The Development of MOOC Media to Increase Recall Memory Skill on Physics at Vocational High School

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Abstract. The learning media is one of facilities in order to achieve the purpose of physics subject. The aim of this study is to develop online learning media web-based which known as MOOC (Masive Open Online Coursuse). This Physics MOOC consists of students and teacher page (admin), on the students page consists of three main menu; module, quiz and score, while the teacher page consists of 5 main menu; class, students data, module, quiz and students score. Physics MOOC provides online learning that can be accessed whenever and wherever, using either android or PC so that it facilitates students and teacher do learning process without face to face. The result of this study is determined by the implementation of physics online learning web-based without face to face between teacher and students.

1. Introduction
According to Sayidiman [1] Learning media is a tool used to assist in learning process, it can be either visual media or audiovisual that can be used as connector between teacher and students. The media in the learning process is a tool assistance that can enhance the students learning motivation [2]. Islami [3] states that google earth is one of physics learning media that succeed in demonstrating Earth-related Physics learning. The memory is the translation of memory. In learning, media has influence toward the students memory.[4,5]

Whitney et al.[6], states that online learning media is currently popular in education sector, this learning media provides video, audio and text that can ease the achievement in learning. E-learning is proven to solve every problem in an exercise or learning. Therefore, learning using MOOC is learning facility that is potential and offers cases in exercise process in the world [7].

According to Maltem[8] and Anthony [9] MOOC is one of the newest innovation in education that is developing rapidly. In term of this, through MOOC, we can enlarge our knowledge or study easily because MOOC is a room for online learning, anytime and anywhere. While, Lasser et al.[10] states that MOOC is also effective to be applied in increasing the extracurricular in education. Out of school Education (online courses) has essential role in increasing students outcome, beside learning in the school, students who take courses or get additional lesson out of the school will have different score significantly between those who only learn in the school and those who get additional lesson out of the school [11].

In this study, Physics MOOC will be designed as the need of Vocational High School students, either the display or the material in lesson module which is contained text, video, quiz and test in each competence provided. MOOC is expected to facilitate physics learning process, especially on Work Power and Energy competence.
2. Methodology
This study is initiated by analyzing the decreased of learning time on physics subject in the Vocational High School, after analyzing the problem, the solution is that providing the MOOC Physics learning media for Vocational High School. The initial stage of developing this media is that designing MOOC Physics media appropriate with Vocational High School students. The design was validated by three experts. After the design is valid, the media begins to be developed as the valid design.

The MOOC WEB page will be accessed with android and PC to find that the feature will has function as expected. Login page as students will be provided with login address and password. At the login address, the students will enter their Students ID and at password column, the students will use their Students ID as well that later can be changed by themselves. Login page as teacher or admin, the login address is provided by entering Teacher ID (NIP) and the password also enter the ID that later can be changed by the teacher or admin.

After login as student, the page display is contained features that can be chosen; module that consists of text and video, quiz for each material and quiz score. login page for admin is contained students data and visit data, module with add material or delete material options, quiz with add question or edit question option and student score for who are already pass or fail the quiz.

3. Results and Discussion
In this study, the MOOC Web result shown in Picture 1 where the physics MOOC adress can be accessed using PC or android through firefox, google chrome etc. After the address is accessed the display of MOOC will ask the visitor to login, either as student or admin by entering username and password.

If login as student, the display of MOOC page students which contained the student data, this page is completed with features of material option so that the material choosen by student will be displayed on the page. This is shown in Picture 2.
After the learning material is chosen then the display page will be as shown in Picture 3. In this page, the features provided for the students; module which consists of text and video, quiz for each material and the quiz score for who are already follow the quiz.

If login as the teacher, the MOOC page display will be as shown in Picture 4. In this page will appear the feature options which consists of class, students data, visit data, MOOC material and student score.
4. Conclusion
This Physics MOOC online learning media for work, power and energy material can be applied as one of effective learning facilities, this is because the MOOC media can be accessed anytime and anywhere. With MOOC, the students and teacher can do learning process without face to face.

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