DEVELOPMENT OF MASSIVE OPEN AND ONLINE COURSES (MOOCS) LEARNING DESIGN ON HOW TO CREATE 360 REALITY VIRTUAL TOUR CONTENT WITH SMARTPHONE

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Abstract

The 360-degree camera is a type of camera that can detect objects from various directions so that the object can be seen clearly, in contrast to other cameras that can only detect the camera from one direction depending on the placement of the camera. For this reason, by using this 360-degree camera, the detection of objects such as spaces and buildings will be more optimal. In addition to taking pictures with a different point of view than usual, 360-degree camera technology has uses that can be felt in everyday life, including: Able to Display Various Object Fields at Once, 360 Wider Image Capture angle, and make social media content more interesting. The purpose of this research is to create a learning module on the Open University moocs (https://moocs.ut.ac.id), this module contains material on how to create interesting social media content such as virtual tours by utilizing cellphone cameras and or 360-degree cameras and Lapentor / Krpano applications. The results of the MOOCs 360 reality virtual tour content creation with a smartphone for the introduction of environmental content stated that 52% were good at the lecturer's understanding in delivering MOOCs material, 48% were very good. And 56% of the MOOCs material content has been understood. 58% felt that the experience at this meeting was very pleasant.

Keywords: MOOCs, 360 reality virtual tour content creation, smartphone, introduction of environmental content.

1 INTRODUCTION

Virtual Tour technology with 360° panoramic images, is a technology to describe a location represented in a 360° panoramic image, giving the impression as if it were in the middle of the location (Fatma et.al., 2019). Video 360 technology allows the audience to see a visual image display in 360 degrees. This technology has one of the most widely used ways to visualise the environment with a display that can show the entire point of view around us so that it makes the video viewing experience more interesting, and so that visitors can access information easily both currently inside and outside the region (Kaluku, Pakaya, & Punu, 2022).

Virtual Tour Reality technology application is used to create profiles of several offices within the Pandaan District office. This application was built using Unity 3D software and 360 degree

panoramic photos using a 360 degree camera. There are links in this application, namely website links, maps, and whatsapp for service information. The method used is a case study research method to examine in detail in one place and use the MDLC (Multimedia Development Life Cycle) development method for combined media. Based on blackbocx testing, this application runs has good results and for this application it gets a feasibility percentage of 89.5% (Farhana, and Rosadi, 2021). All application functions run well and are expected to help tourists and the community provide information about the location of tourist attractions and can increase tourism potential in Riau province, especially Pekanbaru City (Fatma et.al., 2019). The application of 360 video technology can produce a medium that can introduce as well as raise the cultural potential of a region in an interesting way, easier to learn and understand and can bring visitors to enjoy the museum environment virtually. 360 Video technology allows the audience to see the visual image display in 360 degrees. 360 video content at the Gorontalo Provincial Museum which can help visitors learn and travel while enjoying the Gorontalo Provincial Museum environment (Winata, Rohandi, and Yassin, 2023).

Based on the literature study above, it is necessary to innovate the application of learning media that is more interesting in the process of implementing teaching and learning so that it can be a solutive and innovative learning media, namely through Virtual Reality (VR) technology-based media. VR creates an immersive simulation that allows users to interact while feeling like they are in an environment that exists in cyberspace (Jamil, 2018). The research team aims to conduct this research to teach Open University students to create 360 Reality Virtual Tour Content for Smartphone-based Environmental Introduction.

2 METHODOLOGY

The research method used is the ADDIE development model which consists of five stages including analysis, design, development, implementation and evaluation. This model has several stages that match its name, namely (1) Analysis, (2) Design, (3) Development, (4) Implementation and ends with the stage (5) Evaluation, but the ADDIE model has a focus or emphasis on iteration and reflection.

The criteria for smartphones that can be used to run Virtual Reality (VR) content are smartphones that have gyroscope and accelorometer sensors, where almost all smartphones currently have both sensors. So far, the use of Virtual Reality (VR) technology has been developed more in the world of games, even though this technology has various other roles

such as simulation, interactive learning, and product promotion. With the great potential that can be done by Virtual Reality (VR) technology, online learning systems can utilise this technology and innovate in it so as to make online learning more interactive.

In addition, according to Sulistyowati (2017), states that Virtual Reality (VR) is a computer-based technology in which combining various special devices such as input and output so that users or students can interact more deeply with the digital environment to feel as if they are in the real world in their vision. In addition, through the application of Virtual Reality (VR), it will make it possible for developers to make various environmental designs virtually in a way that will be more potential as a way and form of simulation. Where visualisations that occur when students use Virtual Reality (VR) will occur as a result of activities, visual, and auditory or also occur due to stimuli of other factors.

