and all the team, and I wish all who are working in the field the very best in their endeavours.

On the other hand, the following statement implies that the participant 3 took some of the lectures of the course as the propaganda material because of uncritical presentation of developmental activities of a country. S/he attributes learner alienation to such lectures.

Furthermore, s/he found lectures longer and denser with much advanced language. The instructors seem to have prepared the lectures without taking into consideration the level English language proficiency of the learners. S/he found complete lack of the depth of analysis of in one the assignments s/he reviewed. S/he also suggests of subtitling the videos and connecting the comment forums to a translation website so that people could understand and write in their own native languages.

P3: (an English teacher): ...I think there are two factors behind that. Firstly, some parts of the course especially week1 and some of the Chinese contributions were perceived by many as propaganda...I think it alienated quite a lot of students. In future the tone of some lectures could be softened.

Secondly, language has been a barrier. The lectures have been longer, denser and linguistically far more demanding than other FutureLearn courses I have done. Personally, I appreciate the extra rigor and have got a lot out of this course. But I think the team overestimated the English level of many students. In one of the assignments I reviewed the writer was completely out of his depth with the topic in English and so was one of those who reviewed my article. I future it might help to include subtitles in the videos or connect the comments forums to a translation website so that people could write in their native language if necessary

Similarly, the participant 4 points out the same things as participant 3 does. Some parts of the lectures from some instructors by some learners were taken as propaganda materials and out of the context. The statements of participants 3 & 4 raise some serious questions about the nature of lectures. The issues that the instructors emphasize like democracy and development may not be meaningful to many contexts. Furthermore, some instructors repeatedly glorified their country's model of dealing with issues related to development may be perceived by the learners as a mere exaggeration and propaganda material. Such perceptions of the MOOCs might harm the fast growing MOOC market in a long run.

P4: If you look back at the comments in week one a lot of people, mostly I think from European countries, felt that the Stanford material especially ...'s contributions were propaganda. This was probably inevitable given the legacy of the Vietnam, Iraq and Afghan wars.

Again, if you look back to the comments about China's involvement in Zimbabwe some of the African students clearly stated that they saw the material as propaganda. This too was probably inevitable as it would be highly risky for a Chinese professor not to follow the official line on a platform such as FitureLearn. (edited).

5.2.2 Learner engagement in the course

Learner engagement in the course depends upon the perception of the course contents, instructors, and fellow learners. Out of 7000 enrollees, less than hundred remained till the last week of the course. The majority of the learners who responded to the surveys found the course contents good, instructors or mentors engaging, and their overall experience of learning was also good.

Learner engagement in terms of comment and discussion/reflection forums varies greatly. Though they refer to overlapping concepts, the comment forum here means the forum under the video lectures for commenting on the lectures, the discussion and reflection forums are more or less the same in this context where learners discuss and reflect upon the issues in question. As shown in the quantitative section, participation by comments (see figure 16, p. 51) dramatically depleted till the end of the course. Likewise, the number of participants who engaged in discussion/reflection forum was far higher than those who engaged in comment forums. This means the participants tended to learn more through discussion and reflection rather than other ways. Similarly, all the leaners who sustained till the end of the course were not the same people who joined the course from the very beginning. Through observation of introductory video lectures of all six weeks, I found total 181 learners left comments under the introductory video in the first week, by the fourth week the number depleted to half and by the six week only, 28 learners left their comments. About half of them were not the same people. In the subsequent section, I have explored the views of learners about their engagement in the course.

The following statements extracted while observing the comments of the learners posted on the course platform indicate some of the experiences of learners' participation in the course. Participant 5 has a good experience and insights into many aspects of the issues.

P5: Thank you. Not sure I participated to my fullest but an insight into many aspects have been gained and a very good learning experience to be sure.

Participant 6 has the similar experiences of engagement as participant 5 has. Despite being a late starter, s/he enjoyed the course. These two participants represent the view of the majority of the participant's experiences of engaging in the MOOC.

P6: Thank you very much for the course. I thoroughly enjoyed participating (albeit late) and appreciate the contributions of all those involved. You have opened my eyes to new initiatives and practices that I previously knew nothing about, and also gave a multitude of perspectives, which helped give more of a 'complete' view of the situation. Many thanks

Participant 7 in the following statement points out the lack of quality internet and transcript of the videos can also discourage the participants to actively take part in the course. A few participants revealed the reasons why they could not continue or become active throughout the course (see also table 3, p. 51). Some participants who revealed said that they did not have good quality internet, some did not find the transcript of the video lectures, etc.

P7: Hello, my internet connection is not the best I would love you attach the transcript of each video so that we can download and read in case of poor internet connection

5.2.3 Learners' perceptions of course design and contents

The majority of the learners appreciated the quality of course design and contents. They loved getting insights into the views and experiences of fellow learners, which was enabled by design model of the course. Many of them found the course inspiring and thought-provoking.

P8: Thank you very much! I appreciated everything and the course, the materials were absolutely perfect. Thank you thank, you thank you.

Similarly, the participant 9 in the following statement expressed that s/he enjoyed the course and found it stimulating. S/he enjoyed learning from people from different countries and cultures.

P9: This was my first MOOC but it won't be my last. I really enjoyed it and got a lot out of it. The content was excellent and the variety of media meant it was stimulating every week. I enjoyed hearing views from people from different countries, backgrounds, and cultures. Thank you to all involved.

The following statements by participants 10, 11, 12, and 13 represent the views of the overwhelming majority of the leaners who left their comments appreciating the course. They found the course of high quality, academic and challenging.

P10: Thank you very much for such a high quality and thought-provoking course.

P11: Thank you to the educators for an inspiring course and to the learners for the lively discussions.

P12: It was such a great course. It brings in optimism and urge to explore possibilities in the area of development

P13: ...it was more academic and more challenging. The production levels were high and there were some truly superb lectures.

On the other hand, some participants as mentioned below found the topics in the course less explained and vague. They wonder if the ideas shared would be applicable to the context they belong to. Others asked for the transcripts as they could not properly understand the dense and advanced English language used in the video lectures. Some could not participate because of the bad quality of internet.

P14: Last week we heard about the "Fuzzy" and unclear concept of "Good Governance" from... and this week ... goes on explaining the importance of good governance, accountability and democracy.

P15: Agree with your comments re 'the West' this course so far has certainly made me look even more critically at my own country and its governance. The course material does not only apply to 'developing' countries.

The following statement of the participant 16 reveals that some of the participants have hearing impairment and needs transcript and subtitles of the lectures. S/he felt discriminated and neglected as some video lectures did not contain subtitles and many of

the transcripts of the lectures were made available after a few days. It resulted in difficulty in understanding the contents of the lectures for many learners. It might have made many learners disappointed and discouraged to continue the course.

P16: For me, not having a transcript is more than an inconvenience. My hearing is not good so this possibly amounts to discrimination. I have completed several of these Future Learn courses but I've never met with a straight, though apologetic 'no' before. Transcripts might have been late in coming but they came eventually. This is a great disappointment.

5.2.4 Learners' expectations about the course

As shown in the data in quantitative data, the majority of the learners expected to learn new things (see figures 9 & 10, pp. 46-47) from the course. The following statement of the participant 17, which represents the views of the leaners who posted comments on discussion forums of the course, also reveals that the learner learned a lot from the course. S/he benefited from the discussion forums and was expecting more opportunity to discuss in FutureLearn courses. S/he enjoyed discussing with very experienced scholars who participated in the course.

P17: am really happy I took out time to do this course though I was a little hesitant at first. It was a very interesting and educative course. I really learnt a lot. Thanks to the Future Learn Team. Thanks to the What Works Team. I must add that ur rich and colourful, well formatted presentations also helped make the course interesting. Thanks for the Insightful Q & A with Dr. Geo Brundtland . Thanks to the rich discussions on this topic. I was really looking forward to them. I must thank Andy, Adams and Daniel for their frank and rich contributions throughout this course. It was really worth the time. (edited).

5.2.5 Learning styles

As indicated by the quantitative data, the majority of the learners enjoyed learning by watching (see figure 15, p. 51). This indicates that the majority of the survey respondents were audio-visual learners. However, through the observation of the amount of comments made by learners onto many different forums, there were far more comments

in discussion/reflection forums than the comment forums under the videos. The following figure can be interpreted that a large number of participants were reflective or discursive learners: they wanted to learn through sharing and discussing their own experiences as well as experiences of fellow learners. Even though learner participation was fast lowering till the course was over, more participants engaged in discussion forums. They loved discussing and debating in the forums.
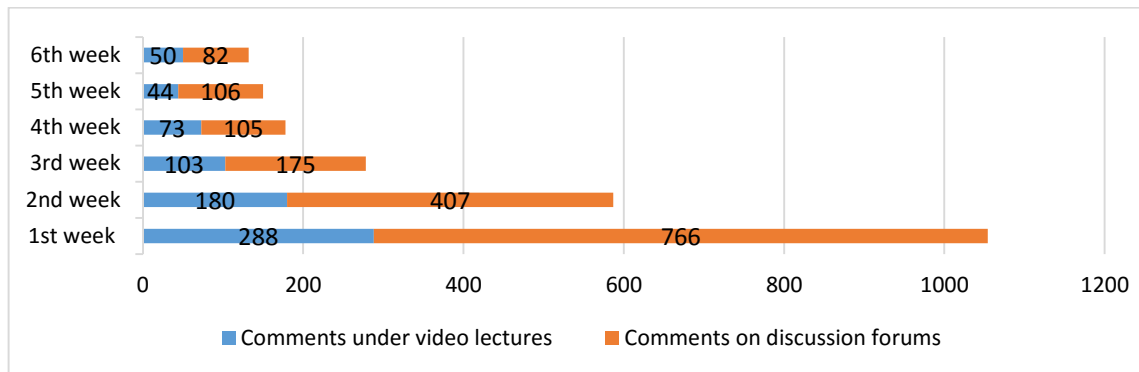
Figure 17- Learner participation in the MOOC in terms of the number of posts in comment and discussion forums

5.2.6 Learners' overall experiences of the course

The majority of the learners who responded to the post-course survey and left comments in discussion forum had overall good experiences of participating/learning in the course. They found the course contents of high quality, thought-provoking, academically challenging, etc. However, some found the lectures more theoretical, longer, denser, etc. The following statements by different participants represent the overall experiences of the majority of the learners who took part in the course.

P18: Thanks for the course, especially for a first MOOC it was pretty well made, professional - with some room for improvement in my opinion. The first few weeks I found quite tough to get through - honestly rather boring ;). Videos were long and it was very theoretical. I think more people didn't really enjoy that start. But, I thought the later weeks were much more interesting! Maybe some changes could be made in the order of things somehow to make the start less daunting. Maybe the videos could be made a bit more lively, illustrative - and perhaps a bit shorter, or divided up more like the great videos with Gro Brundtland.

Due to time constraints I have not been able to participate as much as I would like, especially towards the end (blame a related World Bank course elsewhere, mostly!), and I had to skip most of the recommended readings. But I will sure get back to some of that later.

The following statement of the participant 19 shows that learners not only appreciated the course contents but also teaching process.

