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## Implementation E-Module Physics Base I Based Kvisoft Flipbook Maker

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### Abstract

The development of this e-module was motivated by students' difficulties in understanding particle dynamics material. This research aims to produce a Basic Physics I e-module on particle dynamics and to determine student perceptions of the Basic Physics I e-module on particle dynamics that was developed. This type of research is (research and development) with the ADDIE development model which includes analysis, design, development, implementation and evaluation. The subjects of this research were 2016 PGMIPA-U Physics Education students at Jambi University. The research instruments used were media expert validation questionnaires, material expert validation questionnaires and student perception questionnaires. The results of the questionnaire trial showed that there were 16 valid statements and one invalid statement. The reliability value obtained was 0.898 in the very high category. Furthermore, the results of research on student perceptions obtained data covering 3 aspects, namely aspects in the good category. Based on the results obtained in the research, it can be concluded that the development of an e-module for Basic Physics I material on particle dynamics based on kvisoft flipbook maker is very suitable for use as a teaching material in the Basic Physics I subject on particle dynamics at Jambi University

Keywords: E-modul; Kvisoft Flipbook Maker; Physics

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## INTRODUCTION

Education is an individual learning process to achieve knowledge and higher understanding of certain and specific objects (Basilus, 2015). Based on definition the, can said that education is process learning carried out by a person or group of people with the aim of change method think, behave And behave sake his maturation And person other. The teaching and learning process will be maximized if adequate facilities and infrastructure are provided adequate in assisting student learning activities. One of the components that influencing learning activities is the use of learning resources and teaching materials.

Material learning is something which is presented lecturer For processed and understood by students in order to achieve the learning goals that have been set (Sumantri, 2015). The aim of teaching materials is to help students gain knowledge alternative material teach (Hasanah, 2012). Source Study is all something Which There is around environment activity Study Which in a way functional can used For optimization results Study (Ministry of National Education, 2008). For reach objective learning, quality teaching materials are needed. Teaching materials currently used in courses Physics Base I that is book print. Weakness book print between other Difficult give guidance to its readers who have

difficulty understanding certain parts of the printed book (Supriyo, 2015), It is difficult to provide feedback for questions that asked that has many possible answers or questions that require answer Which complex and deep, inclined used as memorization.

Based on initial observations from distributing questionnaires to 15 education students Physics 2014 which has contracted the Basic Physics I course obtained 80% student consider that material dynamics particle That difficult, obtained information difficulties Which experienced student the among them that is material teach Which used not enough interesting, material teach Which used No elaborate in a way detailed declines the formula, how difficult it is understand applications from law Newton, there is a lack of animations, simulations and videos that can make things easier students in understanding the concept of particle dynamics material. Modules and learning materials which is systematically designed based on a certain curriculum and packaged in a form unit learning smallest And possible studied in a way independent in unit certain time (Purwanto, 2007). Modules are a form of material-based teaching print Which designed For Study in a way independent by student Because That module be equipped with instruction For Study Alone (Ashhar, 2012).

Module electronic is a form of presenting independent learning materials that are systematically arranged into units smallest learning to achieve certain learning objectives presented in electronic format which includes animation, video and simulation (Sugianto, 2013). A module will meaningful if student can with easy use it (Majid, 2013). Module electronic is something module based ICT, the advantages compared to with module print is its nature Which interactive possible displays/loads images, audio, video and animation and is equipped with formative tests/quizzes which allows immediate automatic feedback (Suarsana & Mahayukti, 2013). Making material teach Which form module electronic This use software kvisoft flipbook maker , the reason why researchers chose this software is because of this software has the advantage that the resulting teaching materials can be inserted with images, videos, animations, and simulation.

## RESEARCH METHODS

The research carried out is research and development (R&D). Research and development is a research method used to produce certain products, and test the effectiveness of these products (Sugiyono, 2012). Research and development (R&D) is a research method used to develop or validate products used in education and learning (Sugiyono, 2012). The learning system design model used in research and development of teaching materials in the form of electronic modules on particle dynamics in Basic Physics I learning is the ADDIE development model. The procedure for developing teaching materials in the form of electronic modules for the Basic Physics I course according to Branch (2009) uses five development stages, namely Analysis, Design, Development, Implementation and Evaluate. Before proceeding to the next stage, there needs to be validation from material experts and media experts. The following is a grid of validation instruments that will be carried out by material experts and media experts.

