Development of Instagram Videos on Archimedes Principle Application Topic in Class XI MAN 3 Banda Aceh

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Abstract

Research of development on instagram videos on application Archimedes' Principal Application topic in MAN 3 Banda Aceh has been done. This is very interisting study, because almost of young generation using Instragram it as learning medium. The aim of this research is to verification of apropriateness instagram videos as source learning medium. Developing design using 4D (define, design, develop and disseminate) with qualitatif data. Accuisition and analysis data show substantial apropriateness 93,75 %, media 84,37 % and very apropriateness to used. In secondary aspec, lesson plan 97,22 % and student worksheets 98,61 % that showing this media is very apropriatenes as learning medium online and offline methode, also can using in other physics materials.

Keywords: Instagram Videos, Archimedes' Principal Application.

INTRODUCTION

The development of information and communication technology (ICT) in the era of globalization is increasingly rapid. ICT is a field of technology that far surpasses other technological discoveries. Its ability to process and disseminate the latest information without the limitations of space and time has had a major influence on human life, including in the field of education. ICT-based education offers many benefits, one of which is encouraging the educational community, including teachers, to be more appreciative and proactive in maximizing educational potential. One of the ICT innovations that is developing rapidly is the internet.

The internet has positive and negative impacts on students. The positive impact is the opportunity for students to access information that adds to their insight and knowledge. However, the negative impact is that students can easily access negative content and use social media without time limits, which reduces their learning time.

Social media is developing rapidly as a means of communication today. Social media has become an important need for society, especially students, who often use it on the street, at home and at school indefinitely. One social media that is popular among students is Instagram, which focuses on photos and short videos, in contrast to other social media which focuses more on text or status. Instagram allows students to follow the activities of their idols through photos and videos uploaded by these accounts.

Instagram can be used as a learning medium because students are more interested in learning using pictures or videos. Using Instagram as a learning medium is effective because the number of users continues to increase, and this can be useful for many people

besides high school students. Instagram provides facilities for sharing videos and photos, which is a good means of bringing situations from the outside world into the classroom so that it attracts students' interest in learning.

The advantage of Instagram compared to other social media is that it has more diverse photo and video features. Many teenagers' creativity, including students, are uploaded on Instagram, such as photos, videos, drawings, as well as memes or funny comics resulting from their creativity. Instagram can be accessed with various smart devices, including iPhone, iPad, or iPod Touch with the iOS 7.0 operating system or later, as well as various Android mobile phones with the operating system version 2.2 and above, and Windows Phone 8.

Instagram videos can be used as a learning resource for students. Through uploaded Intagram videos, students are expected to more easily understand learning material, such as the Archimedes' Principal Application. Learning messages can be more meaningful and information conveyed through this media can be understood completely, so that the information will be stored in long-term memory. Instagram videos in learning makes it easier to convey messages from teachers to students. The material that will be uploaded to the Instagram account is the role of Archimedes' Principal, which is difficult to explain without media or learning resources that attract students' attention.

Based on the description above, learning using Vidgram is expected to increase students' understanding of the learning process. Therefore, researchers will conduct research with the title **"Development of Instagram Videos Archimedes' Principal Application Topic in Class XI MAN 3 Banda Aceh."**

RESEARCH METHOD (

The research design used is Research and Development (R&D). The main objective of R&D is to develop Instagram Videos for class XI students at MAN 3 Banda Aceh and test the effectiveness of the product. It is hoped that the products resulting from this research can increase students' motivation and achievement in learning physics.

The research model applied is the 4D model (Four-D Models). This research involves lecturers as assessors and providers of suggestions to improve and perfect the products being developed. The stages of the 4D development model include the define, design, develop and disseminate stages.

The subjects of this research were all class XI students at MAN 3 Banda Aceh in the 2023/2024 academic year. The sample was selected using the Random Sampling method, namely random selection without considering the level of ability in the population. Data collection was carried out using a validation sheet. This validation sheet consists of several questions designed to obtain the information needed in the research. The types of validation sheets used include Instagram Videos feasibility assessment validation sheets, learning implementation plan validation sheets, and student worksheet validation sheets. The data analysis technique for the feasibility of this research videogram was carried out descriptively by paying attention to various aspects related to the design process, which included display format, material and media language presentation. Media suitability is assessed based on certain criteria expressed in percentages. This percentage is calculated using the following formula:

$$Eligibility\ Percentage = \frac{Score\ Obtained}{Maximum\ Score} \times 100\%$$

Table 1. Percentage Score for Media Appropriateness Assessment

No	Percentage Rate	Category
1	81-100	Very worthy
2	61-80	Worthy
3	41-60	Currently
4	21-40	Not feasible
5	0-20	Not really worth it

Validation of the feasibility of Lesson Plans and Student Worksheets is carried out by paying attention to related aspects such as display format, content and language presentation. The eligibility assessment criteria are expressed in percentages, which are calculated using the following formula:

$$Eligibility\ Percentage\ = \frac{Score\ Obtained}{Mximum\ Score} \times 100\%$$

Table 2. Percentage Score for Feasibility Assessment of Supporting Media

No	Percentage Rate	Category
1	81-100	Very worthy
2	61-80	Worthy
3	41-60	Currently
4	21-40	Not feasible
5	0-20	Not really worth it

RESULTS AND DISCUSSION

This research is a type of development research that is applied from the 4D model (Four-D Models). The stages of the 4D development model include the define, design, develop and disseminate stages.

Based on the results of the curriculum, material and situation analysis, it appears that interesting media and learning resources are needed for MAN 3 Banda Aceh students. Therefore, the researcher decided to develop a learning resource, namely instagram videos, especially on the topic on the Archimedes' Principal Application. The aim of this development is to motivate students to be more enthusiastic in learning.

The results of the design stage aim to produce a prototype of a physics learning video on the Archimedes' Principal Application topic, then the initial design of the learning tool produces an initial draft in the form of a logo and Instagram account name as well as learning media containing video material.

Next, in the development stage, first carry out an initial draft that has been prepared. Then the learning video will be validated by experts with the aim of producing comments and suggestions from the validator and revisions will be made based on input from the validator so that it will produce a valid learning video. The results obtained from the validation stage were based on Vidgram experts by 2 media expert lecturers, without any revisions.

The expert validation assessment supporting instagram videos media (student worksheets and lesson plan) was carried out by expert lecturers and revised 2 times. In the final stage of validation of the Lesson Plan media support, a feasibility value for all

aspects was obtained of 97.22% which was categorized as very suitable to be used as media support. Meanwhile, validation of student worksheets media support obtained a feasibility value of 98.61% which was categorized as very suitable to be used as media support.

The results of the disseminate stage of this research process are direct testing of the product or media that has been developed. In this case, the researcher carried out a instagram videos test on the material on the Archimedes' Law Application at MAN 3 Banda Aceh. However, due to time constraints it was not possible to implement instagram videos for students and it will be implemented by future researchers.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the research that has been carried out, it can be concluded that:

1. The Instagram application is an application that is very widely used by social media users today. So it is suitable to be used as a learning medium. The use of instagram videos in this research uses a 4D model (Define, Design, Develop, and Disseminate).
2. Instagram videos developed by researchers is a learning tool that has been validated by validators based on instagram videos experts by 2 media expert lecturers, without any revisions. The expert validation assessment supporting instagram videos media (student worksheets and lesson plan) was carried out by expert lecturers and revised 2 times. In the final stage of validating the lesson plan media support, a feasibility value for all aspects was obtained of 97.22%. Meanwhile, validation of the student worksheet media support obtained a feasibility value of 98.61%, which was categorized as very suitable to be used as media support.

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