3 FINDINGS AND DISCUSSION

On the moocs.ut.ac.id page, you can see the completeness of the material with the title 360 virtual tour for the introduction of a smartphone-enabled environment that the researchers have done as shown below.

This research resulted in the development of learning design in Massive Open and Online Courses (MOOCs) on Creating a 360 Virtual Tour for smartphone-based environment recognition. The results are in the form of learning materials placed in MOOCs Universitas Terbuka, the results of validation and questionnaires by students cover two aspects, namely aspects of visual appearance and aspects of learning materials. From the material aspect, students assess that the existing material is easy to follow and understand. This means that the material of Creating a 360 Virtual Tour for the introduction of an interesting smartphone-capitalised environment for beginners can be understood and learned well by all prospective participants who want to follow the material of Creating a 360 Virtual Tour for the introduction of a smartphone-capitalised environment in this Universitas Terbuka MOOCs application.

The learning design development view in Massive Open and Online Courses (MOOCs) on Creating a 360 Virtual Tour for smartphone-enabled environment recognition in Universitas Terbuka MOOCs is as follows:

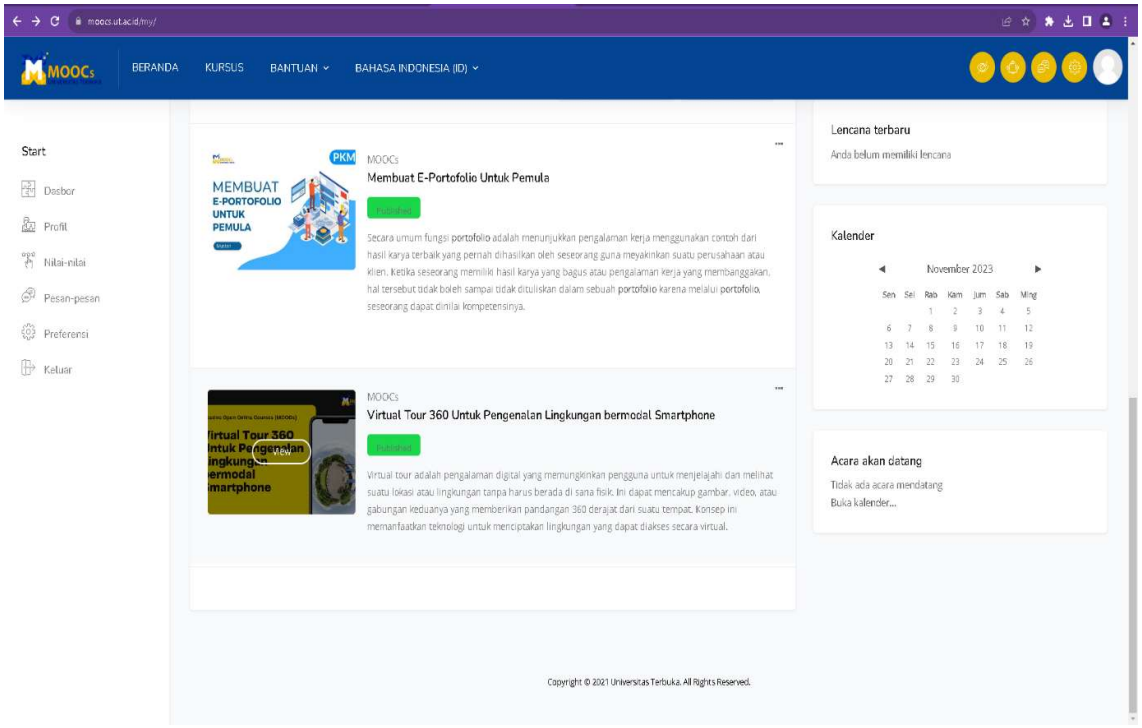

Figure 1 The Moocs Class with The Theme Creating a 360 Virtual Tour for smartphone-enabled environment recognition at moocs.ut.ac.id. Main Data, (2023)

The researcher developed a learning design in Massive Open and Online Courses (MOOCs) regarding Creating a 360 Virtual Tour for smartphone-enabled environment recognition in Universitas Terbuka MOOCs which can be accessed at https://moocs.ut.ac.id by registering first. The material is made into 8 topics, containing power point, video material, discussion and competency test questions, showed at figure 2 until 4.

