FACTORS INFLUENCE THE READINESS OF THE LIBYAN HIGHER EDUCATIONAL STUDENTS TOWARD USING MOOC

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Information of Article

ABSTRACT

The massive open online course (MOOC) is a specific area of development in distance learning, which consists of world-wide participants who have access to the course via the Internet with no formal accreditation. These courses are massive in the sense that they can attract thousands of participants (Martin, 2012). In this regard, this study tries to fill the gap of the lack of higher education output achievement in Libya by adopting the MOOCs. The important methods of several quantitative studies are the utilization of tools like surveys to gather data and improve on feasible theory to analyze the statistical hypotheses that respond to the questions of research. The total population of this study is the Libyan students in the university of Tripoli city. Identifying the proper sample size for a study is able to give a wide perception toward answering the study question. Several previous studies have paid attention toward determining the optimal sample size for research. The total students at Tripoli University are 74,450 students. According to the current study, it was found that there are significant and positive relationships between Internet Discussion, Technology Access, Motivation, and readiness for MOOC. Stating that correlation values for the variables were (0.273, 0.289, and 0.268).

1. Introduction

The growing trend of Massive Open Online Courses has led to an enormous number of courses accessible over the internet under different MOOCs programs. When a person wants to learn a specific module, he can easily search it on the look-up site of the MOOC program and get a group of course propositions to choose from. Sometimes, the course may not contain all the required resources. Even if the learner spends time to take one course, he may not still get significant information for the learner taught in other courses. On the other hand, experiencing all related courses is not possible for a learner, and in particular, is not necessary when the courses do not cover the desired things. In general, it is easy to learn a lecture after several lectures since the content of the previous one is on the basis of the notions mentioned lastly.

Smith et al (2017) finds that students achieve high performance for information technology subjects when they spent more time learning the information technology subjects outside the classrooms. The outside classes formed an interactive environment for students rather than inside classrooms. Massive Open Online Course (MOOC) is considered as an additional step into the new era of knowledge, which works to break the constraints of the limited scope of course knowledge. University students are obliged to follow their teachers and books contain, it forms a limitation of knowledge that unable to cross it. Educational institutes need to improve their strength to keep positive images with their various constituents, and the way to do this is to take full advantage of the opportunities the website provides (Caglar & Mentes, 2012). The importance of MOOC has received more attention during the last eight years, which is the age of the MOOC concept. Researchers have shown that MOOCs can contribute to student learning and improve their academic results in all areas (Chauhan, 2015; Follis, 2015; Zou, 2016).

In this regard, this study tries to fill the gap of the lack of higher education output achievement in Libya by adopting the MOOCs. In addition, Brinton et al. (2014) conducted a study on the correlation between MOOC students' behavior and drop-out rates. Although the findings of this study considered discussion forum activities to understand the students' behavior, this study did not explore the impact of readiness factors of MOOC students on the completion of the course.

2. Historical Overview

The massive open online course (MOOC) is a specific area of development in distance learning, which consists of world-wide participants who have access to the course via the Internet with no formal accreditation. These courses are massive in the sense that they can attract thousands of participants (Martin, 2012). They are open and free, allowing participants to use the network to distribute and share their thoughts, experiences, knowledge, ideas, and understanding. Massive open online courses provide a structured curriculum and give participants the authority to make their own social and conceptual connections to meet their learning needs by automated means and manage their own learning (Tschofen & Mackness, 2012). As learning has moved from

instructor-centered to learner-centered, learners are seeking a place where they have the ability to create their own learning network, preferred tools, and sources. An additional feature is learning is no longer limited to formal institutions. People who rely on MOOCs are able to learn via the network and create their own learning environment outside of formal institutions. In order for MOOC learners to achieve their goal of creating their learning environment and learn by themselves using multi online tools, they need to be self-directed to take control of their learning (Väljataga & Laanpere, 2010).

Higher education institutions' main goal is to produce skills through the provision of education. A university, for example, builds a good reputation and becomes popular due to the quality of education it provides. It is natural that when discussing information and communication technologies and higher education institutions, the focus should be on supporting this main goal. There is a great deal of literature available on the adoption of 'electronic learning' (e-learning) (Shanmugam, Srinivas, & Reddy, 2014). Dodds (2007) took a different approach, focusing on areas where information and communication technologies can act as a contributor to university innovation. Dodds (2007) believed that when integrated into education, information and communication technologies has the potential to achieve the following: build communities of innovation; remove barriers to effectiveness; create effective services and new possibilities for collaboration (Hertin & Al-Sanjary, 2018); establish continuous communication; create a culture of trust; and empower staff and faculty. Dodds argued that integrating information and communication technologies in education could ensure the following: ubiquitous access to education by transcending time and space; access to remote learning resources; improvement of the quality of education and training even with massification of education; improved learner motivation to learn; and enhanced teacher training. Information and communication technologies have the potential to promote business excellence. The major benefits of computers and computerization could be argued as proving: speed and reliability. Dodds (2007) noted that information technology introduces simple time saving tools and reliable infrastructure. It is in these benefits of computing, combined with information technology that is aligned with university business goals, which the potential for excellence can be found. Dodds further observed that contemporary study has moved away from lone-ranger scholar type study in the 'ivory tower' to "international multidisciplinary teams of investigators" (Dodds, 2007), a notion that Balasubramanian and Clarke-Kah (2009) supported. Through information and communication technologies therefore, a university can tap into the study prowess of a myriad studies of a multidisciplinary nature drawn from elsewhere in the region, the continent and the globe. Educational technologies refer to the application of technology with the express intention of advancing education. Technological innovations that have been applied in education in recent years include instructional radio, television, personal computers, computer-based instruction, the Internet, Web 2.0, e-learning, and m-learning (Veletsianos, 2010). These educational technologies are tools applied in diverse educational settings (including distance, face-to-face, and hybrid forms of education) to meet varied education-related purposes (for example instructional, social, and organizational goals). Computers, mobile phones and television have comprised a huge part of these educational technologies, which is why for the most part educational technology has been viewed as synonymous with information and communication technology. Information and communication technology denotes a convergence between computers and communication devices, and due to this technological convergence, we mainly understand information and communication technologies to be synonymous with computers. In Sub-Saharan Africa, mobile phones have become more common than computers. With the convergence of mobile technologies and computers and with effective interoperability, then a better synonym for information and communication technologies could computing devices (Aker & Mbiti, 2010). Veletsianos (2010) noted the "sense of isolation" as among the greatest hardships endured by the poor, and contended that information and communication technologies are capable of removing and can indeed remove the poverty. Information and communication technologies have been touted as potentially powerful tools for enabling transformation in higher education institutions. If well aligned with high education institutions goals, information and communication technologies can help expand education access, raise education quality, enhance research, assist the university to cut management costs, and ensure proper tracking of resourcing, including human resources among others. Technology has numerous benefits to offer in the learning process (Achimugu, Oluwagbemi, & Oluwaranti, 2010). Ale and Chib (2011) believed that apart from enhancing technology literacy and familiarity, computer-based learning could help the students who actively participate in it to achieve enhanced levels of motivation and increased zeal in tackling challenging questions, with more understanding of concepts. Information and communication technologies can be a great resource in higher education institutions in developing countries because they have the potential to assist in improving policy formulation and execution. They can also create a wide range of business opportunities.

