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Development Of Animated Video Learning Media Based On The *Flipaclip Application* Class VII On Classification Of Living Creatures Material At SMPN 21 Bengkulu City

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Abstract

Study This aim For know what are the steps? design animation video development science-based learning Flipaclip p there is material on the classification of living things , how about it feasibility of animated video- based science learning Flipaclip on the material of classification of living creatures , and the effectiveness of animated videos science- based learning Flipaclip on the material classification of living things for students of SMPN 21 Bengkulu City. Type of research used that is Research and Development (R&D). Development model used in study This is the ADDIE model consisting of from (Analysis, Design, Development, Implementation, and Evaluation). Results of developing interactive science learning videos based Flipaclip principal discussion of material and changes in class VII SMP grades from validation expert language as big 96.1%, material experts 70% and media experts 70% 81.81 % with Very worthy category. Questionnaire results teacher responses were 88.3% and students amounting to 82.87% with Very worthy category. Whereas to test effectiveness done testing hypothesis with Sig. (2-tailed)<0.05 show exists significant difference before and after use of animated videos science- based learning Flipaclip And has tested that science learning videos are interactive based on the Flipaclip system very effective used as a learning medium.

Keywords : *Development of learning videos, Flipaclip, Classification of Living Creatures.*

1. INTRODUCTION

Technology in Indonesia is starting growing and every school Lots use technology For learning. The development of the digital world in the world of education also has very significant influence on the pattern interaction instructors and participants educate. Participant the average student has literacy good technology _ tend more fast bored when learning walk as expected can more easy understood and comprehended with fast, and precise. However Still many teachers haven't can utilize technology in the world of learning. Whereas technology This can make things easier for teachers describe or illustrate material Which studied. It will clarify theory And practice, possible student For truly see something. Utilization technology in essence is aim For make it easier work man in life everyday. Because That is, science learning in schools expected capable apply or implement deep scientific literacy learning.

Study are processes and methods make people or creature learn. Study For change behavior or response For do or show behavior certain while try For obtain intelligence or knowledge. And learn is a process that causes happen change behavior, no caused by the body's growth process, but rather change habits and skills, improvement and development Skills thinking, attitude, etc. Whereas results Study is change Act acquired behavior and abilities student after Study form ability cognitive, emotional, and psychomotor. Learning outcomes used as size evaluation activity Study or learning process, and symbols, letters or sentence used For show performance student in period time certain .

Animated videos is gathering manipulated images like that appearance For produce movement. Animated videos are also a thing picture originating movement from gathering arranged objects like that appearance so that object the can in the form of words, pictures animals, plants, humans, etc. From the definition above can concluded that animated video is kind picture moving, originating from gathering various arranged objects in a way systematic so that move according to axis time. Utilization of animated videos during the learning process increase motivation, interest, and results Study students.

Based on observations made at SMPN 21 Bengkulu City, were found that use of less varied learning media Making students' understanding less than perfect in learning is a problem. Learning process teach in class only use method lecture and teacher as the only one source Study without the existence of the media causes communication between teacher and participants educate No walk with smoothly. This thing related with problem in the learning process teach as well as learning media Still form book or picture on the board writing, and use of these media not enough effective, visible from part big student Not yet capable understand material with good. Based on condition that, learning walk not optimal.

Flipaclip is Android applications that can used For make animation It's simple because it only requires skills in drawing and designing. *Flipaclip.* User can make cartoon use animation *frame-by-frame*. It works like book fold, but more simple. *frame-by-frame animation* is technique animation consisting from a number of order different pictures. In animation *frame-by-frame*, every change movement or form object placed in a way sequentially inside *frames*. The more Lots frame used For match every detail of the movement subject, animation will the more smooth.

The purpose of classifying creature life is for make it easier recognize, compare, and study creature live. Special purpose /other classification creature life is as following: (1) Grouping creature life based on similarities and differences characteristics possessed; (2) Describe characteristic features something type creature life For distinguish it from creature life from other types; (3) Knowing connection kinship between creature live; (4) Giving Name creature life yet name is known. Therefore, it is necessary to develop animated video media, it is hoped that the

teaching and learning process will be better and can increase learning interest in studying material on the classification of living things.