e-ISSN 2963-2870
Vol 5 2024

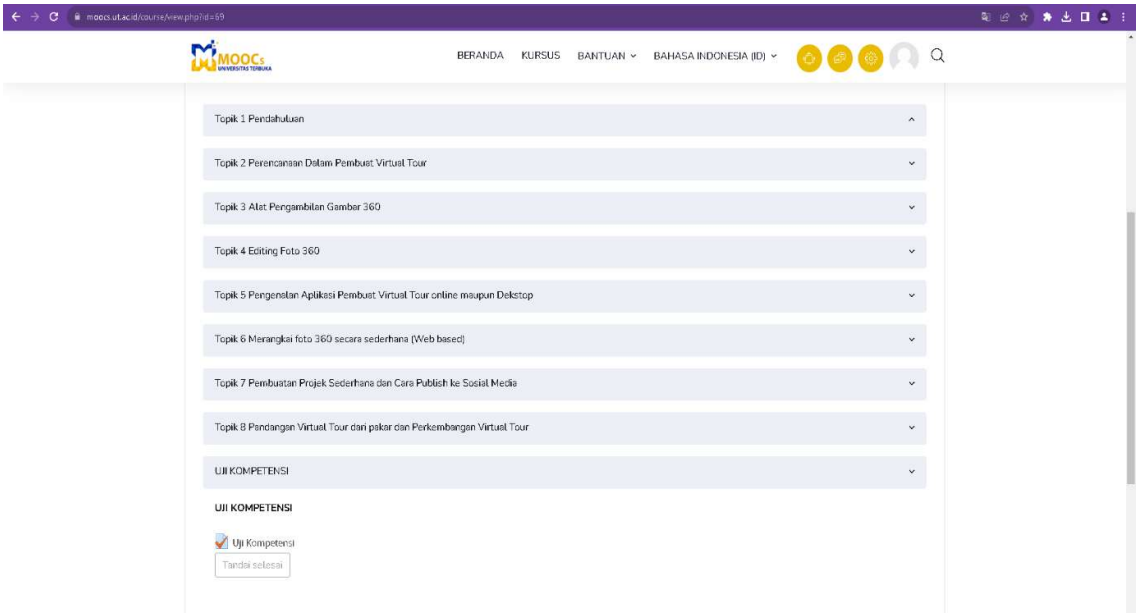

Figure 2. Display Of 8 Materials, Competency Tests, and Certificates in the Learning Design Development Class in Massive Open and Online Courses (Moocs) with The Theme Creating a 360 Virtual Tour for smartphone-enabled environment recognition at moocs.ut.ac.id. Main Data, (2023)

In developing the learning design in Massive Open and Online Courses (MOOCs) Creating a 360 Virtual Tour for smartphone-enabled environment recognition the contains are topic 1 introduction, topic 2 planning in virtual tour creation, topic 3 360 image capture tools, topic 4 360 photo editing, topic 5 introduction to online and desktop virtual tour creation applications, topic 6 assembling 360 photos simply and how to publish to social media, topic 7 simple project creation and how to publish to social media, and topic 8 virtual tour views from experts and virtual tour development. After that, you have to competency tes and get a certificate. Where topics 1-8 and the competency test are shown in figure 2. Each topic has material, video, introduction rubric, discussion, as in Figure 3 and 4.