The trial subjects for this development research were students who had contracted the Basic Physics I course. The types of data taken in this research were qualitative data and quantitative data. The instrument used in this research was a questionnaire. According to Sugiyono (2012) a questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents for them to answer. According to Sugiyono (2016) a valid instrument means a tool

The measure used to obtain data (measure) is valid. Valid means that the instrument can be used to measure what it wants to measure. Arikunto (2010) Broadly speaking, there are two types of validity, namely logical validity and empirical validity.

## RESULTS AND DISCUSSION

The results of this development research are in the form of an e-module Basic Physics I teaching material based on particle dynamics on Kvisoft Flipbook Maker and student perceptions or responses to the use of teaching materials in the form of an e-module Basic Physics I material

on particle dynamics based on Kvisoft Flipbook Maker which was obtained through a questionnaire conducted given to students. The following is the initial design of the e-module being developed:



Picture 1. Initial design e- module Physics Base I Dynamics material Particle



Picture 2. Design end e- module Physics Base I material Dynamics

Table 1. Results of Validation I and Validation II in terms of e-module material

Aspect	Indicator	Items	Validation I		Validation II	
			Yes	No	Yes	No
Achievement of material with learning objectives	Suitability of the description of particle dynamics material	1	√		√	
	with competency standards (SK) and basic competencies (KD)	2	√		√	
The truth of the material in terms of concepts and theories		3	√		√	
	The depth of matter of particle dynamics	4		√	√	
	Accuracy of particle dynamics material in the module	5	√		√	
Actuality of material to target conditions		6	√		√	
	The relationship between particle dynamics in everyday life	7	√		√	
Accuracy of examples with	The relationship between particle dynamics material and problems	8	√		√	

material and target conditions		9	√	√
	Accuracy in selecting images, simulations, animations and videos for particle dynamics material	10	√	√
		11	√	√
		12	√	√
Systematic presentation	Clarity of presentation of particle dynamics material	13	√	√
		14	√	√
		15	√	√
Grammar and delivery	Explanation of particle dynamics material	16	√	√
		17	√	√
	Accuracy of language use in the electronic module of particle dynamics material			

Table 2. Results of Validation I and Validation II in terms of e-module media

Aspect	Indicator	Items	Validation I		Validation II	
			Yes	No	Yes	No
Format	Appearance layout/visuals	1	√		√	
		2	√		√	
		3	√		√	
	Design system location fill	4	√		√	
		5	√		√	
		6	√		√	
		7	√		√	
		8	√		√	
Organization	Accuracy placement picture, simulation, animation and videos	9	√		√	
		10	√		√	
		11	√		√	
		12	√		√	
Power pull	Usability Accuracy And suitability design	13	√		√	
		14	√		√	
		15	√		√	
		16	√		√	
Form And size letter	Use audio Interactive	17	√		√	
		18	√		√	
		19	√		√	
Characteristics	Accuracy election type letter	20	√		√	
		21	√		√	
		22	√		√	
		23	√		√	
		24	√		√	
		25	√		√	

Table 3. of Student Perception Questionnaire Results

No.	Aspect	Indicato r	Score	Informati on
1.	Object	Attractiveness images, animations, videos, and simulation Clarity picture, animations, videos, and simulation. Suitability picture, animation, videos, And simulation Presentation material particle dynamics Regularity system location menu And element visual other	19.49	Good
2	Tool Sense	Quality voice Clarity Language Which used Clarity And simplicity sentence Clarity work instructions question Suitability of questions (assignments and test) with content of dynamics materialparticle	19,21	Good
3.	Attention	Convenience in use of modules electronic Convenience in understand material Usefulness module electronic material dynamics particle in understand question (task and test) Enhancement motivation Study	13.7	Very good
<b>Indicator Whole</b>			<b>52.61</b>	<b>Very Good</b>

