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# Development of Powtoon-Based Video Learning Media on Understanding Angles and Various Angles

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**Abstract**
Research on the development of PowToon-based video learning media on the material on the definition of angles and various angles. The purpose is to discover the development of Powtoon-based video learning media and the feasibility of Powtoon-based video learning media developed for grade III students of SDN Singajaya 01 through the learning process carried out at school. The method used in this study is the ADDIE method which consists of 5 stages, namely Analysis, Design, Development, Implementation, and Evaluation. In this study, a validation test was carried out on experts, namely media, language experts, and material experts. The results of the validation of media experts obtained as many as 96% with very feasible criteria. The results of the validation of the language experts obtained 100% with the feasible criteria, and the results of the validation of the material experts obtained 90% with very feasible criteria. The results of the student response questionnaire obtained as much as 92% with very feasible criteria. These results show that powtoon-based video learning media on the understanding of angles and various angles has proven to be valid, interesting, innovative and very feasible to be used in the learning process. This study recommends the development of PowToon-based video learning media that can be used in classroom learning.

***Abstrak***
Penelitian Pengembangan Media Pembelajaran Video Berbasis Powtoon Pada Materi Pengertian Sudut Dan Macam-macam Sudut. Tujuan untuk mengetahui pengembangan media pembelajaran video berbasis *powtoon* dan kelayakan media pembelajaran video berbasisi powtoon yang dikembangkan kepada peserta didik kelas III SDN Singajaya 01 melalui proses pembelajaran yang dilakukan di sekolah. Metode yang digunakan dalam penelitian ini adalah metode ADDIE yang terdiri dari 5 tahapan yaitu *Analysis, Design, Development, Implementation,* dan *Evaluation*. Pada penelitian ini dilakukan uji validasi kepada para pakar, yaitu media, pakar bahasa, dan pakar materi. Hasil validasi pakar media memperoleh sebanyak 96% dengan kriteria sangat layak. Hasil validasi pakar bahasa mendapatkan sebanyak 100% dengan kriteria layak, dan hasil validasi pakar materi memperoleh 90% dengan kriteria sangat layak. Hasil angket respons peserta didik memperoleh sebanyak 92% dengan kriteria sangat layak. Hasil tersebut menunjukkan bahwa media pembelajaran video berbasis *powtoon* pada materi pengertian sudut dan macam-macam sudut terbukti valid, menarik, inovatif dan sangat layak untuk digunakan dalam proses pembelajaran. Penelitian ini merekomendasikan pengembanga media pembelajaran video berbasis *powtoon* dapat digunakan didalam pembelajaran di kelas.

**Kata Kunci** : *media pembelajaran, memahami sudut pandang, berbagai sudut. powtoon, video*

## INTRODUCTION

Learning media is one of the important components to help teachers in learning. In addition, learning media is a communication tool between teachers and educators in delivering materials in class (Masril, M., et. al., 2021). With learning media made by teachers should be as creative as possible, so that it can increase the attractiveness of students and not be boring. The material taught is packaged in the form of interesting and creative learning media, making it easier for students to understand the learning material.

Therefore, one of the alternative learning media that can be used in learning is video learning media. An animation video is a video that contains cartoon animation that can be filled with learning materials and can be used as a learning medium for all levels of education, one of which is elementary school. In addition, video learning media has a variety of animations, and there are various colors, so that it can attract attention, and students become happy with the video media

*Powtoon* is an online service-based learning software animation that allows users to easily create animated presentations with objects, images, music, and include voice recordings of the user. This powtoon-based video learning media is a medium that is suitable for use in learning, practical, easily accessible through the website, without having to download the application. It can be an attractive, dynamic, and interactive display value.

Based on observations and interviews at Singajaya 01 State Elementary School, on October 9, 2023, the teacher explained that learning activities carried out in the classroom have used video learning media, but are still rare and still based on theme books. From the theme book, the appearance makes students less attractive and considered monotonous. This is due to several things, including, students have not been able to capture the material properly, the school has Wi-fi and projectors, but is not optimal in its utilization. Meanwhile, students need interesting learning media and can explain the material so that students understand more in learning.

