

## **THE NEED ANALYSIS OF THE DEVELOPMENT OF ANIMATION VIDEO-BASED LEARNING MEDIA ON PHYSICS EDUCATION STUDENTS**

**Revania Risang Ayu**

Program Studi Pendidikan Fisika, FKIP Universitas Siliwangi, Indonesia

Email: [nana@unsil.ac.id](mailto:nana@unsil.ac.id)

---

### **Abstract**

The purpose of this article is to analyze the need for developing learning animation videos in School Physics courses. This research is in the form of exploratory descriptive research. The subjects of this study were students of the Physics Education study program, Faculty of Teacher Training and Education, Siliwangi University Batch 2021. The sample was randomly selected from as many as 42 students. Data were collected by using observation questionnaire sheets in the School Physics lecture process. Observation results show that in school physics courses in the form of powerpoint slides and e-learning modules. The results of the needs questionnaire analysis show that students of the Physics Education study program, Faculty of Teacher Training and Education, Siliwangi University Batch 2021 need learning media that can direct them to be able to learn both independently and in discussions by repeating lessons whenever and wherever to access them in the form of learning media in the form of animated learning videos.

**Keywords:** Needs Analysis, Learning Media Development, Learning Animation Videos, School Physics.

---

## **INTRODUCTION**

Science and technology are developing from time to time. This causes human needs to increase. Humans need to be required to answer the challenges of the times. By developing human resources, it is one of the answers to the demands of the era (Kurniawan et al., 2022). It is hoped that humans can compete in answering these challenges. Human resource development can be done in the field of education. Education is very important to support life in the future. This is because humans will always face the dynamics of life with intense competition. Humans must become reliable individuals to be able to face all the challenges of the times without any doubts in them (Saputra, 2020)

Education is a process to develop the potential that exists in students with the hope that they will be able to face the challenges of the times in the future (Masni, 2018). Education aims to produce educated and quality human resources. Good learning activities will produce good quality education as well. This means that the quality of education must continue to be improved in order to produce quality human

resources (Mayoni et al., 2020). To support the improvement of education, one of them is by using learning resources. Learning resources are all things that are used by a good language to obtain learning. *The Association for Education and Communication Technology* (AECT) defines that learning resources are all sources, both data, people, and objects used by students independently or in groups to provide convenience in learning (Force, 1977). More specifically, learning resources can be interpreted as everything that is developed according to a systematic curriculum that contains knowledge (Oka et al., 2022).

Learning is said to be successful if there is a change in learning behavior in students. The learning changes relate to changes in the knowledge, attitudes, and skills of students. When conducting learning, educators convey certain methods, designs, and learning resources to achieve learning objectives (Emda, 2018). Besides being delivered by educators, this learning activity can be supported by learning media such as books, journals, modules, PPT, radio, video, and laboratories. It is hoped that with the use of learning media, learning becomes more effective and efficient while still emphasizing the learning process. We can conclude that learning media has the main goal of helping students learn (Hendriyani et al., 2018).

In order to find out the needs of students in learning, it can be done through needs analysis. This is in line with statement 4 that in preparing learning, needs analysis is needed. There are two types of needs for students (Hutchinson & Waters, 1987). The first is target needs and the second is learning needs. Target needs mean everything that is needed by students in certain target situations. The learning need is everything that students want in learning. In addition to these two methods, there are other ways to analyze the needs of students. The method is collecting information about the objective and subjective needs of students. Collecting information regarding the needs of students' objects can be done by collecting data on exam results and assignments, observing daily students, consulting educators and students directly. The subjective needs of students can be done by means of *self-assessment* using *lists* and scales, questionnaires and interviews (Supiana et al., 2019)

School physics is a compulsory subject in the Physics Education study program, faculty of teacher training and education at Siliwangi University. This course has the code KJ84203207. School Physics courses are entered in the odd semester of 2022 with a weight of 3 credits. The purpose of this course is that students are expected to be able to carry out learning in schools in accordance with competency standards and related basic competencies. The purpose of this study is to determine the learning media that needs to be developed in basic physics courses. It is hoped that this research can provide results in the form of information regarding teaching materials that need to be developed in this course so that they can be used to improve student understanding.

## RESEARCH METHODS

This research is an exploratory descriptive study which was conducted from 27 October 2022 to 1 November 2022 at Siliwangi University. The research subjects are students of the Physics Education Study Program class of 2021, Faculty of Teacher Training and Education. The sample was randomly selected from as many as 42 3rd semester Physics Education students who were contracting School Physics courses. The data were collected using the observation sheet of the school physics lecture

process and questionnaires. The observation sheet for the analysis of the needs for the development of teaching materials includes the following questions.

1. Based on the views and observations during the School Physics lecture, how do students respond to the learning process in the classroom?
2. What are the obstacles in implementing the School Physics course?
3. How is the lecture strategy applied to School Physics lectures?
4. What are the learning materials that the School Physics course has used?
5. What is the scope of material in school physics courses?

The analysis of the need for a questionnaire development of teaching materials for students contains the following questions.

1. Do you have difficulty while studying physics at school?
2. If the answer to number 1 is "yes", in what material did you experience problems in your school physics course?
3. What learning strategies are applied to School Physics lectures?
4. What learning resources do you use when taking School Physics courses?
5. Is the learning media that you are currently using easy to understand?
6. What kind of learning media do you want in school physics courses?
7. What is your suggestion for the development of learning media in a School Physics course?

