

## Development Of Video-Based Learning Media Using the Tiktok Application in The Science Subject Of The Respiratory System Class VIII At Junior High School 5 Manado

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### Abstract

This research aims to: (1) Produce Tik tok-based science learning media that meets the criteria for being suitable for use. (2) Knowing the increase in student learning outcomes from the application of Tiktok-based science learning media. The method in this research is Research and Development following the stages of development research according to Brog and Gall as revised by Palilingan (2014) with the steps: (1) Planning, (2) Exploratory Study, (3) Development of Initial Product Form (4) Data Collection and Data Analysis Instruments, (5) Expert Product Validation consisting of media experts and material experts, (6) Revision based on Validation Results, (7) Dissemination. The results of this research show that: based on the assessment: (1) media expert validation obtained an average score of 86.45, including the Very Appropriate category (2) Material 1 (Lecturer) expert validation obtained a score of 189 with a percentage value of 82.17%. This value is included Very High category, while the assessment carried out by material expert 2 (teacher) obtained a score of 195 with a percentage value of 84.78%, where this value is included in the very high category (3) This Learning Media received a positive response from students with the achievement of learning outcomes The pre-test average was 51, with a Completion Percentage of 16%, while the post-test score showed an increase in the average score of 74.5 with a Completion Percentage of 88%. Also supported by question naire response 1 (teacher), a percentage of 95% was obtained. This percentage is included in the very good category. 2 (Students) the score achieved for the Strongly Agree (SS) category was 73%.

**Keywords: Development, Science Learning Media, TikTok Video.**

### INTRODUCTION

Education is an important aspect of human life. Currently, technology has developed rapidly and has a big influence in the world of education. One technology that is currently popular among teen agers is the Tiktok application. Tiktok is a video-based social media application that allows users to create and share short videos with catchy background music.

Education in Indonesia is increasingly developing when the intelligence of each student, which is indeed different, is appreciated and gets its own place. In this way, each student can develop according to his other strengths. In choosing or developing a lesson, a teacher needs to look at the condition of the school, the students and the material they will teach. Teachers can use interesting media as a tool to convey material. In using interesting media as a means of delivering science learning material, teachers need to pay attention to design principles such as attention-focusing tools, active target participation, feedback and limiting irrelevant material.

Schools as educational institutions must be able to keep up with technological developments so that the learning process becomes more interesting and effective. Therefore, developing video-based science learning media using the Tiktok application can be an alternative in improving the quality of learning in schools.

Video-based science learning media has been proven effective in increasing students' motivation, interest in learning and understanding in science learning. Apart from that, videos also enable students to learn independently, gain a more interesting and enjoyable learning experience, and develop critical thinking skills and creativity (Rasyid, et al., 2017)

A teacher should ideally take the initiative to use interesting, creative and innovative science

learning media in accordance with the independent learning curriculum, so that science learning objectives can be achieved. This is also adjusted to the development of students' needs, as well as developments in education-based technology and information. Innovative and creative science learning media can make students interested in participating in the science learning process. One way to overcome students' problems related to the ability to understand Indonesian language subjects, especially procedural text material, is by using innovative and creative science learning media such as social media TikTok (Muttaqin&Suarni, 2021).

In this case, the Tiktok application can be an interesting and effective alternative video-based science learning media. Tiktok is an application that is popular among teenagers and has interesting features such as background music and visual effects that can add appeal to videos. Using TikTok as a learning medium can be an interesting innovation and can increase students' interest in learning (Pea, et al., 2021)

Based on the results of observations and interviews with 3 teachers and 9 students, the use of Tiktok as a science learning medium is still rarely done in schools, especially at SMP Negeri 5 Manado. Therefore, researchers want to develop video-based science learning media using the Tiktok application as a science learning media at SMP Negeri 5 Manado and test the need and feasibility of science learning. It is hoped that this research can contribute to the development of science learning media that is more innovative and effective in improving the quality of science learning in schools. Apart from that, this research can also provide recommendations for developing better video-based science learning applications in the future.

## **METHOD**

The type of research that will be used is Research and Development which aims to develop Canva-based learning media. The research method used in this research refers to the Research and Development Model with the ADDIE model which consists of five stages, namely Analysis, Design, Development, Implementation and Evaluation because the research model and This development is more rational and more complete than other models according to product development steps. The ADDIE model was developed by Dick and Carry (1996).

Development research (Research and Development). that was developed in this research, namely: video-based science learning media using the TikTok application in the science subject of respiratory system material in class VIII of SMP Negeri 5 Manado. This research uses the Brog and Gall 7-step research and development (R & D) method developed by Palilingan (2014). The media developed is analyzed through data measuring student learning outcomes. Achieving learning outcomes is directed at individual achievement. Students are said to be successful (Completed) if they get a score greater than or equal to the KKM score ( $\text{Score} \geq \text{KKM}$ ). Student learning outcomes will be assessed before using learning media in the form of giving a 20 number test (Pre-test) and giving 20 number questions (Post-test) after using the learning media developed.