P19: It was not just the content of the course but also the teaching process that I appreciated. I liked the way that often we, the learners, were first encouraged to give our view on some idea as to what would work before hearing from someone on the ground who described what had happened and then being given access to papers with a deep analysis of the issues and the evidence. I had my prejudices challenged (and even overturned!) by this process. While there were aspects that I would have liked to know more about, such as the possibility development and capacity building even at a time of war/conflict, I recognise this was a 6 week course. Thank you.

Concerning assignment, the following statement of participant 20 reveals a lot of things. The course had a more thorough mechanism to learning. The word limitation of the assignment helped the learner focus directly on the thoughts and experiences connected to the contents of the assignment. Opportunity to the review of the assignment by fellow learners helped the learners to know how other people think about the contents. The framework of assignment was more structured and academic than learning quizzes, which were abundant in the course, as they did not add much to the experiences and just reflected superficiality of the understanding. The assignment made the learners feel that they were doing like a university level activity. Perhaps the learner suggested of revising the course design because of the too many quizzes and a few assignments.

P20: This module offers a more thorough mechanism to learn. Doing the assignment (with strict word limits) really focused my thoughts and connected my experience to the content in a very direct way. Then getting to review a few other assignments lets you into how other people think. This is much stronger than for example the learning quiz which does not add much to the experience at all and conveys a feeling of superficiality. The assignment felt to me more like a university level activity. Of course it requires more

effort and a bit of research. But is was good. An opportunity for course design revision maybe?

5.2.7 Nature of interaction among participants

The instructors, mentors and learners were the participants of the MOOC. The instructors hardly took part in interaction with the learners. It was mainly the mentors who actively engaged in communicating with learners. Mentors seemed to be roaming around what participants posted in the discussion forum after watching a video lecture, reading reference materials or fellow participants' comments. Their role seemed to bring a balance among the participants who were confronting on an issue, for example 'good governance'. They also explained the issues to the participants and replied to the questions they had raised. Likewise, they also tried to address the problems faced by the participants. The mentors seem to have closely seen, read and timely replied to the comments of the learners.

The interactions between leaners and leaners were much more frequent than between instructors/mentors and learners, though the leaners found the educators very engaging (see figure 12, p. 48). There can be several reasons for this trend. One of them was certainly due to lack of sufficient mentors available for the interactions. There were only seven mentors available and only a few of them were actively engaged in replying the questions of the learners. In addition, many of learners' queries were answered by fellow learners, and learners felt much easier to interact with fellow learners than with mentors. The mentors tried to motivate the learners to connect to their fellow learners by clicking 'like' on useful and interesting comments they encountered while surfing through the comments made by the learners. They also provided the learners with links to extra learning materials. Furthermore, learners could also easily keep track of the comments made by the mentors by using the 'follow' button on the course mentors' profiles where mentors' comments were archived. By using the 'replies' button the learners could easily see their own archived comments. The following pieces of conversation between mentor 1 and participant 21 explain the roles they played during the course.

M1: There are different ideas of what a democracy is. Whether it is merely the right to vote, whether it includes certain freedoms, whether it is parliamentary or not, whether multiparty or two-party, whether direct or representational, whether centralized or

decentralized, whether republican or not, whether federal or not etc. There are not necessarily clear and undisputed rules of what a democracy is or how it should work, because the issue is debated. What do you think are the most important characteristics of a democracy?

P21: Firstly, people in a democratic country have to decide one by one all those basic questions about the form/structure of their government. Secondly, representation is not an option in a real democracy. Next, Power of Low have to be completaly separated from the Political and Governmental Power. Justice of Low have to treact Politicians and Government the same way like everyone else. Government and Political Parties have to be directly controled by the Sovereing Power of a country; the civil society. Those are the basic characteristics of Democracy.

P22 to M… what is good governance? And also what are the connection with development? Are there many cases of good governance leading to positive cases of development? Do you think that only democracy matter?

The following statement of the participant 23 suggests that s/he learned a lot from the course, and liked the format and content of it. However, s/he thinks that lectures sounded more like self-promotion. The replies given by the mentors or instructors to the questions raised by learners were very occidental. The statement alludes that the learner wanted to hear a balanced approach of addressing the questions of the learners.

P23: As a conclusion, I can say that I learned a lot. I appreciated the format, the content. I've read and reread some articles (as Are there lessons for Africa from China's success against poverty?), have also learned from the participants. What I've less appreciate was the self-promotion of some intervenes (the three cases: Afghanistan…) who didn't step back enough or only talked about the positive aspects without questioning the negative (China in Africa). An evidenced based approach requires rigours: why only talking about 7000 participants when you see at the end so few interactions? Insisting on big numbers is part of a logic of power which is in disharmony with the theme. What bothers me is the fact that the suggestions of answers are very occidental minded. Is there no alternative? In some words: good job but can still be improved.

5.2.8 Factors hindering learners' engagement in the MOOC

The number of participants that replied to a survey question concerning the factors that hindered their participation in the course was too low (see table 3, p. 52). Even though we cannot make a generalization based on that, these factors hint possible reasons that could have prevented active participation of the learners in the course. The majority of the respondents in the survey pointed out that they did not have enough time to take part actively throughout the course, some of them lost their interest or motivation, some of them did not have good internet connection, some could not keep going with the pace of the course, about one fourth of the respondents mentioned other factors, which they did not specify. Through observation, I also found some the similar reasons like bad internet quality (P7), lack of time (P18), and lack of transcripts of some of the lecture videos (P7 & P16). By observing the comments of the learners, I have also found some other factors that might have stopped learners taking part actively throughout the whole. One of the factors is lack of English language proficiency (as P3 mentions). Some of the learners could not understand the lecture videos presented in denser and advanced English. So they asked for the transcripts of each video. The mentors tried their best to supply the transcripts as immediately as possible. In case of delay, fellow learners also made the transcripts of some of the lecture videos and shared them with fellow learners.

Similarly, some the learners (P3 & P14) perceived some parts of the lecture videos as propaganda materials. They just kept focusing on one-sided views of the instructors. Furthermore, many of them found the comments of the mentors very occidental (P21) and suggests for a more balanced approach or alternative one (P24). Instructors emphasized the westerly way of dealing with issues related to international development practices as the best ones. Others found the ideas presented unclear and fuzzy (P14). Some learners found their comments deleted by the moderator, as P24 indicates (*P24: This comment has been removed by a FutureLearn moderator).* Perhaps, the deleted comments of the learners might have breached the code of conduct of the FutureLearn platform. However, deleting comments without any clear explanation might discourage the learners to actively take part in the course and they might perceive the act as an act of censoring the unwanted views.

6 Discussion and interpretations of the data

This chapter discusses and interprets the data presented in chapter five from analytical framework discussed in chapter three. The discussion and interpretation focuses on addressing the research questions mentioned in chapter one of the thesis.

6.1 Pedagogical practices of the MOOC

The data show that the pedagogical practices of the MOOC are similar to that of xMOOCs, if compared with the distinctions made by Crowley (2013) between cMOOCs and xMOOCs in the second chapter of this thesis (see table 1, p.13). The xMOOCs, as Siemens (2012b) states, are based on a tutor-centric model that establishes a one-to-many relationship to reach to massive number of students. The MOOC had predominance of premediated video lectures, discussion forums, suggested reading materials, automated quizzes, and assessment. Laurillard (2002a) suggests that the videos need to be integrated into the learning process to make it interactive and effective and any teaching that uses video has to understand, benefit from, and employ the 'interactive' nature of videos. Hattie (2009) also suggests of using interactive video methods as they can have positive effects on student achievement, but many other environmental variables had to be taken into consideration. The instructors had a prime role of designing and guiding the teaching/learning process and activities, which is the core element of the concepts of visible learning (Hattie, 2009) and conversational framework (Laurillard, 2002a, 2012), and the learners acted more like reactors to what was presented to them. The active role of expert teachers in curating the course contents and applying one-step-one-discussion forum approach for encouraging online participation (Nelson 2014) is the process of teaching and learning through the FutureLearn MOOC. One-step-one discussion approach here refers to the provision of providing space for connection and discussion after the presentation of any contents for learning. The steps include video lectures, articles, discussion/reflection forums, quizzes, and questions. The discussion forums are common spaces where learners can share their insights, concerns, opinions, doubts, questions, and suggestions. The course contents are stored, archived, and readily available for retrieval/referential learning. The provision of two video conferences

indicates that learners were given opportunities to discuss the issues live that emerged during the course. Learners were also encouraged to create something by themselves and share on the platform with instructors/mentors and fellow learners. Thus, the course contained learning materials, spaces for dialogues and pedagogical diversities as the course was delivered by instructors and development specialists from six collaborating institutions.

The design of the course seems to enhance a shared representation of the subject matter and tools that support reflection/discussion, comments and responses for what it takes to learn (Laurillard, 2002a, 2009). The focus was put on social learning and social construction of knowledge as discussion/reflection and comment forums are integrated with each video lecture. Comments fed into different forums seem to be working as feedback to learning. The feedback comes from both the instructors/mentors and fellow learners. The course also attempted to harnesses peer review through assignment project as a mechanism for reflection and a driver for discussion. Reflection and discussion provide an opportunity to ascend to higher levels of cognitive activity such as analysis and synthesis. Thus, the MOOC increased the autonomy of leaners to a large extent as they engaged and shared in global interactions (MacAuley et al., 2010).

The above mentioned one-step-one discussion approach, and provision of tracking down one's comments in the platform can be taken as an attempt to make the process of teaching and learning visible to both the teacher and students. As Hattie (2012) contends, visible teaching helps the teachers to know the impact of their teaching on students' learning and students to know what to do and how to do. Learning occurs when there are challenging and explicit goals of it. Hattie (2015) also argues that "When educators focus on defining, evaluating, and understanding their impact" of teaching, "this leads to maximizing student learning and achievement" (p. 90). Visibility of teaching and learning process and ways of achieving learning objectives develops critical mind frame, which is crucial for deep learning to happen.

Generally speaking, content delivery for consuming information, comment forum connecting to fellow learners, discussion/reflection forums for sharing their own experience, works, etc., and learning fellow learners' experiences, works, etc., are the attributes of the MOOC. This might allow learning through knowledge sharing and creation. Thus, consume, connect, create and contribute seem to be the aim of the

FutureLearn course (Littlejohn, Milligan, & Margaryan, 2012). The CF model developed by Laurillard allows for multimedia resources, collaborations and opportunities for tutorial intervention and guidance (Ferguson & Sharples, 2014). The instructors present the concepts, and then encourage the learners to reflect and discuss the presented concepts. Learners share their concepts on discussion/reflection forums and the mentors seem to scroll them and give feedback to the learners' posts. Virtually in all cases, the conversation between the instructors and learners and between learners and learners takes place asynchronously. Laurillard (2009) argues that asynchronous media such as forum posts, blogs, emails, etc., allow the learners more time and space for reflection to take place. Discussion or reflection of ideas has been emphasized; however, the instructors have a privileged role in creating and determining the learning environments, and mentors have a main role of engaging with learner on discussion forums. The mentors can even delete the posts they find insulting/ breaching the code of conduct of the platform. Some learners might take it as academic censorism, which can have adverse impact on learner engagement and hence the future of MOOC movement.