The university and institutions are in transition. The changes in the productive world, the technological evolution, the information society, the tendency to the commercialization of knowledge, the demand for more flexible and accessible teaching-learning systems to which any citizen can incorporate throughout their lives are causing higher education institutions to bet decisively on information and communication technologies (ICT). But how are the university responding to these changes and demands? Institutions of higher education are, with increasing frequency, changing to the use of the internet to distribute courses to students at a distance, also to improve the educational programs that are distributed on campus. Some institutions have seen this as a way to attract students who cannot otherwise attend class; others use it as a way to respond to the needs of a new student population. MOOCs were conceived from connectivism, which was proposed by George Siemens in 2005 as a theory of advanced learning time. The creator contended that connectivism conquers the confinements of three of the main fundamental hypotheses of learning: behaviorism, cognitivism and constructivism, in particular, without considering the current rapid improvement of innovation and information base, and additionally learning as a marvel which can occur outside of individuals and within

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associations. In his reflection initially distributed on this theory, Siemens presents the growing need to evaluate the advantageous learning to seek after, in a general public where access to data and information, increases exponentially. By not having the capacity to absorb everything, people need to channel data and discover how to obtain the data they need. In this way, connectivism emphasizes associations that empower the person to learn, as opposed to their current knowledge (Siemens, 2005). Despite the growing recognition of this theory of learning, connectivism has not been widely recognized and some basic voices have been developed. Some authors argue that it is anything but a theory of learning, but a theory of educational programs. Others claim that connectivism (i) can not clarify the scope of the wonders of learning, (ii) is deprived of new thoughts, (iii) introduces a poorly defined part of the instructor, and (iv) requires the student a high level of inspiration for yourself. the commitment to govern with assets and maintaining interaction with other MOOC members (Anderson, 2016).

An investigation of MOOCs offered by 66 establishments in the United States recognized six shared objectives. These were (1) developing the scope of the organization and access to instruction; (2) constructing and looking after brand; (3) enhancing financial aspects by bringing down expenses or expanding incomes; (4) enhancing instructive results for MOOC members and on-grounds understudies; (5) advancement in educating and learning; and (6) leading examination on educating and learning. The review found that few MOOCs had conveyed on these six objectives for various reasons. Since most MOOC members were at that point profoundly taught, and fruition rates were so low - the confirmation recommended that MOOCs were missing the mark regarding "democratizing" instruction. None of the 66 organizations met had produced wage from MOOCs, and for sure just 5% of foundations recommended this was a practical objective. It was likewise obvious that advance in utilizing MOOCs to enhance instructing and learning was being obstructed by trouble in utilizing the stage information and absence of clearness with respect to controls material to the members and their information. The report inferred that MOOCs are as of now not contributing essentially to the improvement of customized and versatile learning, and that obviously characterized measurements and assessment methodologies are critically required. For instance, the effect of MOOCs on college brand was impractical to survey because of an absence of measurements characterized around there. Besides, in light of the fact that the real effect on instructive results and development was not being reported in any thorough design, as a rule it was indistinct whether these objectives had been accomplished (Jordan, 2015). This evaluation encapsulates a quickly creating assortment of writing which has now moved towards a talk of 'developing MOOC suspicion' and a general feeling of disappointment at the appearing powerlessness of most study foundations to transform the immense datasets of MOOC investigation into important study about how MOOCs may advance learning.

2.1 Classifications of Massive Open Online Courses

Jasnani (2013) distinguished between two types of MOOC: cMOOC (the "c" stands for connectivist) and xMOOC. In the cMOOC, students generate knowledge and can search beyond the scope of the course via blogs, images, videos, articles, etc. The cMOOC has assigned reading and weekly schedules for students to follow. Students develop their own paths to make sense of distributed knowledge. On the other hand, the xMOOC has a more structured and linear approach wherein students have organized content for the course. Students in the xMOOC course are expected to read assigned readings and then complete unit quizzes. Compared to the cMOOC, the xMOOC is less learner action and does not include learner-generated driven content. The relationship between the teacher and learner in the xMOOC is more traditional. The cMOOC has a discussion forum where students generate content and seek more sources than the course provides. An example of MOOC was seen in 2011 when Stanford University started to provide an artificial intelligence (AI) course, which attracted 160,000 students who registered for this new learning opportunity (Martin, 2012). Of the initial number of students, 23,000 completed the course. It was a 10-week course that met each week and consisted of two or three 45-minute lecture videos that were uploaded to the Internet. After each video session, students would answer questions regarding the same topic and there was weekly homework. Students in this class had to create their own networks to discuss the topics and manage their time (Martin, 2012).

2.2 Challenges for Massive Open Online Courses

Along with all the advantages of MOOC learning, there are challenges in using the tools, which require learners to acquire skills to create their environment and choose the best tool to fit their personal and learning purposes. The main challenges of MOOC learning are the lack of the instructor role, learner personality, previous learner experience, self-efficacy, digital literacy and English Language proficiency (Tu, Sujo-Montes, Yen, Chan, & Blocher, 2012). Presence, which could be a challenge for MOOC students, plays a role in elearning. There are three types of presence in education: cognitive, social, and teacher. Communication, collaboration, and presence enhance the depth of learning. The higher the level of presence in e-learning the higher the level of involvement in the online activity. The success of MOOC learning requires learners to be active in their learning by finding sources, producing information themselves in a variety of formats, and by communicating and collaborating with others in new ways. In order for people to learn through MOOC, they need to have certain levels of creativity and innovative thinking. Learners need to be aware of network intricacies to have better structure. Lack of facilitator or instructor role forces learners to have high levels of critical capabilities in order to critique their structures (Kop, 2011).