## **DISCUSSION**

This stage carries out a planning process that will support learning activities, which includes the process of identifying science learning objectives for Class VII SMP. The planning stage is adjusted to the sequence of development design, namely activity development, learning design, Tiktok learning media, teaching modules, and assessment instruments in accordance with the curriculum provided at school. and Writing learning activity plans

This stage is a process for creating a general science learning design by adapting it to the development product that will be produced. This is done so that learning activities take place systematically and have an impact on student learning outcomes.

After the Planning Stage, learning is carried out in the product planning stage which is expected to produce an initial form of TikTok-based learning media that will be developed. This stage is the stage of

realizing the initial form of TikTok-based Learning Media.

Preliminary Research to observe the place or school where the research is being carried out to see the need for developing learning media. Observations were carried out by conducting interviews with science subject teachers and students at school (Appendix 1). As a result of the interview, data was obtained regarding the learning process carried out using Tiktok media, which is something that has just been implemented at SMPN 5 Manado. At this stage, a literature review was carried out by collecting information on theories and research journals that support the development of TikTok-based learning media. learning analysis was carried out, a Tiktok-based learning media product was designed with the Respiratory System theme so that the product was expected to be able to improve the science learning outcomes of class VIII-I students at SMP Negeri 5 Manado.

The small group trial was carried out by teaching using TikTok-based learning media and after those distributing questionnaires to be filled out. The test subjects were students of SMP Negeri 5 Manado class VIII-I with a total of 15 students divided into 3 groups (group 1 with 5 students with high abilities, group 2 with 5 students with medium abilities, group 3 with 5 students with low abilities). Based on the data (Appendix 8), it can be obtained that the total number of respondents 1 – 5 gave varying responses to 11 indicators of the criteria for readability, language, appearance and mastery of concepts with the very suitable category (SS) 67.27%, the suitable category (S) 32, 72%, unsuitable category (TS) 0.01% and very unsuitable category (STS) none. From the calculation above, the percentage obtained is included in the quite valid category / does not need revision.

Media is a tool, while learning is a process or way of making people learn (Aji&Setiyadi, 2020).For example, integrated learning can be packaged with a theme about a discourse discussed from various points of view or scientific disciplines that is easily recognized and understood by students. In integrated science learning, a theme can be discussed from various fields of study, for example in the field of science studies the environmental theme can be discussed from the aspects of living things and life processes (biology), energy and its changes (physics), and matter and its properties (chemistry). Thus, through integrated science learning, several relevant concepts in a particular theme do not need to be discussed repeatedly in different fields of study, so that the use of time in science learning activities is more efficient and the achievement of science learning goals is also expected to be more effective.

Based on: (1) Expert validation results before carrying out learning media product research (2) Product trial results during the learning process

Based on the assessment of the quality of Tiktok-based science learning media products carried out by material expert 1 (lecturer), a score of 189 was obtained with a percentage value of 82.17%, where this score is in the very high category in the assessment of material in Tiktok-based science learning media products. Meanwhile, the assessment carried out by material expert 2 (teacher) obtained a score of 195 with a percentage value of 84.78%, where this value is in the very high category for assessing material in Tiktok-based learning media. In general, both assessments are included in the very good category.

Based on the teacher response questionnaire given to teachers, in order to provide an assessment of TikTok-based science learning media products, an average rating of 95% was obtained (good category).

1. Judging from student achievement after using science learning media products, it is said to have increased, seen from the percentage of completeness on the pre-test, namely 16% after carrying out the post-test using science learning media, with a percentage of completeness that is 88% and supported by the teacher response questionnaire which is at the percentage was 95% and students in the strongly agree category were 73%.

The findings obtained by researchers in this research and development have implications, especially for the quality of integrated science learning in junior high schools when using Tiktok-based science learning media products, including, by using Tiktok-based science learning media products, there has been a significant improvement before it was implemented (pre-test) using science learning media and after carrying out the post-test using science learning media. and Teachers in other fields of study can develop various more creative Tiktok-based science learning media to increase students' understanding of subject matter so that science learning objectives can be achieved and improve science learning in schools.

## Conclusion

The results of research on the development of Tiktok-based learning media have been carried out systematically and based on the results of the analysis and discussion carried out, it can be concluded that the results of this research are that the Tiktok-based learning media developed in this research is worthy of development and suitable for use in science learning activities at SMP Negeri 5 Manado, Analysis of the research results shows that the use of Tiktok-based science learning media is valid and practical and can improve student learning outcomes with a completion percentage of 88%.and Video-based science learning media using the Tiktok application for science subjects on the respiratory system at SMP Negeri 5 Manado is suitable for use.

## Suggestion

Based on the research results, researchers suggest:

1. It is recommended that this science learning media product be used in the teaching and learning process in the classroom to improve student learning outcomes.
2. The use of Tik Tok-based science learning media is interesting and is recommended for teachers to develop it further in other science materials and even in other subjects in order to obtain innovative learning media so that the material presented is easy for students to understand.

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