2. METODE PENELITIAN

Study This use study development. method study *Research and Development* (R&D) is method research used for produce product certain, and test effectiveness product that. Apart from testing validity product, in development this will too tested its practicality and effectiveness, whether product suitable to be applied to students or no. All this time many in meet the only learning media product shaped object like tool writing, ruler, book, or media device hard others. Even though in modern times this, shaped media device software (*software*) already start many in create. What is expected in research *Research & Development* this is in the world of education is For create and develop product new or repair existing products There is For increase education. The "*Research and Development*" method used in the research This is the model"ADDIE.

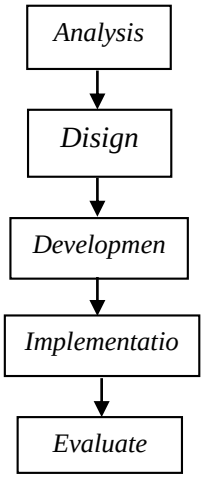

Figure 1. Steps in the Research and Development (RnD) Method

On research This only consists from ADDE ie *analyze* (analysis), *design* (design), *develop* (development), and *evaluate* (evaluation). Development in the ADDIE Model contains design activities product in matter This is material teach. Development steps in this a n researcher covers activity create and modify teaching materials.

1. Data Analysis Technique

Data analysis techniques were carried out after the data is obtained. In case This will calculated valid and practical scale product development that has been produced. Data acquisition at stage qualitative data analysis from results comment from a number of media experts and experts material used For done repair. Data analysis techniques in research This including:

a. Questionnaire analysis of animated video validation results

Validation sheet containing question, then the validator fills in questionnaire with give sign check the categories provided provided by the researcher based on Linkert scale. With use scale *Linkert*, for determine score or mark there is something statement to respondents as following:

Table 1. Expert Validation Assessment Scores

Information	Score
Very good	5
Good	4
Enough	3
Not enough	2
Very less	1

(Source: Parmin , et al, 2015)

Formula used for calculate data from expert material, expert design and expert Language with formula as following:

$$p = \frac{f}{N} x100\%$$

Information :
P = Questionnaire Percentage Number
f = Number of Scores Obtained
N = Maximum Number of Scores

Percentage eligibility obtained Then interpreted to in category based on table following:

Table 2. Expert validation questionnaire interpretation criteria

Evaluation	*Interpretation Criteria*
81≤P≤100%	Very Worth It
61≤P<81%	Worthy
41≤P<61%	Decent Enough
21≤P<41%	Not feasible
0≤P<21%	Totally Not Worth It

(Source : Arikunto, 2012)

Module teaching materials stated worthy if in a way theoretical own percentage eligibility ≥ 61%.

2. Teacher And Student Response Analysis Techniques

Questionnaire teacher and participant responses educate containing questions, then the teacher and participants educate fill in questionnaire listed with give sign tick to categories given to researchers based on scale linkert consisting above 5 descriptions evaluation as following.

Table 3. Questionnaire Score Teacher and Student Responses

Information	*Score*
Strongly agree	5
Agree	4
Don't agree	3
Don't agree	2
Totally disagree	1

(Source : Parmin, et al., 2015)

Questionnaire results Teacher and student responses will be analyzed using the following formula:

$$p = \frac{f}{N} x100\%$$

Information :
P = Questionnaire Percentage Number
f = Number of Scores Obtained
N = Maximum Number of Scores

Percentage yield the can grouped to in criteria interpresentation score according to scale linkert so that will obtained conclusion about teacher and participant responses educate, criteria interpresentation score according to scale linkert is as following:

Table 4. Criteria Interpretation Questionnaire Teacher and Student Responses

Evaluation	*Interpretation Criteria*
81≤P≤100%	Very practical
61≤P<81%	Practical
41≤P<61%	Quite practical
21≤P<41%	Not practical
0≤P<21%	Very impractical

(Source : Parmin, et al., 2015)

The teaching material of this module specified practical when the media percentage is ≥ 61%.

