Research Article doi: 10.12973/ijem.6.1.13

International Journal of Educational Methodology
Volume 6, Issue 1, 13 - 24.
ISSN: 2469-9632
http://www.ijem.com/

Perceptions and Proposals of University of Jordan Faculty Members towards Using Massive Open Online Courses in the Educational Process

Lara Al Abed*
University of Jordan, JORDAN

Received: July 13, 2019 ▪ Revised: October 30, 2019 ▪ Accepted: December 3, 2019

Abstract: This study aims at investigating the perceptions of the faculty members of the University of Jordan towards the use of The Massive Open Online Courses (MOOCs) in the educational process and their suggestions to improve them, the study followed the descriptive / analytical approach. The sample consisted of (115) teachers from the faculty members of the University of Jordan, who were chosen intentionally during the second semester 2018/2017. A key tool was developed that was validated and consisted of (70 items). The results showed that the use of MOOCs courses was moderate and positively affect the support of the educational process. The results showed that there were no statistically significant differences attributed to the teaching experience, gender and academic rank variables. While the results showed that there are statistically significant differences to the degree of the use of the faculty members of the University of Jordan MOOCs courses in the educational process according to the collage variable. Results related to the second area of proposals for improving the use of MOOCs courses were also high. In the light of the results of the study, the researcher recommended, based on the answers of faculty members, the need to reconsider the importance of using electronic MOOCs courses in the educational process, And spreading a culture of awareness of the importance of using electronic environments in the educational process, to provide tangible financial and technical support for the production and design of MOOCs courses in cooperation with faculty members and the use of experts.

Keywords: *Open sources, massive open online courses, online courses.*

To cite this article: Al Abed, L. (2020). Perceptions and proposals of University of Jordan faculty members towards using massive open online courses in the educational process. *International Journal of Educational Methodology*, *6*(1), 13-24. https://doi.org/10.12973/ijem.6.1.13

Introduction

The acceleration in technological advances, especially information and communication technologies, has led to the development of a new generation with its own characteristics. This generation has been called the third millennium or digital generation, which requires skills to be able to access the information at the time he wants, such as: the search skill and access to the information he wants effectively and efficiently, and handling or reproducing the information; These skills require a radical change in the learning environment, and require tremendous efforts and information resources to achieve the required shift and work to develop the educational system commensurate with the needs of today's learner and keep pace with global technological and educational progress (Anderson, 2013).

The existence of technology and the acquisition of skills are essential, and the effective use of the Internet provides great possibilities to promote the process of learning. Including the development of curricula and modernization of teaching methods at universities and this is necessary to meet the growing needs of learners. In addition to the tremendous and rapid development of ICT tools, our institutions have imposed a new reality in rethinking their current approaches and programs in different disciplines with a view to advancing Arabic digital content (Hennessy et al., 2010).

To achieve and strengthen the educational process in all its aspects and to disseminate the knowledge society, to access lifelong learning opportunities independently; It was necessary to provide an interactive social learning environment that helps students to exchange their views and ideas and motivate them to participate in learning, and supports interaction and openness between teacher and learner, which achieves the goals of the learning process, helps to

* **Correspondence:**
Lara Al Abed, University of Jordan, Amman, Jordan. ✉ lara1988abed@gmail.com

achieve a safe psychosocial atmosphere between teachers and students (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2019).

This study aims to reveal the perceptions of faculty members at the University of Jordan towards the use of the Massive Open Online Courses (MOOCs) in the educational process and to know the proposals to improve the use of open source and online MOOCs courses in the educational process from the perspective of members Faculty at the University of Jordan, because of its great benefit in supporting the educational learning process.

Literature Review

E-learning

E-learning and its applications are among the most educational learning systems that support the education system in all educational institutions, Where e-learning contributed to the formation of a learning environment characterized by interactive and stimulating learning and creativity, as well as the development of skills and expertise to achieve knowledge production and increase achievement of learners, Developing productivity in all aspects and ensuring high quality outputs to reach future milestones in accordance with the aspirations of the educational system that seeks to achieve efficiency and effectiveness (Segrave & Holt, 2003).

The process of transition to e-learning has become a strategic choice in all educational learning institutions, and receives a lot of attention and significantly. The educational field has witnessed many e-learning and distance learning initiatives, which led to its application and dissemination of its culture at many levels, this has led the administrators and supervisors of the work in these educational institutions to learn about what has been achieved in this area, and seek to measure the degree of its effectiveness in supporting educational performance to achieve the desired transformation (Moreira, Reis-Monteiro, & Machado, 2017).

Online learning is one of the most important technological developments that directly support the educational process. MOOCs are based on the dynamic engagement of hundreds of thousands of students who organize their own participation according to their learning skills, common goals and interests, if they have an Internet connection. These courses offer positive characteristics characterized by shortening time, effort, economic cost, and effectively improving the level of scientific learners and their cognitive and scientific abilities to enhance the effectiveness of the educational process (Liyanagunawardena, Lundqvist, & Williams, 2015).