The MOOC students need to be self-directed in order to update their base of knowledge and skills. Students' selfdirection consists of domains that are both activity-oriented and disposition-oriented. As mentioned previously, learners have more control over their learning goals, strategies, objectives, resources, and activities. Learners make their decisions based on preferences and

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interest. Until recently, higher education has offered teacher-controlled systems and has not left students in an area where they make their own decisions (Vä ljataga & Laanpere, 2010). Learners need to feel comfortable, trusted, and valued in the learning environment in order to engage successfully in online learning environments (Kop, 2011). Personality can play a strong role in MOOC learning. For example, if the learner is shy, he/she might hesitate in sharing his/her ideas or thoughts and might have some fear about his/her mistakes that would create a barrier for presence. For people who do not have advanced computer skills or are not technology oriented, this could affect their ability in creating platform tolls and finding sources. People who have learned using MOOC methods should at least have some skills about recent tools that could help them create their networks. Placing higher education students in situations where they have to create their personal learning environment should prepare them for intelligent decision-making. Students acquire knowledge and skills if they engage in a situation where they create their own learning environment.

2.3 Benefits of Massive Open Online Courses in Higher Education

The technological changes that have occurred in recent years has changed the way people communicate and relate to each other in society. With the emergence of mass open online courses (MOOCs) that aim to provide open and online training, a new trend in distance education is created. For the University this represents; a technological and pedagogical challenge, the incorporation of MOOCs in its educational offer, the interaction of the student with the teacher, the change of thought and practice, as well as the internationalization that leads to the opening of different cultures and idiosyncrasies (Ferris , 2001).

The concept of competitiveness according to the World Competitiveness Yearbook cited by Gómez Mena (2005) defines it as "the ability of a nation to create and maintain an environment that supports greater value creation for its companies and more prosperity for its inhabitants", Transferring the concept of competitiveness to the education sector can be considered as the ability of university to create and maintain a sustainable environment and create value for themselves, for the prosperity of their students. Competitiveness implies the involvement of all the actors involved in a University, the quality and diversification of the services it offers, as well as the facilities and technologies it has.

One of the competitive strategies adopted by the university is the incorporation of MOOC courses into their educational offer, but this strategy goes beyond the mere fact of offering MOOC courses, it extends as an added value to the production, distribution, and storage of educational resources. , creating virtual learning environments, using the internet as a means of communication, social networks and educational platforms as means of distributing educational materials.

The first online course was developed by Stephen Downs and George Siemens called the CCK08 "connectivism and connective knowledge" of the University of Manitoba, which had about 2,300 students enrolled (SCOPEO, 2013), which attracted attention by Dave Cormier and Bryan Alezander who dubbed him massive open online curse (MOOC) (Siemens G., 2013). One of the educational models on which MOOCs are based in the connectivism developed by Siemens, which calls it the integration of the principles explored by chaos, the network, complexity, and theories of self-organization, mentions that learning and Knowledge is based on the diversity of opinions, which is a process of connecting specialized nodes or information sources and the ability to see connections between fields, ideas, and concepts that are key tools (Siemens G., 2005). In the Artificial Intelligence course offered by Sebastian Thrun, about 160,000 students from 190 countries were registered, against 200 students who did the same course in person (Bartolomé & Steffens, 2015).

3. Literature Review

Hone and El Said (2016) investigate the implementation of MOOC by students of the Republic of France Departmental educational institution, of the municipality of San Francisco de Sales, conclude the eleventh grade of vocational secondary education and approve the school year in accordance with the regulatory requirements of the educational establishment. With regard to English language learning, as is the case of BIMBO, SIEMENS and other multinationals, with the intermediation of SENA, carry out staff recruitment processes for training and possible linking as employees to newly graduated students from the surrounding municipalities. One of the greatest difficulties for students has to do with English tests and they are the ones that finally define who can enter the training program, which offers concrete opportunities for work and sustainable social development for recent graduates. A study by Watson et al. (2016) investigation was initiated, only one student of twelve who submitted to the process of the Republic of France Departmental Institution approved the English tests, this student received prior training with the help of the Discoveries English course accredited by the male students. The training process was external to the educational institution and was promoted by the authors of this work, in particular, one of them, who lives in the area for more than 25 years. Despite the resources available in official institutions, teachers of vocational media shyly use ICT as an effective means of support in pedagogical teaching-learning processes, specifically in the English language, while still including other areas of knowledge, situation that affects the quality of education in the dimensions act, space and time, according to the approach of Vicky Colbert referring to the New School (Colbert Vicky, 2013).

The Educational Act demands new learning paradigms; it requires moving from a teacher-centered action to a student-centered process. It requires the teacher as a guide and facilitator of the educational process. The student passes from passive receiver to active participant, where collaborative learning arouses the construction of team knowledge that is strengthened with autonomous learning and meaningful learning. Scenarios where ICTs play an important role as a means of integration, source of knowledge and wide availability of teaching material. Time needs to be modified, all people have the capacity to learn, but at different rates.

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Personalized and flexible learning methodologies must be promoted to address individual differences. Through the use of ICT in the pedagogical learning processes, the individualization of the curricula is facilitated, so it is possible to observe the traceability of the learning processes and design the strategies to timely correct the deviations, that is, the educational process is dynamic and controllable (Breslow et al., 2013).

Regarding the concept of MOOC, according to De Barba, Kennedy, and Ainley (2016), the learning process not only occurs in the educational institution, it must be an inherent part of the daily life of all people, in their home, in their work, in their community, so it is necessary to think beyond of the school spaces. We must create a community of knowledge where you learn permanently, both informal and non-formal environments, which are appropriate scenarios for the use of ICT. In the case of our proposal, we believe that a course implemented on a MOOC can be used. The role of technology is crucial in an educational revolution, but simultaneously it is necessary to make changes in pedagogy. Therefore, it is necessary to develop ICT skills in teachers to comprehensively improve the quality of pedagogical processes of teaching-learning, the teacher is the one who defines the pedagogical strategy, the classroom plan and what should be the teaching aids to use. Although resources are limited, according to a survey conducted with students in the tenth and eleventh grades of the CDRF, 76% of students in vocational media have computers in their homes with internet access, a figure that facilitates the achievement of the objectives proposed. Within the didactic strategy, it is necessary to consider elements that provide security to teachers in the use and operation of computing devices, to eliminate unfounded fears of possible risks of infrastructure damage (Breslow et al., 2013).

