



# **Role of Interactive Multimedia to support MOOC for Enhanced E-learning in the Higher Education Sector in Oman**

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E-learning is the best way of getting knowledge at present especially when it comes to distant education. E-learning is a computer-based educational system that allows you to learn in any place at any time. Earlier e-learning solutions were delivered on CDROMs but nowadays, an online platform is making easier ways for such implementation in terms of scalability as well as usability. Online courses such a MOOC (Massive Open Online Course), which is a way of delivering the content of learning online for any person with easy access from any part of the World is becoming much more popular for certification courses. This research paper focuses on the requirements of such implementation as a part of teaching and learning strategy in one of the higher education institutions in Oman. The existing system in these days is Moodle which is one of the Virtual Learning Environments. Through Moodle, teachers are sharing many eLearning based tools with students. It is based on PowerPoint in Moodle learning and different activities on papers. The methodology used in this project is a mixed methodology - quantitative and qualitative, which includes a questionnaire to get more opinions from different people about this research and there also interviews. The study is performed in context to one of the leading private higher education institutions (HEI) in Oman. The proposed research will suggest a new E-Learning application, especially for some practical modules. Based on the above study, researchers have a plan to propose a new framework and solution for practical modules in HEI especially with the integration of MOOC. The large scale implementation of the proposed research and its solution will be on a cloud, in order to provide easy access along with scalability.

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## **Introduction**

The research is to build a new E-learning application for multimedia specialization in Middle East College. This application will help the students of multimedia to watch the video tutorial in levels 1 and zero.

The application will help to get the extra tutorial and sample exams for the modules. From this literature review, it will be helpful to get more information about e-learning from different sources. In this project, it will have different articles based on the project which will be used for this project. The literature will have more than one article about the software which uses in the project and the main user interface. On the other hand, it will talk about the main software for designing the application that will be used for the project.

The research is focused to build a new E-Learning application for multimedia Modules: learning through the tutorial which will be available in the application. These tutorials will contain many video-based tutorials apart from activities for formative assessment.



Nowadays, we have the use of flipped teaching methodology through which students gain knowledge through a totally different learning environment. Instead of PPT slides, teachers have started using other online activities such as interactive quizzes, video lessons, games and many more. Everyone uses the internet technology is more used in everything. From this point we decided to build a new application for multimedia specialization which will help the student for online tutorials in a different module. The online tutorial helps the student watch the videos any time at any place so that they will have more idea and practice more.

## **User Interface**

The user interface is everything designed into the device with all the information and requirements. The user interface includes the important thing which is screen, mouse and keyboard the main things which appear in the device (Berezhnoi, 2019).

The user interface is the way which the user can interact with the application. It is useful to know how the application works and interacts with the user.

## **E-Learning**

E-learning is the best way of learning new things through the internet. E-learning is a computer-based educational system that you can learn in any place at any time.

Nowadays, e-learning is mostly delivered on the internet, although in past years it was delivered by using a computer-based method such as CD-ROM.

Technology has more advanced these days that can work in so many things through the internet. E-learning shows all the ability format such as documents, videos and slideshows.

These days education has developed the learners who can use educational technology through smartphones and can make some online courses.

The traditional way of learning is more costly and takes a long time. On the other hand, eLearning is a faster alternative and it is cheaper than the traditional way. E-learning has been launched since 1999 when it came to a CBT systems seminar in the world.

## **Live Code**

Live code software is a multiple platform development. Live code creates apps that can run on every device and platform. Live code is fully-featured development.

This page of live code software has provided all the important tutorials and lessons which are related to Live code. It is ready program and platform.

## **Use Case Diagram**

The use case is the value of visual functional requirement of the system. Use case diagram is translated into the design which has been chosen for the application and development priorities.

The Use case is a set of use case diagrams specific with a different way to use the system, this defines the behavior of the system.

## **Prototyping Model**



The prototyping model is a type of system development life cycle. Prototyping software has limited functionality.

The prototyping model is useful for the user who can develop the proposal and try the application before implementation. Prototyping is a model that helps to understand the requirements easily for the project. Software prototyping is more popular these days. It is a popular model in software development models (Sami, 2012).

This model helps the user know the project requirements in the early stage of the project and to make it easy for the project owner.

Prototyping model, it helps to get the feedback from the user of the application. It helps the designer and developer know the exact expect for the project.

## **Spiral Model**

The spiral model is similar to one method from the models which is an incremental model. The spiral model is more in risk analysis. This model has four different phases which are planning, engineering, risk analysis and evaluation (Sami, 2012).

The spiral model is the first starting point in a project with the planning phase, the requirement is gathered for any risks. This model is used when the costs and risk evaluation and it is important for any project.

## **Project Management**

Project management is the process of skills, knowledge and methods. Project management is done for every project to manage the time of the project. Project management can achieve the objective of the project (PETERMAN, 2018).

The project usually succeeds if it achieves all the objectives. Project management will help the project to be maintained with good timing and workflow.

Project management involves the planning of the work, it helps to move from one task to another easily.

## **MOOC**

MOOC stands for Massive Open Online Course. MOOC is an easy way to study and gives more chance to study with different sources around the world. MOOCs don't always lead for formal qualifications, but to gain more knowledge. MOOC is to develop career skills and prepare for different educations (FutureLearn, 2016).