Laurillard's (2009) conversational framework states that learning takes place through acquisition, practice, production and discussion and these features seem to be well integrated into the FutureLearn MOOC. Dialogues/conversations serve as catalysts for sense-making through which learners give meaning to their experiences through exchanging information, asking questions, and reflecting. Even if the conservation is the core aspect of the CF, the video lectures were very granular in structure and focused on one specific concept or procedure at a time to learn. The course presented well-pre-packaged pedagogical contents for week-basis learning. The video lectures presented by the instructors are intended to transfer expert knowledge and practice knowledge when the learners share ideas and perspectives on the discussion forums. Learners come up with their own videos and new posts. It can be taken as the forms of productive activities. Discursive/reflective forums in the MOOCs are the tools for social constructivist learning. Furthermore, the forums provide an opportunity to the learners to share intentions of learning and ways of achieving them. Both teachers and learners being conversant with each other's intentions and trajectories of achieving them are two powerful ways of increasing impact of teaching (Hattie, 2012).

The MOOC also contained some qualities of connectivism, which emphasizes on interaction among the participants at the course (Daniel, 2012; Rodriguez, 2012), and textual exchanges of ideas among leaners can be termed as interaction. The instructors encouraged learners to exchange their ideas or information among students and they also interact with learners. Learners were encouraged to come up with their own videos about their own interests and discoveries. Reflection is an integral part of the course. This indicates that the course also focused on knowledge creation. The majority of the students engaged in discussion/reflection forum in order to share ideas, counter arguments, and raise questions. The mentors also engaged in communication with leaners. This is an example of collaborative learning which seems to be the core of the MOOC. The suggested materials were provided to address the course contents. This can be interpreted as the instructors tried to take into account different student learning styles or preferences, abilities and levels. The mentors kept providing rapid feedback as long as they encountered the issues raised by leaners. Both Laurillard (2002a) and Hattie (2012) stress the role of providing feedback to the learners and ensuring that they are on the right paths towards achieving their goals. Furthermore, students' learning experience is scaffolded by a more knowledgeable other (teacher or other students) for building up knowledge. The more knowledgeable others in the course were mentors and the fellow leaners with doctorate degrees.

However, the MOOC has an instructivist approach to teaching and learning, as learning goals are predefined by an instructor, learning pathways structured by the course designer and learners have little opportunities for making their own way of learning and for live interactions with other learners. Furthermore, watching video lectures, reading course materials, completing assignments, and taking e-quizzes are neither new nor radically innovative. They have long been practiced in the universities or colleges. They seem to be rather migrated campus-based didactic methods of teaching to the online environment, and this method of teaching, as Stacey (2013) claims, does not transfer well to online learning environment. There is also nothing such a system that tracks the learners who might have watched videos, read the reading materials and comments of the fellow learners, but never clicked on the like-button and left comments. Whether such learners were actually there in the MOOC is also an interesting issue of research. Thus, the material first and then discussion and collaboration for learning are the main characteristics of the pedagogy.

In addition, even if the discussion forums are well integrated into the structure of the course with an attempt to promote self-directed and reflective learning, the MOOC is structured in a unidirectional manner. The video lectures as primary approach of transmitting contents and automated quizzes as main tools for assessment, epitomize the "banking model of education" (Freire, 1970, p.71) where education becomes an act of depositing in which the students are the depositories and the teacher is the depositor or transmitter of knowledge. Since a large number of learners from different parts of the world can join the MOOCs with different expectations and needs, it is hard to figure out and pay attention to "the needs/interests of individual learners, and reliance on automated testing will push higher academia further into the banking model of education forcing students to become passive, uncritical repository of teacher-owned knowledge" (Hai-Jew, 2014, p. 341).This increases "a danger of the relegation of education to a mere exercise of technology" (Freire, ibid., p. 75). However, MOOCs are claimed to go against Freire's banking model of education as they are free and open to everyone and students take a leading role in the learning process. MOOC learners are not taken as ignorant minds to be filled, but rather as individuals who have some information to share and contribute to the learning process. But the fact is that teachers have a sole authority in decision making and curating the whole process of teaching and learning. The learners have to fit into the teacher-tailored process and answer the question raised by the mentors. Such practices rather reproduce the banking model of HE (Morris, 2014) as a teacher can control the whole process of learning through the design of the course. Furthermore, attempts to credentialize the MOOCs are more likely to enhance the banking concepts of education. Furthermore, MOOCs are criticized for being non-credit bearing courses. Of course, credentials are important. They confirm to a prospective employer that one has a baseline skill set and grades also indicate things to employers. However, a large portion of MOOC learners are either undergraduates or graduates and they do not actually need credentials for hunting a better job. Attempts to credentialize the MOOCs will make them look like a formal degree course and spoil the very nature of openness, massiveness and cost-freeness as the host universities will start selling the MOOC degrees. This may lead to reproducing the banking model of higher education. This may also result in using technology as a means of controlling global learners rather than empowering them by enabling their agency of self-determination and self-directed learning. MOOCs that the FutureLearn offers resemble xMOOCs, which can be good at

the transmission of information but are based on outdated behaviorist pedagogy and reduced to assessing the more understanding of the concepts (Cooper, 2013; Bates, 2014b; Yuan & Powell, 2013) and their success needs to be evaluated with respect to how efficient they are in imparting knowledge (Schulmeister, 2014). On the contrary, the cMOOCs are projected to empower individual learner as the contents of learning are emergent, generated and contributed by learners (Ahn et al., 2013), and learner autonomy is the focal point (Mackness, Mak, &Williams, 2010), but they are not mainstreamed yet (Morrison, 2013).

6.2 Is FutureLearn MOOC pedagogy relevant for learning in higher education?

Certainly, the MOOCs can bring global learner cohorts together for information or knowledge sharing, connection and interaction, and open up opportunities to foster self-directed learning. They also provide fertile learning environment for knowledge sharing and creation and can be handy digital resources for referential learning. Additionally, they can promote lifelong learning culture and extend reach and access to educational opportunities. Furthermore, the FutureLearn is taking a unique approach of bringing together different institutions from all over the world with different scholars and experts for delivering the course contents. It has 87 partner institutions from around the world (till 20 May 2016, https://www.futurelearn.com/about). Institutional and staff collaboration is the key to designing better pedagogical patterns which results in effective learning (Laurillard, 2002a, 2012). Collaboration among different institutions and instructors contributes to effective development of teachers' dispositions, knowledge and skills which in turn may result in creation of better teaching and learning materials. This trend will certainly enrich the professionalism of instructors and hence the quality of MOOCs. In addition, MOOCs can positively impact HE in two different ways: "improving teaching; and encouraging institutions to develop distinctive missions that will include considerations about openness and access for different groups of students" (Yuan & Powell, 2013, pp.17-18). However, video-based learning in the MOOC, which characterizes xMOOCs, has long been in the practices of distance education. Even though videos can be watched multiple times at their pace, it is not necessarily the best way for every person to learn (Prensky, 2011), and pre-packaged instruction does not

seem to result in meaningful learning (Morris & Stommel, 2013). Pedagogy of xMOOCs is better suited for learning knowledge domain that can be mastered through repetitive practice (Bates, 2012). In the hub and spoke model of the xMOOCs, the faculty/knowledge remains at the center and the learners are the replicators or duplicators of knowledge (Siemens, 2012b), which may eventually lead to the reproduction of the banking model of education.

Learning support is very important since the learners have a greater part of responsibility for learning, but massive enrolments make it difficult to provide quality support directly to the individual learner (Park, Jung, & Reeves, 2015). Likewise, the participants were told to watch videos leave comments and share their experiences in the discussion/reflection forums, but I did not feel the strong presence of the instructors/mentors on the forums. The most significant part of learning on the MOOC was the presence of the expert participants in the field who shared their own experiences, research and reference materials and left critical comments. The automated quizzes embedded in the MOOC platform, which were the major forms of assessment, were perhaps the most convenient ways for the teachers/mentors to assess learners' understanding of the contents delivered through video lectures and reading materials, but not the best ways of assessing the deep learning of the learners. There was just only one assignment for assessing the deep learning, but it is not sufficient. It was also very difficult to know how many of the learners submitted the assignment and got feedback. However, feedback is one of the important parts of learning in within conversational framework approach (Laurillard, 2002a, 2009) and visible teaching and learning approach (Hattie, 2009, 2012) to teaching and learning process. The digitally packaged materials stored in the platform enable iterative learning process as assumed by conversational approach of Laurillard (2002a). Iterative learning process, which take place in a "goal-action-feedback-adaptation-revision cycle sounds more like the concepts of learning articulated by behaviorist theory of learning. Enabling the cycle of learning seems to be more mechanistic learning rather than social learning that FutureLearn is said to promote designing its MOOCs based on social constructivist theory of learning. Iterative learning is not all that should take place in higher education; it may be just a part of complex innovate learning practices in HE.

Daniel (2012) expects that although MOOCs have some possibilities of improving teaching/learning and help universities chart distinctive ways in HE, providing non-credit bearing online courses from prestigious universities around the world does not address the challenges of expanding HE in developing world. Similarly, Bogost (2013) and Bates (2014) also contend that MOOCs just change the form of learning, but do not improve the nature of learning and address the type of learning needed in the 21st century. Thus, the MOOC seems to be more like the reproduction of banking model of education. Collecting expert lecture videos, digitalized resources and enabling automated multiple choice quizzes do not seem to offer very innovative learning practices, but rather upgrade a more modern version of distance education. Technology in itself has a little to do with learning (Laurillard, 2016), it a mechanism that fosters connection, engagement, interaction and collaboration for learning, which seems to be largely missing in the MOOCs.

Similarly, the concepts of teaching and learning postulated by Hattie's *visible learning* theory and Laurillard's *conversational framework* also reflect the perennial conflicts of how teaching and learning can be made effective. Both approaches attempt to combine the principles of different learning theories for designing better pedagogical theory which assumes the sole decisive role of the teacher in designing the whole environment for learning. They seem to focus on modelling a best teaching and learning environment. Quality of teaching makes all the difference (Hattie, 2012) and a better computational representation of pedagogical design offers a way for teachers to transform learning and the teaching profession (Laurillard, 2012). Hattie stresses on the role of expert teachers as change agents of learning outcomes while Laurillard emphasizes taking teaching as design science and collaboration among teachers for the delivery of better education. Therefore, the FutureLearn MOOCs strongly tend towards programmed instruction and stick to rigid educational lesson plans and immediate testing. Furthermore, the applicability of the tenets of visible teaching and learning is yet to be explored and whether the teacher centeredness transforms the ways of teaching and learning in HE is not clear yet too. Laurillard's model puts emphasis on assisting teachers in representing, testing, and sharing their teaching designs for enriching teachers' professionalism to better deliver the course contents rather than to better enhanced student oriented learning. Thus, the teacher-centered instruction seems to fail to motivate a huge mass of learners to learn through MOOCs, but it will promote professionalism of the teachers for creating

high quality MOOCs and effectively delivering them through the platform. In addition, who will supply resources to the teachers for creating high quality MOOCs if MOOCs fail to retain the learners and administrators fail to generate the sources of revenues for delivering the MOOCs?

