

Development of Powtoon Animation Learning Media on Flat Building Materials Class IV

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ABSTRACT

Research and development is a research method used to produce certain products and test the effectiveness of these products. Research and development or what is known as Research & Development (R&D) is product oriented in the field of education. This research was conducted at SD Negeri 105330 Bangun Sari, Tanjung Morawa sub-district, Deli Serdang Regency, in class IV students. The time for carrying out this research and development is in the even semester of the 2023/2024 school year. The subjects of this study were fourth grade students at SD Negeri 105330 Bangun Sari, a total of 37 students, consisting of 18 female students and 19 male students. This research was assisted by several mathematicians as a validator/assessment. The instruments used in this study were interviews, questionnaires and documentation. Material validation was carried out with the aim of obtaining material that was in accordance with the media being developed. The results of the material validation obtained an average value of 88% in the "very valid" category. It can be concluded that the material in the PowerPoint animation media component is suitable for use without revision. Media validation is carried out with the aim of obtaining media that is suitable for use. Media validation results obtained an average value of 77% with the "valid" criterion. It can be concluded that the media is suitable for use without revision. Teacher response validation obtained an average score of 96% with the "very good" criterion so that the Powtoon animation media is suitable for use without revision. The powtoon animation media used will make the learning process fun in the classroom. Fun learning will improve student learning outcomes. Powtoon animation media will help students understand flat shape material so that students get better learning outcomes.

Keywords: Media, Powtoon Animation, Flat Shapes

I. INTRODUCTION

The development of learning media is an important part of the educational process. to help students understand material learning with more ease. In the digital age like this, the use of technology and digital media in learning has become urgent. One of the most popular and effective learning media is animation (Powtoons). Material Get Up Flat is one material taught at the level of education base, incl. class IV. Material: This covers an introduction to various get-up flats like facet four, triangle, circle, and so on, as well as a draft about properties and measurements of get-up flats.

However, in teaching material, sometimes students experience difficulty understanding concepts and properties. The use of animated media Powtoons can be an effective solution for increasing student understanding of material. Powtoons is one of the manufacturing platforms that is user-friendly and easy to use, even by students in class IV. With Powtoon, teachers can make animations that are interesting and interactive for describing concepts and properties visually and pleasantly. Animation Powtoons can enrich students experiences, help them visualize and understand abstract concepts, and increase power-pull learning. Use of learning media animation Powtoons in learning material Get Up Flat in class IV can have benefits like increasing interest in students, making it easier for students to understand concepts, delivering interactive learning experiences, and improving student retention of the material being taught.

In this context, the development of learning media animation Powtoon on matter get up flat class IV is relevant and important to help increase quality classroom learning, facilitate understanding of students, and create an experience of learning that is more attractive and effective.

II. METHODS

Type Study

Types of research used in research and development This is Research and Development (R&D). Research and development is a method of research used to produce a specified and tested-effective product. Research and development is also known as R&D (Research and Development). Product-oriented field education as for the use, it is to help teachers be more efficient and effective in conveying material learning. Research and development, also known as R&D, is the process of creating a product after conducting research on it and testing it.

Procedure Research and Development

models to be used in the development of learning media mathematics on research This is a known Thiagarajan model with *Four-dimensional* (4-D) models. This model was chosen because it is systematic and appropriate for developing learning media.

According to Sugiyono (2017:37), steps in research and development according to Thiagarajan (1974) are 4 abbreviated steps into 4-D (*Define, Design, Development, and Dissemination*). This can be depicted as follows:



Figure 1 Steps research and development according to Thiagarajan (1974) (Sugiyono , 2017:37)

From 4 steps development such, research This done until with 4 (four) stages step development namely (1) *Define* (definition), (2) *Disgn* (design), (3) *Development* (development) and (4) *Dissemination* (deployment)

Instrument Data Collection

According to Ridwan (2012), an instrument is a tool, measuring aid, or facility used to collect accurate, complete, and systematic data that can be easily processed with more results. Instruments used in the study This consists of interviews, questionnaires, and documentation with a table grid as follows:

Table 1. Grade IV Teacher Interview Sheet Grids

No	Indicator	Amount grain
1.	difficulty in create learning media	1,2
2.	Obstacles and ways overcome less students understand learning	3,4
3.	inside media users class	5,6,7
4.	Response about animation powtoons	8,9,10
Amount		10

Table 2. Media Expert Validation Sheet Grid

No	Indicator	Amount grain	Number grain
1.	Media compatibility with material	5	3,7,8,9,11
2.	Media appeal	3	2,6,16
3.	convenience media use	2	1,17
4.	Media shape	7	4,5,10,12,13,14,15,
Amount		17	