MOOCs aim to provide free and wide-ranging education to all learners enrolled in it. Providing the possibility of registration and participation in the attendance of educational courses, workshops and training conferences through the web and free of charge, It is also characterized by its ability to support the enrollment of an unlimited number of learners, In other words, these courses are offered on certain sites on specific dates within a certain period of time on the web and are available to all applicants from all over the world as a modern method that allows access to the widest possible range of different educational levels of individuals and educates them effectively and flexibly (Malliga, 2013).

Open Source and Online MOOCs courses

Widespread e-courses are one of the most important applications of e-learning and some of the leading sources of e-learning and some are called courses, a method that enables a large number of learners to distance learning free of charge and sometimes for a small price in many educational institutions through the Internet Of different possibilities (Pena-Lopez, 2016).

E-courses are widespread and are the latest developments in online and distance learning in which educational content is delivered entirely online for different ages and from anywhere in the world. To provide a unique opportunity for those seeking knowledge and science within a wide range, MOOCs are open to the Internet and can be accessed by an unlimited number of participants and include traditional educational resources such as videos, training issues, texts and many other learning materials. It provides learners through the forum an interactive discussion that contributes to building a community of learners, teachers, their educational assistants and academic supervisors (Jobe, Ostlund, & Svensson, 2014).

Philosophy and Objectives of MOOCs

MOOCs adopt a philosophy based on the belief that all individuals should be free to use, allocate, improve and redistribute educational resources without hindrance. This philosophy is based on the principle of openness, and that knowledge should be freely disseminated and shared through the Internet for the benefit of society and individuals (Tsai, 2013). The Organization for Economic Co-operation and Development (OECD, 2007) also conducted a survey of institutions that provided assistance to the MOOCs to determine what these reasons summarized as follows:

- Achieving altruism because knowledge sharing is in line with academic practice in disseminating knowledge.

- Helps raise the quality of resources by sharing them, as well as reducing the cost of their production.
- Contributes in advertising and marketing to educational institutions thus attracting learners.
- Accelerates the production of educational resources and achieves the possibility of continuing their use.

Challenges and limitations of MOOCs

MOOCs are just one part of the rapid change in the learning environment referred to as Open Education, and as this movement spreads, many questions arise regarding its continuity and the role of academic and community institutions. In spite of the possibilities and solutions offered by open educational courses, there are still challenges and problems that require dialogue, in order to reach solutions and compromises, so that everyone can benefit equally from human knowledge (Balfour, 2013; Hew & Cheung, 2014; Sinclair, Boyatt, Rocks, & Joy, 2015) agree that the most important challenges facing the MOOCs are continuity, copyright and licensing, which includes difficulty in obtaining ownership rights for MOOCs. The lack of awareness among teachers of the property rights of others or even of them and the conflict between the licenses of various open educational resources due to the use of different licenses that may conflict with each other.

This study attempts to answer the following questions:

1. What are the perceptions of the faculty members at the University of Jordan towards the use of MOOCs in the educational process?
2. What are the suggestions of the faculty members at the University of Jordan to improve the use of MOOCs in the educational process?
3. Are there any statistically significant differences at the level of significance ($\alpha = 0.05$) in the degree of the use of faculty members at the University of Jordan for MOOCs in the educational process due to the variables of gender, academic rank, teaching experience and type of college.

Related studies

Wu and Chen (2017) conducted a study aimed at proposing a unified acceptance model that incorporates TAM technology, which is the abbreviation of Technical Assessment Mission and TTF technology, in order to continue using MOOCs. The study sample consisted of 252 participants in China who used open source courses with wide enrollment MOOCs. The results show that TAM for adoption and TTF for benefit provide a more comprehensive understanding of MOOCs, and that the individual's internal motivation is of great importance to the individual's continued use of MOOCs. The individual benefits of such use are an important mediator of the individual's intention to continue. As for ease of use and social vulnerability, it was found that it has nothing to do with and does not affect the individual's position in using MOOCs.

Munoz - Merino et al. (2017) conducted a study entitled Flipped Classrooms to Improve Learning with Technology MOOCs in order to improve learning at a university in Spain; It is a case study across the Khan Academy platform through a course entitled therapeutic physics for engineering students; where the researcher divided the sample into two control and experimental groups. The results of the statistical analysis showed that the overall level of students' scores and performance improved significantly when using MOOCs compared to the control group, student satisfaction was high when using MOOCs. The results also showed that the students of the experimental group were more active in the lessons while enabling students to self-learn and organize and train higher cognitive skills and the satisfaction of interaction between students among them.