The most important thing is that teachers are committed to the need to use ICT in pedagogical teaching-learning processes and do not know how to do it. Additionally, the institution's rector is interested in improving English language learning because of the work and study opportunities that multinational companies are offering for the students of the municipality, including Siemens, General Electric, and Schlumberger Colombia, as previously mentioned. From the perspective of the rector of the departmental institution Republic of France, he wants to be the main institution of the department of Cundinamarca where English language learning is intensified with the use of ICT to comply with the 10-year male education plan that concludes in 2016. From the perspective of teachers it is very difficult to devote time to the development of activities outside the working day, they have commitments with their family at home, especially those who have small children who must pick them up from the garden, take them home, take care of them and feed them. They state that family income is not enough to hire employees of the service that can help them (Christensen et al., 2013).

This situation makes the learning process of teachers difficult for the development of ICT skills, because during the working day they have too many occupations that prevent them from dedicating time to the learning process in the use of the computer resources available in the institution. Regarding this particular point, it has been tried to demonstrate to the teachers that making applied use of the TIC to the pedagogical processes of teaching learning, the development of the teaching management is facilitated, that the preparation of the classes is easier, by the abundance of available teaching material (images, videos, animations and presentations) and that the evaluation processes require less time because the information systems help to carry out the operational activities of qualifying, sending the respective feedback and recording activities and notes. However, the benefits that ICT can bring to pedagogical teaching-learning processes require an effort committed to wanting to do. The rector of the institution has managed to have computers to educate assign an additional computer classroom for the school and the provision of IPads for students with the purpose of forming an itinerant classroom, so that students who do not have a computer can take home IPads using an insurance policy against theft and damage to the device, a project that would decisively support our work (to date it has not been fulfilled). Education is a fundamental right and must be guaranteed to be of high quality (Clarà & Barberà, 2013).

The quality is demonstrable when the development of competencies in students is achieved to transform the social environment in which they live, in the search for coexistence, respect for the environment, equity, economic sustenance and the improvement of the quality of life. However, there are other instruments to measure the quality of education based on the efficiency and effectiveness of the teaching-learning educational processes within the educational institutions, which is complemented by the application of tests on both local knowledge as international It was found that at the Francisco Morazán National Pedagogical University in Honduras, a project was carried out in which it bears the title: "Use of technologies and information and communications in English class in public secondary education institutions in the urban area from the city of Santa Barbara ", which was developed by (Pursel, Zhang, Jablokow, Choi, & Velegol, 2016) and the idea was to find out what types of technological means teachers use to teach English classes and the limitations and strengths exist in educational centers for the use of ICT. At the University of Valladolid, a project was carried out entitled "The use of new technologies in the English classroom", the work analyzes the didactic possibilities of Information and Communication Technologies (ICT) in the acquisition of foreign languages, specifically in English. The aim is to provide a possible action guide and methodological proposal, based on the approaches to teaching foreign reference languages that will attempt to establish a basis for the introduction of digital resources in the English classroom. Its author was García-Peñalvo, Fidalgo-Blanco, and Sein-Echaluce (2018) worked in Spain on a project which has the title: "ICT in the English classroom: a work project", presents how to integrate new information and communication technologies into our teaching project, understanding it in a way globalized to contribute to the training of young critics, freelancers and creative. (Kizilcec, Pérez-Sanagustín, & Maldonado, 2016) carried out the project entitled: "B-learning as a methodological strategy to improve the teaching-learning process of English learners in the semi-presence modality of the specialized language department of the Technical University of Ambato ", in this study the results obtained in an experience of

semipresencial training supported by the use of technologies are exposed, more specifically, under the blendedlearning (b-learning) modality carried out with English learners of Beginner A1 levels , Elementary A2 and Pre-intermediate B1- of the Specialized Department of Languages of the Technical University of Ambato in Ecuador.

This aims to support the development of educational competencies in the English and Technology sectors, as well as impacting the Transversal Fundamental Objectives (OFT), through collaboration between students from Chilean and foreign schools, classrooms with the classroom. The service offers a technological platform to communicate; a set of pedagogical activities that take the form of a collaborative project to be implemented among those involved; and a professional distance consultancy that is in charge of process management. It was developed by (Zhu, Sari, & Lee, 2018). Teachers of the Republic of France departmental school, of vocational secondary education, located in the municipality of San Francisco de Sales, despite having some computer resources available; do not use ICT in a regular way effective in the teaching-learning pedagogical processes. The effectiveness defined in terms of efficiency and effectiveness is that the development of communication skills in vocational students in English language learning be achieved in accordance with the pedagogical and linguistic methodologies proposed by teachers specialized in the subject, in compliance with the norms and standards, both national and international with the didactic support of the TIC, inside and outside the classroom. The students of the Republic of France Departmental College have some levels of familiarization in the use of ICT, according to an informal survey of several students of that institution. They know new technologies and are familiar with them, but do not use them in pedagogical learning processes effectively. See annexes of the surveys. In accordance with the fieldwork with the teachers of the Republic of France Department of Education, the presentation of tools available on the Internet was carried out, with workshops on the use of the cell phone to support the learning processes and based on the results of the survey applied to the professors who participated in the research, it is concluded that: it is necessary to intensify the use of ICT in the pedagogical teaching-learning processes of all areas of knowledge. That teachers are unaware of the software tools that are available on the web (at the time of research development) to be used freely in and out of classrooms. Teachers need to learn to use ICT in the part related to the tools available to include them in the learning processes, in this case for the English language (Clarà & Barberà, 2013).

3.1 Internet Discussion

In just a few years since its development, massive open online courses (MOOCs) have attracted a large number of organizations to offer free courses. The provision of MOOCs allows an organization to reach a substantially broader scope of substitutes from several foundations instead of using a standard method of instruction.

The Internet day by day advances as an important means of communication, and it is necessary that we adapt to these technological advances. The discussion forum had normally been carried out face-to-face, but with the advances of the internet, today can be carried through a web user application. For this, this paper will explain the discussion forums on the Internet and its advantages.

A forum (also known as "forums" or "discussion forums") on the Internet is a web application that supports discussions or opinions online. This application is usually organized in categories that contain forums. These last forums are containers in which new topics of discussion can be opened in which the users of the web will respond with their opinions.

