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Implementation of Instagram as a Blended Learning Media in Pneumatic Control System Learning Using the ADDIE Model

Tasma Sucita*, Achmad Ramdani, Wasimudin Surya Saputra, Maman Somantri

Universitas Pendidikan Indonesia
* *Email: tasmasucita@upi.edu*

ABSTRACT
During and towards the end of the pandemic, the government took a learning policy by requiring learning at home and at school. This makes students' understanding of the material taught reduced, so effective learning media is needed in order to support the learning process. One of these learning media is blended learning. The purpose of this study is to determine the implementation of Instagram media as one of the blended learning in Pneumatic Control System learning. This research method uses the ADDIE approach model (Analyze, Design, Development, Implementation, and Evaluation). Researchers used a social media application that is widely known to teenagers/students, namely Instagram. The Blended Learning policy used by the sample SMK is 50% learning from home and 50% learning at school. Data collection was carried out with questionnaires to determine student responses to the use of the Instagram social media application as a learning support. The results showed that the Instagram application deserves to be a medium to support learning and can increase the learning achievement of vocational students.

Keywords: *Instagram, social media, Blended Learning, Media Learning.*

1. INTRODUCTION

The era of the industrial revolution 4.0 causes information and communication technology to develop rapidly, so teachers are required to master various things related to Education and Technology. The Covid-19 pandemic has not completely disappeared, even though habits and habituation have begun in activities and learning at school. Therefore, learning in schools must also evolve from conventional systems to modern systems. Effective learning methods are used so that modern learning produces quality graduates and understands the material learned in school. Modern learning systems give rise to a variety of learning media based on Information and Communication Technology (ICT), one of which is by using the internet network [1]. Schools are educational institutions that have been severely affected by the Covid-19 pandemic, so schools must have strategies so that learning activities continue to run effectively. Blended learning policy as an effort by schools to carry out teaching and learning activities and efforts to protect all existing stakeholders [2]. Modern learning media is currently needed for the learning process to be carried out online and offline. In making learning media, teachers are expected to be able to make interesting media for students so that the material can be conveyed properly. Learning media must also be used to improve the quality of teaching and learning [3]. Now it is very important to use the internet network as a medium in the teaching and learning process. The range of services offered by the Internet can help academic endeavors, from media and business professionals to government and researchers. Instagram is one form of modern communication that is very rapidly growing from various categories and types that can meet the needs of the global community [4]. This is motivated by how easy it is for teenagers to use the internet, which can now be used for online learning. According to data compiled by DataReportal, there are 99.15 million users in Indonesia, which is equivalent to 35.7% of the entire population in Indonesia. 52.3% of the user reach audience is divided from female users, with the remaining 47.7% being male users. Based on the statement above, relevant learning media used in online learning while keeping up with the times is social media. Social media can be used as an innovative learning resource to support student independent learning, one of the social media that can be used is Instagram. Based on data from insidea, the

average Instagram user is a young user under 30 years old.

Instagram is also more attractive because of its higher engagement rate than other social media. This data is supported by Andi Saputra's research in 2019 which stated that the use of the Instagram platform became number two with a percentage of 90.91%, only one level below the most popular social media platform, namely WhatsApp [5]. Instagram is an interesting internet-based learning media to improve the quality of student learning on blended learning methods [6]. Instagram offers many features that can be used to support learning. If you want to upload lesson materials, teachers can make material designs or photos of materials to Instagram and can be seen by all students. Learning media is important for the teaching and learning process with Distance Learning. Therefore, social media can be used to support learning methods. The blended learning method or blended learning method can be used with social media platforms, namely Instagram. This Instagram social media application is used as a medium for learning that supports student learning in SMK on Pneumatic Control System subjects. The main reason for using a social media application such as Instagram as a means of supporting the learning process is the existence of E-Learning. Its use can be all circles, has an attractive and easy-to-understand appearance, and can be opened on a smartphone or a personal computer. Its features also greatly support the distance teaching and learning process. In addition, Instagram provides opportunities for students to experiment and develop their creative work to be uploaded on the platform. It can be a collaborative teaching and learning effort between teachers and students [7].

2. METHODOLOGY

The methodology used is a quantitative approach, where this method is suitable because data collection uses questionnaires distributed to respondents, namely students. This research uses the Instagram social media application by creating content containing subject matter that is ampu. The approach methodology used in this study is the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate).

This research uses the ADDIE approach model because the ADDIE approach model can be applied to the product creation process in the teaching and learning process, including the development of learning models, methodologies, media and teaching materials [8]. The purpose of the study is to make a product for learning activities, namely learning media by utilizing something that is often used by teenagers, especially students, namely by utilizing the Instagram social media application. To improve the final result, the process of developing a product in this case is a learning medium, it involves several stages of testing by a team of experts, individual research subjects that require a limited scale and large scale, after that modification, evaluation as well as assessment [9].