Source : Rohman and Sofyan (2016:174) in (Suryani & Indrawati, 2018:224)

Table 3. Grid Questionnaire Validation Teacher Response

No	Indicator	Amount grain	Number grain
1.	Appropriateness aspect material	3	1,2,3
2.	Aspect learning	3	4,5,6
3.	Appropriateness media function	3	7,8,9
4.	Media shape	4	10,11,12,13
Amount		13	

Data Collection Techniques

Data collection techniques used includes:

1. Validation results on aspects animation media feasibility powtoon, which is obtained from questionnaire validation expert material, questionnaire validation expert media, and questionnaire validation teacher response.
2. Interview to class IV teachers and conduct tests on student class IV with using animation powtoons.
3. Documentation of researchers at SD 105330 Bangun Sari.

Data Analysis Techniques

Data analysis technique used in study This form data analysis of the feasibility instrument of animation media powtoons from media expert, expert materials, grade IV teachers , and tests results Study student .

As for ratings from results validation use conversion scale level achievement, because in evaluation This needed standard achievement (score) and adjusted with category that has set . Following this is the qualifications table appropriateness based on Likert scale:

Table 4 Likert Scale Qualifications

Level achievement	Qualification	Information
81% < score ≤ 100%	Very valid	No revision
61% < score ≤ 80%	Valid	No revision
41% < score ≤ 60%	Pretty valid	Need revised
21% < score ≤ 40%	less valid	Revision
0% < score ≤ 20%	Very invalid	Revision

In study This questionnaire validation product done on animated media *powtoons* on material wake up. Guidelines scoring validation animation product *powtoons* as following :

Description :

Value 1 : less = no appropriate / invalid material get up flat need corrected / revised

Score 2 : enough = less appropriate / less valid material get up flat need corrected / revised

Value 3 : = appropriate / material two-dimentional figure No need corrected / revised

Score 4 : = very appropriate material get up flat No need corrected / revised

III. RESULTS AND DISCUSSION

Research Results

The results of the research in chapter This will refers to four step procedure research that has described in the previous chapter III, namely 1) *Define*, 2) *Design*, 3) *Development*, and 4) *Dessemination* as for results and discussion from fourth step This as following :

1. Stage *Define* (definition)

Stage This done for know need students, media needs, assignments, concepts, and formulation competence basis, indicators , and objectives learning .

1. Analysis Need Student
2. Analysis Media Needs
3. Analysis Task
4. Analysis Draft
5. Formulation Basic Competencies, Indicators, and Objectives Learning

2. Stage *Design* (Design)

After formulate standard competency, indicators achievement competence, and goals learning. Researcher can start plan developed media that is animation *powtoons* . Before plan developed media especially formerly researcher look at the previous media models used by other researchers from a number of references studied. Activities on stage This that is researcher designing early animation media *powtoons* with, using application *powtoons* For designing animation learning.

3. Stage *Development* (Develop)

Stage This For produce form end of learning media after through revision based on input from media experts, experts material and input from guardian class IV SD Negeri 105330 Bangun Sari.

Following is results making learning media use application *powtoons* :

a. Media preview



Figure 2. Learning media cover

a. Learning indicators on flat wake material.

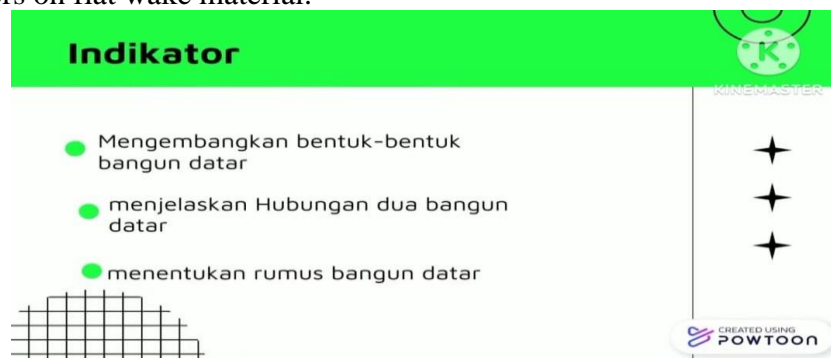


Figure 3. Learning indicators

b. Learning objectives on flat wake material.

