Utilization of Smartphone Technology of Students in Making Videos on Motorcycle Chassis Learning

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Abstract—**Smartphones are communication tools equipped with technology so that they can carry out various activities, such as internet, multimedia players, and cellular instant messaging, mobile phones can be used as learning facilities. The purpose of this study is to examine the use of smartphone technology in making motorcycle chassis learning videos in vocational high schools and the behavior of students' smartphone usage habits. The sample used was 26 Vocational High School students by collecting data in a questionnaire / questionnaire. The results of the research on the implementation of smartphone-based learning show a low value for learning needs, but after implementing the method in a good direction.**

Keywords—*smartphone; technology; students; learning; multimedi; vocational high school; evaluation; motorcycle training; vocational*

I. INTRODUCTION

Smartphones are communication tools equipped with technology so that they can carry out various activities, such as the internet, multimedia players, and cellular instant messaging [1]. Smartphone technology has spread throughout the world, and is used as a learning facility in various fields of education, such as in health, language, technology and engineering [2-5]. Indonesia is categorized as a developing country, but the population that uses smartphones is very large, this is evidenced by Indonesia's position at number 2 with 89% of smartphone users who use social networks consisting of various ages [6].

Technological developments that occur on smartphones are very fast, now almost all activities can be accessed using a smartphone. One example is in the world of education, smartphones play an important role in helping students do digital learning that can be done anytime and anywhere [7-9]. The negative impact of smartphones must also be considered, namely smartphone addiction, where sufferers will be difficult to control and cause social, psychological and health problems in their addicts [10].

Based on the preliminary results, there are problems, namely when learning takes place, the attention of students focuses on using a smartphone which results in not achieving the learning objectives. This paper will examine the use of smartphone technology in making motorcycle chassis learning videos in vocational secondary schools and the behaviour of students' smartphone usage habits.

II. MATERIALS AND METHODS

A. Participants

Respondents were taken from the population of class XII of Motorcycle Business Engineering (TBSM) expertise in the 8th Vocational High School (SMKN) Bandung, as many as 1 class with a total of 26 students.

B. Data Collection

Data collection was taken from student learning outcomes and using a questionnaire given to 26 students of TBSM XII grade at SMK 8 Bandung.

C. Data Analysis

1) Cellular technology and cellular learning: Today, cellular technology has been repositioned as more than just a means of communication. Supported by technological advancements such as developing wireless networks and enhancing capabilities in devices, researchers acknowledge the fact that mobile technology is quickly being used as a learning tool [11]. Portable devices such as smartphones, tablets and e-book readers are positioned as powerful instruments for student learning. Thus, the concept of "cellular learning" (m-learning) has been formed to connect "mobile" and "Learning", combining two previously separate concepts. M-learning is proposed as an improvement in e-learning as well as a new and independent part of e-learning. However, it is difficult to track when the concept of "cellular learning" appeared exactly. On stage initials, there are lots of words and terms that describe the same phenomenon. The term "M-learning" is suggested as being very high.

2) Gaps in cellular education research: As discussed above, the previous literature shows that while m-learning can be a useful tool for learning, it has several limitations.

Specifically, the psychological and pedagogical limitations are more difficult to overcome than the technical limitations. At the same time, mobile applications are also an important key to success (or failure) in m-learning. However, less research has been done on examining the role of cellular applications designed only for academic learning, because cellular applications are relatively new technology for academic purposes. As shown in A new review on trends in the study of cellular learning conducted [12] there were no studies conducted on cellular applications until 2010. Therefore, with this study, we aim to conduct more in-depth and thoughtful research on this topic in order to fill gaps in research related to the use of cellular applications in learning. . Specifically, we want to explore undergraduate students' perceptions of m-learning applications by conducting mixed methods of research [13].

