DEVELOPMENT OF INTERACTIVE LEARNING APPLICATIONS USING *ARTICULATE STORYLINE* APPLICATIONS IN LIGHT SUBJECTS AND OPTICS SMP/MS

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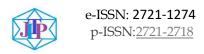*fikri@iainkudus.ac.id*

ABSTRACT

The purpose of this research is to develop an Articulate Storyline-based learning application on Light and Optics so that it can help make learning more interesting and fun. With this application, it is hoped that students will be more interested and understand more about the material and concepts of Light and Optics. The type of research that the author uses is research and development R&D, which is the process used to develop and validate educational products. We conclude that the application that we make is interesting and the questions and sample questions that we provide already cover the material discussed and are easy to understand, it's just that there needs to be improvements or developments regarding design and color changes, icons that need to be aligned.

Keywords: Articulate Storyline, Light and Optics, interesting.

INTRODUCTION

The development of science and technology in learning increasingly encourages teachers to have the ability to innovate educational materials through the use of technology to improve student learning outcomes. The use of interactive teaching materials is one way that teachers can use to increase students' desire, interest, and motivation to participate in the learning process. Especially in the era of globalization, education must also follow the development of world civilization.

Learning is a teacher activity programmed into instructional design for active student learning, with an emphasis on providing learning resources. Learning Resources are materials that include learning aids, teaching aids, play tools to provide different information and skills to children and adults who act as facilitators for children in the learning process. Technological advances in all fields, one of which is the field of communication and information technology today, interactive learning media has a central place in the learning process and is not just a tool. Interactive learning media plays a very important role in making learning activities more effective and efficient. The use of media in learning is very important, because together with the media it can arouse students' desires and interests, arouse learning motivation and have a psychological impact on students. Media is a learning program with fun learning principles. According to Dryden and Vos once said that the spirit of learning arises when the atmosphere is pleasant and learning occurs when the atmosphere is pleasant and learning is

effective when someone is in a pleasant learning state. (Nurjati 2020).

The science of light and optics is a college-level subject (junior high school). Light and optics is one of the scientific documents that requires various media to provide material so that students can understand it. Students find it difficult to understand the concepts and apply examples of questions that ereda in the document. To overcome this, media is needed that can make it easier for students to understand these concepts by using existing technological developments through Android so that using Android can be more educational. Students can use applications downloaded through Android to learn more about materials related to light and optics. With this application, students are expected to be more interested and better understand the material and concepts of light and optics. (Pratomo and Irawan 2015).
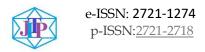
One way of learning that can help teachers create learning that is more effective and efficient is interactive learning. (Priyambodo, et al., 2012). Interactive media can be designed through software, especially Articulate Storyline. Articulate Storyline is software that acts as media or presentation. Learning materials using this software are not as interesting as other learning materials. The Articulated scripting application has advantages including simple rendering like Power Point full functionality like Flash so you can animate. This Articulate script also provides templates that can be used for interactive media, especially for loading test questions and exercises. In addition, this program also makes it easy to use for online or offline delivery so that it can be formatted onto a personal page word processing CD and LMS. The application can also help provide physical material that is astringent or confusing. One of the difficulties in learning physics is that not all material can be learned through direct experience and using passive media is less interactive so that students find it difficult to understand and easily understand.

Based on the description above, it is necessary to develop an interactive teaching aid for Light and Optics subjects as an alternative learning for students and of course in accordance with the times. So the purpose of this research is to develop a story erasis learning application that follows a pattern on light and optics material that can make learning more interesting and fun. (Chotimah 2018).

METHODS

The type of research that the author uses is research (*Research and development* R&D) is a method used to develop and validate a product in education. According to Sukmadinata (Sukmadinata 2008) explains that research and development (R&D) is a research approach to making a new product and improving existing products.(Novrianti 2016).

This learning application uses the 4D model which includes *define*, *design*, *develop* and *disseminate* steps. The data sources in this study were 13 junior high school students and 1 junior high school teacher. One media validator came from a lecturer in the Media Development and ICT courses of IAIN Kudus Science Study Program.