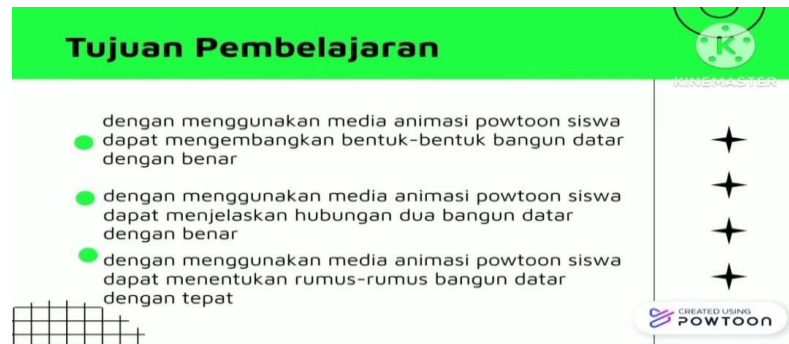


Figure 4. Learning objectives

c. The subject of discussion on learning media is flat wake material.



Figure 5. Main discussion

d. The definition of flat shapes in powtoon animation learning media.



Figure 6. Definition of Flat Shape

e. The definition of a square in learning media.



Figure 7. square definition

f. The square formula in the learning media for flat wake material.

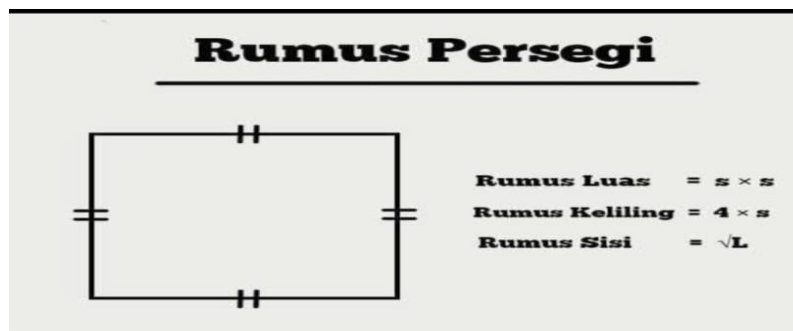


Figure 8. Square formula

g. The properties and characteristics of squares in the media of flat shape material *powtoon animation*.

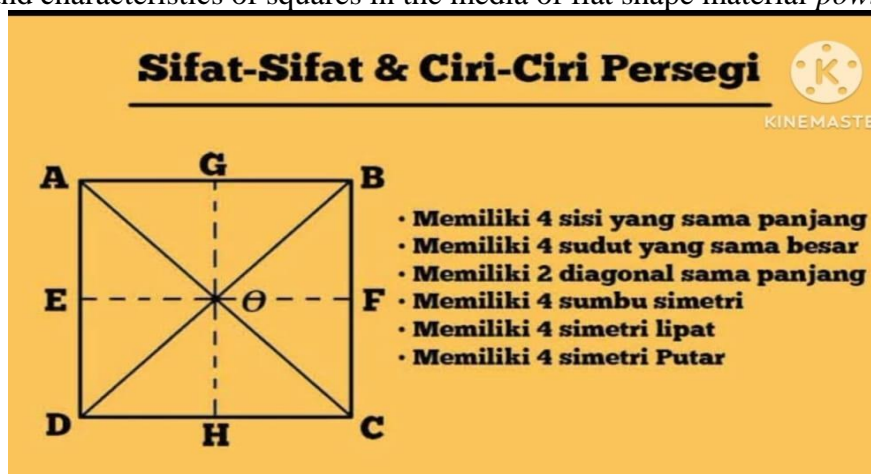


Figure 9. The nature of the square

h. Example question square in learning media material get up flat.

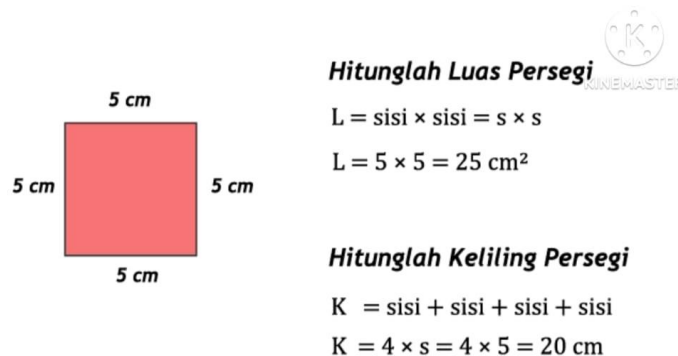


Figure 10. Example question

4. Stage Spread (*Dissemination*)

Stage dissemination is done to promote product results and development. Packaging material must align to produce the right shape. At this stage, this researcher does a validation test using a questionnaire. For known effectiveness, a product was developed.