Hew and Cheung (2014) conducted a study at the University of Hong Kong aimed at finding out the motivations and challenges of students and teachers using large and open courses on the Internet MOOCs. The results of the study indicated that there are three main motives leading to joining these MOOCs courses by students and teachers as follows: (1) the desire to identify new topics or to expand the current knowledge of the individual; (2) an internal and personal challenge to the learner; (3) The desire to collect as many training certificates as possible. The study pointed out that there are up to (90%) of the challenges facing its use due to several reasons such as the lack of internal motivation of the individual, failure to understand the content, the absence of immediate feedback to the learner, and there is difficulty in assessing the work of the student.

Hew and Cheung (2014) conducted a study aimed at enhancing participation in online courses and outlined strategies that can be learned through the top three platforms of MOOCs, the highest rated in terms of enrollment. These platforms specialize in programming languages, literature, the arts and design at the University Of Hong Kong, China. The study sample consisted of (965) participants in the training course; the results of the study showed that the reason for the spread of MOOCs is due to the presence of five factors are in terms of importance: (I) that participatory learning and the ability to express opinions and dissent; (2) access to learners anywhere and anytime taking into account their wishes, (3) active learning, (4) peer interaction, (5) efficient and effective use of useful educational resources.

Research gap

Most of the previous studies adopted the descriptive analytical approach, and used the questionnaire as a tool for data collection and descriptive statistics in the analysis of results. The categories of study samples varied in the previous studies, some of which were limited to faculty members, and some of them were limited to the views and attitudes of students as a sample of study. The present study is one of the rare Arabic studies that dealt with the perceptions of the faculty members at the University of Jordan towards the use of MOOCs in the educational process. Most of the previous foreign studies were the main reference that agreed with the current researcher.

Methodology

Research Goal

This study aims to reveal the perceptions of faculty members at the University of Jordan towards the use of MOOCs in the educational process and to know the proposals to improve the use of MOOCs in the educational process from the perspective of members Faculty at the University of Jordan, because of its great benefit in supporting the educational learning process.

The researcher used the descriptive analytical method in this study, in order to reveal the perceptions of faculty members at the University of Jordan towards the use of MOOCs in the educational process from their point of view, and know their suggestions to improve the use of MOOCs.

Sample and Data Collection

The study population consisted of (425) faculty members, i.e. all faculty members from four faculties: engineering, information technology, business, and foreign languages. They were chosen intentionally, due to the limited use of electronic MOOCs courses by faculty members in these colleges. After the distribution of the sample of the study according to the four scientific and humanitarian faculties, (123) questionnaires were retrieved; copies that did not answer all of its incomplete items (8 questionnaires) were excluded. Accordingly, the final number that was counted in the statistical analysis was (115) questionnaires with a recovery rate of (27.1%). Table (1) shows the distribution of study personnel, frequencies and percentages.

Table 1. Distribution of sample members according to the demographic variables

	Categories	Repetition	Percentages
Gender	Male	80	69.6%
	female	35	30.4%
Academic Rank	professor	16	13.9%
	Co-professor	31	27.0%
	Assistant Professor	51	44.3%
	Lecturer / Teacher	17	14.8%
Type of college	Humane	44	38.3%
	Scientific	71	61.7%
Experience	Less than 5 years	33	28.7%
	5 years - less than 10 years	48	41.7%
	10 years - less than 15 years	12	10.4%
	15 years and over	22	19.1%
	Total	**115**	**100%**

The majority of the study sample was male (69.6%) and nearly half of them (44.4%) were assistant professors. Most of the study sample members were in the scientific departments and most of them had a 10 years' experience.

Study tool

To achieve the objectives of the study and to answer its questions, the researcher developed a measurement tool showing the perceptions of faculty members towards the use of MOOCs based on a number of previous studies and theoretical literature. The tool consisted of two parts: the first measures the perceptions of faculty members towards the use of MOOCs courses from their point of view, and the second section identifies their proposals to improve their use; the questionnaire included several items.

The questionnaire included an item to measure the perceptions of faculty members towards the use of MOOCs courses and their proposals for improvement, according to Likert's five-step scale. Each item is followed by a five estimate, according to the following distribution: Strongly Agree (5), Agree (4) Neutral (3), Disagree (2), Strongly Disagree (1).

Validity of the study tool

The apparent validity of the tool has been verified in terms of formulation and content, its relevance to the dimensions included in it, It was presented initially to a number of the seven faculty members in the curriculum, teaching, teaching technology, measurement and evaluation, to give their views on the soundness of the wording of the questionnaire items, and clarity of their meaning, The tool was amended according to the consensus of (80%) and more of the arbitrators, and work with any observations, amendments or additions they deem appropriate.

Reliability of the study tool

To ensure the reliability of the study tool, the internal consistency was verified by calculating the Cronbach's Alpha coefficient on a survey sample of (15) faculty members from the study population and from outside the sample and its value was (0.88). To determine the level of perceptions of faculty members at the University of Jordan towards the use of MOOCs courses, the coefficient of stability was calculated. The persistence coefficient of the suggestions of faculty members at the University of Jordan to improve the use of MOOCs courses in the educational process using the Pearson correlation coefficient "Pearson" (0.86), and the calculation of the "Cronbach's Alpha" and reached (0.88).