A forum has a structure arranged in a tree. The categories are container forums that have no use other than "categorize" those forums. The forums, in turn, have topics (arguments) that include messages from users. They are a kind of bulletin board where opinions or information about a topic are exchanged. The difference between this tool of communication and instant messaging is that in the forums there is no "dialogue" in real-time, but nothing else is published an opinion that will be read later by someone who can comment or not. The forums allow analysis, confrontation, and discussion since they deal with specific topics of interest to a group of people. Depending on the forum, you will need to register to comment or you can do so on a guest basis (without registration or connection).

A discussion forum is an open space for the discussion of specific topics, with the purpose of allowing groups of common interests to interact, exchanging ideas, theories and opinions.

Internet Forum is also known as a message forum, opinion forum or discussion forum and is a web application that supports online discussions or opinions.

They are the modern descendants of the news system BBS (Bulletin Board System) and Usenet, very popular in the 1980s and 1990s. Internet forums generally exist as a complement to a website inviting users to discuss or share information relevant to the theme of the site, in free and informal discussion, with which you get to form a community around a common interest. The discussions are usually moderated by a coordinator or facilitator who usually introduces the topic, formulates the first question, encourages and guides, without pressing, gives the floor, asks for substantiation and explanations and synthesizes the above before closing the discussion.

Beyond being a tool on the Internet, forums generate a large number of writings; but in contrast to other modern technologies based on the Internet, such as instant messaging (popularly known as going against culture, in its meaning of general knowledge and vocabulary); Many of the members of the forums really care about the quality of the texts both in content and in writing, spelling, grammar and other characteristics of written language. Having this type of user, a special emphasis on correcting the "chaters".

3.2 Technology Access

MOOCs are clearly defined by their openness, by locating the information and the relationship between the different educational actors on the Internet ("online"), and by the fact that the size of the educational community involved in a Such a course can easily exceed the thousands of people ("massive"). Based on a collaborative or connective teaching model, MOOCs displace (some would say "exceed") the hierarchical relationship between teacher and student, so that the learning process is shared (hence the references in the MOOC literature to the idea of a "distributed responsibility" in learning), and students become, also, generators of content and connections between different aspects of the course. The students participating in a MOOC ideally cease to be individual actors in their learning, and become part of a much wider learning community, in which knowledge does not proceed exclusively (although it may have its origin or selection there initial) of the teacher, but also of the participation and involvement of other students. The emphasis, in MOOCs, on the use of social networks (Facebook, Twitter...) that consolidate these learning communities. In addition to social networks, those involved in the learning community can take advantage of content aggregation (RSS, for example) to share information, thematic or tangential materials, and learning strategies.

It is possible, however, that these a priori interesting concepts, which provide an attractive component of interactivity and a new educational community to MOOCs, have as a counterpoint potentially problematic realities, or challenges, that should be known before accepting the challenge of designing one of them these courses. In the first place, the open and massive nature of MOOCs presupposes an immense diversity of students, unimaginable if it comes from a traditional class, whether online or in a physical classroom context. The teacher must be prepared to find a wide variety of students in aspects such as prior knowledge of the subject, general education level, interest, knowledge of the technology that will require the follow-up of the course (or access to this technology if we take into account that MOOCs aspire to reach a global student body), and even the language in which it will be taught (for many students the language chosen for the course will not be their mother tongue). It must be borne in mind that, even if the traditional classroom requires a preparation to deal with diversity, it is not uncommon to reach several tens of thousands of students enrolled simultaneously (which can be estimated at 20,000 students in one classroom). course with some success5), with the exponential growth of the diversity that this implies. On the other hand, the average completion of an xMOOC between 40% and 13% of the total enrollment has also been encrypted6: although it is true that the fact that 5000 students complete a course is a very high number of success, it is difficult to gauge whether a completion rate of 10% (in an originally 50000-enrolled course, following this fictitious example) may or may not be considered a success, especially for teachers accustomed to higher completion rates in traditional settings.

While access to technology for instructional purposes has essentially expanded lately, such progress is uneven in all countries and districts. When thinking about the potential effect of improved access to technology, it is vital to recognize various types of access: Access to a PC with or without an established or remote web association; access to web broadband, which offers higher rates than a narrow band association; and versatile broadband access, through cell phones, for example, standard cell phones, cell phones, and tablets. Each of these types of access conveys its own particular instructional potential and strategic suggestions.

The most recent decade has seen a critical increase in access to ICT in the countries created. In some countries of the Organization for Economic Cooperation and Development (OECD), for example, 93% of 15-year-olds approach a CP at school, and approximately a similar rate (92.6%) is approaching the web at school. The proportion of substitutes for PC has also increased in these countries; in the neighborhoods of 2000 and 2009, the proportion of substitute students in 15-year schools fell from 13: 1 to 8: 1 (OECD, 2011). In some of these countries, for example, Belgium, Germany, Italy and Korea, access to housing is much higher than at school.

3.3 Motivation

The term that began to be known mass online courses or MOOC (Massive Open Online Courses) is beginning to disintegrate in other hybrid educational models such as BOOC (Big Open Online Courses), SPOC (Small Private Online Courses) or DOCC (Distributed Online Collaborative Course), partly due to the media impact that they have obtained in the last two years and that has boosted countless articles and congresses for their definition. However, both MOOCs and any of these new hybrid models must take into account a series of motivating components of teaching that should be included in any massive online course, one of which are badges, accreditations or certificates. , that try to justify and at the same time motivate the learning of the students. The key to the success of a badge could be in the prestige obtained within the social circle of the student, the sustainability of mass online courses could depend on it. The most prestigious certificates could cover the expenses, while those of less prestigious insignia would serve as a reward to motivate the student.

The motivation based on rewards is closely related to the self-esteem needs of the Maslow pyramid, the motivation would be the set of activities carried out to achieve the satisfaction of our needs (García Govea, Posada Vázquez and Hernández Rangel, 2012) and by therefore the need for self-esteem can be defined as a need for balance in the human being (Boeree, 1904).

However, although a priori it might seem that the reward system would motivate the students to achieve their objectives and this would greatly benefit the increase in the completion rate of MOOCs, currently close to 5% (Sánchez Acosta, 2013), Is not always that way. Jerome Bruner in his article "Towards a theory of instruction" (Bruner, 1969) classifies the rewards into two types:

1. Extrinsic: The one that the subject receives from the outside.
2. Intrinsic: The one that starts from the inside of the subject.

And he proposes to abandon the extrinsic rewards (such as the teacher's praise) for other intrinsic rewards (solve a difficult problem by itself) and also substitute the immediate reward for a deferred reward (Bruner, 1969).