Analysis effectiveness of learning videos based to achievement student in finish test results Study before and after using animated learning videos science based flipaclip on material classification of living things. For see effectiveness student assumption test is carried out base as condition For analysis data a. In this effectiveness test, two classes were taken as comparison, namely the superior class middle class and the lower class, namely class VII 1, middle class, namely class VII 3 and lower class, namely class VII 5. These three classes are a comparison of which class is most effective in learning using *flipaclip- based animated video media.*

3. Effectiveness Test

a. Normality test

Criteria for whether sample data is normal or not from population is:"if mark significance > 0.05 then sample normal distribution and analysis statistics use statistics parametric, whereas If mark significance < 0.05 then sample distribute abnormality and analysis of the data used is nonparametric statistics".

b. Homogeneity Test

One condition For carry out the Anova test One direction if the data is available variant same. The method is with compare mark significance on Sig. with mark significance used (SPSS by default uses mark significance 0.05). The criteria, if results calculation show mark significance <0.05 then H_0 is rejected or Ha is accepted and if mark significance > 0.05 then H_0 is accepted and Ha is rejected.

c. Hypothesis Testing through the Paired Sample T Test

Test the hypothesis used in the research This is the paired sample T test, testing done with using the SPSS 16.0 program. The Paired Sample T Test is test used For compare the difference between two means of two paired samples with assumption of normal distribution data.

Significance value (2-tailed) is 0.05 No there is significant differences between variable beginning with variable end. This shows No there is meaningful influence to difference treatment given to each variable.

3. RESULTS

Research Based Development Application *Flipaclip* Class VII on Classification Material Living Creatures in SMPN. The manufacturing procedure begins with analyzing *the* initial information obtained by the researcher while in the field, carrying out planning *(Design)*, product development *(Development)* which is then validated by the validator and then assessed by the respondents, namely teachers and students of SMPN class VII as subjects. for *the use* of animated video teaching materials, *implementation and* evaluation stages.

ADDIE Development Stage

a. Analysis stage
   Needs analysis using a teacher and student needs questionnaire involving teachers and students of SMP Negeri 21 Bengkulu City.
b. Design stage
   After carrying out an analysis of the needs of teachers and students and knowing the problems that exist in the field, the next step is to create a list of plans that will be carried out by targeting the research time from the beginning to the end of the research as well as developing a product in the form of an animated video.
c. Development stage
   Based learning animation videos *flipaclip* on the material for the classification of living creatures, after the media is created, the video media that has been developed is then validated by linguists, material experts and media experts.
d. Implementation stage
   Then after completing the *development stage.* Next, the researcher carried out an assessment by linguists, material experts and media experts, namely testing the effectiveness of the *flipaclip animated video media* during the learning process. The implementation process is carried out by students by filling in *pre- questions test* and *post test* .
e. Implementation stage
   Next, the researcher carried out an assessment by linguists, material experts and media experts, namely testing the effectiveness of the *flipaclip animated video media* during the learning process. The implementation process is carried out by students by filling in *pre- questions test* and *post test* .
f. Evaluation stage
   evaluation is stages Where product development that has been tried out will evaluated. Evaluation results formative used as bait come back For stage repair. Stages This done to use evaluate successful product developed. Evaluation the can done in accordance with evaluation questionnaire validation by experts materials and media and questionnaires practicality by participants educate.

Field Test Results

A limited product trial was carried out on science teachers and students at SMPN 21 Bengkulu City. For 10 days, namely August 21 to August 30 2023, a limited trial was carried out to determine the practicality of the science learning videos. Product trials were carried out on 1 science teacher and 10 students of class 75 VII SMPN 21 Bengkulu City.

Through trials limited This produces data for 88.3 % of teacher responses and 83% of response student class VII which means from second results teacher

response and response student the get very good category to the researcher's learning animation video develop.

4. DISCUSSION

a. Feasibility test

1) Linguist assessment
The results of the learning expert were rated as very worthy for the final percentage, namely 96.1% according to the criteria (very worthy). It can be stated that the results of developing learning videos are based on the *Flipaclip application* very worthy.

2) Material Expert Assessment
The learning expert's results were deemed worthy for the final percentage, namely 70% according to the criteria (worthy). It can be stated that the results of developing learning videos are based on the *Flipaclip application* proper to use.

3) Media Expert Skills
The learning expert's results were rated as very worthy for the final percentage, namely 81.1% according to the criteria (very worthy). It can be stated that the results of developing learning videos are based on the *flipaclip application* very worthy of use.

b. Practicality Test
Based on the data obtained results respondents student amounting to 82.87% and incl in very practical category. Whereas according to teacher respondents showed that practicality including in very category practical with percentage evaluation 88,3%.

c. Test effectiveness
Test This done For see effectiveness of learning videos that have been developed. Where deep the practice student watch learning videos via LCD projector. After student finished watch the video, students requested For do question test. For question test consists of 10 questions choice double.

