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## New E-Learning Platform For Operations Management Via MOOC

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**Abstract:** It cannot be denied that operations management concepts are much applicable in our daily life. However, students usually fail to relate the concept and elements of operations management in theirs. Hence, it is a challenge for educators in making students to understand and later appreciate this concept in their life's. Educators nowadays must find some methods or techniques that can improve their teaching and learning. Usually, most of the educators are using conventional notes with simple slides presentations. This conventional teaching method had made the students feel unexcited and bored in the class. To grab the attention of students, electronic teaching method or known as Massive Open Online Course (MOOC) was introduced as part of the additional teaching aids. Various attractive features in learning activities were offered in MOOC. Learning activities like puzzle, quizzes, matches the right answer will help to develop active learning via MOOC. This method may help the students to explore and understand the exciting concept of operations management. It may also create more knowledge sharing between educators and students in the future not only in Malaysia but all over the globe.

**Keywords:** Electronic Teaching, Operations Management, Teaching, Students

### 1. Introduction

Massive Online Open Learning Course (MOOC) has basically been constructed by the University of Helsinki and in cooperation with Aalto University and Technology Academy Finland (TAF). This method of online courses website are designed for those who are 15 years old and above from all over the world. Those who are interested with any of the subjects offered by MOOC website can register and join those open learning lessons immediately. The best thing about this; it is free. Teachers and lecturers on the other hand, can voluntarily share their knowledge to students from all over the world and it does not only limited to their students only. The best thing about MOOC is students do not have to travel around the world to learn and feel the experience of teachers from various qualifications, cultures or backgrounds. In addition, this may help others to develop their knowledge without having to attend any formal classes or paying extra tuition fees. As responsible members of the society, it is always a dream of noble teachers and lecturers to contribute something as a legacy for the future education world and MOOC is one way of achieving it. Even though the criticism will always be there, debating whether this kind of teaching experience will replace the traditional chalk-and-talk method, it has certainly no ends. Needless to say, MOOC is offering as almost as what is offered in class, except the physical appearance. The objective of this conceptual paper is to highlight the importance of using MOOC in e-learning and the reason for operations management subject can be learned in a fun way through this new platform.

### 2. Problem Statement

Talk and chalk learning style is always being questioned in this era. Passive and no two-way communication between educators and learners have become the main obstacles in sharing knowledge sessions. Some students are shy to communicate in their classroom with their lecturers and not every lecturer excels at public speaking at the same time. This will lead to poor students' feedback during lectures time. Poor communications can seriously affect the process of learning and limit the knowledge they should get in class. Hence, this is among the reasons for educators to find some other methods or



techniques that can improve their teaching and learning processes. Some of them even try to avoid using conventional notes with simple slides presentations. According to Davis (1993), he did mention that student attention during lectures tends to decline after approximately 10 to 15 minutes. Similarly, Wankat (2002) also supported that “Although students’ attention is high during the time of early lecture, it has reached a low point after 10 –15 minutes. So that it is important for educators to find alternative ways to reach their students effectively and MOOC is a good alternative for such problem. The first objectives of this conceptual paper was intended to explain the importance of massive open online learning, second is to elaborate the process of learning operation management through MOOC and the third objective is to explain the activities involve in learning operation management via MOOC.

### **3. Literature Review**

#### ***Massive Open Online Learning (MOOC)***

Massive Open Online Learning (MOOC) is known as another platform for teaching and learning process. Orr et al. (2015) explained that MOOCs are designed as full courses that combine content with discussion forums and assessment tools. Many universities have already applied the concept of online courses especially for their long-distance students and also off-campus students. Basically, this online course involves video lectures, discussion forums, tests, quizzes and chat forum for making teaching and learning process successful. For example, UiTM have i-Learn website for their on-campus students and i-Class for off campus students. As for off-campus students, lecturers need to hit at least 16 posting in a month to fulfil the requirements needed for every subject. Even though, the concept seems to look alike, MOOC targets on a bigger scale. As compared to traditional university website that offers online courses only to their registered students, MOOC offer to more viewers. It offers the course worldwide without filtering your background or from which institution you come from. It offers the bigger concept. Now, everybody can learn anything with the right person in various styles from one source. MOOCs was explained in Randy (2012), MOOCs are built on efficiency of scale, giving access to the teaching of a world class professor to thousands of students at once. MOOC actually helps different parties who are ready to receive and who are ready to give to interact (Randy 2012). Sharing knowledge can be so fun for some people and receiving it at anytime and anywhere can be far more exciting. This creates wonderful teaching and learning environment as compared to the traditional chalk-and-talk where sometimes some students are forcing themselves to be in a class set for them. Furthermore, there are many adult learners who need to gain knowledge through e-learning in pursuing their study because of their permanent job. In addition, employees who work from home and need to improve their knowledge may also get some advantages from this wide usage of MOOC. Via MOOC, students can register the same course with many tutors, which result to getting knowledge from different lecturers. Through traditional class room, usually they can only interact with the same lecturer for the course for the whole semester. Moreover, students can assess and learn MOOC at their convenient time.

#### ***Operations Management***

This course involves the study of the concept of operations’ functions in both manufacturing and service organizations. The students can identify and solve problems that are related to the operations of an organization. The concept of Operations Management was explained by Heizer and Render (2014). Operations management is a discipline that applies to restaurants as well as to factories. It doesn’t matter if the application is in an office, a hospital, a restaurant, a department store or a factory- the production of goods and services requires operation management. Basically, students need to study operation management because it is one of the three major functions of any organization and it is integrally related to all the other business functions. All organizations market (sell), finance (account) and produce (operate) and it is important to know how the operation management activity functions. For those who want to become entrepreneur, the knowledge of operation management is surely vital for them as well. They can perform better in their business when they know how goods and service are produced or what



operation managers actually do. In addition, understanding Operations Management will help you explore the numerous and lucrative opportunities in this field.