The research flow chart can be seen in figure 1.

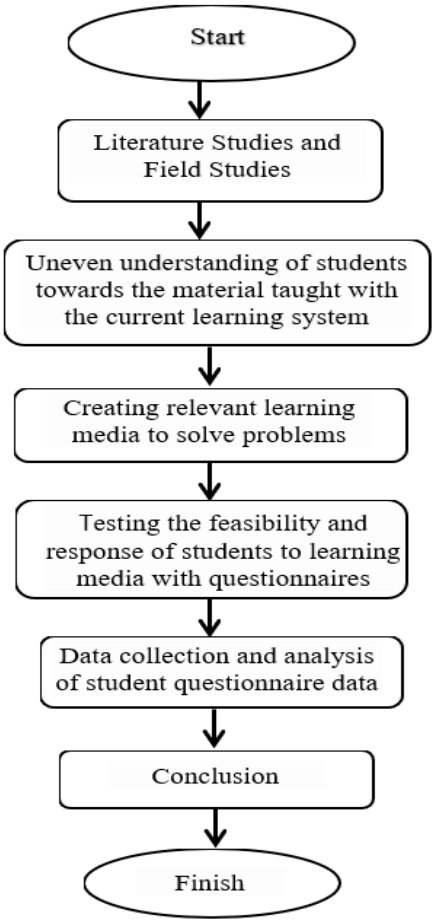

Figure 1 Research flowchart

This research uses the Instagram social media application as a learning support in Pneumatic Control System subjects. Instagram as a medium to help the teaching and learning process and learning resource for vocational students with a blended learning method during a pandemic. That way students who are carrying out distance learning with the Instagram live feature contained in the application, students will get the same theory, picture and practicum process as the real picture.

The description of the ADDIE model learning research analysis flow can be seen in figure 2.

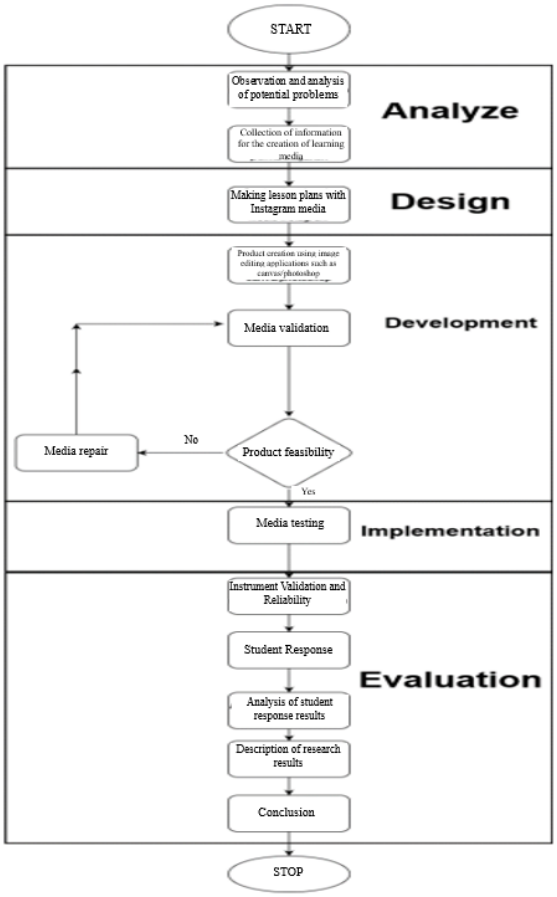

Figure 2 ADDIE model learning path

3. RESULTS AND DISCUSSION

The purpose of this study is to produce effective learning media for Pneumatic Control System subjects in SMK, so that in addition to knowing the feasibility of Instagram-based learning media through student responses, they can also find out learning outcomes after using these learning media. The development of the ADDIE model learning media has the following 5 stages.

3.1. Analyze

This analysis stage researchers collect information about the needs of learning media products to be made including student analysis and curriculum analysis.

3.1.1. Student analysis

Researchers analyzed students whether students have a platform that can be used to access learning media that will utilize the Instagram application, namely smartphones. The study was conducted on all grade XI TOI 2 students who have smartphones that can be used to access the Instagram application. This was obtained because researchers asked students whether they had an Instagram account or not. In the teaching and learning process, students who get a direct learning schedule at school get more understanding than those who carry out learning from home because when at home students are only welcome to fill out attendance and are given lectures from YouTube without further explanation from the teacher. Therefore, from the results of identification, the Instagram application can be used as a learning medium for grade XI TOI 2 SMK students.