Table 5. Student Learning Effectiveness Test Results

	Amount	*Minimum Value*	*Maximum Value*	*Average Value*
PreTest	10	30	70	45
Post Test	10	60	90	80

1) Normality Test
normality test results to results Study student show If all data is good pre-test nor post test show results significance > 0.05 (0.2 00 > 0.05) then Can withdrawn conclusion if the data everything normally distributed.

2) Homogeneity test
Based on homogeneity test results is known mark significance (sig.) is 0.641, which means > 0.05, so Can concluded if the result data study is The same or homogeneous.

3) Hypothesis testing

Sample t- test pair used For test hypothesis . If the data is distributed normally Based on data, known that the output paired 1 is obtained Sig value. (2-tailed) as much as 0.000 < 0.05, up to Can concluded there is comparison in general results Study student For *pretest* and *posttest* (before and after using the resulting media development). Can be concluded If There is the influence of learning videos to results Study students

4) Final Prototype

Prototype end is stage end from all over series of development models , where at stage prototype end the product produced has Ready For used.

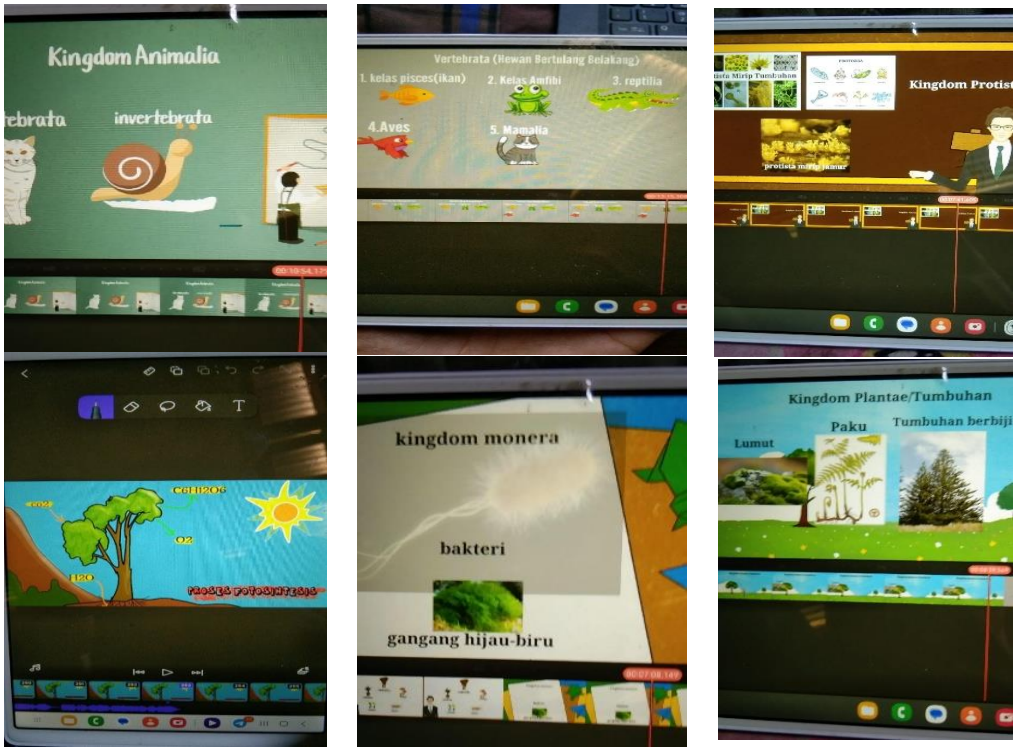

Figure 2. Print Screen of mixed animated video learning media *fipaclip*

5. CONCLUSIONS

Development model used in study This is the ADDIE model consisting of from (*Analysis, Design, Development, Implementation,* and *Evaluation*). Results of developing interactive science learning videos based animaker principal discussion of material and changes in class VII SMP grades from validation expert language as big 96.1%, material experts 70% and media experts 70% 81.81% with Very worthy category . Questionnaire results teacher responses were 88.3% and students amounting to 82.87% with Very worthy category . Whereas to test effectiveness done testing hypothesis with Sig. (2-tailed)) <0.05 show exists significant difference before and after use of animated videos science- based learning *Flipaclip* And has tested that science learning videos are interactive based on *the Flipaclip system* very effective used as a learning medium.

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