Analyzing of Data

To answer the first and second questions of the study, the means and standard deviations of faculty responses were calculated. To answer the third question, means, standard deviations and (four-way-MANOVA) analysis were calculated to determine the significance of differences according to study variables. The multiple comparison (Post-Hoc) techniques (Scheffe's method) were used to compare the dimensions to the statistical significance of the differences of the study variables, namely gender, academic rank, experience and college.

Findings / Results

To answer the first question, the means and standard deviations were calculated for the perceptions of the faculty members at the University of Jordan towards the use of MOOCs in the educational process in general and for each item of the study tool, and Table (2) shows that.

Table 2. Means, Standard Deviations and Ranks of the Perceptions of Faculty Members at the University of Jordan towards the Use of MOOCs in the Educational Process in Descending Order

Number	Item	Mean	SD	Rank	Level
	Effectiveness of MOOCs				
16	MOOCs help to exchange views and ideas between the participants, which stimulate creative thinking and develop critical thinking.	3.90	1.01	1	High
36	MOOCs allow you to continue providing the service 24 hours a day, during the whole year.	3.89	1.01	2	High
33	MOOCs can be downloaded to smartphones and tablets, enhancing their ease of use no matter where and when.	3.88	1.02	3	High
10	The use of MOOCs helps to enhance the efficiency and effectiveness of the faculty member.	3.86	1.14	4	High
27	MOOCs provide learners with opportunities to learn and attend courses that they could not attend at regular universities.	3.85	1.03	5	High
37	MOOCs enable the continuous updating of information and curricula to be in line with current and scientific developments and academic developments.	3.84	1.06	6	High
1	MOOCs are a new type of free e-course.	3.83	0.98	8	High
5	The use of MOOCs helps provide faculty with new expertise.	3.83	1.02	8	High
7	MOOCs enhance participatory teamwork skills and exchange of experiences among faculty members.	3.83	0.95	8	High
15	MOOCs provide learners with a digital library of learning resources for educational content and tasks.	3.83	1.01	8	High
4	MOOCs help to connect and learn anytime, anywhere for individuals enrolled.	3.82	1.01	12	High
9	MOOCs contribute to the absorption of large numbers of individuals enrolled beyond the capacity of ordinary universities.	3.82	0.96	12	High

Table 2. Continued

Number	Item	Mean	SD	Rank	Level
	Effectiveness of MOOCs				
6	MOOCs allow learners a variety of research skills available online.	3.80	1.09	12	High
35	MOOCs facilitate the opportunity for those whose conditions prevent them from continuing their regular learning to continue their education without restrictions.	3.80	1.01	14	High
34	MOOCs contribute to educational opportunities at a lower cost.	3.79	1.05	16	High
28	MOOCs provide more than one way to present important information to the learner.	3.78	1.02	17	High
26	MOOCs contribute to the development of educational programs compared to regular systems.	3.75	1.09	18	High
21	MOOCs do not adhere to geographical, temporal, cultural or religious boundaries.	3.69	1.09	19	High
22	MOOCs contribute to the learner's vitality and activity through participation in the course and contribute to the dissemination and building knowledge.	3.68	1.04	20	High
24	MOOCs provide an opportunity for group discussions and exchange of messages and files between learners themselves and between learners and faculty.	3.68	1.12	20	High
25	MOOCs provide immediate feedback to learners with the ability to track their performance during and after completing assignments.	3.68	1.06	20	High
12	MOOCs move higher education institutions from restricted and conditional institutions to continuing education institutions.	3.67	1.07	23	Medium
13	MOOCs promote communication between faculty and academic supervisors around the world.	3.67	0.97	23	Medium
30	MOOCs provide a variety of modern methods to measure and evaluate the performance of training self.	3.66	1.02	25	Medium
14	MOOCs allow learners to retrieve what has been studied at any time with easy access to educational content.	3.65	1.13	26	Medium
20	MOOCs are available in several languages, making education more open and effective.	3.65	1.08	26	Medium
23	MOOCs contribute to raising the level of academic learners and improve their performance.	3.65	0.93	26	Medium
8	MOOCs contribute to learners' self-learning skills and enhance self-reliance.	3.63	1.15	29	Medium
2	MOOCs provide a safe learning environment for participants to feel comfortable with.	3.61	1.08	30	Medium
31	The use of MOOCs enhances the learner's ability to recognize the importance of time and invest and manage it properly within the electronic environment and the time frame available.	3.61	1.07	30	Medium
17	Admission to MOOCs requires that the learner be active and self-motivated to continue and follow the course.	3.60	1.01	32	Medium
29	The MOOCs offer multiple approaches to learners' different needs.	3.59	0.98	33	Medium
3	MOOCs have helped to make effective use of ICT.	3.53	0.96	34	Medium
11	MOOCs contribute to providing more exciting and motivating educational content in structured ways that make learning meaningful.	3.49	1.05	35	Medium
19	MOOCs contribute to the democratization of learning and provide equal opportunities for all individuals in the world without regard to gender, race or language.	3.49	1.13	35	Medium
32	The MOOCs develop the positive aspects of learners such as initiative and accept criticism and respect for the other opinion.	3.33	1.10	37	Medium
46	Willingness of faculty members to participate in the development and delivery of MOOCs.	2.46	1.00	41	Medium