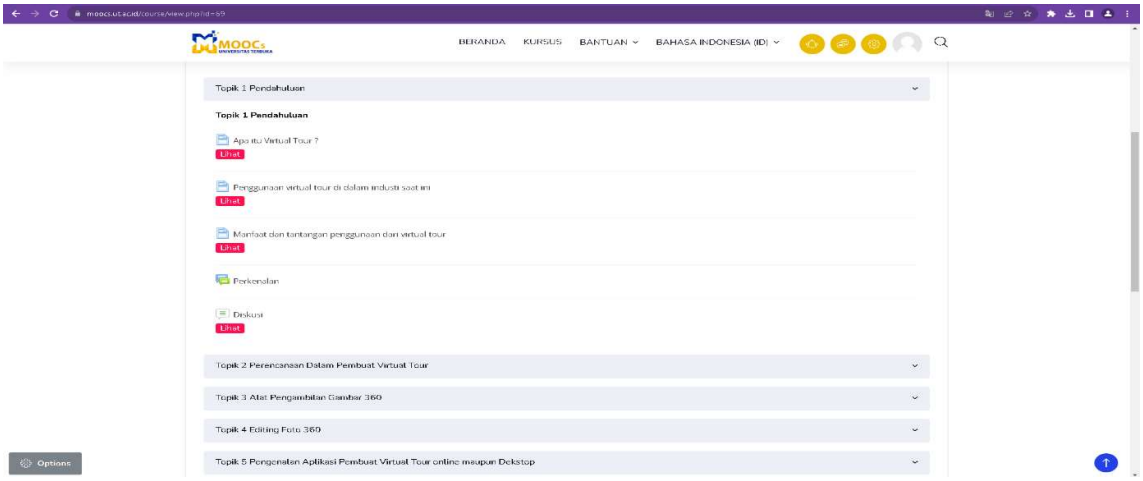

Figure 3. Display Of MOOCs Class Creating a 360 Virtual Tour for smartphone-enabled environment recognition topic has material, video, introduction rubric, discussion. Main Data, (2023)

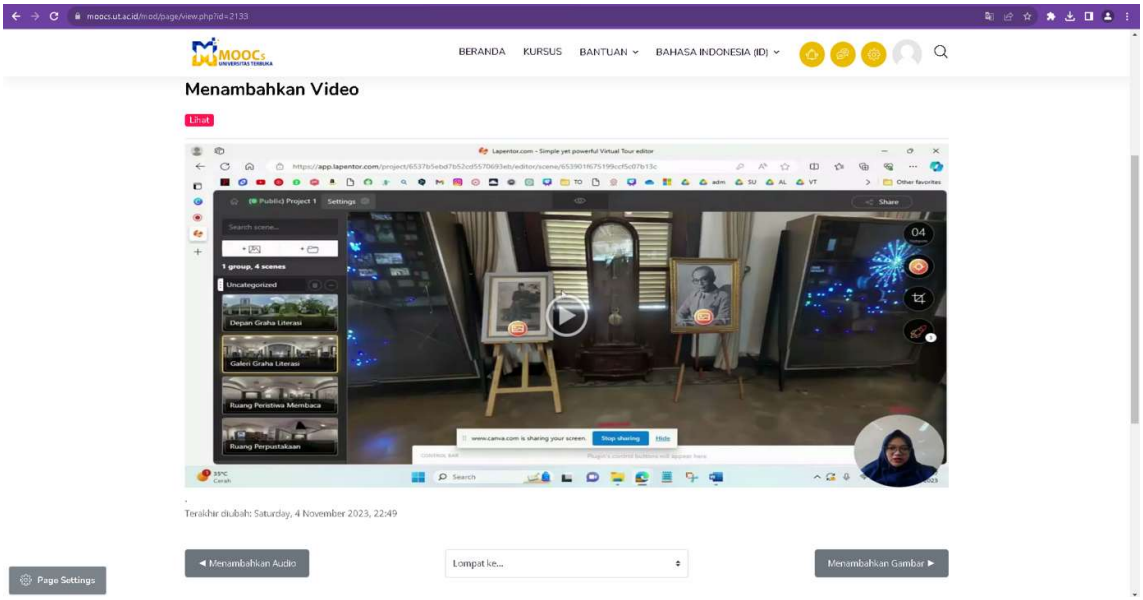

Figure 4. Display Of Video MOOCs Class Creating a 360 Virtual Tour for smartphone-enabled environment recognition. Main Data, (2023)

Modern educational activities called MOOCs use the Internet to reach a wide audience and increase the number of participants (Kizilcec and Piech, 2013). Low completion rates and high numbers of registrants are described as disadvantages of MOOCs. However, recent research suggests that completion rates are a manifestation of MOOC students' intentions (Reich,2016). MOOC completion rates should be based on user intent, according to existing literature.To date, course success has been measured by counting the number of participants

completing the course and exam assignments, but those who did not pass did not complete the course and assignments and exams as a dropout variable. The MOOC Teaching Creativity product, which was developed through the Design and Development Research (DDR) approach, is considered very suitable for use by the public. This is based on the results of a feasibility test carried out by Learning Management System experts from academic circles andIT experts from professional circles (Astuti, et.al., 2020).

The results of trials using learning designs in Massive Open and Online Courses (MOOCs) Creating a 360 Virtual Tour for smartphone-enabled environment recognition are shown in Figures 5 to 6.