6.3 Learner engagement in the MOOC

It is argued that higher order learning takes place when students are fully engaged in their learning tasks. Laurillard (2002a) argues that the CF provides a clear structure, and theoretical foundation to enhancing student engagement by creating a more effective learning environment. "Iterative dialogue", and learning through conversation that is "discursive, adaptive, interactive and reflective" foster learner engagement (Laurillard, 2002a, 86-89). For Hattie (2009) the combination of deliberate practice, concentration on given challenging tasks, and feedback promote learner engagement. Video lectures, assessments, reading materials and forums were the four main areas of student engagement. As suggested by Ferguson & Clow (2015), there were different patterns of learner engagement: some learners were just sampling the contents they needed, some attempted to fully participate (*P5*), some started late (*P6*), some dropped out, some thoroughly participated (*P8*), etc., and these patterns of engagement are influenced by the pedagogical decisions of the instructors. Therefore, learner engagement in the MOOC is "emergent, fragmented, diffuse and diverse" (McAuley, 2010, p. 5) because of a number of reasons, which are explained in the subsequent sections.

Despite the claim that FutureLearn MOOCs encourage "social engagement and interaction" (Wintrup et al., 2015, p.32), the number of participants who took part in social interactions throughout the course decreased rapidly, and only less than 100 participants (out of about 7000 enrollees) remained until the last week of the course. There can be a number of factors that can promote or hinder the participation in the course. One of the important factors is the investment of sufficient amount of time in discerning the course contents. Data show that (see figure 14, p. 49) the majority of the learners spent less than an hour each time they visited the course to learn the contents of the course. Even if the time is sufficient to watch a short video lecture, it is not enough to go through different forums, read the comments posted on them and reply to them, read learning materials, and do the assignments. The majority of the learners had overall good

experience of learning through the course. They found the course contents thought-provoking and challenging. They also found the educators engaging. Nearly fifty percent of them met their expectations. However, the number of learners steeply dropped out of the course. In fact, the learner engagement in the MOOC was to watch video lectures, posting comments on the discussion forums, sharing learning materials, answering the questions, completing the assignments, etc. In order to reflect upon issue of learner engagement, it is important to discuss learners' perceptions of the course, their expectations, and their participation in the discussion/reflection forums as they greater affected their active engagement in the course.

6.3.1 Learners' perceptions of the MOOC

Both quantitative and qualitative data indicate that the majority of the learners found the structure of the course very clear. It means they knew how the course was organized, contents were presented and goals of learning were defined. Their overall experience of taking part in the course was good (figure 13, p.49). They liked the contents, designs and approaches to teaching (*P1 & P19*). They also found the educators/mentors every engaging (figure 12, p. 49) in the course, which means their questions were answered and got support from the educators/mentors in helping them learn in the course. This can be also interpreted that they got good feedback on their learning. Clear presentation of the subject matters of learning from the instructors with defined structure for making the learners involve in the process of learning is strongly advocated by Hattie (2009, 2012) and Laurillard (1993, 2002). They privilege the active role of the instructors in defining and ushering the whole process of teaching and learning. They also argue that the learning contents should be challenging. However, the majority of the learners found the contents of learning just about right. The contents were advanced only for a few learners.

In addition, the majority of learners enjoyed learning through discussion and reflection rather than watching the video lectures. Even if they found the course more academic and challenging (*P2 & P13*). Some learners found some parts of the themes of the course overemphasized and exaggerated. Some of them perceived some parts of video lectures as propaganda materials (*P3 & P4*), 'westernly' (*P21*) and out of context. They also found the concepts of the course quite fuzzy and unclear (*P14*). Such perception of the course could have contributed to huge drop out of the learners from the course.

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Perception of the course contents and teaching process can determine learners' decision of whether the course is worth taking. It may have some adverse impact on the future of fast growing MOOC phenomenon if the learners keep taking MOOCs a tool to spread ideology than well-constructed academic materials. Thus, it is very important for the teachers to be balanced and critical in their approach of presentation and discussion of course materials.

6.3.2 Learners' expectations and motivations for enrolling in the MOOC

The majority of the learners in the course wanted to learn something new prior to the course start. Large number of other learners wanted to improve their career prospect, add fresh perspective to their current work and supplement their studies (see figure 9, p. 47). However, during the course period, instead of learning new things, the majority of the learners fulfilled their expectation of learning by interacting with fellow learners. Others learned more flexibly around their other commitments, supplemented their existing studies and found more about university running the course. Around 40 % of the learners met their expectations of learning something new from the course (see figure 10, p. 47). However, since the number of the respondents in the pre-and post-course varied greatly, and the numbers of learners kept enrolling during the course, it cannot be said that the same participants of the pre-course survey responded to the post course survey questions. So the expectations prior to the course start and fulfillment of the expectations after the course should be considered separately. Figures 3 and 4 (see pp-9-10) show the majority of the learners were full time workers and bachelor's and master's degree holders, it can be argued that they were certainly expecting to add fresh perspectives and enhance their career prospects from the course. Their expectations might not have been fulfilled from the course and those who wanted to learn something new could not find as such from the course, which might result in steep learner dropout.

Thus, it indicates that learners were motivated for learning different things in the course as suggested by Hew & Cheung (2014), Zheng et al. (2015) and Morris & Lambe (2014). The expectations and motivations for joining the MOOC seem to be determined by learners' career backgrounds; for example, those who are employed want to update knowledge and enhance their career, and those who are not want to prepare for the

career. Similarly, the pre-university learners want to know about the subject and university students want to supplement their studies. Since the majority of the learners in the course were full time workers (see figure 3, p .9), they were likely to spend lesser amount of time in the course than those who were not. It seems to be extremely hard to tailor the MOOCs to meet the expectations of very diverse groups of learners from different parts of the world. The course aimed at providing basic concepts of international development and success stories, but there were a significant number of leaners who wanted to learn something new and those basic concepts could be boring for them as they had already got such concepts through their working experiences

6.3.3 Learning styles

Learning styles simply refer to an individual's habitual pattern of processing and acquiring information from the MOOC. "Students' styles and strategies of learning are context-dependent" (Laurillard, 1979, p. 395) and different learners have different learning styles (Felder and Silverman, 1988). Therefore, it is important to pay attention to how learners prefer to learn, but it is also very difficult to know how the MOOC learners want to learn from the MOOC as they remain scattered and only a small number of learners respond to survey questions about how they want to learn. The ways the learners prefer to learn also depend upon different contextual factors such as quality of internet, learners' audio-visual well-being (i.e. degree of visual and auditory impairment), etc. Both pre-and post-course survey data reveal that the majority of the learners preferred to learn by watching videos (see figure 15, p. 51), but the through observation I found a great many learners engaged in discussion/reflection forums for learning and sharing. Those engaged in comment forums under the video lectures were less almost by half in number (see figure 17, p. 61). Many learners preferred to have the transcripts of the video lectures. This shows that the learners adopted different ways of processing information. Felder and Silverman (1988) have produced different learning styles which seem to be applicable to MOOC learners' learning styles; sensory-intuitive, visual-auditory, active-reflective, and sequential-global. The sensory learners prefer learning by examples and practice while intuitive prefer meanings and theories, visual learners prefer to learn through pictures, diagrams, films, etc., while verbal/auditory learners prefer learning by written and spoken explanations, active leaners prefer learning by working with others while reflective learners prefer thinking and working

alone, and sequential leaners prefer learning in orderly and linear manner while global learners prefer learning in   holistic manner. The learners who preferred learning by watching video lectures and by reading the transcripts of video lectures can be termed as visual-auditory leaners or sequential-holistic as the information presented in the video lectures sequential in the sense that the first simple and basic concepts were presented and gradually more complex ones, and holistic in the sense that the concepts presented were discussed under a particular theoretical perspective. The learners who preferred learning by engaging in the discussion forums can be termed as active-reflective learners. Similarly, the learners who joined the discussion forums can be taken as both active and reflective because the forums were the only space for connection and sharing information with fellow leaners. At the same time, they were the spaces where the learners could reflect upon the issues without any disturbance at the time of commenting. However, the watching video or reading the transcripts of them were by and large the only ways to know about the topics of discussions. They were the only easily available means of getting into the contents of the course.

Laurillard (2012) also explains five approaches to learning: acquisition, inquiry, discussion, practice and collaboration and different technologies enabling such learning. Learning through acquisition focuses on the concepts of teaching though narrative media like digital texts, video or audio files. However, they are more like linear media which only represent teachers' ideas, not dialogical ones (Millner, 2008). Learning through inquiry is more active form of learning than learning by acquisition as learners go through a wide range of resources digitally available for them such as suggested reading materials, videos, and links to other referential materials. Learning through discussion takes place when the learners engage in conversation with instructors/mentors and fellow learners. Learning through practice refers to learning by doing or experiences or leaners apply the ideas learned through acquisition, inquiry and discussion. Finally, learning through collaboration refers to the process of knowledge creation through learning with peers, and discussion forums and video conferences as communicative and productive media of the MOOC have potential for collaborative learning which I have discussed below in detail (see p. 81).

In addition, more engagement in discussion/reflection forums mean more learners want to be become active social learners who prefer learning through sharing their experiences

interaction, and collaboration. But social interaction is almost always asynchronous and textual. As stressed by social constructivists, meaningful interaction is the core element of learning (Woo & Reeves, 2007) and interaction can happen synchronously or asynchronously. Learning through sharing is a collaborative process of learning. Actual learning takes place through collaborative efforts. Conversation is the core aspect of learning advocated by Laurillard (2002, 2012) and interactive and collaborative learning is the focus of social constructivist theory that CF is built upon. Learning through conversation is discursive, adaptive interactive and reflective (Laurillard, 2002). Furthermore, continuous meaning making process takes place through interactive and collaborative learning efforts during interactions. It also contributes to forming a learning community which can be the basis of fertile sources for knowledge construction.

Furthermore, sharing experiences on the discussion forums is also a form of experiential learning, which Kolb & Kolb (2005) define as a process of learning, but not the outcomes of learning. They suggest the student engagement in the learning process should be focused to improve learning in higher education. Knowledge creation results in from the combination of understanding and transforming experiences. The MOOCs may provide a virtual space for the students "to take control of and responsibility for their learning" which "can greatly enhance their ability to learn from experience" (Kolb & Kolb, 2005, p. 209).

6.3.4 Why did learners drop out?

Learners are motivated for different purposes of joining the MOOCs, for example, to learn new things, to fulfill their current needs, to prepare for future, to satisfy curiosity, to connect with people (Zheng et al., 2015), to gain knowledge, to cater interest, etc., Furthermore, there are learners from diverse socio-economic, educational and political backgrounds have different expectations from the MOOC. Because of the heterogeneity of the large mass of MOOC learners, it becomes increasingly difficult to address the particular needs of individual learners. In addition, the one-size-fit approach the MOOC developers used to deliver the course contents seems to be boring, even discouraging for many participants. Social constructivists also stress that learning takes place in groups in social contexts, but whether the MOOC learners took MOOC learning environment as a social context is yet to be explored. Similarly, it is the instructors who had a prime role of

designing pedagogical approaches and determining learning activities. The instructors had a role more like a knowledge transmitter who often confirms what a good knowledge is and what is not.