3) Changing role of technology in learning: One issue encountered in conducting this research is that there is no clear definition of a smart phone. Clearly, nearly all cell phones have features beyond that of making phone calls. Nearly all cell phones can keep contact lists, calendars and lists of things to do. Most can sync with a computer. Does the definition of a smartphone begin when it can connect wirelessly with the Internet? Although many can, many users do not use their smartphones to transmit email and many people use substantial smartphone functions without using the Internet regularly. Generally, any cell phone that does more than making a phone call is considered a smartphone and can become a learning device [14]. For purposes of this research, generally anything that went beyond the functions of a phone call and could organize information was considered a smartphone although, at Seoul National University, virtually every student interviewed had a phone which connected to the Internet and had substantial Internet functions.

III. DISCUSSION

A. Smartphone-Based Learning Implementation

The initial stage in the implementation of smartphone-based learning is to make learning plans, so that they can determine learning methods and learning strategies that will be used in order to create a reactive learning process [15].

Implementation The learning process in the classroom assigns students to study related material to be used, the sources used are allowed from various sources. Such as repair manuals, modules, or search electronically using digital facilities such as smartphones [16,17].

The next step students are divided into 5 groups, assigned to make job sheets and video scenarios. Then take video (shooting) in accordance with the steps that have been determined, taking videos containing the procedures for adjusting, dismantling, measuring and reinstalling the motorcycle chassis components. After the video has been collected, the next step is editing the video and collecting it with the teacher, the video will be shown in front of the class while watching the other groups.

The evaluation is carried out through several stages, first the assessment of the other student group versions, the second video assessment by the teacher from and the last is the semester test to see students' understanding of the motorcycle chassis lesson.
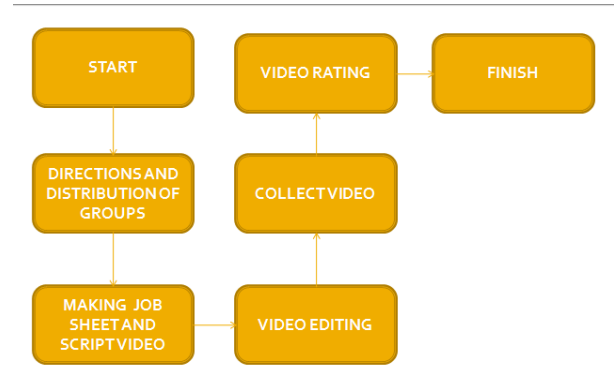

Fig. 1. Flow chat process videos making.

B. Smartphone Usage Behavior of Students

At present almost all students have smartphones, the use of smartphones by students themselves is rarely used to facilitate learning. Based on the results of a questionnaire on the percentage of smartphone usage on 26 students, which is getting 100% results students have a smartphone, 92% of students have a Facebook account, 38% of students have the ability to edit videos and 27% on the average intensity of smartphone use for learning.
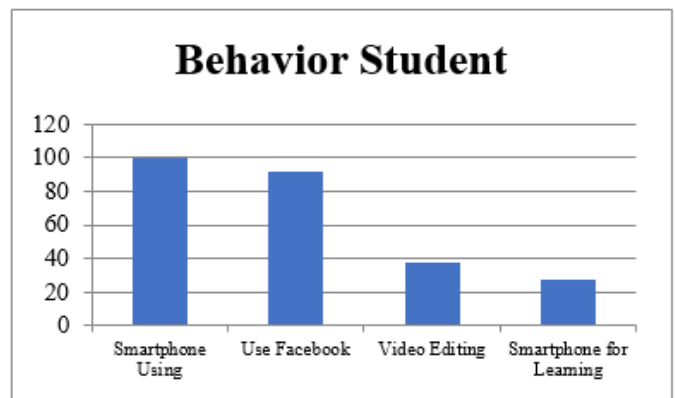

Fig. 2. Student smartphone use behavior.

IV. CONCLUSION

Based on the results of the implementation of smartphone-based learning shows a low value for learning needs, but after implementing the method, it shows in a good direction.

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