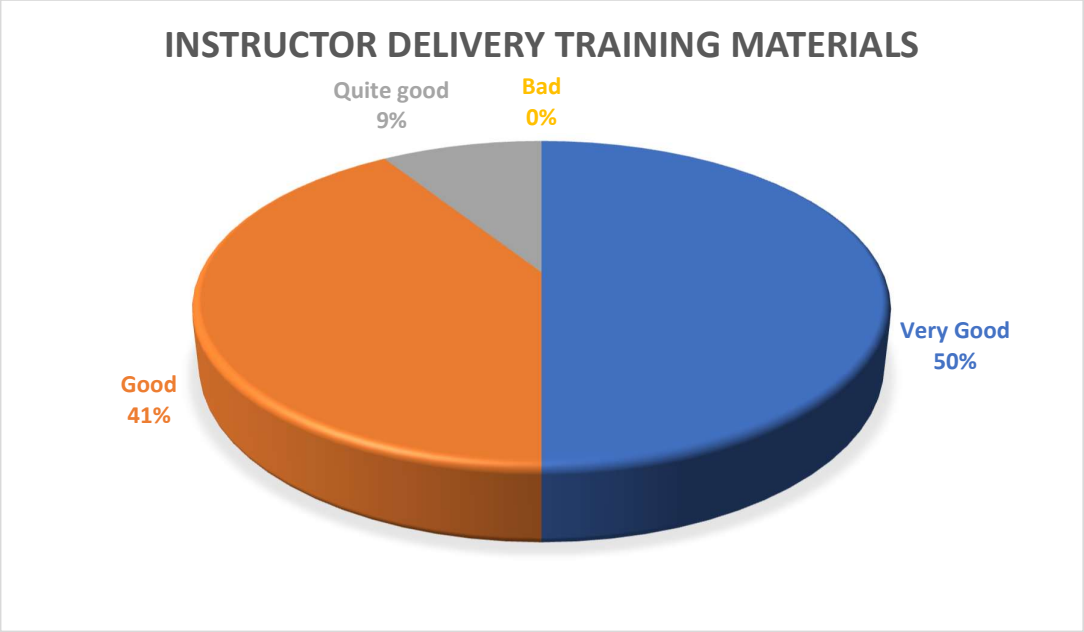

Figure 5 Pie Chart of Instructor DeliveryTraining Materials Creating a 360 Virtual Tour for smartphone-based environment recognition in MOOCs, Main Data, (2023)

The chart shows that about 50% responden are very good, 41% responden are good, and 9% responden are quite good about instructor delivery training material at MOOCs for Creating a 360 Virtual Tour for smartphone-enabled environment recognition.

In recent years, virtual reality environments (VLEs), such as 360-degree videos, have been introduced as educational tools. However, not much research has been conducted on the pedagogical benefits of this medium, especially in terms of learning craft skills. In addition, emotions and competences have a significant influence on ICT learning and usability. According to the results of the quantitative analysis, positive or negative ICT attitudes did not

affect students' emotional experiences in traditional or 360° lessons. However, there was a significant correlation between the described emotions and ICT and craft skills. The results did not change significantly (Hallberg, Hirsto, Kaasinen, 2020).

360 Degree Video This YouTube feature allows users to upload and watch 360-degree videos in real-time. Users of can explore the surroundings from the video without having to know it directly. It takes the form of a 360° video that captures the entire scene where the user can look up, down, and around and allows users to interact with physical and virtual objects to interact with physical and virtual objects. Essentially VR can be utilised for a variety of learning and training, for example to train skills that are dangerous when learnt with real conditions (Hendra, et. Al., 2023). In conclusion, creating a 360 Virtual Tour for smartphones in MOOCS is an excellent material for knowing the neighbourhood introduction. This research is media useful in the pedagogical field, especially in terms of learning craft skills. In addition, emotions and competence have a significant influence on ICT learning and usability. It takes the form of a 360° video that captures the entire scene where the user can look up, down, and around and allows users to interact with physical and virtual objects to interact with physical and virtual objects. Essentially VR can be utilised for a variety of learning and training, for example to train skills that are dangerous when learnt with real conditions.