The steps in making learning applications on light and optical materials are described as follows:
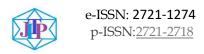
- *Define*. The *define* stage is conducted to ensure and describe the learning requirements. The *define* stage includes several things, namely analyzing the curriculum, interviewing junior high school science teachers related to what subjects students find most difficult to understand, determining KI KD, concept analysis, and formulating learning objectives.(Rajagukguk et al. 2021)..
- *Design*. At this stage the author designs a design that is used in the application(Koerniawan and Kholifah 2016). In addition, the author also looks for materials, supporting images, and animations that will be used.(Anam and Choifin 2017).
  Development. This stage includes validation testing and practical testing. The author asks for input, suggestions and criticism from validators and junior high school students which are used as material to improve and revise the application products that have been made. Practicality is carried out to determine the extent of the impact and ease of use and the level of practicality in the use of learning applications on light and optical materials by students.(Musril, Jasmienti, and Hurrahman 2020)..
- *Disseminate*. This dissemination stage is carried out to disseminate the results of science learning application products that have been made to teachers and junior high school / MTs students so that they can be accepted and used by users, both individuals, groups and systems.

The data collection instrument used in this study to test interactive learning media applications in the form of google forms given to teachers and junior high school students to find out student responses to interactive learning applications that have been used. The data information obtained is then analyzed to be processed and described.(Rambe 2019).

RESULT & DISCUSSION

A. Stages or Process of Application Development

In making learning applications with interactive media, we take several steps in the manufacturing process. As is done in other studies, we do reseach first by analyzing the potential and problems that exist in schools experienced by students and teachers. We are looking for problems in schools that become complaints of students, namely difficulties in digesting the learning provided by the teacher, from this we find several lessons that are considered difficult for students including light and optics (Abrar and Amalia 2017). Students do not understand the delivery of material provided by the teacher. With this we make learning media so that it can be useful for teachers and students in explaining and mastering the material presented. Then we collected data by coming to the nearest school to analyze and ask teachers and students about the learning model applied at the school and the students' ability to digest the material provided, after the data was collected we made several questions about the problems that occurred at school, including what learning was difficult for students to accept? What learning is not liked by students? How do teachers deliver learning that students don't like?

With the interview data we get, we get the results that the learning that

students are less interested in is physics subjects with light and optics material, besides that the teacher is also still struggling with how to convey this difficult material to his students. Then using google forms that are disseminated via whatsapp with the aim of respondents are 7th grade students and science teachers. To test the effectiveness of the application we made (Abrar and Amalia 2017).

Validation test and practical test. The author asks for input, suggestions and criticism from validators and junior high school students which are used as material to improve and revise the application products that have been made (Prasetyo and Ginting 2020). Practicality is carried out to determine the extent of the impact and ease of use and the level of practicality in using learning applications on light and optical materials by students.

Design improvements are made after the validator provides suggestions and criticisms on the application we made, in this design improvement we need to add several components to our application to make it more attractive (Batubara 2018).

The limited test was carried out by the author by holding a meeting with the validator to discuss the contents of the application we made, the author also visited the high school teacher regarding the content of the material we presented in the application we made before being tested widely to students (Prasetyo and Ginting 2020).

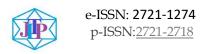B. Student and Teacher Response to the Application

In making this application we tested it on junior high school class students and teachers, we used google forms to spread the quesiner and the application we made, in this system we shared the final results of the application we made and asked respondents to fill out a form via google form containing questions about the application we made from the distribution of the forms we made the following results:

The first is about the appearance of the application we made from the distribution of forms that we made 73.3% of respondents stated that the application we made was interesting and 26.7% of respondents stated that it was quite interesting with a note that the colors presented were too monotonous with brown and black colors only (Jatmiko and Fiantika 2017).

Then from the material we present it can be said to be interesting with a response from respondents of 53.3% and said to be quite interesting with a result of 46.7%. The sample questions we provide have covered the material discussed with a response of 73.3% while those who stated that they were sufficient to cover the material discussed were 26.7%.

The discussion in the example questions we made was easy to understand with a response of 66.7% and quite easy to understand as much as 33.3%. The material we present helps respondents in understanding the material with a response of 86.7% and quite helpful as much as 6.7% and not helpful as much as 6.7%.

The application we made can be said to be feasible as learning material with several considerations seen from the results of respondents' responses with 46.7% feasibility and 53.3% quite feasible to use. The application that we developed can be said to be feasible but there is a need for further development as a learning tool where from the results of the form that we distributed to respondents 93.3% stated

that there was a need for development and 6.7% of respondents said no (FEBRYANTI 2021).
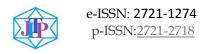
In this case we conclude that the application we made is interesting and the questions and examples of questions that we provide already cover the material discussed and are easy to understand, it's just that there needs to be improvement or development regarding design and color changes, icons that need to be harmonized.