When a reward is offered for studying or doing a task, it usually happens that, although the "amount of effort" increases, it does not usually improve the quality of what has been achieved while working. This is because the attention of the student is more in the reward than in the procedures and strategies to be put into play, then seeks more reward than learning (Tapia, 2005).

Furthermore, since it is an online course, it should be taken into account that those students who are self-motivated and who only need rewards can focus on those who do not pursue learning but only achieve a certificate of attendance or completion of objectives. Self-motivated students expect to be successful and have no problem setting high goals for themselves. Those who lack self-motivation, expect only limited success and according to the psychologist Covington expert in the subject, they set their goals in the lowest degree of realization that a person can have without experiencing too much concern. (Ibarrola López de Davalillo, 2006).

4. Methodology

This part of the paper describes the methodology's progress to develop the study to accomplish it successfully. All the parts of the study design, measurement and the factor hypothesized in the sample will be distinguished via the data questionnaire management and statistical research. This study investigates the readiness of Libyan students in higher education institutions toward using Massive Open Online Course (MOOC).

Quantitative study methods seek to increase the objectivity of the discoveries and are appealed to prognosis. Anticipation is an important method that a researcher will share his or her practices, understanding, and preconception to ensure objectivity in the implementation of the study. The important methods of several quantitative studies are the utilization of tools like surveys to gather data and improve on feasible theory to analyze the statistical hypotheses that respond to the questions of research.

The total population of this study is the Libyan students in the university of Tripoli city. Identifying the proper sample size for a study is able to give a wide perception toward answering the study question. Several previous studies have paid attention toward determining the optimal sample size for research. The total students at Tripoli University are 74,450 students. Based on G-power software which is designed to calculate the sample size based on the number of predictors within the model construct (Faul, Erdfelder, Lang, & Buchner, 2007). The sample of this study is 377 students.

The questionnaire is used to collect the data for the current study. The questionnaire is divided into two sections. The first section of the questionnaire is assigned to describe the background of the respondents to ensure that respondents have a different background, which gives the obtained result more reliability to be generalized. The first section consists of gender, age, educational level, and experience of using the Internet.

The second section of the questionnaire will be assigned to measure the contribution level of each independent variable that Internet discussion, technology access, and motivation toward the readiness for MOOC. Likert five point's scale will be used to measure the level of each item under the independent variables of the study. The lower value of the Likert scale is 1 for 'strongly disagree', while the highest point scale is determined by value 5 for 'strongly agree'.

The whole data was mainly entered into Microsoft Excel and then analyzed with SPSS software for the examinations purpose. The SPSS version 23 proposes detailed analysis options that view the data thoroughly and determine trends that have not been recognized. A researcher may explore several various variables on the set of information to differentiate how performance should change under various conditions. For the purpose of achieving the study objectives, the correlation and regression tests were used.

5. Results

This study has used a random sampling method in terms of distributing the questionnaires and selecting the samples for the study. The study sample were 371. Using this type of technique requires analyzing the respondents' profiles. The respondents' profiles test aims to identify and recognize each sample that was selected to participate in the research. The main reason for the respondents' profiles test is to make sure that all the samples were chosen and selected randomly. This test has several classifications to identify the respondents, which are gender, age, educational level, and experience of using Internet.

5.1 Respondents Profile

The male category recorded 70.4 % of respondents, with n = 261. The female category recorded 29.6 % of respondents, with n = 110.

The age category was including from 18 – 25 years old category recorded 33.8 % of respondents, with n = 125. From 26 – 35 years old category recorded 46.6 % of respondents, with n = 172. From 36 – 45 years old category recorded 4.9 % of respondents, with n = 18. From 46 and above years old category recorded 14.7 % of respondents, with n = 56.

While the educational level category was containing, the diploma category recorded 28.8 % of respondents, with n = 107. The bachelor category recorded 63.6 % of respondents, with n = 236. The master category recorded 7.5 % of respondents, with n = 28.

Lastly, the experience with internet category contained, From 1 – 3 years of experience category recorded 36.4 % of respondents, with n = 135. From 4 – 6 years of experience category recorded 39.6 % of respondents, with n = 146. From 7 – 8

years of experience category recorded 15.3 % of respondents, with n = 57. From 9 and above years of experience category recorded 8.7 % of respondents, with n = 33.

Table 1: Respondents profile

	Frequency	%		Frequency	%
Gender			**Educational Level**		
Male	261	70.4	Diploma	107	28.8
Female	110	29.6	Bachelor	236	63.6
			Master	28	7.5
Age					
18 - 25 years old	125	33.8	**Experience of Using Internet**		
26 - 35 years old	172	46.6	From 1 – 3 years	135	36.4
36 - 45 years old	18	4.9	From 4 – 6 years	146	39.6
46 years old & Above	56	14.7	From 7 – 8 years	57	15.3
			From 9 and above years	33	8.7

5.2 Reliability Test

The reliability test of the Internet discussion, technology access, and motivation toward the readiness for MOOC variables show that, there are great internal consistencies for all the variable's items. Based on Table 2, the Chronbach Alpha values of Internet discussion, technology access, and motivation toward the readiness for MOOC variables are equal to 0.863, 0.776, 0.722, and 0.894 respectively.

Table 2 Reliability test

No	Variable	Cronbach Alpha
1	Internet Discussion	0.863
2	Technology Access	0.776
3	Motivation	0.722
3	The Readiness for MOOC	0.894

5.3 Correlation Test

For the goal of finding out the type of relationship between Internet Discussion, Technology Access, Motivation, and readiness for MOOC, the correlation test is employed. Table 3 shows significant and positive relationships between Internet Discussion, Technology Access, Motivation, and readiness for MOOC. The following table 3 shows the level of significant.

Table 3 Correlations Test Analysis

Independent variables		The Readiness for MOOC
Internet Discussion	Pearson Correlation Sig. (2-tailed)	0.273 .000
Technology Access	Pearson Correlation Sig. (2-tailed)	0.289 .000
Motivation	Pearson Correlation Sig. (2-tailed)	0.268 .000

5.4 Regression Test

The regression test for this study was implemented to find out the future contribution of the dependent variable based on the independent variables. The multiple linear regression shows that the two variables (Internet Discussion, Technology Access, and Motivation) have significant values less than 0.05 (0.009, 0.008, and 0.002) which means The Readiness for MOOC is influenced by these three variables in the multiple linear regression model.