Table 2. Continued

Number	Item	Mean	SD	Rank	Level
	Challenges of MOOCs				
38	Lack of knowledge about the concept of MOOCs leads to underutilization.	2.17	1.05	50	Low
43	Lack of financial and continuous support, either directly or indirectly, to ensure the continuity of the production of MOOCs.	2.24	0.98	49	Low
50	Lack of a clear plan for higher education institutions in Jordan to employ MOOCs in the educational process.	2.29	1.01	48	Low
49	Difficulty in measuring learning through MOOCs.	2.38	1.05	47	Medium
42	Poor quality of some MOOCs.	2.39	1.01	46	Medium
45	Poor level of skill in employing technology in learning for some faculty members.	2.43	0.96	45	Medium
47	It is difficult to identify learners' backgrounds and technological skills with MOOCs.	2.45	1.10	44	Medium
48	Weak infrastructure for some in accessing Internet services.	2.46	1.01	41	Medium
40	It is difficult to generate conviction in the institutions of higher education effectively the use of MOOCs in the educational process, which prevents them from being employed as required.	2.46	1.05	41	Medium
44	Lack of formal academic accreditation for MOOCs.	2.48	1.03	40	Medium
41	MOOCs are difficult to interact with a large and unknown audience.	2.50	1.12	39	Medium
39	The adoption of English in MOOCs is an obstacle for learners to continue.	2.58	1.15	38	Medium
18	Lack of efficiency in using social media tools is a barrier to the use of MOOCs.	3.84	1.04	6	High
Total		**3.38**	**0.48**		**Medium**

It is noted from Table (2) that the perceptions of the faculty members at the University of Jordan towards the use of MOOCs in the educational process in general were medium, The mean was (3.38) and the standard deviation (0.48). The means ranged from (3.90 to 2.17).

As for item-16, which came first, it focuses on the use of courses MOOCs increases the efficiency and effectiveness of the educational process, peer interaction with participation and the ability to express opinions and dissent, and access to information anywhere and anytime with the wishes of those enrolled in the MOOCs courses. The researcher attributes this result to the fact that the MOOCs courses provide the possibility of the participation of faculty member in the process of production and development of MOOCs courses, MOOCs also enhance communication between faculty and academic supervisors around the world, contributing to the exchange of experiences. One of the characteristics of the MOOCs courses is the speed of access to information and modernity with the availability of feedback and immediate, which enhances the educational process in its various aspects.

As for item- 36, this states: "MOOCs allow you to continue providing the service 24 hours a day, during the whole year". The results of the analysis showed that they are high. As for item-38, which came to a low degree, which confirms the existence of a general awareness of faculty members at the University of Jordan the importance of the use of MOOCs courses and the importance of multimedia (digital video). The researcher sees the presence of interest and conviction by faculty members to keep abreast of technological developments in all its forms, especially courses of MOOCs for what will be beneficial to the educational process in all its aspects, on the other hand there is a desire to achieve them.

To answer the second question, the means and standard deviations of the proposals of the faculty members at the University of Jordan were calculated to improve the use of MOOCs in the educational process in general and for each item of the study tool as shown in Table (3).

Table 3. Means, Standard Deviations and Ranks of the Proposals of Faculty Members at the University of Jordan to Improve the Use of MOOCs in the Educational Process in Descending Order