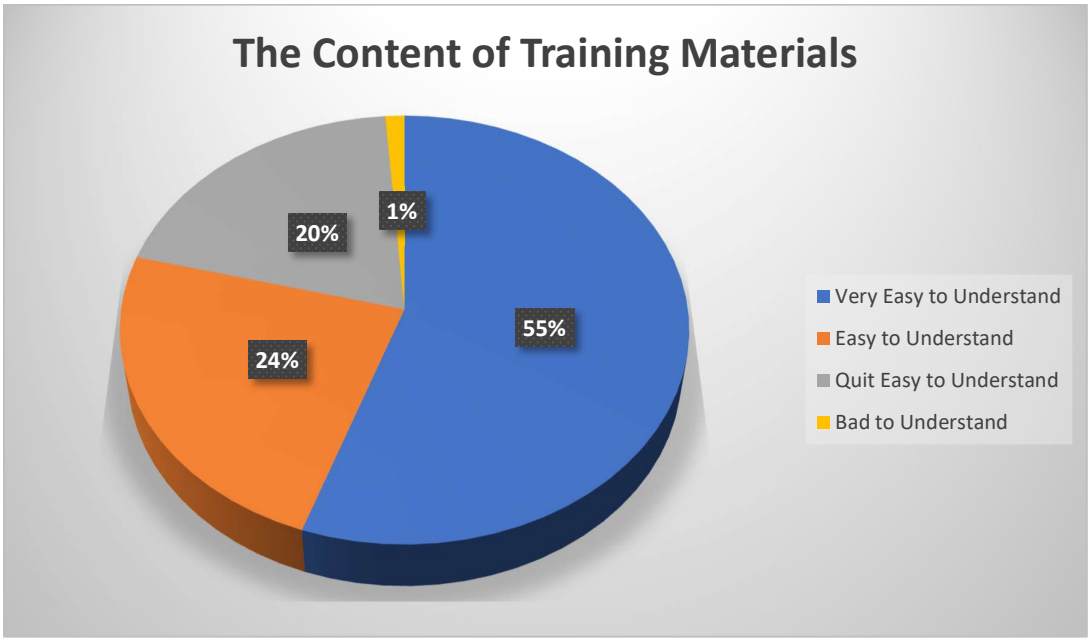

Figure 6 Contents of Training MaterialsCreating a 360 Virtual Tour for smartphone-based environment recognition, Main Data, (2023)

The participants stated that 56% of the content of the training material was very easy to understood, 24% was easy to understood, 20% was quite easy to understood, 0% was bad to understood. According to Dewanti, Puspita, and Haka, (2022) stated that media in the feasibility aspect from material experts obtained a percentage of 92% with very feasible criteria, media experts obtained a percentage of 91% with very feasible criteria, language experts obtained a percentage of 76% with appropriate criteria.

To provide a more amazing experience, a virtual reality headset can be used to view 360-degree videos and photos taken from a wider perspective. A number of recently released, several types of consumer cameras can take panoramic photos or videos that cover the entire point of view in one panorama. We present in this paper a field study where 14 buyers freely used 360-degree cameras in their daily lives for four weeks. We describe the techniques that the buyers used to capture 360-degree content in different scenarios, and we discuss the advantages, drawbacks, and disadvantages of using 360-degree cameras in comparison to conventional cameras. We find four common ways consumers use 360-degree cameras: Panorama Capture, Experience Capture, Automatic Capture, and Document Capture. We also talk about how participants watch, share, edit, and manage 360-degree content that they captured (Jokela, Ojala, and Vaananen, 2019). In conclusion, the content of the training material is very easy to understand, the media in the aspect of feasibility of the material with very feasible criteria, media experts with very feasible criteria, linguists with feasible criteria.

4 CONCLUSION

The chart shows that about 50% responden are very good, 41% responden are good, and 9% responden are quite good about instructor delivery training material at MOOCs for Creating a 360 Virtual Tour for smartphone-enabled environment recognition. The participants stated that 56% of the content of the training material was very easy to understood, 24% was easy to understood, 20% was quite easy to understood, 0% was bad to understood.

This is a useful resource for learning skills in the field of pedagogy. Emotions and competence also have a big impact on learning and usability of ICT. Basically, virtual reality (VR) can be used to teach a wide variety of things, such as teaching skills that are dangerous if applied in a real environment. It has the form of 360-degree video, so users can see the entire scene and interact with physical and virtual objects. The content of the

training material is very easy to understand, the media in the aspect of feasibility of the material with very feasible criteria, media experts with very feasible criteria, linguists with feasible criteria. The content of the training material is very easy to understand, the media in the aspect of feasibility of the material with very feasible criteria, media experts with very feasible criteria, linguists with feasible criteria.

ACKNOWLEDGEMENTS

Universitas Terbuka Research and Community Service Institute, Distance Higher Education Research and Innovation Center Open University Research and Community Service Institute, Faculty of Science and Technology, Biology Study Program, Multimedia Development Center for contributions, assistance, or financial support.

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