### ***Learning Activities***

Learning activities in MOOC is one of the attractive features that can be offered. Learning activities like puzzle, quizzes, matches the right answer will help to develop active learning via MOOC. Active learning is not a new concept. It derives from two basic assumptions from Meyers and Jones (1993), which they identified that the first assumption is that learning is by nature an active endeavor and second is that different people learn in different ways"

In our MOOC: The Basics of Operations Management, we offered 10 modules. The modules are as follows:

Table 1: Module in Operation Management Subject

Module 1	Introduction to Operation Management and Productivity
Module 2	Operation Strategy and Competitiveness
Module 3	Product Design in Manufacturing
Module 4	Sustainability
Module 5	Quality Management
Module 6	Location Strategy
Module 7	Process Design and Layout Decision
Module 8	Capacity and Aggregate Planning
Module 9	Supply Chain Management
Module 10	Inventory Management

## **4. Methods of Learning**

### **Slides show, video & notes**

In every module, the authors provide power points, video and notes to students so that they can effectively read and understand the basic idea of every topic. Teaching videos are provided to allow the students to watch them over and over again until they understand the content. For students who have finished reading, they can immediately do the learning activities. However, it does not necessary for them to read the link first before proceeding for activities. Reading notes will help them doing the activities that has been constructed for them to test their understanding. Activities that had been created in The Basics of Operations Management are as follows:

### **Quizzes**

Quizzes play an important role in e-learning and provide an array of benefits for both learners and instructors. Studied discovered by Devi (2014), the quiz help learners to identify their strengths and weakness. She also found in her study on medical students, the students found the quiz method to be very interesting and useful learning tool. MOOC allows the instructors to create dynamic feedback depending on the answer a learner will give to a specific question. For multiple choice quizzes, if the learners choose answer B over the correct answer C, for example, the appropriate feedback will be given immediately to the learners, indicating the fault in the thought process, or hints as to why another answer would be more appropriate or correct.

### **Case Studies**

Case studies can be an effective way to explore complex topics, and can be completed in a specific timeframe or a part of one, depending on the case. This can help students to be more creative in developing higher level of thinking skills. Based on survey made by Yadav et al (2007), using case



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studies promotes critical thinking, learning, and participation among students, especially in terms of the ability to view an issue from multiple perspectives and to grasp the practical application of core course concepts.

### **Crossword Puzzle**

The crossword game is another interesting method that can be provided via MOOC. The crossword game is perfect to be used as repetition activities. It becomes interesting because learners have to match the questions given with the boxes provided. This crossword game can transform a boring lesson into a fun experience and results are given immediately. A major advantage of a crossword puzzle discovered by Franklin et al (2003). They discovered that learners become active participants who must make decisions, solve problems and react to the results of their choice, as opposed to being passive observers simply memorizing a list of terms.

### **Matching & Ordering Questions**

Matching questions allow students to match up answers from two columns. Ordering questions can encourage the students to rearrange answers according to the right sequence. For example, in the case of this operation management subject, the questions on the process of producing a product could use matching and ordering technique. Students will have the opportunity to rearrange every process in the right sequence.

### **Discussion Method**

Learning Basics Operation Management through MOOC will certainly have high level of interesting interaction between learners and facilitators of this course. This is because at every answer that the students give, there will always be a reply column for instructors to comment on their answers. Students are also free to post their answers using hand writing and post it to the gallery using media (picture) application. This discussion method helps the student in becoming a part of a vibrant learning community, rather than being an independent learner who completes and submits assignments without any peer interaction. (Harris and Sandor, 2007).

### **Assessment and Certificate**

As mentioned by Ioannou-Georgiou (2003), he defines assessment as “a general term which includes all methods used to gather information about children’s knowledge, ability, understanding, attitudes, and motivation.” In MOOC, the assessment designs are created by aligning with the learning outcomes. It means that assessors will evaluate students’ achievements according to the learning outcomes stated. The assessors need to first define the assessment criteria that are elaborated out from the learning outcomes and link them to the relevant collections of students’ work. After they have completed all the courses (which are appeared through percentage of course completion) the instructor of the course can then issue a certificate for the students that will justify their 100% completion of the tutorial.

## **5. Conclusion**

This paper basically is highlighting the importance of MOOC and the importance of learning basic operation management through this new e-learning platform. MOOC offers variety fun ways of learning experience that can connect learners to experts and facilitators around the world. It is free, easy access and convenient to learners. Students and other interested individuals may now learn everywhere, anytime from thousands of experts with only a click. Learning process has become so interesting that may overcome several weaknesses of a class room education. No more excuses for not having question and answer session as everyone can ask and answer questions through the chat channel provided. Learning method that combines all fun and easy ways like puzzle, matching quizzes and interesting case study will encourage learners to learn and expand their capability but in less stress condition.



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Furthermore, a well-structured assessment will help them to realize whether they have achieved the learning outcome or should they spend more time in achieving those outcomes. Issuing certificate at the end of the course will certainly boost interested learners' motivation in learning other courses as well. With MOOC, learning Basics Operation Management will become a new fun activity for learners.

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