Number	Item	Mean	SD	Rank	Level
16	Access to international experiences on the design of MOOCs by faculty members to take advantage of these experiences locally.	3.96	1.01	1	High
18	Provide an integrated team of learning designers, video production specialists and academic content assistants to work on the production of MOOCs content.	3.96	1.05	1	High
5	Develop strategies for using MOOCs.	3.94	0.90	3	High
6	Educational institutions and universities participate as producers and developers of MOOCs and not as users only.	3.94	1.03	3	High
12	Training faculty members on strategies for designing and developing MOOCs.	3.92	0.97	5	High
15	Encourage faculty members to coordinate and collaborate with each other to produce e-courses	3.92	0.97	5	High
10	The MOOCs System is subject to deliberate plans.	3.91	1.06	7	High
4	Faculty members participate in the development and production of MOOCs	3.90	1.03	8	High
20	Establishing an e-learning center in Jordanian universities that will be one of the tasks of reviewing MOOCs to ensure its quality.	3.90	1.03	8	High
2	Educational institutions need to increase their capacity to deal with MOOCs as users and developers.	3.88	0.95	10	High
7	Design attractive and dynamic interactive interfaces to produce a multilingual MOOCs.	3.88	1.00	10	High
17	Provide MOOCs in Arabic.	3.87	1.06	12	High
11	Hold seminars and workshops to learn how to use MOOCs.	3.85	1.04	13	High
14	Cooperation between higher education institutions to exchange experiences in the field of MOOCs.	3.85	0.99	13	High
19	Provide an appropriate calendar system for MOOCs.	3.85	1.05	13	High
13	Take advantage of social media on how to use these MOOCs in the educational process.	3.84	0.99	16	High
3	Providing a guide for learners for the MOOCs system.	3.83	0.92	17	High
8	Facilitate communication and sharing between learners and faculty through MOOCs.	3.83	1.07	17	High
1	Determine the possibilities of physical educational institutions to activate the use of MOOCs within their electronic systems.	3.81	0.90	19	High
9	Awareness of the importance of using MOOCs in Jordanian universities through the media and other means.	3.80	1.02	20	High
	Total	**3.88**	**0.87**		**High**

The results showed that the proposals were high, with a mean of (3.88) and a standard deviation of (0.87). Item (16) reads as follows:" Access to international experiences on the design of MOOCs by faculty members to take advantage of these experiences locally." And item (18) which states" Provide an integrated team of learning designers, video production specialists and academic content assistants to work on the production of MOOCs content". The researcher attributes this to the need to be aware of the role that the MOOCs courses will play in improving learning outcomes and work to increase their effectiveness at all university levels and in all scientific and humanitarian disciplines and the need for the use of experts helps to achieve the desired educational goals.

The researcher attributes that the high degree of this field, also, indicates the need to improve the use of educational MOOCs courses by the faculty member and increased interest in them enhances the effectiveness of the educational

process in its various aspects. Whereas they agreed in their response to the need to provide courses, seminars and workshops for faculty members at the University of Jordan to work to raise awareness of the importance of using MOOCs in the educational process, One of the reasons for this finding is that educational institutions in general do not develop their capacity to design and produce MOOCs courses. Rather, they should be used and consumed by decisions MOOCs.

Normality

The Kolmogorov Smirnov test was used to test the extent of data follows for normal distribution, where the data follow the normal when the significant value is greater than the level of statistical significance (5%), Table (4) shows the test results:

Table 4. The result of the K-S test on the following of the study data for normal distribution

Items	Z value	Significance level value	The significance of the difference on the normal distribution	Result
Gender	4.724	0.63	No significant differences	Follow the normal distribution
Academic Rank	2.808	0.42	No significant differences	Follow the normal distribution
Type of collage	4.298	0.07	No significant differences	Follow the normal distribution
Experience	2.993	0.06	No significant differences	Follow the normal distribution
Perceptions of Faculty Members at the University of Jordan towards the Use of MOOCs in the Educational Process as a whole	1.495	0.52	No significant differences	Follow the normal distribution
Proposals of Faculty Members at the University of Jordan to Improve the Use of MOOCs in the Educational Process as a whole	2.804	0.12	No significant differences	Follow the normal distribution

It can be noted from the previous table that the significance level of all the studied variables is greater than 0.05, meaning that at 95% confidence level, there are no statistically significant differences in the distribution of the values of all variables from the normal distribution, thus accepting the null hypothesis, which says that the data follows the normal distribution and rejects the alternative hypothesis that the data do not follow the normal distribution, and therefore the parametric tests can be used.

Multicollinearity

Table 5. The result of the multicollinearity test between the independent variables

Items	VIF	Tolerαnce	Result
Gender	0.916	1.092	There is no multicollinearity
Academic Rank	0.749	1.336	There is no multicollinearity
Type of collage	0.951	1.052	There is no multicollinearity
Experience	0.789	1.267	There is no multicollinearity

It can be noticed that the Variance Inflation Factor (VIF) results for all variables are less than 10, and Tolerance values for all variables are greater than (0.05), this is an indication that there is no high correlation between independent variables, so the data is ready for analysis.

To answer the third question, the means and standard deviations were calculated for the degree of the use of faculty members at the University of Jordan MOOCs courses in the educational process, according to the variables of gender, academic rank, teaching experience and type of college, and Table (6) shows that.