As indicated by the data there are many causes of the alarming dropout rate of the learners from the MOOC such as lack of motivation, lack of digital skills, lack of time, late starting, difficulty in understanding the video lectures, perception of the contents as propagandas, etc. Many of these causes have already been confirmed by research (cf. Zheng et al., 2015; Onah, Sinchlair, & Boyatt, 2014). On the basis of completion rates, MOOC participants are divided into just 'completers' and 'dropouts'. This seems to be poor and incomplete measurement of students' engagement on MOOCs as there takes place of various forms of learning patterns. The CEO of FutureLearn, Simon Nelson (2014) has categorized the FutureLearn participants into six categories: joiners, learners, active learners, returning learners, fully participating learners, and social learners. This categorization can be interpreted as a natural process of becoming social learners in the MOOC learning context. This can also be placed within the funnel of participation (Clow, 2013), where learner join the course, large number of them disappear, some of them come back and continue, and few of them complete the course. Furthermore, not all the learners who completed the course were not necessarily the same learners began the course as they kept enrolling during the course. The enrolled seem to pick up a topic or some topics of the course which is interesting and cater their needs. *The joiners* are all the learners who sign up the course. About seven thousand people signed up the course. FutureLearn's definition of learners who actually visit the course after they join is quite simplistic and problematic. Is visiting the course results in learning? Similarly, the learners who go through the steps such as 'Mark as complete', 'Next', etc., are defined as the *active learners*. This is also very mechanistic and problematic too as these options are not mandatory and learners can go to next unit without ticking these steps. It also does not mean that the learners who clicked on those steps learned the course contents. This behavioristic definition of active learners does not help the course provider address the needs of the learners. Another category of MOOC learners is the *returning learners* who begin and continue the course for some time, disappear after some time and come back and follow the courses. There were many such learners, who learned some part of the courses, neglected some and came back again. The learners who complete majority of the steps of the course and all of the assessment are defined as the *fully participating*

learners by FutureLearn. There were even a few number of learners who watched video lectures, took part in discussion forums and did all of the assessments. However, what are the majority of steps in the course is not defined. Finally, FutureLearn defines *the social learners* as those who post the comments, view the comments, and learn from the comments. FutureLearn aims at encouraging learners to make them social learners. However, there is not any yardstick of measuring whether the learners learn from the comments. These categories of learners are overlapping because the learners go through these all steps to be social learners. Thus, categorization of FutureLearners should be taken as a process of becoming social learners. It is much more challenging to make people social learners as the current teacher oriented design cannot cater the needs and interests of all the course joiners.

Likewise, there are other learning patterns of the MOOC learners. As found out by research, some learners are lurkers, active learners, passive learners, drop-ins, etc. These patterns of learning are not fixed; they are "emergent, fragmented, diffuse and diverse" (McAuley et al., 2010). These patterns of learnings should be taken as a normal learning process of becoming active and social learners. The learners have freedom to learn the way the want to learn. They can either go through the whole course, or pick up something they find interesting or useful to them. The course was not designed as an obligatory course or as a replacement of the campus course, but just a supplementary one. Clow (2013) also suggests that complete or temporary withdrawal of learners from MOOCs may indicate self-directed learners' choice to "climb-out" (rather than drop-out) and this mirrors these learners' variable levels of activity to the adaptation to the course over the MOOC duration. Such learners are not active all the time, but drop-out may not be the indication of self-directed learning.

6.3.5 Discussion forums and collaborative learning

Structurally the MOOC contents like video lecture, suggested reading materials, assessments, assignment, questions, video conferences, etc., were integrated with forums for discussion along a separate discussion forum under each presentation of the contents. The discussion forum was the main course component for active participation and interaction among learners and mentors. There was also a reflection forum, which is basically the same as discussion forum where the learners posed queries, brainstormed

the ideas for the answers/solutions and shared the links of the further reading materials they thought relevant to understanding the issues being discussed, for reflecting upon their own activities and understanding of the course contents. The discussion/ reflection forums of the course can be taken as the communicative and interactive tools for enabling collaborative learning. The provision of video conferences enables synchronous communication among all participants. Communicative and interactive tools like forums, video conferences also provide feedback on the learning of learners and teaching of the teachers. The mentors of the MOOC actively monitored the activities of the learners and replied to their questions. The teachers remained out of the touch of the learners as those who replied to learners' queries were the mentors, not the teachers in the forums. So, the learners got minimal or no input from the instructors and instead relied upon the facilitators or mentors. This promotes the concept of 'teacher on the side' and Hattie (2009) emphasizes on the role teachers as activators who become integrally involved with learners as a partner in learning, but not the guide on the side as facilitators. Assuming the role of activators help promote reciprocal teaching, teacher-student self-verbalization, metacognitive strategies, and appropriate level of challenging task, checks for understanding, feedback, and effectiveness (Hattie, 2009). The process of teaching and learning in the FutureLearn MOOCs puts the instructors on the side, but not in the main process of learning beside the presentation of the contents. This might result in discouraging the learners in taking part in collaborative learning.

Peer discussion that took place mainly in the discussion forums, as Laurillard (2012) contends is "an effective pedagogic technique" which does not just happen automatically but "it requires careful planning and support by the teacher if students are really to develop cognitive understanding" (p.142). Hattie (2012) also emphasizes the active role of teachers in designing and directing the whole teaching and learning process. However, teachers did not take part, but only the mentors in the process of facilitating learning. Furthermore, the discussion forums are the main communicative tools/media for the learners and these media are "the powerful enablers" for collaboration, but "the properties of medium do not determine the quality of learning that takes place" (Laurillard, 2002, p. 148). Students intensively engage in conservations on comment, discussion and reflection forums in MOOCs and make use of social media platforms to share contents. This can be taken a process of collaboration among the leaners and "collaboration is another major hallmark of good MOOCs" (Nielsen, 2014).

Laurillard (2016) further argues that "issue-focused discussion forums that elicit valuable community discussions and the discussion forums also link to "off-platform tools for sharing resources and ideas" (p .14), but collaborative learning is not supported within the current functionality of MOOCs. Certainly, the participation of the learners in the MOOC "creates new opportunities for strengthening the social dimension of learning" (Grünewald et al., 2013, p. 378), and can foster an environment for collaborative learning, but the prescriptive nature of replying to the queries of the learners by mentors may be discouraging for some learners. Furthermore, learners' postings of comments on the forums may not turn into collaborating learning, rather they may hinder collaborating learning as a huge diversity of learner participation may result in conflicting perspectives in seeing the issues, which some learners find insulting or unacceptable. Respect and rapport through care, trust, respect, and teambuilding skills are important for collaborating learning (Hattie, 2012).

Thus, the forums were the only means for fostering collaborative learning in the MOOC. They liked to interact with fellow learners and learn through these forums. Discussion is the conservation among learners and instructors/mentors, which is a core aspect of teaching and learning process within with the CF model of Laurillard (2002). This can be taken as the foundation of collaborative learning too. Discussion is also a good method for stimulating deep learning and conceptual learning as postulated by Hattie (2009, 2012). The discussion forums certainly provide opportunities to learners to enhance their learning outcome and performance through the "exposure to other students' approaches… that enhances them to develop their ability of 'self-learning', to identify their strengths and weaknesses that would contribute to the development of professional skills" (p.5), and online discussion forums "create a space for exploring the subject matter, forming relationships and collaborating for project work and other assignments" (Glance, Forsey, & Riley, 2013, p. 6). Learning takes place through iterative dialogue between instructors and leaners and learners and leaners (Laurillard, 2002a) and dialogue or conversation forms a basis for promoting a community of learning, which strengthens collaborative learning by connecting minds, engendering deep thinking and fostering cross fertilization of ideas. Interaction with mentors, learners and course materials become vital for learners to (re)-construct knowledge and shared meaning. In addition, there were about five percent learners with doctorate degree. They can be taken as the more capable peer who can help the fellow learners accomplish their potential capability

by facilitating the collaborative learning process of their fellow learners. They actually did so in many cases by sharing additional reference materials and providing elaborate explanation of the issues. The FutureLearn MOOCs have potential to enhance collaborative learning, but since the process of teaching is entirely dependent on instructors it might discourage leaners to really engage in collaborative learning. The material first and then collaboration for learning approach might not be suitable for many learners. However, collaborative teaching practices of the teachers through the platform will certainly contribute to creating highly quality MOOCs.

7 Summary and conclusions

This chapter summarizes the discussion of the data relating to research questions concerning pedagogical practices and learners' experiences of participating in the MOOC (see research questions p.3), gives conclusions, suggests some recommendations for improving teaching and learning through MOOCs, and mentions the limitations of this study and directions for further research.

7.1 Pedagogical practices of the MOOC

The pedagogical practices in the MOOC were comprised of six key elements; video lectures, reading materials, e-assessment, discussion forums and video conferences. First, the materials for learning were provided and then learners were told to discuss and collaborate for the learning, and this process can be termed as materials for learning first and then discussion approach of teaching. The MOOC was realized as xMOOC rather than a constructivist MOOC as claimed by the FutureLearn. The teachers had a sole role of curating the course contents and their delivery. The course was presented with clear objectives and ways of achieving them by the learners. The lecture videos were the major form of content delivery and discussion forums were the main tools designed to make learners discuss, debate, and interpret the course contents. The majority of the learners found the educators/mentors engaging in facilitating their learning process. The instructors did not take part in replying the queries of the learners. The seven mentors helped the learners in clarifying the concepts, sharing reading materials, asking questions and replying the questions of the learners on the discussion forums. However, the pedagogy of the course was neither new nor very innovative, but just an upgradation enabled by the development of technology of what has long been practiced in distance learning education. The pedagogical practices embedded in the MOOC can rather enhance knowledge and skills of teachers in using the technologies for better delivering the course contents possibly in the most convenient ways through digital platforms like the FutureLearn. They also tend to reproduce the banking model of education, where an instructor or a group of instructors can better design and deliver a MOOC to a diverse of groups of learners to consume and react. Thus, success of the pedagogical approach should be judged on the basis how efficient the platform is in delivering the course

contents to the learners, rather than how successful they become in retaining a huge mass of leaners in the course.

7.2 Learner engagement in the MOOC

The overall experience of the majority of the learners in taking part in the MOOC was good. By and large, the course design and contents, and teaching process were liked by the majority of the learners. The learners found the course thought-provoking, interesting and academic. They found the level of the course about right. However, some learners perceived some parts of the course contents as propaganda material, dense and fuzzy. The majority of learners (65.63%) fulfilled their expectations of learning by interacting with fellow learners and learning more flexibly around their other commitments whereas the majority of the learners (69.87%), prior to the course start, expected to learn something new from the course. Similarly, the MOOC helped other learners to supplement their existing studies (56.25%), to find out more about the university running the course (48.48%), to learn new things (46.88%), and to improve career prospects (46.88%). The majority of the learners spent less than an hour each time they visited the course. The amount of time they spent for learning was not sufficient. They preferred learning by watching video lectures and by engaging in discussion/reflection forums with fellow learners. The discussion forums were the only tools to get the leaners engaged in the course contents apart from two video conferences. The interactions that took place in the forums were asynchronous. The forums were also the only ways for promoting collaborative learning practices.

