

MOOC as a Tool for Computer Sciences Academic Staff, Continued Professional Development (CPD) in Hail University, Saudi Arabia

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Abstract

This research work investigates the importance of use MOOCs (Massive Open Online Courses) by academic staff at the faculty of computer sciences at Hail University in Saudi Arabia. However, little is known about how the use MOOCs will be effective for faculty members Continued Professional Development (CPD) in Hail University. The study is based on online data from (Black Board) "e-learning management system" which is used in Hail University. One survey was used to collect the data. The results of the survey show that the importance of using MOOC in the faculty of computer sciences in Hail University, and it arrived to survey results 87.95%. Most of the comments that instructors convinced about interaction in MOOCs. High percent of instructors are convinced with MOOC.

Keywords: Massive open online courses; Continued professional development; Connectives; Saudi Arabia

Introduction

In their brief existence, MOOCs have received a great deal of attention in both higher education and in mainstream news. The term massive open online course was coined in 2008 by Stephen Downes and George Siemens and came into broad use in 2012. The first MOOC, an online course in "Connectivism and Connective Knowledge" was offered by the Manitoba University in 2008. The course enrolled a small number of paying students and was also offered to a group of online "free course of charge" [1].

I am going to focus on the current situation of Continuing Professional Development (CPD) programs for academic staff in Hail University highlighting the research problem which includes difficulty of providing all staff members with Face to Face training. I will talk about the challenge of emerging new modern technologies such as MOOCs which needs to be acquired by academic staff members to be fit for 21st century competencies.

Despite the growing and increasing number of faculty members in Saudi Arabia, the educational system is suffering from some problems and weaknesses. One of the most significant problems is the lack of quality and competency due to the weak system of human resources management and faculty member professional development. Recently, the Saudi Ministry of Education has paid attention to this critical issue in the current strategic plan for education. It aims at building a dynamic system.

This provides programs for professional development as a main supporter for the educational reform. These comprehensive programs will relate incentives, hiring and promotion process.

Research Purpose

The purpose of this research is to focus on the current status of Continuing Professional Development (CPD) programs for academic staff in faculty of computer sciences- Hail University- the scope of the research problem focuses on difficulty of providing all staff members with Face to Face training. This would be extended to discuss the challenge of emerging new modern technologies such as using MOOCs which needs to be acquired by academic staff members in order to befit for 21st century competencies.

Research Question

- How do academic staff faculty of computer sciences in Hail University use MOOCs in their courses teaching?
- How convinced are academic staff faculty of computer sciences in Hail University interaction in their MOOCs?

Literature Review

What is the meaning of MOOCs?

A MOOC (Massive Open Online Course) is an online course available for free and open registration usage, a publicly shared curriculum, and open-ended outcome [2].

Recently, most researches explore the efficacy of using MOOCs. It not only enhances the communication and interaction between instructors and learners, but that between learners themselves [3].

MOOCs are now one of the best technologies in the field of computer science. MOOCs aim at involving a large-scale of participants through open access via the web. MOOCs are offered for free and any student can participate in them. Viswanathan defined the uniqueness in MOOCs as: "it enables participants to connect outside the traditional learning environment, thereby offering autonomy, openness and emergent knowledge" [4].

The popularity of these courses started in 2012. Modern MOOCs are now more widespread as free massive courses [5].

MOOCs types

MOOC is a generic name for massive courses, but there are different types of courses as well [6]:

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xMOOC, the most common type of MOOC. The course is organized around core curriculum and lead by a professor.

cMOOC, where »c« stays for connectivity. Course based on student-to-student interaction.

DOCC, the same course materials are distributed to students at different institutions.

BOOC, a big open online course is similar to traditional MOOC, but limited to smaller number of students (around 50).

SMOG - synchronous massive online courses include the lectures with live broadcast. This type of

MOOC requires students to be online at specific times.

SPOC-small private online courses similar to BOOC are usually used as a supplement of (F2F) face to face classes. This type is closely connected to flipped education.

The first MOOCs were developed in the Computer Science and Engineering category [6].

Advantages of MOOCs in higher education

When I started using E-Learning in Hail University, I faced many problems and successfully solved them. When I started to use MOOCs with the staff members in the faculty of computer sciences, I found these advantages:

- It comply with international space and time and geographic boundaries.
- Available in several languages and can be translated to other languages as the Computer Faculty staff members from different nationalities.
- Help the exchange many experiences between computer sciences staff members all over the world.
- Help a large number of learners from different cultures.
- Help in human development for staff and workers in various fields
- It can be prepared MOOC and published it in a short time.
- Long periods of time does not need to be studied it.
- Suitable for staff members of in the faculties of computer science.
- Depends on learning in groups helping the exchange of experiences among the educated.
- Verification of self-learning and learning lifelong goal.
- Flexible strategy in the learning.
- Narrow the gap between developed and developing communities.
- MOOC offers educational experiences in an attractive image containing fun and entertainment and experience the realistic information.

Disadvantages of MOOCs in higher education

- Learner have a sense of isolation and lack of interaction between him and the instructor.
- Technical courses needing physical hands “very difficult in MOOC”.
- Real time questions and answering is also not available while using lectures in MOOC.

- There are little opportunities for effective assessment methods.