Table 6. Means and standard deviations to the degree of the use of MOOCs by faculty members of the University of Jordan in the educational process, and t-test, according to gender variables, academic rank and teaching experience, and type of college

Variable	Category	Number	Mean	SD
Gender	Males	80	3.38	0.49
	Females	35	3.36	0.48
	Professor	16	3.49	0.31
	Co-professor	31	3.29	0.49
Academic Rank	Assistant Professor	51	3.34	0.55
	Lecturer / Teacher	17	3.55	0.33
	Total	115	3.38	0.48
	Less than 5 years	33	3.44	0.50
Teaching experience	5 years - less than 10 years	48	3.30	0.51
	10 years - less than 15 years	12	3.29	0.59
	15 years and over	22	3.49	0.29
	total summation	115	3.38	0.48
Type of college	Humane	44	3.51	0.39
	Scientific	71	3.29	0.52

The results showed that there were no statistically significant differences at the level (α = 0.05) of the degree of using the faculty members of the University of Jordan MOOCs courses in the educational process, according to gender variable based on the (F) value calculated as (0.871), and the level of significance (0.353). The researcher attributes this result to the general awareness of the faculty members at the University of Jordan about the importance of using MOOCs courses and the importance of (digital video). This brings us to the interest of the University of Jordan to integrate technology in the educational process because of its successful benefit in enhancing the educational process and increase its effectiveness in order to reach and improve the educational level and achieve the desired goals.

It is noted from table (7) that there are apparent differences between the means to the degree of the use of faculty members of the University of Jordan MOOCs courses in the educational process according to the variable of teaching experience, where the owners of the category (15 years and above) on the mean of (3.49) which is higher mean, to determine whether the differences between the averages were statistically significant at (α = 0.05), the (four-way-MANOVA) analysis was applied and the results of the analysis of the variance were as shown in Table (7).

Table 7. Four-Way-MANOVA Analysis to Find Differences to the Degree of the Use of MOOCs by Faculty Members in the Educational Process, by Gender Variables, Academic Rank, Teaching Experience, and Type the college

Source of Contrast	Square sum	Freedom degrees	Square mean	F-value	Significance level
Gender	0.186	1	0.186	0.871	0.353
Academic Rank	1.020	3	0.34	1.595	0.195
Type of collage	2.251	1	2.251	10.559	0.002
Experience	1.247	3	0.416	1.949	0.126
The error	22.599	106	0.213		
Total	26.589	114			

The results indicate that there are statistically significant differences at the level (α = 0.05) between the means of the degree of using the faculty members of the University of Jordan MOOCs in the educational process, according to the type of college variable, based on the (F) value calculated as (10.559), with a level of significance (0.002). The difference was in favor of the humanities faculties as the mean was (3.51) from the mean of the scientific faculties which was (3.29). The researcher attributes this result to the fact that the degree of use of the MOOCs courses obtained a slightly higher mean for the benefit of the humanities faculties due to the academic burden and pressures that impede the faculty member to see the innovations of technology and integration as required; because scientific faculties are overburdened with a high academic burden compared to the human faculties and this is what the researcher saw during the distribution of the study tool, the full-time motivation of the faculty member in general to find enough time to see what is new in the field of technology and multimedia and use it. But this does not mean that scientific colleges do not use MOOCs but there is not enough time to follow and use MOOCs.

Discussion and Conclusion

The results showed that the perceptions of faculty members towards the use of MOOCs courses were generally medium. This indicates that the use of MOOCs courses and specifically (digital video) positively affect the educational process from the perspective of the faculty member.

The current study is consistent with the results of a number of relevant previous studies, which concluded that the introduction of modern technology in the educational process through electronic MOOCs courses, which benefited from the use of tools and technologies available on the Internet such as, Facebook, Twitter, wiki and blog to exploit the potential of networks and technologies to create open and free learning opportunities that significantly enhance the effectiveness of the educational process; e.g. study (Hew, 2016; Hew & Cheung, 2014; Munoz-Merino et al., 2017; Saadatmand & Kumpulainen, 2014).

The researcher attributes this to the fact that this type of learning relies on modern computer technologies and the global network of information and multimedia as it provides knowledge to the participants on a continuous basis and around the 24 hours a day as long as there is a connection via the Internet. The students will be more active when using technologies in the lessons while enabling students to self-learn and organize and train higher cognitive skills and the satisfaction of interaction between students among them (Munoz-Merino et al., 2017).

Moreover, the concept of engaging in learning when needed and on time and the availability of MOOCs courses of flexibility in the use of the Internet, which refers to the right of everyone to obtain and exploit information in a way that suits them and meet their desires and needs without adhering to geographical or temporal boundaries. This is consistent with the findings of the (Hew, 2016; Saadatmand & Kumpulainen, 2014).

As for item-16, which came first, it focuses on the use of courses MOOCs increases the efficiency and effectiveness of the educational process, peer interaction with participation and the ability to express opinions and dissent, and access to information anywhere and anytime with the wishes of those enrolled in the MOOCs courses, as agreed with the study (Saadatmand & Kumpulainen, 2014). The researcher also notes that e-learning environments and the provision of opportunities for learning and lifelong learning independently will have an active and positive role in increasing the effectiveness of the educational process.

The responses of the faculty members of the University of Jordan to the proposals to improve the use of MOOCs courses in the educational process in general were high. The most important of which was to review the global experiences on the design of e-MOOCs courses by faculty to take advantage of these experiences locally and provide an integrated team of learning designers, video production specialists and academic content assistants to work on the production of e-course MOOCs content.