Even if the course was signed up by about seven thousand learners, only a small number of them remained till the end of the course. The main causes of steep dropout of the learners were lack of time, lack of motivation/interests, bad internet quality, lack of proficiency in English language, perception of some parts of the course contents as western propaganda material, dense and fuzzy lecture videos. Furthermore, the teacher privileged pedagogical approach was also contributing factor to learner drop out. The majority of the learners were university graduates and the repetitive nature of presenting course contents and teaching and learning process might have also contributed to learner drop out. Similarly, the prescriptive way of replying to the learners' queries by the mentors, non-mandatory and non-credit bearing nature of the course could also

discourage the learners to actively take part and complete the course. Learner completion and dropout need to be seen as a part of a process of becoming social learners in the platform. Finally, the kind of pedagogical practices prevalent in the MOOC do not seem to promote learner centered practices.

7.3 Conclusions

Pedagogical practices adapted in the MOOC such as video lecturing, sharing reading materials, asking the learners to engage in discussion forums with peers, video conferencing, etc. are neither entirely new nor radically innovative; they have long been the practices of distance education. The course was presented in the similar manner as it is normally done in on-campus teaching and learning practices. The MOOC contained features that were similar to the features of xMOOCs, which implies that teachers have a privileged role in designing and determining course contents and teaching and learning processes. The learners had to react to what they were told to do rather than they liked to do. Even though the FutureLearn is said to be a learner-centered MOOC enabling platform, it is actually a teacher-centered one as teachers had a sole role in determining everything that happened in the course. Asynchronous textual exchanges were the main form of conversation/communication in the course. Similarly, the learner engagement in the course was not even by distribution. Even though the number of learners taking part in the course rapidly decreased till the end of the course, they found the course overall good, thought provoking, and academic. The steep dropout rates indicate that a large majority of the learners did not like the course, or they were passive learners/lurkers, or they had different styles of learning. The majority of learners preferred learning by interacting with fellow learners. The course was much like a leisure time activity for many learners as they did not spend more time in going through the course contents. Some of the learners found some parts of the course as western propaganda material with unclear and fuzzy concepts. However, the discussion forums enabled collaborative learning practices among the learners.

7.4 Recommendations

The prepackaged instructor privileged pedagogical approaches are neither new nor fit for the MOOC-learners, the majority of whom are university graduates. So the utmost

attention should be paid to the needs and interests and the ways a diverse range of learners actually want to learn. MOOCs are rather the different ways of presenting course contents enabled by advanced technology that we are interested in experimenting with by considering the costs and benefits. This actually results in designing and determining the course from instructors' and course providers' perspectives rather than the learners' perspectives. As Laurillard (2014) argued, learning technologies are "hopelessly underexplored" and need to be better explored and integrated to enhance student engagement and collaborative learning. It is imperative to explore and design more user-friendly MOOC platform which can generate much more lively communication and provide strong networking among learners. There is no need to get so excited about providing access to a massively digitally canned lectures and interactive materials if one neglects the community and social learning for enabling better learner engagement. The more important thing, based on the results of my thesis, is to enable deep learning and help students gain what is important to them rather than reaching out to a huge mass of people for delivering canned lectures. So, the focus should rather be laid to strengthen the enhancement and enrichment of learning rather than just the delivering the learning materials by experts. The MOOCs need to be structured in such a way which enables self-paced learning by catering different learning styles of a diverse range of learners. The rise and wide spread of the MOOCs might give a tremendous boost to educational innovation and online learning practices if teachers are stimulated to design creative and truly collaborative MOOCs by providing them with ample institutional supports.

7.5 Limitations and direction for further research

This study has its own limitations. It mainly focused on pedagogical practices and learners' overall experiences of participation in the "What Works" MOOC. Many other emerging issues like collaborative learning could not be described and elaborated in details due to size limit prescribed by the department. The surveys designed by the course provider which were also not sufficient to collect required information. Therefore, online participant observation was used to generate an understanding of the issues related to the research questions. Due to the constraints of time and resources, a full-fledged observation could not be carried out.

As far as FutureLearn MOOCs are concerned, a further research is needed to explore a number of issues such as (a) how do learners perceive the role of mentors in facilitating the learning process? (b) whether putting the instructors out of the learners in the discussion process contributes to learner dropout? (c) how can collaborative learning be best supported through the FutureLearn? (d) how can MOOCs foster good and innovative learning practices in higher education, etc.? These pertinent questions are needed to be explored in detail in order to harvest the benefits of fast growing MOOC movement.

References

Agrawal, A. (2012). Circuits and electronics, MITx. *Chronicle of Higher Education,* 59 (6), B10.

Ahn, J., Butler, B. S., Alam, A., & Webster, S. A. (2013). Learner participation and engagement in open online courses: insights from Peer 2 Peer University. *MERLOT Journal of Online Learning and Teaching*, *9* (2), 160-171.

Anderson, N. (2013, May 14). U-Va. MOOC finds high attrition, high satisfaction. Retrieved on September 25, 2015 from http://www.washingtonpost.com/local/education/u-va-mooc-finds-high-attrition-highsatisfaction/2013/05/13/01a80568-bbfd-11e2-9b09-1638acc3942e_story.html.

Anderson, T. (2013, April 1). Promise and/or peril: MOOCs and open and distance education. Retrieved 25 January 25, 2015 from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.363.4943&rep=rep1&type=pdf.

Andrews, D., Nonnecke, B., & Preece, J. (2003). Electronic survey methodology: a case study in reaching hard-to-involve internet users. *International Journal of Human-Computer Interaction, 16* (2), 185–210.

Baggaley, J. (2013). MOOC rampant. *Distance Education, 34* (3), 368-378.

Bali, M. (2014). MOOC pedagogy: gleaning good practice from existing MOOCs. *MERLOT Journal of Online Learning and Teaching*, *10* (1), 44-56.

Bates, T. (2014a, October 12). What is MOOC? Retrieved on January 19, 2015 from http://www.tonybates.ca/2014/10/12/what-is-a-mooc/.

Bates, T. (2014b, October 13). Comparing xMOOCs and cMOOCs: philosophy and practice. Retrieved on January 20, 2015 from http://www.tonybates.ca/2014/10/13/comparing-xmoocs-and-cmoocs-philosophy-and-practice/.

Bates, T (2012, August 5). What's right and what's wrong about Coursera-style MOOCs? Retrieved on February 17, 2015 from http://www.tonybates.ca/2012/08/05/whats-right-and-whats-wrong-about-coursera-style-moocs/.

Bayne, S., & Ross, J. (2014). The pedagogy of the massive open online course (MOOC): the UK view. Higher Education Academy Report. Retrieved on February 14, 2015 from https://www.heacademy.ac.uk/resources/detail/elt/the_pedagogy_of_the_MOOC_UK_view.

Belanger, Y., & Thornton, J. (2013). Bioelectricity: a quantitative approach Duke University's first MOOC. Retrieved on August 10, 2015 from http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6216/duke_bioelectricity_mooc_fall2012.pdf?sequence=1

Bogost, I. (2013, August 27). The condensed classroom. The Atlantic. Retrieved on 29 Nov. 2015 from http://www.theatlantic.com/technology/archive/2013/08/the-condensed-classroom/279013/#article-comments.

Breslow, L., Pritchard, D. E., DeBoer, J., Stump, G. S., Ho, A. D., & Seaton, D. T. (2013). Studying learning in the worldwide classroom: research into edX's first MOOC. *Research & Practice in Assessment, 8*, 13–25.

Bryman, A. (2012). *Social research methods (4th ed.)*. New York: Oxford University Press.

Butcher, N., & Wilson-Strydom, M. (2013). *A guide to quality in online learning*. Dallas, TX: Academic Partnerships.

Carr, N. (2012, September 27). The crisis in higher education. *MIT Technology Review*. Retrieved on November 22, 2015 from http://www.technologyreview.com/featuredstory/429376/the-crisis-inhigher-education/.

Caplan, S. (2013, June 6). MOOCs – massive open online courses: jumping on the bandwidth. *The Guardian*. Retrieved on November 21, 2015 from http://www.theguardian.com/science/occamscorner/2013/jun/06/moocsmassive-open-online-courses.

Chamberlin, L., & Parish, T. (2011). MOOCs: Massive open online courses or massive and obtuse courses? *eLearn Magazine, 8*. Retrieved on November 23, 2015 From http://elearnmag.acm.org/archive.cfm?aid=2016017.

Christensen, C. & Weise, M.R. (2014, May 9). MOOCs' disruption is only beginning. *The Boston Globe*. Retrieved on August 25, 2015 from http://degreeoffreedom.org/clayton-christensen-mooc/.

Chung, C. (2015, June 15). The MOOC platform with a twist: the emergence of UK-based FutureLearn. Retrieved on January 15, 2016 from https://www.class-central.com/report/futurelearn/.

Cisel, M. (2014). Analyzing completion rates in the first French xMOOC. In U. Cress & C. D. Kloos (Eds.) *EMOOCs: Proceedings of the Second MOOC European Stakeholders Summit, February10-12, 2014* (pp.26-32)*.* Lausanne, Switzerland.

Clark, V. L. P., & Creswell, J. W. (2008). *The mixed methods reader*. Los Angeles: Sage.

Clow, D. (2013). MOOCs and funnel of participation. *In D. Suthers, K. Verbert, E. Duval, & X. Ochoa (Eds.), Proceedings of the Third International Conference on Learning Analytics and Knowledge, April 8-12, (*pp.185-189). Leuven, Belgium.

Coelho, D. A. (2015). Learning theories supporting massive open online courses. In A. Mesquita & P. Peres (Eds.), *Furthering Higher Education Possibilities through Massive Open Online Courses* (pp. 93-110). IGI Global.

Coetzee, D., Fox, A., Hearst, M. A., & Hartmann, B. (2014). *S*hould your MOOC forum use a reputation system*? Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing, February 15-19*, (pp. 1176-1187). Baltimore, MD, USA.

Colombo, H. (2014) EdX founder – sheer numbers means MOOCs will stay relevant. Retrieved on August 25, 2015 from http://www.jconline.com/article/20140325/NEWS0501/303250039/EdXfounder-sheer-numbers-means-MOOCs-will-stay-relevant?nclick_check=1.

Conole, G. (2013). MOOCs as disruptive technologies: strategies for enhancing the learner experience and quality of MOOCs. *RED - Revista de Educación a Distancia. Número* 39.

Cooper, S. (2013). MOOCs: Disrupting the University or business as usual? Retrieved on Decemebr 1, 2015 from http://arena.org.au/moocs-disrupting-the-university-or-business-as-usual/.

Creswell, J. W. (2015). *A concise introduction to mixed methods*. Los Angeles/London/New Delhi: Sage Publications.

Creswell, J. W. (2009*). Research design: qualitative, quantitative, and mixed methods approach (3rd ed.)*. Los Angeles/London/New Delhi: Sage Publications.

Creswell, J.W., & Clark, V.L.P. (2011). *Designing and conducting mixed methods research (2nd ed.).* Los Angeles/London/New Delhi/ Singapore/Washington DC: SAGE.

Crowley, J. (2013, August 15). cMOOCs: putting collaboration first. *Campus Technology*. Retrieved on June 9, 2015 from http://campustechnology.com/Articles/2013/08/15/cMOOCs-Putting-Collaboration-First.aspx?Page=2.