MOOC is the way of delivering the content of learning online for any person with easy access from any part of the world is becoming much more popular for certification courses.

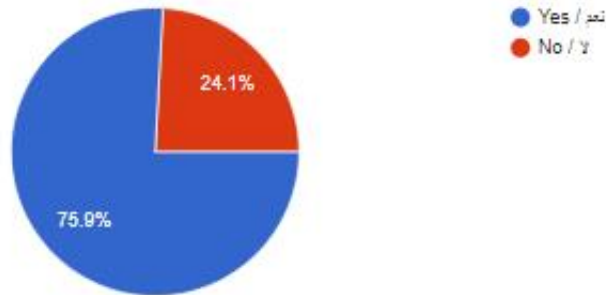
## **Analysis**

The data collection method is a method that can gather the information for the project. In this project we will be using a questionnaire to gather the information from different people. The questionnaire is the most common data collections.



1. Do you prefer e-learning from traditional learning?

58 responses



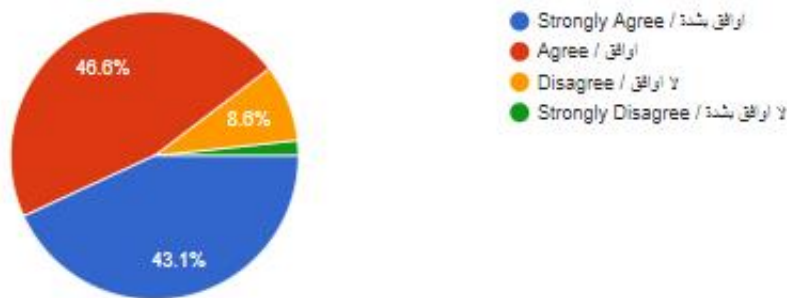
**Figure 1.** Question 1 Analysis

Nowadays more people use the internet for most of the things. As it is showing in the graph more people prefer e-learning from traditional learning.

Preferring E-learning because the user can take the information at any time with an easy way without waiting for the teacher to explain, will have a video tutorial for the topics.

2. E-learning is more useful nowadays.

58 responses

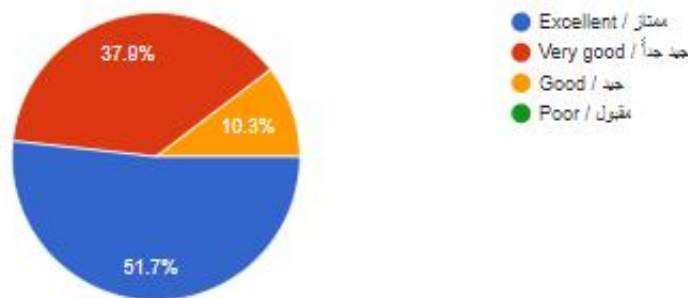


**Figure 2.** Question 2 Analysis

E-learning is useful nowadays because the people more use the internet these days as it is showing in the graph 45.5% of people strongly agree with that. On the other hand, 9.1% of people disagree with that.

3. How much do you rate e-learning as a support tool for higher education?

58 responses

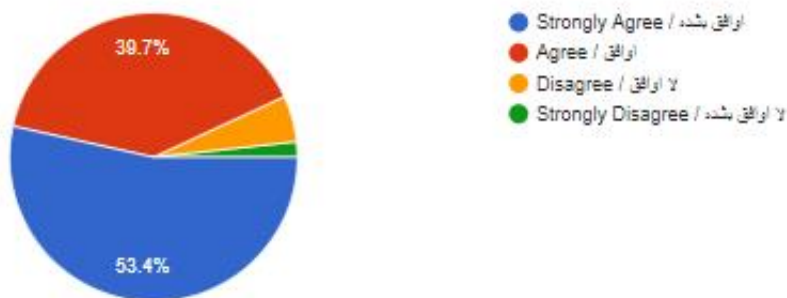


**Figure 3.** Question 3 Analysis

The rating of E-learning is high between Excellent and Very good. This type of E-learning it gets excellent tool learning for the higher education they can get the information easily.

4. Learning multimedia through e-learning is more fun than traditional education?

58 responses



**Figure 4.** Question 4 Analysis

The multimedia module has more practical work. This application will help the student for a video tutorial to learn at any time for any lesson. E-learning will be more fun with an interactive E-learning application. The graph shows the most people agree that e-learning is more fun.

## Conclusion

In conclusion, this research paper about E-learning. This research paper is to help the MOOC courses and how used it in education. As the analysis mentioned in the research paper, it shows how people like these technologies. Nowadays more people use online courses to get more knowledge from different sources.

## Future Works

Though different teaching style suitable to students catering a vast range of courses not only help in faculty to use blended learning but also students can achieve good grades by using collaborative learning. With the help of innovative ideas using open source tools, it evolves sustainable education (Naidu et al 2017), (Al Badai et al 2017), (Bhatia et al 2017), (Naidu et al 2017), (Naidu et al 2017),



(Mustafa et al 2019), (Mohammed et al 2019), (Hasan et al 2015), (Hasan et al 2019).

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