Discussion of Development Results Product

Learning media animation *powtoons* are used. For students in class IV, SD Negeri 105330 Bangun Sari has been developed through a number of stages of research and development. *Steps in* animation media development for *powtoons* based on procedure Thiagarajan's research and development comprise four stages. 1) *fine* (definition), 2) *design* (design), 3) *development* (development), and 4) *dissemination* (dissemination). At stage definition, researchers do an interview with the class IV teacher, Mrs. Devi Angraini Pulgers S.P.D., and obtain that teachers really need media as a tool to help students learn during the learning process going on. Next, on the analysis of media needs, teachers experience difficulty using learning media because of limitations in cost, time, and also facility and school support. So less teachers are using media during the learning process. Researcher developing animation media *powtoons* designed in accordance with standard competencies and indicators material get up flat, namely:

- a. Develop forms get up flat.
- b. Explain relationship between two wakes flat.
- c. Determine formula get up flat.

Animated media *powtoons*, which were developed, are a learning medium. For help embedding material, get up flat.

IV. CONCLUSIONS

Based on the formula problem described by the researcher previously, that is, how do the steps in the development of learning media animation *powtoons* on the material get up flat? So it can be concluded that animation media research and development *powtoons* have stated worthy use of students in class IV SD in control material get flat based on average validation results, namely 88.63% with the criteria of "very valid", the average result of media validation is 77.94% with the criteria of "valid", and the average result of the teacher's response is 96.15 with the criteria of "very valid" or can be said to be valid or feasible.

In-step development and results animation media assessment *powtoons* For students in class IV, SD has been held in accordance with procedure research and development from Sugiyono, that is, stage definition (*define*), stage planning (*Designs*), development (*Development*), and stage deployment (*dissemination*). At stage definition, find data in the field. For the purpose of obtaining supporting

information for necessity development learning, on stage planning involves selecting media, designing media, and selecting formats. Next stage media development is carried out with the spread questionnaire assessment of the validator and assessment experts questionnaire to the guardian, class IV SD Negeri 105330 Bangun Sari. Study This produces a product in the form of learning media animation powtoons on material that gets up flat. For fourth-grade elementary school.

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REFERENCES

- Abidin, Z., and Saputro, TME (2011). Efforts to Improve Motivation and Understanding of Students on Material Geometry and Measurement Through the Remase" Activity at SMP 33 Semarang, Kreano, *Journal of Mathematics Creative-Innovative*, 2(2), 133–141
- Andriati, Y., & Susanti, LR (2016). Powtoon Media Development: Audiovisual Based on History Learning Criksetra: *Journal of History Education*, 5(9), 60
- Asyifa, SM (2018) Learning Video Development For Develop Ability and Understanding Draft Mathematical Student Elementary School (Doctoral Dissertation). Serang: University of Sultan Ageng Tirtayasa.
- Barnawi and Arifin (2012) Ethics and professional education Yogyakarta: Ar-Ruzz Media.
- Febriani, C. (2017). The Influence of Video Media on Motivation, Learning, and Learning Outcomes in Cognitive Class V Elementary School Science Learning, *Prima Edukasia Journal*, 5, 13–14.
- Hasblah (2018) Improved Learning Outcomes in Cognitive Biology Using the Problem-Based Learning-Based Model Powtoons Student Class XII IPA 7 SMA N 1 Metro Odd Semester Academic Year 2017/2018, *BIOEDUCATION (Journal of Biology Education)*, 9(2), 124–131.
- Herman, (2008). Learning Models Mathematics in Elementary School. Teenager Rosdakarya. Bandung.
- Latif, Y.; Darmawijoyo; and Putri, RII. (2013). Development of Camtasia-Assisted Teaching Materials on the Basics Discussion Circle through Edmodo for MTs students, *Kreano, Journal of Mathematics: Creative and Innovative*, 4(2), 105–114.
- Mulyasa, E. (2016). Development and Implementation Curriculum 2013. Bandung: Youth PT Rosda-Works
- Munir. (2015). Multimedia Concepts and Applications in Education. Bandung: CV Alfabeta.
- Sundayana, Rostina (2013). Learning Media Mathematics. Bandung: Alfabet.
- Susilo, BE; Sutarto, H; and Mubarak, D. (2015) Development Device: Learning Geometry of Space with the Proving Theorem Model, *Kreano, Journal of Mathematics Creative-Innovative*, 6(2), 170-176.
- Compilation Team (2013) Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 81A of 2013 concerning the implementation of the curriculum Jakarta: Ministry of Education and Culture

- Trianto (2010) Learning Models: Integrated Concept, Strategy, and Implementation in KTSP Jakarta: PT Bumi Script.
- Widiasih, JW, and Kartini, T. (2017) Influence Use of Varied Media and Motivation Study Against Student Economics Learning Outcomes Class XI IPS SMA Negeri 2 Jember Academic Year 2016/2017, Journal of Economic Education: Journal Scientific Education Science, Economics and Science Social 11, no. 2 (2018): 103–107.