CONCLUSION

The utilization of a medium in learning is very important to use, because with the media it can arouse students' desires and interests, arouse learning motivation, and have a psychological influence on students. To overcome this, media is needed that can make it easier for students to understand these concepts by utilizing existing technological developments through Android, so that the use of Android can be more useful in terms of education. one of the learning media that can help teachers in creating more effective and efficient learning is using interactive learning. So from that we writers make applications that can help teachers and students in explaining and understanding the material, from the data above we can conclude that the applications we make are interesting and the questions and examples of problems that we provide already cover the material discussed and are easy to understand, it's just that there needs to be improvement or development regarding design and color changes, icons that need to be harmonized.   with   this research the author expects suggestions and criticism from readers as ordinary people should not escape from mistakes, therefore we ask for constructive criticism for the success of the research we do.

BIBLIOGRAPHY

r, Andi Ika Prasasti, and Mitha Utami Amalia. 2017. "*Application of Cognitive Strategies to Improve Students' Ability to Understand Logarithm Learning Materials in Class X Mathematics and Natural Sciences (MIA) 5 SMA Negeri 2 Palopo.*" MaPan: Journal of Mathematics and Learning 5 (1): 45-67.

n, Khairil, and Mochamad Choifin. 2017. "*Implementation of the Four-D (4d) Model for Learning Multiplatform Applications for Classifying Animals Based on Their Food.*" Teknika: Engineering and Science Journal 1 (2): 111-16.

bara, Hamdan Husein. 2018. "*Development of Android-Based Mathematics Learning Media for Elementary / MI Students.*" Muallimuna: Journal of Madrasah Ibtidaiyah 3 (1): 12-27.

imah, Umi. 2018. "*Development of Interactive Multimedia Based on Articulate Storyline to Increase Student Learning Motivation in Civics Class XI at Srijaya Negara High School Palembang.*" Bhineka Tunggal Ika: Review of Civics Education Theory and Practice 5 (1): 52-65.

RYANTI, RIRIN. 2021. "*Analysis of the Response of Class X MM Students of SMK Negeri 1 Pacitan to the Use of Quizizz as an Evaluation Media in Simdig Subject.*" PhD Thesis, STKIP PGRI PACITAN.

ko, Jatmiko, and Feny Rita Fiantika. 2017. "4D Learning Tools A Track Record of the Process of Creating 3D Portfolio Animation Video-Based Learning Tools." *Journal of Math Educator Nusantara: A Vehicle for the Publication of Scientific Papers in the Field of Mathematics Education* 3 (1): 22.

niawan, Iwan, and Siti Kholifah. 2016. "Development of National Culture-Based Mobile Learning Application (BIMAYANA) for Financial Accounting Course Learning." *Upgris Informatics Journal* 2 (2).

ril, Hari Antoni, Jasmienti Jasmienti, and Mifta Hurrahman. 2020. "Implementation of Virtual Reality Technology in Computer Assembly Learning Media." *National Journal of Informatics Engineering Education: JANAPATI* 9 (1): 83-95.

rianti, Novrianti. 2016. "Development Techniques and Evaluation of Interactive Multimedia-Based Learning Programs." *Educative Journal: Journal of Educational Studies* 1 (1): 45-60.

ati, IAIN Sheikh. 2020. "Interactive Learning Based on Articulate Storyline 3," 84-92.

etyo, Gihari Eko, and Nurlia Ginting. 2020. "Development of Learning Media Using the Adobe Flash Method Using the 4-D Model on Local Wisdom of Langkat Malay Culture in the 2019/2020 Academic Year." *Journal of Syntax* 2 (1): 93-102.

mo, Adi, and Agus Irawan. 2015. "Development of Web-Based Interactive Learning Media Using the Hannafin and Peck Method." *Positif* 1 (1): 14-28.

gukguk, Kiki Pratama, Renni Ramadhani Lubis, Jihan Kirana, and Novi Sri Rahayu. 2021. "Training on 4D Model Learning Media Development for Elementary School Teachers." *Journal of Community Service* 2 (1): 14-22.

be, Pangadilan. 2019. "Development of Innovative Learning Applications in Web-Based Arabic Language Learning." *Arabi: Journal of Arabic Studies* 4 (1): 55-64.