Powtoon, a digital tool for creating presentations, is equipped with various features that enhance engagement, such as cartoon animation, smooth transitions, and audio. Its incorporation of animation in videos has made it a popular medium for educators, as it has been found to reduce student boredom during learning activities. Researchers anticipate that Powtoon's incorporation of multimedia elements will enhance student attraction and motivation, potentially leading to an improved learning experience. This is supported by previous research, entitled "Development of Powtoon-Based Animation Video Learning Media for Mathematics Content for Class III of Wirotho 195/VIII Agung Elementary School," which was conducted by Wirotho. The use of animated video media yielded a result of 81.25%, categorizing it as highly valid. PowToon-based animated video media is suitable for use by teachers and students in learning. Additionally, it was concluded that the study influenced student learning outcomes in mathematics in third grade at Singajaya Elementary School 01. Therefore, animated video media using PowToon can be applied to learning. It can be concluded that animated video media based on Powtoon for mathematics subjects in third grade at Singajaya Elementary School 01 is categorized as very valid, practical, and effective. This resource can be used by students independently, both online and offline, to support their learning. It can also be used by teachers to develop animated video learning materials and other relevant resources, references, and support the development of learning media to improve the quality of teaching and learning in schools. (Anggraini et al., n.d.).

## METHOD

The study used the research and development (R&D) method. The research and development method is a research method that is used to create a product according to the desired specifications and test its effectiveness. Widodo and Hanifah (n.d.) argue that R&D methods are used to develop new products or improve existing ones, and the products can be accounted for. Products can be produced using research that is a needs analysis (using survey or qualitative methods) and the effectiveness of the product can be tested to function in the wider community, so research is needed to test the effectiveness of the product. The development model used in this study is ADDIE, which, in product development, requires a goal so that the steps and stages of development can be directed. The model comprises five procedures: 1) analyze, 2) design, 3) development, 4) implementation, and 5) evaluation. The data collection process uses three methods: questionnaires, observations, and interviews. This questionnaire will later be shown for validation assessment. The assessment will be done by experts and student respondents. At the needs analysis stage, observation and interviews are used. Sugiyono (2016) presents a five-step process for this:


Gambar 1. Model Pengembangan ADDIE

## RESULTS AND DISCUSSION

The development of comic media in learning to read Indonesian is healthy for elementary school students, with the help of the Powtoon application using the ADDIE model, as outlined by Amini et al. (2021), which includes the following stages: supporting theories used.

### Analysis Stage

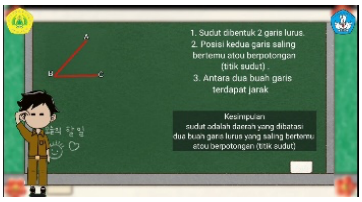
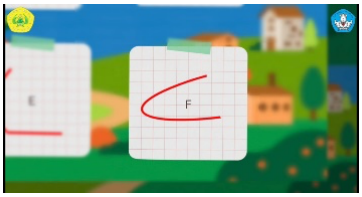
The inclusion of my body in the comic media to be designed is contingent on the analysis of learning objectives in healthy material. According to Shomad et al. (2022), comics are a simple, interesting, and easy-to-understand learning medium for students. They smooth the teaching and learning process, increase learning motivation, and improve learning outcomes for students.

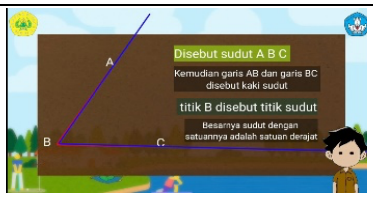
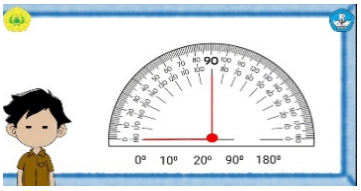
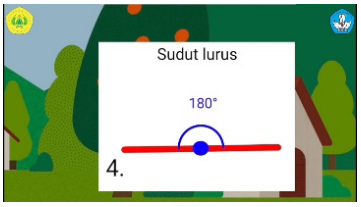
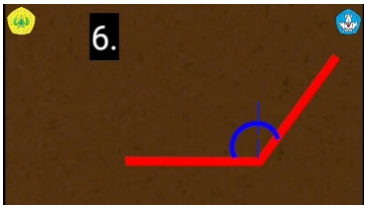
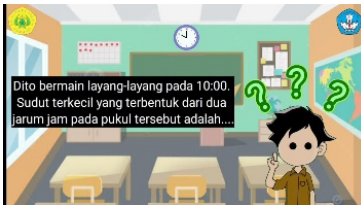
The researcher also conducted interviews with grade IV teachers to find out which learning media were used in Indonesian learning that was carried out. The results of interviews and observations indicate that, in grade IV of elementary school, learning media are only focused on books and have never been used in the form of comic learning media. According to Ayuni et al. (2023), digital comics can be used as learning media. The teaching and learning process can be made more effective and students' interest in learning can be increased by using comics as media. In line with the findings by Syahmi, Ulfa, and Syahmi (2022), this provides motivation and convenience to the learning process.