MOOCs and CPD (Results from research studies)

MOOCs bring unprecedented opportunities for teachers’ CPD and lifelong learning such as accessibility and availability to massive numbers of learners, learners’ engagement, lifelong experiences, and low cost programs [7].

However, there are some considerations and challenge that might threat the effective use of teachers’ CPD programs via MOOCs in Arab and developing countries and particularly in Saudi Arabia. Some of these challenges can be presented as follow [8-10]:

MOOCs require self-directed Learning readiness.

They require digital literacy, a set of skills in using digital technologies and internet.

They need a good instructional design based on a clear pedagogy.

They need motivation, participation and interaction from participants.

Teachers need guidance and support.

There are many MOOCs utilize mainly video lectures, but they provide a little amount of interactivity among instructor and learners. Despite the high rates of enrollment in many MOOCs, the completion rates are low [11,12].

This highlights the importance of taking the above mentioned factors into consideration when design and deliver a MOOC for faculty members.

The Survey and Results

Academic staff Perception of Online Interaction.

Research question 1

How do academic staff faculty of computer sciences in Hail University use MOOCs in their courses teaching? Faculty members were asked to respond to 20 items in the survey to measure using MOOC in their courses teaching. The criteria designed based on researcher model. The scales of one to four in “Importance” one as “Very Important” and four as “Not Important” (Table 1).

The results of the survey show that the importance of using MOOC in the faculty of computer sciences in Hail University, and it arrived to survey results 87.95%.

Research question 2

How convinced are academic staff faculty of computer sciences in Hail University interaction in their MOOCs?

Academic staff were asked to respond whether they were “Very Satisfied,” “Satisfied,” “Less Satisfied,” or “Not Satisfied” when asked “How convinced are you with the level of interaction in your MOOC?”.

(58%) they were very satisfied.

(26%) were satisfied.

(10%) were less satisfied.

(6%) they were not satisfied.

Most of the comments that instructors convinced about interaction in MOOCs reported their satisfaction with the interaction of MOOC

they have given. High percent of instructors are convinced with MOOC (Figure 1).

Recommendations

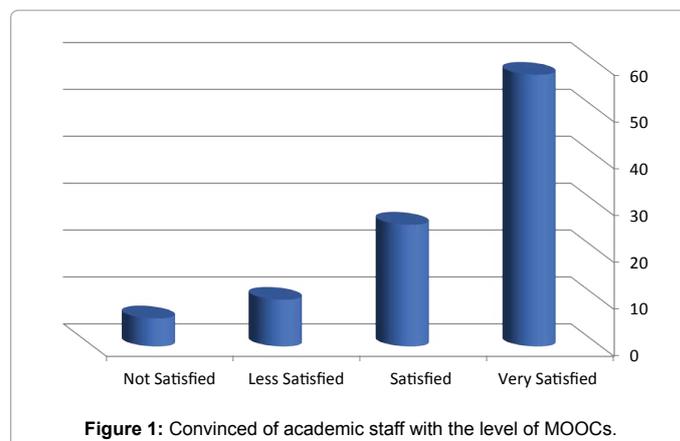
- Develop training programs for faculty members on e-learning systems
- Develop training programs for students on e-learning system
- Use MOOC in the educational process in Hail University
- The development of the current education systems to include the activities of modern educational programs and allows the use of e-learning systems to be able to use
- Using MOOC can create the opportunity for sharing ideas.
- MOOC gives an idea where we stand in the course in the current world as large number of students all over the globe would have registered for the same course on the same common platform and participate in the activities and discussion in the study group.
- Interest in using the Internet as the primary source can be relied upon in the educational process and a means of communication and international data and information by the staff members in the faculty of computer sciences at Hail University.

Conclusion

Faculty members' CPD in the computer sciences, Hail University is a crucial requirement for reforming the Saudi educational system and to improve the quality of using technological innovations. MOOCs offer great opportunities to support faculty members' CPD such as solving the problem of the difficulty of qualifying and delivering training programs to massive number of staff members. However, there is no enough data from research studies to decide the effectiveness of using MOOCs in Saudi Arabia. Many challenges for implementing

Items of usage	Average of importance
Ever use MOOC before	66%
Knowing some MOOC sites	74%
Log easily in MOOC before sites	56%
Preferring using MOOC in computer sciences courses	89%
Activities in MOOC courses	93%
Teaching Methods in MOOC Courses	90%
Interaction of students in MOOC courses	98%
Evaluation in MOOC courses	88%
Time when using MOOC courses	94%
Effective in MOOC courses to help students reach learning objectives	96%
Information in MOOC courses easy understandable	92%
Content in MOOC arranged in a clear and logical way	88%
Content in MOOC adequately explain the knowledge, skills, and concepts it presented	93%
Amount of photography used ion the MOOC course	91%
Quality of the photography used in the MOOC courses	95%
Amount of audio track used in the MOOC course	94%
Amount of narration used in the MOOC course	93%
The legibility of the text and fonts in MOOC course	92%
Technical quality of the MOOC course materials	86%
Ways to improve this MOOC course	91%
Over all using	87.95%

Table 1: Academic Staff Perception of using MOOCs.



these programs via MOOCs for staff members' CPD, also have been discussed.

In this paper, I have suggested the use and to carefully adopt the MOOCs for faculty members CPD in the faculty of computer sciences in Hail University. My purpose was to apply them as criteria or requirements for hiring, promoting, evaluating faculty members.

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