Table 4 Regression test for the first dependent variable adequacy feature

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.890	.232		16.558	.000
Internet Discussion	0.028	0.071	0.034	3.388	.009
Technology Access	0.125	0.075	0.151	2.656	.008
Motivation	0.148	0.047	0.180	3.108	.002

According to the current study, it was found that there are significant and positive relationships between Internet Discussion, Technology Access, Motivation, and readiness for MOOC. Stating that correlation values for the variables were (0.273, 0.289, and 0.268). These results are not different from the results found in the previous studies.

The Internet day by day advances as an important means of communication, and it is necessary that we adapt to these technological advances. The discussion forum had normally been carried out face-to-face, but with the advances of the internet, today can be carried through a web user application. For this, this paper will explain the discussion forums on the Internet and their advantages.

A forum (also known as "forums" or "discussion forums") on the Internet is a web application that supports discussions or opinions online. This application is usually organized in categories that contain forums. These last forums are containers in which new topics of discussion can be opened in which the users of the web will respond with their opinions.

A forum has a structure arranged in a tree. The categories are container forums that have no use other than "categorize" those forums. The forums, in turn, have topics (arguments) that include messages from users. They are a kind of bulletin board where opinions or information about a topic are exchanged. The difference between this tool of communication and instant messaging is that in the forums there is no "dialogue" in real-time, but nothing else is published an opinion that will be read later by someone who can comment or not. The forums allow analysis, confrontation, and discussion since they deal with specific topics of interest to a group of people. Depending on the forum, you will need to register to comment or you can do so on a guest basis (without registration or connection).

A discussion forum is an open space for the discussion of specific topics, with the purpose of allowing groups of common interests to interact, exchanging ideas, theories and opinions.

Social media and online platforms have been widely used to create an engaging environment for interacting. For instance, discussion boards and chat rooms help to guide student conversations about the course materials (Goldberg et al., 2015), and to facilitate peer-to-peer interactions and discussion from students worldwide (Murray, 2013). Social networking sites and wikis allow students to build connections with each other and their instructors (Conole, 2013). Bremer (2012) observed that Twitter was the most important communication tool for course participants, besides the course blog. Web-based communication enables instructors to get involved in both one-on-one and group interactions (Kellogg, 2013). DeBoer et al. (2013) found that students who collaborated in their studies performed better than those who worked on their own. Also, Rollag (2010) states that the use of discussion boards may serve as a better means to accomplish the desired learning outcomes for students who do not feel comfortable talking to their instructors face-to-face.

According to Chen (2014), the huge number of students in MOOCs makes the interaction between instructors and students very difficult. Students may also be overwhelmed by the volume of online resources and communication (Kop, 2011; Richter and Krishnamurthi, 2014). If there is not a common knowledge base and educational background among MOOC learners, they can hardly benefit from the discussion (Chen, 2014).

MOOCs are clearly defined by their openness, by locating the information and the relationship between the different educational actors on the Internet ("online"), and by the fact that the size of the educational community involved in a course can easily exceed the thousands of people ("massive"). Based on a collaborative or connective teaching model, MOOCs displace (some would say "exceed") the hierarchical relationship between teacher and student, so that the learning process is shared (hence the references in the MOOC literature to the idea of a "distributed responsibility" in learning), and students become, also, generators of content and connections between different aspects of the course. The students participating in a MOOC ideally cease to be individual actors in their learning, and become part of a much wider learning community, in which knowledge does not proceed exclusively (although it may have its origin or selection there initial) of the teacher, but also of the participation and involvement of other students. The emphasis, in MOOCs, on the use of social networks (Facebook, Twitter...) that consolidate these learning communities. In addition to social networks, those involved in the learning community can take advantage of content aggregation (RSS, for example) to share information, thematic or tangential materials, and learning strategies.

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When a reward is offered for studying or doing a task, it usually happens that, although the "amount of effort" increases, it does not usually improve the quality of what has been achieved while working. This is because the attention of the student is more in the reward than in the procedures and strategies to be put into play, then seeks more reward than learning (Tapia, 2005).

6. Conclusion

Several tests were applied to the study data for different purposes. This section will discuss only the findings that are related to the study objectives. The most important findings of this study are shown in the results of the correlation and regression tests.

It was found that there are significant and positive relationships between Internet Discussion, Technology Access, Motivation, and readiness for MOOC. Stating that correlation values for the variables were (0.273, 0.289, and 0.268).

According to the study results and findings, it was found that MOOC is a very important tool to be used in the field of education, so the researcher suggests that this type of study should be used in another developed country to examine the difference between the developed countries and the developing countries in the readiness of students towards using MOOC. It is also suggested to use different factors and variables to study their effect on the readiness of Libyan students at Tripoli University about learning by using MOOC.

The higher educational institutions are recommended to be aware that before starting to adopt open-ended large-scale MOOCs, higher education institutions should seek to understand as many possible areas of risk as possible. They should also clarify the rights and responsibilities of all stakeholders, develop strategies and policies for the MOOC system, and ensure that all participating faculty members are willing to participate in the development process.

References

Achimugu, P., Oluwagbemi, O., & Oluwaranti, A. (2010). An evaluation of the impact of ICT diffusion in Nigeria's higher educational institutions. Journal of Information Technology Impact, 10(1), 25-34.

Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. The journal of economic perspectives, 24(3), 207-232.

Ale, K., & Chib, A. (2011). Community factors in technology adoption in primary education: Perspectives from rural India. Information Technologies & International Development, 7(4), pp. 53-68.

Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. The International Review of Research in Open and Distributed Learning, 12(3), 80-97.

Balasubramanian, K., & Clarke-Kah, W. (2009). ICTs for higher education. Background paper from the commonwealth of learning UNESCO. Paper presented at the World Conference on Higher Education.

Boeree, C. G. (1904). Personality theories. BF Skinner.

Bremer, C. (2012), "New format for online courses: the open course future of learning", paper presented at the eLearning Baltics (eLBa 2012), Rostock, pp. 63-90.

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.

Bruner, J. (1969). Towards a theory of instruction. Mexico, UTEHA.

Chauhan, A. (2015). Beyond the Phenomenon: Assessment in Massive Open. Macro-Level Learning through Massive Open Online Courses (MOOCs): Strategies and Predictions for the Future: Strategies and Predictions for the Future, 119.

Chen, Y. (2014), "Investigating MOOCs through blog mining", International Review of Study in Open and Distance Learning, Vol. 15 No. 2, available at: www.irrodl.org/index.php/irrodl/article/view/1695/2832.