Cuban, L. (2012). MOOCs and pedagogy: teacher-centered, student-centered, and hybrids. Retrieved on September 1, 2015 from http://larrycuban.wordpress.com/2013/02/13/moocs-and-pedagogy-part-2/.

Daniel, J. (2012). Making sense of MOOCs: musings in a maze of myth, paradox and possibility. *Journal of Interactive Media in Education, 3*, 1-20.

Downes, S. (2005). An introduction to connective knowledge. Retrieved on February 19, 2015 from http://www.downes.ca/post/33034.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P., &. Rupert, D. J. (2007). Merging qualitative and quantitative data in mixed methods research: how to and why not. *Ecological and Environmental Anthropology, 3* (1), 18-28.

Duderstadt, J. J. (2012). The future of the university: a perspective from the Oort Cloud. *Social Research, 79* (3), 579-600.

European Commission. (2014). Report on web skills survey: support services to foster web talent in Europe by encouraging the use of MOOCs focused on web talent—*First Interim Report*, published in May. Retrieved on February 14, 2015 from http://openeducationeuropa.eu/sites/default/files/MOOCs-for-web-skills-survey-report.pdf.

Felder, R. M., & Silverman, L. K. (1988). Learning and teaching styles in engineering education. *Engineering education, 78* (7), 674-681.

Ferguson, R., Clow, D., Beale, R., Cooper, A. J., Morris, N., Bayne, S., & Woodgate, A. (2015). Moving through MOOCs: pedagogy, learning design and patterns of engagement. In G. Conole et al. (Eds.), *EC-TEL 2015, LNCS9307* (pp. 1-15). Switzerland : Springer International Publishing. DOI: 10.1007/978-3-319-24258-3_6.

Ferguson, R., & Clow, D. (2015). Examining engagement: analyzing learner subpopulations in Massive Open Online Courses (MOOCs). *LAK'15*

Proceedings of Fifth International Conference on Learning Analytics and Knowledge, March 16-20, 2015, (pp51-58). Poughkeepsie, NY, USA.

Ferguson, R., & Sharples, M. (2014). Innovative pedagogy at massive scale: teaching and learning in MOOCs. In G. Conole et al. (Eds.), *Design for teaching and learning in a networked world*. (pp.70-84), the Proceedings of 10th European Conference on Technology Enhanced Learning, September 15–18, 2015. Toledo, Spain.

Ferguson, R., & Whitelock, D. (2014). Taking on different roles: how educators position themselves in MOOCs. In C. Rensing et al. (Eds.), *EC-TEL 2014, LNCS 8719* (pp. 562–563). Geneva: Springer International Publishing Switzerland 2014.

Fini, A. (2009). The technological dimension of a massive open online course: the case of the CCK08 course tools. *International Review of Research in Open and Distance Learning, 10* (5), 1–26.

Fox, R. (2016). MOOC impact beyond innovation. In C. C. Ng, R. Fox & M. Nakano (Eds.), *Reforming learning and teaching in Asia-Pacific universities* (pp. 159-172). Singapore: Springer.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury Press.

Friedman, T. L. (2013, January 26). Revolution hits the universities. Retrieved on 22 October 2015 from http://www.nytimes.com/2013/01/27/opinion/sunday/friedman-revolution-hits-the-universities.html?_r=0.

FutureLearn (n.d.). Retrieved on March 22, 2016 from. https://www.futurelearn.com/about.

Gaebel, M. (2013, January 25). MOOCs massive open online courses. *EUA Occasional Papers.* Retrieved on December 9, 2015 from http://www.eua.be/Home.aspx.

Glance, D. G., Forsey, M. & Riley, M. (2013). The pedagogical Foundations of Massive Open Online Courses. *First Monday: Peer-Reviewed Journal on the Internet 18* (5) http://firstmonday.org/ojs/index.php/fm/article/view/4350.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research*. New Brunswick & London: Aldine Transaction

Grainger, B. (2013). Massive Open Online Course (MOOC). A Report Published by University of London. Retrieved on January 1, 2016 from

http://www.londoninternational.ac.uk/sites/default/files/documents/mooc_report-2013.pdf.

Grunewald, F., Meinel, C., Totschnig, M., & Willems, C. (2013). Designing MOOCs for the support of multiple learning styles. In D.H. Leo et al. (Eds.). *Scaling up learning for sustained impact* (pp. 371-382). Verlag Berlin Heidelberg: Springer.

Guo, P. J., Kim, J., & Rubin, R. (2014). How video production affects student engagement: an empirical study of MOOC videos. *Proceedings of the first ACM conference on Learning@ scale conference March 4- 5, 2014* (pp. 41-50). Atlanta, GA, USA.

Gurău, C. (2007). The ethics of online surveys. In R.A. Reynolds, R. Woods, & Baker, J. D (Eds.), *Handbook of research on electronic surveys and measurements* (pp.112-119). Hershey, London, Melbourne & Singapore: Idea Group Reference.

Guzdial, M. (2013, January 4). MOOCs are a fundamental misperception of how teaching works. Retrieved on August 9, 2015 from http://computinged.wordpress.com/2013/01/04/moocs-are-a-fundamental-misperception-of-how-learning-works/.

Haggard, S. (2013). The maturing of the MOOC. *BIS Research Paper*. Published by Department for Business Innovation and Skills, United Kingdom. Retrieved November 13, 2015, from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/240193/13-1173-maturing-of-the-mooc.pdf.

Hai-Jew, S. (2014). Iff and other conditionals: expert perceptions of the feasibility of Massive Open Online Courses (MOOCs) – a modified E-Delphi study. In S. Hai-Jew (Eds.), *Remote workforce training: effective technologies and strategies* (pp. 278-410). USA: IGI Global.

Halawa, S., Greene, D., & Mitchell, J. (2014). Dropout prediction in MOOCs using learner activity features. In U. Cress & C. D. Kloos (Eds.), *EMOOCs: Proceedings of the Second MOOC European Stakeholders Summit, February10-12, 2014* (pp.58-65). Lausanne, Switzerland.

Hammersley, M., & Atkinson, P. (1995). *Ethnography: principles in practice*. (2nd ed.). London: Routledge.

Harden, N. (2011). The end of university of as we know it. *The American Interest, 8* (2). Retrieved on Feb. 19, 2015 from http://www.the-american interest.com/2012/12/11/the-end-of-the-university-as-we-know-it/.

Harvard Gazette (2015, April 1). Massive study on MOOCs. Retrieved on June 30, 2015. Retrieved from http://news.harvard.edu/gazette/story/2015/04/massive-study-on-moocs/.

Hattie, J. (2015). The applicability of visible learning to higher education. *Scholarship of Teaching and Learning in Psychology, 1* (1), 79-91.

Hattie, J. (2012). *Visible learning for teachers: maximizing impact on learning*. London & New York: Routledge.

Hattie, J. (2009). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*. London & New York: Routledge.

Hattie, J., & Gan, M. (2011). Instruction based on feedback. In R.E. Mayer & P.A. Alexander (Eds.), *Handbook of research on learning and instruction* (pp.249-271). New York and London: Routledge.

Haywood, J. (2012, July 20). No such thing as a free MOOC. *JISC Blog*. Retrieved from August 25, 2015 from   https://www.jisc.ac.uk/blog/no-such-thing-as-a-free-mooc-20-jul-2012.

Hew, K. F., & Cheung, W. S. (2014). Students' and instructors' use of massive open online courses (MOOCs): motivations and challenges. *Educational Research Review, 12*, 45-58.

Hill, P. (2013, March 6). *Emerging student patterns MOOCs: a graphical view*. Retrieved on June 25, 2015 from http://mfeldstein.com/emerging_student_patterns_in_moocs_graphical_view/.

Hine, C. (2000). *Virtual ethnography*. London: Sage publication.

Ho, A.D., Reich, J., Nesterko, S., Seaton, D.T., Mullaney, T., Waldo, J., & Chuang, I. (2014). HarvardX and MITx: the first year of open online courses. *HarvardX Working Paper No.* 1. Retrieved on November 19, 2015 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2381263.

Hung, H. & Yuen, S. (2010). Educational use of social networking technology in higher education. *Teaching in Higher Education*, *15* (6), 703–714.

Hvam, K. (2015). MOOCs- a challenge or an opportunity: a personal view. In A. Mesquita & P. Peres (Eds.), *Furthering Higher Education Possibilities through Massive Open Online Courses* (pp. 1-21). IGI Global.

Johnson, R. B., & Onwuegbuzie, A.J. (2004). Mixed methods research: a research paradigm whose time has come. *Educational Researcher, 33* (7), 14–26.

Jordan, K. (2014). Initial trends in enrolment and completion of massive open online courses. *The International Review of Research in Open and Distance Learning, 15* (1), 133-159.

Kerr, J. Houston, S., Marks, L., Richford, A. (2015). Building and executing MOOCS. University of Glasgow Report. Retrieved on September 25, 2015 from www.gla.ac.uk/colleges/socialsciences/staff/learningandteaching/mooc/.

Kizilcec, R., Piech, C., & Schneider, E. (2013). Deconstructing disengagement: analyzing learner subpopulations in massive open online courses. *In D. Suthers, K. Verbert, E. Duval, & X. Ochoa (Eds.), Proceedings of the Third International Conference on Learning Analytics and Knowledge, April 8-12,* (pp.170-179). Leuven, Belgium http://dx.doi.org/10.1145/2460296.2460330.

Kleven, T.A. (2008). Validity and validation in qualitative and quantitative research. *Nordisk Pedagogikk, 3*, 219–233.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: enhancing experiential learning in higher education. *Academy of Management Learning & Education, 4* (2), 193-212.

Kolowich, S. (2013, March 18). The professors behind the MOOC hype: *The Chronicle of Higher Education*. Retrieved on October 2, 2015 from http://chronicle.com/article/The-Professors-Behind-the-MOOC/137905/.

Laurillard, D. (2016). The educational problem that MOOCs could solve: professional development for teachers of disadvantaged students. *Research in Learning Technology, 24*, 1-17.

Laurillard, D. (2014, January 16). *Five myths about MOOCs*. Retrieved on January 25, 2015 from https://www.timeshighereducation.com/comment/opinion/five-myths-about-moocs/2010480.article.

Laurillard, D. (2012). *Teaching as design science: building pedagogical patterns for learning and technology*. New York: Routledge.

Laurillard, D. (2009). The pedagogical challenges to collaborative technologies. *Computer Supported Collaborative Learning, 4*, 5–20.

Laurillard, D. (2008). Technology enhanced learning as a tool for pedagogical innovation. *Journal of Philosophical Education, 42* (3-4), 521-533.

Laurillard, D. (2002a). *Rethinking university teaching: a conversational framework for effective use of learning technology (2ⁿᵈ ed.)*. London: Routledge.

Laurillard, D. (2002b). Rethinking teaching for the knowledge society. *EDUCAUSE Review, 37* (1), 16-24.

Laurillard, D. (1999). A conversational framework for individualized learning applied to the learning organization and the learning society. *Systems Research and Behavioral Science, 16, 113-122.*

Laurillard, D. (1993). *Rethinking university teaching: a conversational framework for effective use of learning technology*. London: Routledge.

Laurillard, D. (1979). The processes of student learning. *Higher education, 8* (4), 395-409.