### Design Stage (Design)

Creating a design for a comic media product with the help of the Powtoon application, which will be developed by the researcher by adjusting the material and the learning objectives used as a reference in compiling digital comic scripts, assisted by the Powtoon application, is an opinion according to Umam et al. (2022), and Powtoon is an online comic maker web application, so this product will be developed, which can be observed in Table 1, as follows:

**Table 1. Powtoon Learning Video Product Plans**

| Stages | Design | Description |
|---|---|---|
| Introduction |  | The first stage of the video is the introduction. It contains about. The main character in the video, Edo, explains the learning objectives, core competencies, and basic competencies, as well as the material to be learned, which includes the definition of angles and various angles. |
| Core |  | In the next stage, an illustration of students paying homage to the flag is given, where the position of the hand forms an angle. |
| |  | An explanation of the meaning of angles is given by the main character of Edo here. |
| |  | In this view, several examples of images are given that are an angle and not an angle based on the meaning that has been given previously. |

| | | |
|---|---|---|
| |  | The image and the previously explained meaning will help you to identify some of the characteristics of the angle. |
| |  | In this stage, an explaination is provided by the main figure of Edo on measurement of the size of the angle using a bow. |
| |  | In the next video of the learning material, examples of angles that must be studied along with the amount of angles are given. |
| |  | Display six examples of angles. Show them from various angles. Students should guess the names of the angles displayed. |
| Exercise |  | The main character's Edo gives sample questions. This happens after learning the material about angles and various angles. |
| Closing |  | The video concludes with Edo's closing words and motivational remarks. |

## Development Stage

The stages of video media development are supported by the Powtoon application. The application's material helps users understand angles and various angles. The design is carried out by conducting validation stages with media experts, linguists, and material experts. These experts determine the feasibility of video media assisted by the Powtoon application. The application is piloted to grade III elementary school students.

## Expert Validation Description

Media experts were brought in. They were tasked with finding out the feasibility of using video learning media. This media would be assisted by the Powtoon application. The following are the results of the first validation. Dian Kartika Utami, M. Kom., carried out the validation. The product was revised twice. The second validation resulted in the development product being at the "very feasible"

qualification. It had a percentage of 96%. The value range was 90%-100%. The media does not need to be revised. This means that video learning media products assisted by the PowToon application can be used for learning material on angles and various types in mathematics.

Linguists have been working with Mrs. Siti Chodijah, M.Pd. They want to find out the feasibility of using language to learn the meaning of angles. They are using the Powtoon application. They have found two validations. The "very feasible" qualification development product has a 100% percentage with a score of 81%-100%. The media does not need to be revised. The assessment aspects in this validation include straightforwardness, communicativeness, and conformity with language rules. This means that comic learning media products can be used to teach healthy body material.

Material Expert Media experts are conducted to find out the feasibility of video learning media assisted by the powtoon application. The following are the results of the first validation that has been carried out by Herna Nur Megawati, S.Pd resulting in a qualification of "very feasible" with a percentage of 90% with a score of between 81%-100% so that the material on the product does not need revision. This means that digital comic learning media products assisted by the pixton application can be used by students.

The data is modified to form a conclusion about the validation of Powtoon-based animation video products using the ideal information guidelines outlined in the table below, once the data is obtained from the average validation value.

**Table 1. Validator Assessment of Validity Aspects**

| Validator | Rata-rata Nilai |
|---|---|
| Media expert | 96% |
| Linguist expert | 100% |
| Material expert | 90% |
| Average | 95% |

**Implementation Stage**

At this stage, the product is implemented and developed within the learning activity process. After a team of media, language, and material experts validates the product, the researcher can make improvements to address the shortcomings, thereby enhancing the product. After the product is improved, it will be tested on 25 grade III students at Singajaya 01 Elementary School. In this stage, not only are videos prepared by the researcher, but complete learning tools are also prepared along with response questionnaires. Table 2 is as follows:

**Table 2. Student Response Results**

| Respond | Total Score | Maximum Score Amount | Percentage % | Average Presentase |
|---|---|---|---|---|
| 1 | 50 | 50 | 100 | |
| 2 | 47 | 50 | 94 | |
| 3 | 45 | 50 | 90 | |
| 4 | 48 | 50 | 96 | |
| 5 | 45 | 50 | 90 | |
| 6 | 44 | 50 | 88 | |
| 7 | 42 | 50 | 84 | |
| 8 | 46 | 50 | 92 | |
| 9 | 42 | 50 | 84 | 92% |
| 10 | 50 | 50 | 100 | |
| 11 | 44 | 50 | 88 | |
| 12 | 48 | 50 | 96 | |
| 13 | 41 | 50 | 82 | |
| 14 | 44 | 50 | 88 | |
| 15 | 46 | 50 | 92 | |
| 16 | 47 | 50 | 94 | |
| 17 | 48 | 50 | 96 | |
| 18 | 42 | 50 | 84 | |

| | | | |
|---|---|---|---|
| 19 | 45 | 50 | 90 |
| 20 | 44 | 50 | 88 |
| 21 | 50 | 50 | 100 |
| 22 | 49 | 50 | 98 |
| 23 | 41 | 50 | 82 |
| 24 | 50 | 50 | 100 |
| 25 | 48 | 50 | 96 |

The average achievement obtained by students is 92%. The average score falls within the 81%-100% range. This range falls within the "very feasible" category. The use of video media assisted by the Powtoon application can be used "very feasible" in helping students learn about angles. The Powtoon application can be used in ongoing learning. It can be used to understand various angles of video media.

The test results on 25 grade III students showed that this Powtoon is highly suitable for use, with an impressive 92% response rate. This indicates that the product is highly suitable for its intended purpose. The results of this study are in line with earlier research on using Powtoon to create animation video learning materials on thematic topics for grade III elementary students. The study's findings indicate that the evaluation of animated video media using Powtoon on thematic topics has been highly satisfactory, as evidenced by the outcomes of the material validity test (91.7%), the language validity test (89.2%), and the media aspects validity test (91.68%). Based on these results, the study concluded that the Powtoon-created materials are both practical and feasible for use by students and teachers.

Furthermore, these results are relevant to Salsabillah and Marini (2023) regarding the development of PowToon media for teaching elementary school students about animal body parts and their functions. The average score of the validation results of the material expert was 90%. The validation results of the media experts had an average score of 97%. The two experts' results were accumulated. This gave an average score of 93%. The material is included in the category of very good and suitable for use. The results of the students' responses also obtained a score of 95%. It can be concluded that the development of Powtoon media for animal body parts and their functions in third grade is valid, practical, and suitable for use in the learning process. The use of learning media is essential for teachers to support the learning process because it can increase students' interest in learning, thereby increasing their level of understanding. Understanding learning materials can help students achieve better results (Agustien R., et al., 2018). However, not all media can be applied to the learning process. Teachers must be able to choose the right media for the learning process.

The development of this stage is the preparation of learning media. These are based on the design of the draft that has been made. The researcher revised the material. The revisions were based on criticism and suggestions. The criticism and suggestions were given by media validator experts, material experts, and linguists. Dian Kartika Utami, M. Kom., provided criticism and suggestions. She provided them on animated video media products. The validity score given by media experts was 96%. The criteria were very feasible or excellent. Siti Chodijah, M.Pd., a linguist, gave a validity score of 100%, with criteria of "very feasible" or "very good." Herna Nur Megawati, S.Pd., a material expert, gave a validity score of 90%, with criteria of "very feasible" or "very good." After passing the validation test, the product is ready for a trials.

Then, this implementation stage was limited to 25 students in class III. Students then complete a 10-question questionnaire using Powtoon-based animation video media. This allows the researcher to understand the students' responses. At this stage of evaluation, the results of the student response questionnaire were obtained using the researcher's animation video product, which had a percentage result of 92%, and it was found to be very feasible and very good to be used in the learning process on the material on the understanding of angles and various angles in grade III of elementary school.

## CONCLUSION

The following conclusions can be drawn based on the development and results of trials and research on learning videos on the understanding of angles and various angles using Powtoon. The

development of media presentation on the material on the understanding of angles and various angles at Singajaya State Elementary School 01 uses the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. The results of the validation of the development of Powtoon-based learning media are as follows: (1) according to media experts, it is highly feasible at 96%; (2) according to linguists, it is highly feasible at 100%; (3) according to material experts, it is highly feasible at 90%; and (4) based on field trials, it is very good at 92%. It can be concluded that Powtoon-based video learning media is valid and feasible for teaching the subject of angles.

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