Christensen, G., Steinmetz, A., Alcorn, B., Bennett, A., Woods, D., & Emanuel, E. (2013). The MOOC phenomenon: Who takes massive open online courses and why?

Clarà, M., & Barberà, E. (2013). Learning online: massive open online courses (MOOCs), connectivism, and cultural psychology. Distance Education, 34(1), 129-136.

Conole, G. (2013), "MOOCs as disruptive technologies: strategies for enhancing the learner experience and quality of MOOCs", Revista de Educación a Distancia, Vol. 39, pp. 1-17.

De Barba, P., Kennedy, G. E., & Ainley, M. (2016). The role of students' motivation and participation in predicting performance in a MOOC. Journal of Computer Assisted Learning, 32(3), 218-231.

Dodds, T. (2007). Information technology: A contributor to innovation in higher education. New Directions for Higher Education, 2007(137), 85-95.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior research methods, 39(2), 175-191.

Follis, C. (2015). VARIABLES PREDICTING THE RETENTION OF COMMUNITIY COLLEGE STUDENTS IN ONLINE COURSES _ A Dissertation presented to. University of Missouri-Columbia.

García-Peñalvo, F. J., Fidalgo-Blanco, Á., & Sein-Echaluce, M. L. (2018). An adaptive hybrid MOOC model: Disrupting the MOOC concept in higher education. Telematics and Informatics, 35(4), 1018-1030.

Goldberg, L.R., Bell, E., King, C., O'Mara, C., McInerney, F., Robinson, A. and Vickers, J. (2015), "Relationship between participants' level of education and engagement in their completion of the understanding dementia massive open online course", BMC Medical Education, Vol. 15 No. 1, p. 60, available at: bmcmededuc.biomedcentral.com/articles/10.1186/s12909-015-0344-z.

Hertin, R. D., & Al-Sanjary, O. I. (2018). Performance of Hospital Information System in Malaysian Public Hospital: a Review. International Journal of Engineering & Technology, 7(4.11), 24-28.

Hone, K. S., & El Said, G. R. (2016). Exploring the factors affecting MOOC retention: A survey study. Computers & Education, 98, 157-168.

Ibarrola López de Davalillo, B. (2006). The education of emotions in Primary Education. Extremadura joint.

Jasnani, P. (2013). Designing MOOCs: A white paper on instructional design for MOOCs. Retrieved October, 5, 2015.

Jordan, K. (2015). Massive open online course completion rates revisited: Assessment, length and attrition. The International Review of Research in Open and Distributed Learning, 16(3).

Kellogg, S. (2013), "Online learning: how to make a MOOC", Nature, Vol. 499 No. 7458, pp. 369-371.

Kizilcec, R. F., Pérez-Sanagustín, M., & Maldonado, J. J. (2016). Recommending self-regulated learning strategies does not improve performance in a MOOC. Paper presented at the Proceedings of the Third (2016) ACM Conference on Learning@ Scale.

Kop, R. (2011). The challenges to connectivist learning on open online networks: Learning experiences during a massive open online course. The International Review of Research in Open and Distributed Learning, 12(3), 19-38.

Martin, F. G. (2012). Will massive open online courses change how we teach? Communications of the ACM, 55(8), 26-28.

Murray, A. (2013), "Running a MOOC? Massive open online courses", Distance Learning, Vol. 10 No. 2, pp. 11-18.

OECD (2011). PISA 2009 Results: Students onLine: Digital Technologies and Performance (Volume VI). Retrieved December 29, 2013, from http://dx.doi.org/10.1787/9789264112995-en.

Pursel, B. K., Zhang, L., Jablokow, K. W., Choi, G., & Velegol, D. (2016). Understanding MOOC students: motivations and behaviours indicative of MOOC completion. Journal of Computer Assisted Learning, 32(3), 202-217.

Richter, S.L. and Krishnamurthi, M. (2014), "Preparing faculty for teaching a MOOC: recommendations from study and experience", International Journal of Information and Education Technology, Vol. 4 No. 5, pp. 411-415.

Rollag, K. (2010), "Teaching business cases online through discussion boards: strategies and best practices", Journal of Management Education, Vol. 34 No. 4, pp. 499-526.

Shanmugam, K., Srinivas, K., & Reddy, K. S. (2014). INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN EDUCATION: ADVANTAGES, DISADVANTAGES, CONVENIENCES AND LIMITATIONS. Paper presented at the NATIONAL SEMINAR.

Siemens, G. (2005). Connectivism: Learning as network-creation. ASTD Learning News, 10(1), 1-28.

Siemens, G., Gašević, D., & Dawson, S. (2015). Preparing for the digital university: a review of the history and current state of distance, blended, and online learning. Athabasca: Athabasca University.

Smith, N., Caldwell, H., Richards, M., & Bandara, A. (2017). A comparison of MOOC development and delivery approaches. International Journal of Information and Learning Technology, 34(2), 152-164. doi: 10.1108/IJILT-09-2016-0047

Tapia, J. A. (2005). Motivate at school, motivate the family: keys to learning. Morata editions.

Tschofen, C., & Mackness, J. (2012). Connectivism and dimensions of individual experience. The International Review of Research in Open and Distributed Learning, 13(1), 124-143.

Tu, C.-H., Sujo-Montes, L., Yen, C.-J., Chan, J.-Y., & Blocher, M. (2012). The integration of personal learning environments & open network learning environments. TechTrends, 56(3), 13.

Väljataga, T., & Laanpere, M. (2010). Learner control and personal learning environment: a challenge for instructional design. Interactive Learning Environments, 18(3), 277-291.

Veletsianos, G. (2010). Emerging technologies in distance education: Athabasca University Press.

Watson, S. L., Loizzo, J., Watson, W. R., Mueller, C., Lim, J., & Ertmer, P. A. (2016). Instructional design, facilitation, and perceived learning outcomes: An exploratory case study of a human trafficking MOOC for attitudinal change. Educational Technology Research and Development, 64(6), 1273-1300.

Zhu, M., Sari, A., & Lee, M. M. (2018). A systematic review of research methods and topics of the empirical MOOC literature (2014–2016). The Internet and Higher Education, 37, 31-39.

Zou, M. (2016). Exploration of Application Mode of the MOOC-based Distance Education Mode in Digital Illustration. International Journal of Emerging Technologies in Learning, 11(9).