3.1.2. Curriculum Analysis

The curriculum used in the Pneumatic Control System subject is the 2013 curriculum. In its implementation, it has not been optimal, especially for the blended learning method where there are students who learn directly at school and learn from home. The learning approach is a scientific approach, which explains the material sequentially with illustrations, images, videos and simulations with Fluid-SIM software and then implementation in the pneumatic trainer. Learning activities start from knowledge of types of pneumatic components, knowledge of circuit diagrams, planning the assembly of pneumatic components, and the assembly process based on working drawings.

3.2. Design

The design stage is to create a learning media storyboard by utilizing this Instagram social media which contains the initial design of making and using Instagram social media for vocational Pneumatic Control System subjects. Storyboard includes the suitability of the material with competence, the tools used, media product specifications that contain the features used, then the stage of content creation to the media

3.3. Development

The resulting product is visual media content that has been designed, containing material on the Pneumatic Control System, expertise in Industrial Automation Engineering SMK, which is then uploaded to the Instagram supporting application.

3.3.1. Display Learning Media utilizing the Instagram application.

Figure 3 Display of Instagram learning media

3.3.2. Arrangement of learning media on the Instagram application

3.3.2.1. Profile and Story Highlights

Figure 4 Display of Instagram learning media

Figure 4 shows the profile of the learning media account with the username @belajartoiasik, on the page there is a bio that shows the identity of this Instagram account for what. The profile section also shows Instagram story highlights that researchers use to store additional captions on material uploaded on Instagram feeds such as additional images and also save quizzes.

3.3.2.2. Feeds

Figure 5 Display of Feeds containing material design

Feeds on the Instagram application is a gallery that stores content uploads that have been made. Feeds are an important part of the use of the Instagram platform as an educational media product, namely learning media because the material in the Pneumatic Control System subject is made into an attractive design so that it can be read and understood by students and then uploaded on the Instagram application.

3.3.2.3. Caption

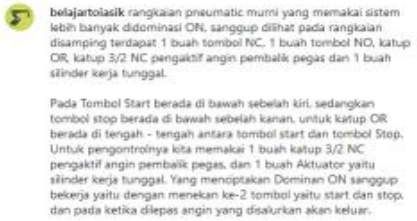

Figure 6 Caption Display

The caption feature is used by researchers to provide explanations for images or designs that have been uploaded to further clarify the delivery of material. This feature helps students so that the images seen do not raise many questions.

3.3.2.4. Instagram Features

Figure 7 Display of Live Instagram Feature

One of the features that researchers excel in this learning media is the live feature where we can broadcast directly the teaching and learning process, practicum implementation at school, so students who are getting a study schedule at home or are not healthy can still see the teaching and learning process and gain knowledge about the material being taught. In addition, the features on the live feature we can take advantage of the live with and live comment features when you want to interact with students who do not carry out learning at school.

3.3.3. Improvements to the Product

3.3.3.1. Add helper images using the story feature at each meeting

Figure 8 Before Repair

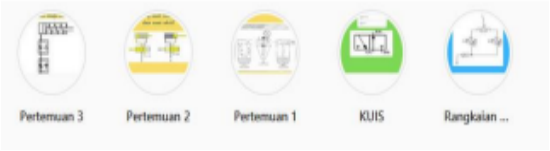

Figure 9 After Repair

3.3.3.2. Addition of Material

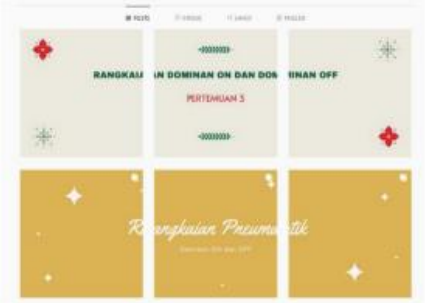

Figure 10 before addition

Figure 11 after addition

3.4. Implementation

Trials of learning media products were carried out to respondents at the implementation stage. The respondents involved in this study were 31 students of grade XI TOI 2 SMK.

The researcher explained in advance the learning media product by utilizing the Instagram application which contains material uploads that have been designed to support the learning of Pneumatic Control System subjects which are divided into 3 meetings.

Students who study from home or at school will be asked to open their respective Instagram accounts and look for the learning media account created, namely @belajartoiasik. After finding the learning media account, then students were asked to pay attention to reading and understanding the content of the material on the Instagram feed. Researchers will use the Instagram live feature to help students who are carrying out learning from home to still be able to get the same understanding of the material as those who are studying at school.

The next process, students pay attention to the content of material in the media, researchers carry out the teaching and learning process by giving explanations to each material that has been uploaded on Instagram learning media. After students understand each material that has been explained, students will be asked to fill out quiz questions through google form to find out student learning outcomes

3.5. Evaluate

This stage discusses the results of student responses based on the questionnaire distributed, but before being distributed after the trial, the questionnaire will be tested for validity and reliability first. The results of the study were responses from 31 students of grade XI TOI 2 when using the media that had been made.