Based on the research question, there are two formulations that are problematic which was completed with this development research. First is how the product is end of the development of the Basic Physics I e-module on particle dynamics. Second how Student perceptions of the Basic Physics I e-module material on particle dynamics. Perception is a direct response (acceptance) of something or a process of someone knowing a number of matter Which experienced by everyone inside understand every information about environment through the five senses (Chan, 2012). The stages of developing teaching materials form e-module Physics Base I material dynamics particle with model development ADDIE according to Branch (2009) is analyze (analysis), design (design), development (development), implementation (implementation), and evaluation (evaluation). E-Physics Module Basic I material on particle dynamics contains material, animations, videos, summaries, example questions, assignments and formative tests as well as interactive quizzes at the end of learning. Material discussed In the Basic Physics I e-module , the particle dynamics material is particle dynamics material. The assignments and formative tests in the Basic Physics I e-module contain material on particle dynamics 2 questions each for each learning activity while interactive quizzes on This electronic module contains 10 combined questions from the first learning activity until on activity learning third with correct answer automatic on end answer included with that value obtained.

The advantages contained in the Basic Physics I e-module include intermediate particle dynamics Other languages used are easy to understand, can be used for distance learning Far, student can see score Which obtained from test end Which done in a way directly, the electronic module based on Kvisoft Flipbook Maker can be used directly without must have an application, animations, simulations contained in the module are examples that occur in everyday life so it is easy to understand. Meanwhile weaknesses which are contained in e-module Physics Basic I material dynamics particle among others Not yet based approach And can not accessed through smartphones.

E-module material on particle dynamics is suitable or not can be known by carrying out expert validation, both media experts and material experts and testing it on 2016 PGMIPA-U Physics Education

student, Jambi University. Media expert validation and expert material done by 2 person lecturer Education Physics University Jambi. Here validator fill in sheet validation Which consist from 25 (two tens five) item statement with 14 (fourteen) assessment indicators for media experts and 17 (seventeen) statements with 9 indicators for material experts. Where the validator fills in one of the assessment columns with choice "Yes" or "No" For every item statement with method checked it.

Media validation was carried out twice, where the results of stage I media validation were: with assessments that can generally be used with minor revisions. Once done revision, then stage II validation is carried out where the results of stage II validation are by category good and the assessment can generally be used without revision. Next is validation material was carried out twice where the results of stage I material validation were by The assessment can generally be used with minor revisions. After revision, then Material validation is carried out in stage II where the results of material validation in stage II are by good category with evaluation in general you can used without revision.

Based on results validation stage II Good to media nor material, can It is concluded that the Basic Physics I e-module on particle dynamics can be used and is ready It was tested to determine the students' perceptions of the Basic Physics I e-module material dynamics particle. For know perception student to e-module Which developed This used questionnaire Which has valid And reliable so that before tried out For know perception student so done trials For know validity And reliability like Which explained on stage evaluation.

After finished developed Physics e-module Base I material dynamics particle This tried out to respondents. Developer e-module Physics Base I material dynamics particle show And explain all over material Which there is in in module Then respondents filled out a questionnaire regarding their perceptions of the Basic Physics I e-module material particle dynamics that have been seen, based on the results of the questionnaire they have filled out and looks on page previously that is on table results perception student with category good, for the sensory aspect aspect it is in the good category, while for the attention aspect it is with category very Good, so that For score average indicator whole from perception students on the Basic Physics I e-module material on particle dynamics, namely in the category Very good. It can be concluded that the use of the Basic Physics I e-module is dynamic material particles for the Basic Physics I course can help students in the learning process so that with the Basic Physics I e-module on particle dynamics material you can also used as teaching material independent student At home.

## CONCLUSION

The resulting product has specifications including the final program format .exe, program Equipped with colors, images, animations, simulations and videos, the module consists of parts introduction, learning, and closing, material coverage, namely particle dynamics, and levels media use is college. For the overall indicators obtained amounting to 52.61 by category very Good. Thus, it can be concluded that There is a positive response from students towards the e-module that has been developed. So, e- module Basic physics I on dynamics material particle stated worthy For used.

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