Lee, Y., & Choi, J. (2011). A review of online course dropout research: implications for practice and future research. *Educational Technology Research and Development, 59* (5), 593-618.

Leon, M., White, S., White, S., & Dickens, K. (2015). Mentoring at scale: MOOC mentor interventions towards a connected learning community. *EMOOCs: Proceedings Papers of European Stakeholder Summit on experiences and best practices in and around MOOCs, European MOOCs Stakeholders Summit May 18-20,* (pp.13-17). Université catholique de Louvain campus in Mons (Belgium).

Littlejohn, A. (2013): *Understanding massive open online courses*. CEMCA, New Delhi (2013).

Littlejohn, A., Milligan, C., Margaryan, A. (2012). Charting collective knowledge: supporting self-regulated learning in the workplace. *Journal of Workplace Learning, 24* (3), 226–23.

Ljubojevic, D., & Laurillard, D. (2011). Theoretical approach to distillation of pedagogical patterns from practice to enable transfer and reuse of good teaching. *Teaching English with Technology, 11*(1), 48-61.

Liyangunawardena, T.R., Parslow, P., & Williams, S. A. (2014). Dropout: MOOC participants' perspective. In U.Cress & C. D. Kloos (Eds.), *EMOOCs: Proceedings of the Second MOOC European Stakeholders Summit, February 10-12, 2014* (pp.95-100). Lausanne, Switzerland.

Liyanagunawardena, T. R. (2015). Massive open online courses. *Humanities, 4*, 35-41.

Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs: a systematic study of the published literature 2008–2012. *The International Review of Research in Open and Distance Learning*, 14 (3).

Mackness, J., Mak, S. & Williams, R. (2010). The ideals and reality of participating in a MOOC. In L. Dirckinck-Holmfeld et al. (Eds.), *Proceedings of the 7th International Conference on Networked Learning, May 3- 4, 2010* (pp. 266–275). Hvide Hus Hotel, Aalborg, Denmark.

Margaryan, A., Bianco, M., & Littlejohn, A. (2015). Instructional quality of massive open online course (MOOCs*). Computer & Education, 80* (1), 77-83.

Martindale, S. (2014, March 2). UCI evaluating its online class experiment. Retrieved from July, 2015, from http://www.ocregister.com/articles/uci-603960-moocs-students.html.

McAuley, A., Stewart, B., Siemens, G., & Cormier, D. (2010). The MOOC model for digital practice. Charlottetown, Canada: University of Prince Edward Island. Retrieved on Feb. 2015 from http://www.elearnspace.org/Articles/MOOC_Final.pdf.

McGhee, P. (2012, November 19). Why online courses can never totally replace the campus experience. *The Guardian*. Retrieved on 10 September 2015 from http://www.theguardian.com/education/2012/nov/19/open-online-courses-higher-education.

Merrill, M. D. (2013). *First principles of instruction: identifying and designing effective, efficient and engaging instruction*. Hoboken, NJ: Pfeiffer/John Wiley & Sons.

Miller, H., Haller, P., Rytz, L., & Odersky, M. (2014). Functional programming for all! Scaling a MOOC for students and professionals alike. *Proceedings of the 36th International Conference on Software Engineering, May 31 - June 07, 2014* (pp.256-263), Hyderabad, India.

Milligan, C., Littlejohn, A., & Margaryan, A. (2013). Patterns of engagement in connectivist MOOCs. *MERLOT Journal of Online Learning and Teaching, 9* (2), .149-159.

Millner, J. (2008, May 26). Learning as conversation. Retrieved on February 26, 2016 from https://johnmill.wordpress.com/2008/05/26/laurillards-conversational-framework-1/.

Morris, S. M. (2014, November19). A misapplication of MOOCs: critical pedagogy writ massive. *Hybrid Pedagogy*. Retrieved from December 10, 2015 from www.hybridpedagogy.com/journal/misapplicationmoocs-critical-pedagogy-writ-massive/.

Morris, S. M., & Stommel, J. (2013, July 22). MOOCagogy: assessment, networked learning, and the meta-MOOC. *Hybrid Pedagogy*. Retrieved on December 20, 2015 from http://www.hybridpedagogy.com/journal/moocagogy-assessment-networked-learning-and-the-meta-mooc/.

Morris, N., & Lambe, J. (2014). *Palgrave study skills studying a MOOC*: a guide. Palgrave McMillan.

Morrison, D. (2013). The ultimate student guide to xMOOCs and cMOOCs. Retrieved on February 15, 2015 from http://moocnewsandreviews.com/ultimate-guide-to-xmoocs-and-cmoocso/.

Morton, H. (2001). Computer-mediated communication in Australian anthropology and sociology. *Social Analysis: The International Journal of Cultural and Social Practice*, *45* (1), 3-11.

Nelson, S. (2014, February 11). Measuring our first eight courses. Retrieved on December 15, 2015 from https://about.futurelearn.com/blog/measuring-our-first-eight-courses/.

Nielson, B. (2014, May 28). Megatrends in MOOCs: #10 the changing role of instructor. Retrieved on December 1, 2015, from http://www.yourtrainingedge.com/megatrends-in-moocs-10-the-changing-role-of-the-instructor/.

Onah, D.F.O., Sinchlair, J., & Boyatt, R. (2014). Dropout rates of massive open online courses: behavioral patterns. Retrieved on 21 January 2016 from https://www2.warwick.ac.uk/fac/sci/dcs/people/research/csrmaj/daniel_onah_edu|learn14.pdf.

Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *The qualitative report, 12* (2), 281-316.

Onwuegbuzie, A. J., & Johnson, R. B. (2006). The validity issue in mixed research. *Research in the Schools, 13* (1), 48-63.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: an oxymoron? *Quality and Quantity, 43* (2), 233-249.

Onwuegbuzie, A. J. & Teddlie, C. (2003). A framework for analyzing data in mixed methods research. I A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social science and behavioral research* (pp. 351-383). Thousand Oaks: Sage.

Pappano, L. (2012, November 2). The year of the MOOC. *The New York Times, 2* (12). Retrieved from on November 26, 2015 http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?pagewanted=1.

Park, Y., Jung, I., & Reeves, T. C. (2015). Learning from MOOCs: a qualitative case study from the learners' perspectives. *Education Media International, 52* (2), 72-87.

Prensky, M. (2011). Khan Academy. *Educational Technology, 51* (5), 64.

Rodriguez, C. O. (2012). MOOCs and the AI-Stanford like courses: two successful and distinct course formats for massive open online courses. *European Journal of Open, Distance and E-Learning, 15* (2).

Schulmeister, R. (2014). The position of xMOOCs in education systems. *eleed,* 10. Retrieved on December 6, 2015 from https://eleed.campussource.de/archive/10/4074.

Seaton, D. T., Bergner, Y., Chuang, I., Mitros, P., & Pritchard, D. E. (2013). Who does what in a Massive Open Online Course? *International Journal of Human-Computer Studies, 68*, 223–241.

Sharples, M., McAndrew, P., Weller, M., Ferguson, R., FitzGerald, E., Hirst, T., Mor, Y., Gaved, M., & Whitelock, D. (2012). Innovating pedagogy 2012: exploring new forms of teaching, learning and assessment, to guide educator and policy makers. *Open University Innovation Report 1*. The Open University, Milton Keynes, UK.

Siemens, G. (2005, August 10). Connectivism: learning as network creation. *e-Learning Space.org website*. http://www.elearnspace.org/Articles/networks.htm.

Siemens, G. (2012a, July 25). MOOCs are really a platform. *Elearnspace blog*: Retrieved on October 25, 2015 http://www.elearnspace.org/blog/2012/07/25/moocs-are-really-a-platform/.

Siemens, G. (2012b, June 3). What is the learning theory that underpins moocs. Retrieved on July 14, 2015, from http://www.elearnspace.org/blog/2012/06/03/what-is-the-theory-that-underpins-our-moocs/.

Sinclair, J., Boyatt, R., Foss, J., and Rocks, C. (2014). A tale of two modes: initial reflections on an innovative MOOC. In L. Uden, J. Sinclair, Y. Tao & D. Liberona (Eds.), *Learning technology for education in cloud: MOOC and big data* (pp.49-60). Switzerland: Springer.

Sooryanarayan, D. G., & Gupta, D. (2015). Impact of learner motivation on MOOC preferences: transfer vs. made MOOCs. *Proceedings of International conference on Advances in Computing, Communications and Informatics (ICACCI), August 10-13, 2015* (pp. 929-934). IEEE. 10.1109/ICACCI.2015.7275730

Spector, J. M. (2014). Remarks on MOOCs and mini-MOOCs. *Education Technology Research Development, 62*, 385-392.

Spradley, J. P. (1980). *Participant observation*. New York: Holy, Rinehart, and Winston.

Stacey, P. (2013, May 11). The pedagogy of MOOCs. Retrieved on December 5, 2015 from http://edtechfrontier.com/2013/05/11/the-pedagogy-of-moocs/.

Stenbacka, C. (2001). Qualitative research requires quality concepts of its own. *Management Decision, 39* (7), 551-555.

Terhart, E. (2011). Has John Hattie really found the holy grail of research on teaching? An extended review of Visible Learning. *Journal of curriculum studies, 43* (3), 425-438.

Toven-Lindsey, B., Rhoads, R. A., & Lozano, J. B. (2015). Virtually unlimited classrooms: pedagogical practices in massive open online courses. *The Internet and Higher Education, 24*, 1-12.

Veletsianos, G. (2013). Learner experiences with MOOCs and open online Learning, *Hybrid Pedagogy*. Retrieved on February. 16, 2015 from http://hybrid-

pedagogy.github.io/LearnerExperiencesInMOOCs/LearnerExperiencesInMOOCs.pdf.

Waite, M., Mackness, J., Roberts, G., & Lovegrove, E. (2013). Liminal participants and skilled orienteers: learner participation in a MOOC for new lecturers. *Journal of Online Learning and Teaching. 9* (2), 200-2005.

Wang, Y., & Baker, R. (2015). Content or platform: why do students complete MOOCs? *MERLOT Journal of Online Learning and Teaching, 11* (1), 17-30.

Wintrup, J., Wakefield, K., Morris, D., & Daves, H. (2015*). Liberating learning: experiences of MOOCs.* London: The Higher Education Academy.

Woo, Y., & Reeves, T. C. (2007). Meaningful interaction in web-based learning: a social constructivist interpretation. *The Internet and Higher Education, 10* (1), 15-25. doi:10.1016/j.iheduc.2006.10.005.

Yin, R. K. (2011). *Qualitative research from start to finish*. New York & London: Guilford Publications.

Young, J. R. (2013, May 20). What professors can learn from 'hard core' MOOC students. *Chronicle of Higher Education, 59* (37), A4.

Yuan, L., & Powell, S. (2013). MOOCs and open education: implications for higher education (a white paper). Retrieved on August 20, 2015 from http://publications.cetis.ac.uk/wp-content/uploads/2013/03/MOOCs-and-Open-Education.pdf.

Zheng, S., Rosson, M. B., Shih, P. C., & Carroll, J. M. (2015). Understanding student motivation, behaviors and perceptions in MOOCs. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing March 14 - 18, 2015* (pp. 1882-1895). Vancouver, BC, Canada.