3.5.1. Student Response Results

The students' responses to this study were taken from the results of a questionnaire containing 15 questions contained from four aspects. The questionnaire has gone through a validity and reliability test which was then distributed to respondents, namely students of grade XI TOI 2 SMK. Based on the questionnaire that has been distributed, it can be known the overall percentage of the four aspects contained in the research instrument, all aspects are as follows.

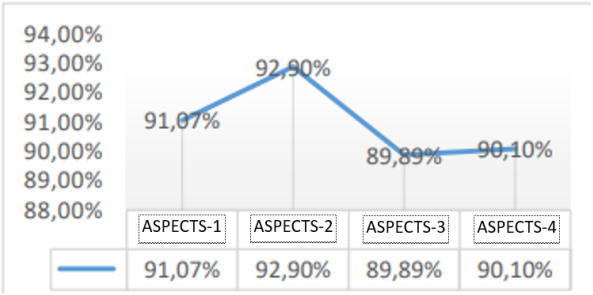

Figure 12 Student response to Instagram app usage

The chart above shows students' responses to the use of the Instagram application as a support in the teaching and learning process consisting of 4 aspects.

1. Knowledge of supporting applications, namely Instagram. The percentage obtained regarding the first aspect that discusses Instagram application knowledge is 91.07%. In accordance with the category of such values gets very good results. This aspect contains knowledge of what Instagram is to the ways and features that exist in the Instagram application.
2. Instagram features for the teaching and learning process, especially during practicum The percentage obtained about the second aspect of the features of the Instagram application is 92.90% and gets a very good category. The aspect that contains knowledge of Instagram features and their application in the teaching and learning process during practicum received a very good response. For this reason, students agree that the features owned by the Instagram application can help and be applied in the teaching and learning process.
3. Material Content on Instagram Learning Media. The third aspect that discusses content uploaded on the Instagram application gets a percentage of 89.89%. This percentage, even though it is under other aspects, still gets a good category. This aspect discusses the quality of the material content uploaded on the Instagram application from the ease of understanding the material and the accuracy of the language in the material content so that students understand the material presented.
4. Use of Instagram as a Learning Media. The last aspect discussed is about the use of the Instagram application as a learning medium for the teaching and learning process in schools. This aspect gets a percentage of 90.10% where this value is a very good category. It can be said that respondents agree that Instagram can be used as a learning medium for the teaching and

learning process, students also agree that they better understand the material taught using Instagram media and agree that the Instagram application becomes a new modern learning media.

Overall, the results of the response from students to the use of the Instagram application as a learning medium got an average percentage of 91%, the score was in the very good category. Therefore, the use of the Instagram application can be a learning medium that is worth using.

3.5.2. Student Learning Outcomes

Student learning outcomes in the Pneumatic Control System subject are seen before the use of learning media by utilizing the Instagram application and after using Instagram learning media. Students will fill out a pre-test quiz through google form before using learning using learning with Instagram, then after using learning media using the Instagram application students will fill out a post-test quiz. The results obtained will be compared to determine the success of learning media made to support the teaching and learning process. Comparative data on learning outcomes can be explained in table 1.

Table 1 Learning Outcomes Comparison Data

No	Information	Before using Instagram learning media	After using Instagram learning media
1	Top Rated	89	100
2	Lowest Value	70	80
3	Average	79,3	87,1
4	KKM	76,5	

Based on table 1, student learning outcomes before and after using Instagram application learning media got significant differences. Before using the Instagram application, he got an average score of 79.3 and after getting an average score of 87.1. The lowest score before using the Instagram application got a score that did not meet the KKM, after the teaching and learning process with the Instagram application the results were obtained all met the Minimum Completeness Criteria of (KKM) 76.5.

4. CONCLUSION

Based on the problems and results of research data analysis, the following conclusions were obtained:

1. In the process of making learning media using the Instagram application, it has several stages, starting from analyzing students and learning needs, making storyboards to determine the design, material content that students understand and the stages of making designs. At the stage of making the design, the selection of attractive design colors is very necessary to make it easier for the material to be conveyed properly. The next stage after the design is completed is uploaded on the Instagram learning media application.
2. The results of student responses as respondents obtained on the use of the Instagram social media application in the Pneumatic Control System subject showed very good results. The percentage value obtained from the entire aspect studied was 91%, thus students as respondents agreed that the Instagram application can be used as a supporting medium for the teaching and learning process both when learning from home and from school *(blended learning).*
3. Learning outcomes obtained after students use the Instagram application in the teaching and learning process get an average score of 87.1 and no students get a score below the Minimum Completeness Criteria (KKM), compared to the results before using the Instagram application where they get an average score of 79.3 and some students get a score below KKM. For this reason, it can be concluded that the Instagram social media application is worthy of being used as a supporting media in the teaching and learning process at SMK.

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