The results also indicate that there are no statistically significant differences at the level ($\alpha = 0.05$) to the degree of the use of faculty members of the University of Jordan MOOCs courses in the educational process, depending on the variable of academic rank, There were no statistically significant differences at the level ($\alpha = 0.05$) of the degree of using the faculty members of the University of Jordan MOOCs courses in the educational process, depending on the variable of teaching experience.

In light of the results of the present study, the researcher recommends holding scientific conferences and seminars at the University of Jordan to spread awareness of the importance of MOOCs courses, and work to involve faculty members in scientific colleges in training courses on how to produce and develop MOOCs courses, Providing faculty members with MOOCs courses to develop and diversify their teaching methods and provide material and tangible support for the production and design of MOOCs courses by the responsible authorities. The study also recommends conducting similar research studies to measure the impact of the use of MOOCs in the educational process and its relationship to variables such as: self-motivation, English proficiency, Internet proficiency, published research, full-time at the university.

This study included different limitations started from the sample size where larger sample could give more accurate results. The second limitation was in the setting where one university was chosen within the engineering, information technology, business, and foreign languages departments. The limitations in the tool included the measurement of perceptions and recommendations without considering measuring their actual knowledge regarding MOOCs. Finally, an empirical study is more convenient for such study to measure the actual change in the teachers' perceptions toward the use of MOOCs.

References

Anderson, T. (2013). Promise and/or peril: MOOCs and open and distance education. *Commonwealth of Learning, 3*, 1-9.

Balfour, S. P. (2013). Assessing writing in MOOCs: Automated essay scoring and calibrated peer review™. *Research & Practice in Assessment, 8*(2013), 40-48.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2019). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 1-44.

Hennessy, S., Onguko, B., Harrison, D., Ang'ondi, E. K., Namalefe, S., Naseem, A., & Wamakote, L. (2010). Developing the use of information and communication technology to enhance teaching and learning in East African schools: Review of the literature. *Centre for Commonwealth Education & Aga Khan University Institute for Educational*

Development–Eastern Africa Research Report. Retrieved from https://www.educ.cam.ac.uk/centres/archive/cce/publications/CCE_Report1_LitRevJune0210.pdf

Hew, K. F. (2016). Promoting engagement in online courses: What strategies can we learn from three highly rated MOOCS. *British Journal of Educational Technology, 47*(2), 320-341.

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

Jobe, W., Ostlund, C., & Svensson, L. (2014). MOOCs for professional teacher development. In M. Searson & M. Ochoa (Eds*.), Proceedings of SITE 2014--Society for Information Technology & Teacher Education International Conference* (pp. 1580-1586). Jacksonville, FL: Association for the Advancement of Computing in Education (AACE).

Liyanagunawardena, T. R., Lundqvist, K. O., & Williams, S. A. (2015). Massive open online courses and economic sustainability. *European Journal of Open, Distance and e-Learning, 18*(2), 95-111.

Malliga, P. (2013). A survey on MOOC providers for higher education. *International Journal of Management & Information Technology, 7*(1), 962-967.

Moreira, J.-A., Reis-Monteiro, A., & Machado, A. (2017). Higher education distance learning and e-learning in prisons in Portugal. *Comunicar, 25*(51), 39-49.

Munoz-Merino, P. J., Ruiperez-Valiente, J. A., Delgado Kloos, C., Auger, M. A., Briz, S., de Castro, V., & Santalla, S. N. (2017). Flipping the classroom to improve learning with MOOCs technology. *Computer Applications in Engineering Education, 25*(1), 15-25.

OECD. (2007). Giving knowledge for free: The emergence of open educational resources. *Centre for Educational Research and Innovation*.

Pena-Lopez, I. (2016). Innovating Education and Educating for Innovation. The Power of Digital Technologies and Skills.

Saadatmand, M., & Kumpulainen, K. (2014). Participants' Perceptions of Learning and Networking in Connectivist MOOCs [Massive Open Online Courses]. *Journal of Online Learning and Teaching*, *10*(1), 16-30

Segrave, S., & Holt, D. (2003). Contemporary learning environments: designing e-learning for education in the professions. *Distance Education, 24*(1), 7-24.

Sinclair, J., Boyatt, R., Rocks, C., & Joy, M. (2015). Massive open online courses: a review of usage and evaluation. *International Journal of Learning Technology, 10*(1), 71-93.

Tsai, F. S. (2013, July). *The state of massive open online courses (MOOCs) in engineering education: Where do we go from here?* Paper presented at the 120th ASEE Annual Conference and Exposition, Atlanta, GA.

Wu, B., & *Chen*, X. (2017). Continuance intention to use MOOCs: Integrating the technology acceptance model (TAM) and task technology fit (TTF) model. *Computers in Human Behavior, 67*(2017), 221-232.