## **RESULT AND DISCUSSION**

### **A. Do you have difficulty while studying physics at school?**

Based on observations, observations, student reactions to the learning process in the classroom were still less enthusiastic. Many students turned out to have problems when taking School Physics courses. From 42 respondents, 37 students stated that they had problems. This causes their enthusiasm to sometimes decrease.

### **B. If the answer to number 1 is "yes", in what material did you experience problems in your school physics course?**

Based on the questionnaires that have been distributed to students of Physics Education class 2021, they stated that they had difficulty in one of the School Physics materials. 28 students stated that they had difficulty learning Thermodynamics material. According to them, the material is so complex that it is difficult to get a picture of it. Text and PPT learning resources are still insufficient to provide an overview of several learning materials, one of which is Thermodynamics.

### **C. How are the learning strategies applied in School Physics lectures?**

Based on the results of observations, observations, questionnaires, in school physics learning using learning strategies using lectures and discussions. At the beginning of the lesson, the teacher explains in advance about the learning objectives and the learning flow. After that the students will study in groups. According to respondents, they will discuss completing the School Physics course assignments at each meeting.

### **D. What learning resources do you use when taking School Physics courses?**

Based on the results of observations, observations, questionnaires, in school physics learning using teaching materials in the form of PPT and teaching modules, sometimes videos that are relevant to lessons from YouTube are given. They can access PPT reading materials and modules via the google drive link.

The reading is in the form of a discussion and explanation of the concept of physics in the material being studied.

**E. Is the learning media that you are currently using easy to understand?**

Based on the results of observations, observations, questionnaires, and learning media used in School Physics courses, it is said that there is a need for improvement. It is expected that students can better absorb the physics material being studied. In particular, the physics material which according to the respondent has a high level of difficulty, learning media in the form of reading material is considered less effective. According to them, the reading material does not provide an understanding of the physics material being studied.

**F. What kind of learning media do you want in school physics courses?**

Based on the results of the questionnaire, 37 out of 42 respondents said that they needed interactive learning media based on animated videos. They also mentioned some aspects that they would suggest if they were going to make an animated learning video. Some of their suggestions include:

- Color selection should not be too excessive, use colors that are continuous throughout the video.
- Font size and color must have high legibility.
- The video display is not too full of words.
- Using animated characters to make the video look attractive.
- Use moving animations, not just pasted images.
- The presentation of the material should be coherent according to the sub material.
- The intonation in conveying the material should not be too fast nor too slow.
- Videos should be accompanied by examples of questions and their discussion.

**G. What is your suggestion for the development of learning media in a School Physics course?**

From the questionnaire data, respondents suggested that the learning media in the School Physics course be made more varied and interesting. One example is making an animated learning video. Respondents said that in the School Physics course, they studied high school physics. They really hope that there is an animated learning video to support school physics learning when studying high school physics material. It is hoped that the animated learning videos will be made by taking into account the aspects mentioned in the 5th point of this discussion.

## **CONCLUSION**

The result data is based on research. Keywords: animated video learning for School Physics courses in the Department of Physics Education, Faculty of Teacher Training and Education, need to be developed. The learning animation video was chosen because it can facilitate students in learning, both in class and independently. It is hoped that with the development of this learning animation video, which aims as a learning medium, students can carry out physics learning more easily and directed and can be listened to again independently outside of lecture hours.

## **BIBLIOGRAPHY**

- Emda, A. (2018). *Position of Student Learning Motivation in Learning*. *Lanthanide Journal*, 5 (2), 172.
- Force, A. T. (1977). The definition of educational technology. *Association for Educational Technology*.
- Hendriyani, Y., Delianti, V. I., & Mursyida, L. (2018). Analisis kebutuhan pengembangan media pembelajaran berbasis video tutorial. *Jurnal Teknologi Informasi Dan Pendidikan*, 11(2), 85–88.
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes*. Cambridge university press.
- Kurniawan, D. A., Jaya, H., & Husna, S. M. (2022). Analysis of Teacher Responses to the Use of Web-based Assessment to Assess Students' Attitudes towards Science Subjects. *Integrated Science Education Journal*, 3(3), 66–71.
- Masni, H. (2018). Urgensi pendidikan dalam mengembangkan potensi diri anak. *Jurnal Ilmiah Dikdaya*, 8(2), 275–286.
- Mayoni, M., Rahayu, Y. P., & Maspaitella, M. R. (2020). Analisis Pengaruh Tingkat Pendidikan, Keterampilan, Upah Dan Umur Terhadap Lama Mencari Kerja Pada Tenaga Kerja Terdidik Di Kabupaten Manokwari. *JFRES: Journal of Fiscal and Regional Economy Studies*, 3(1), 1–9.
- Oka, I. G. A. A. M., Yuniar, D. C., Purwaningtyas, D. A., & Azzahra, N. (2022). Analysis of Saturated Capacity on the Runway Based on Advisory Circular 150/5060-5 As a Study Material for Airport Management Learning. *Journal of Innovation in Educational and Cultural Research*, 3(3), 373–381.
- Saputra, A. (2020). Pendidikan Dan Teknologi: Tantangan Dan Kesempatan. *Indonesian Journal of Islamic Educational Management*, 3(1), 21–33.
- Supiana, S., Hermawan, A. H., & Wahyuni, A. (2019). Manajemen Peningkatan Karakter Disiplin Peserta Didik Melalui Kegiatan Ekstrakurikuler. *Jurnal Isema: Islamic Educational Management*, 4(2), 193–208.

**Copyright holders:**  
**Revania Risang Ayu (2022)**  
**First publication right:**  
**AJHS - Asian Journal of Healthy and Science**



**This article is licensed under a Creative Commons Attribution-ShareAlike 4.0 International**