

## Development of Learning Multimedia on Formal Object Material and Geography Material Objects for Class X SMA

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### Abstract

*This research aims to develop instructional multimedia designed using Microsoft Office PowerPoint for the topics of formal and material objects in geography for 10th-grade students in Senior High School (SMA). The research follows the Borg and Gall model through stages of planning, initial product development, validation, testing, and final product. Instructional multimedia is created by utilizing Microsoft Office PowerPoint technology as a tool to create relevant presentation slides aligned with the Geography curriculum. The results of this study demonstrate that the developed instructional multimedia effectively enhances students' understanding of the concepts of formal and material objects in geography. Furthermore, this multimedia is considered a highly efficient tool in boosting motivation and interest in learning geography among students. Student satisfaction surveys and teacher interviews indicate that the instructional multimedia received positive responses from all parties. This research provides a significant contribution to the development of innovative and technology-relevant instructional media. It is hoped that the use of this multimedia will improve students' comprehension of formal and material object topics in geography and offer a more engaging and effective learning alternative in Senior High School.*

### Abstrak

Penelitian ini bertujuan untuk mengembangkan multimedia pembelajaran yang dirancang menggunakan bantuan aplikasi Microsoft Office Powerpoint pada materi objek formal dan objek material geografi untuk siswa kelas X di Sekolah Menengah Atas (SMA). Penelitian ini menggunakan model Borg and Gall melalui tahap perencanaan, pengembangan produk awal, validasi, uji coba, dan produk akhir. Multimedia pembelajaran dikembangkan dengan memanfaatkan teknologi Microsoft Office Powerpoint sebagai alat untuk menciptakan slide persentasi yang relevan dengan kurikulum Geografi. Hasil penelitian ini menunjukkan bahwa multimedia pembelajaran yang dikembangkan mampu meningkatkan pemahaman siswa terhadap konsep objek formal dan objek material geografi. Selain itu, multimedia ini juga dinilai sebagai alat yang sangat efektif dalam meningkatkan motivasi dan minat belajar siswa terhadap geografi. Hasil survei kepuasan siswa dan wawancara dengan guru menunjukkan bahwa multimedia pembelajaran ini mendapat respon positif dari semua pihak. Penelitian ini memberikan kontribusi penting dalam pengembangan media pembelajaran yang inovatif dan relevan dengan perkembangan teknologi. Diharapkan bahwa penggunaan multimedia ini dapat meningkatkan pemahaman siswa terhadap materi objek formal dan objek mateial geografi serta memberikan alternatif pembelajaran yang lebih menarik dan efektif di SMA

**Keywords :** Pengembangan Multimedia pembelajaran Microsoft Office Powerpoint Objek material geografi

## INTRODUCTION

Education is an important aspect that greatly influences the progress of a country. Education plays an important role in building life, so it is very important to collaborate between technology and education in the learning process to improve education. Multimedia is a learning medium that combines text, video, audio and animation which makes learning more interesting.

This research focuses on developing learning multimedia designed using the Microsoft Office Powerpoint application in formal object material and geographic material objects for class X students at SMAN 1 Batusangkar. SMA was the right choice for this research because of its important role in secondary education in Indonesia. This

research aims to describe and produce valid and practical learning multimedia, with the hope of increasing students' learning motivation and helping them understand geographical material objects better.

## RESEARCH METHOD

Researchers use a research design in the form of a research and development approach. This research method adopts the Borg and Gall model which involves planning stages, initial product development, product validation, testing, and final product. The following are the stages of the Borg and Gall model:

### Planning

This stage was carried out in two steps, namely field observation and preliminary study. The purpose of this planning stage is to

analyze needs and state the content of learning materials.

**Initial Product Development**

Designing a product is carried out in two stages. The first stage is to select and determine the application used, the application used is Microsoft Office Powerpoint, then the second stage is to create a flowchart and storyboard

**Product Validation**

Once the product is complete, the next step is product validation. This involves one material expert and two media experts, a Geography teacher from SMAN 1 Batusangkar and two KTP FIP UNP lecturers. After receiving input from the validator, the product is revised before the testing stage, resulting in a product that has been validated and is ready to be used by students.

**Trials**

Trials are carried out to assess the practicality of a media or product. This involved 30 class XE 2 students at SMAN 1 Batusangkar to collect data regarding the use and quality of the product.

**The final product**

This research produces learning multimedia based on Microsoft Office PowerPoint to increase student motivation in learning Geography and overcome limited facilities. The final product will be distributed to Geography teachers at SMAN 1 Batusangkar

This research method will provide a comprehensive framework for the development of effective multimedia learning in the context of class X Geography learning in high school. This approach ensures that the media produced is appropriate to educational needs, relevant to the curriculum, and can maximize student learning experiences. Next, to analyze data from the questionnaire, validity and practicality techniques were used.

**DEVELOPMENT RESULTS AND DISCUSSION**

**Development Results**

The materials and equipment needed to create multimedia learning presentation slides about geographic material objects using Microsoft Office Powerpoint are assisted by

the Capcut application and include the use of a computer or laptop, projector screen, speakers. The following are the results of the opening display that has been created:



Figure 1. Media opening display

The next step is to test the validity of the development product through experts. This validity test aims to assess whether the learning media being developed meets applicable media quality standards and scientific standards. The assessment given by experts will be the basis for researchers to make revisions to the learning media that has been created. The suggestions and input provided by experts aim to improve the quality of learning media, so that the final results produced reach high quality standards and produce more perfect products.

**Validity test**

The formula used in the validity test is:

$$\text{Formula: } X = \frac{\sum x}{n}$$

- Information: X = Average
- n = number of indicator
- ∑x = Total Score

Next, test the learning media with media experts. The following are the results of media expert assessments 1 and 2.

Table 1. Media Expert Assessment Results

No	Aspect	Number of	Number of
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		Validator Values 1	Validator Values 2
1	Usage guide	10	10
2	Program performance	20	20
3	Systematics and aesthetics	67	68
Total		97	98
Validation Score		97%	98%

The results of research and development of learning multimedia using the Microsoft Office Powerpoint application regarding geographic material objects can be concluded that this media has undergone validity testing by media validators, with an accumulated score of 97% by media validator 1 and a score of 98% by media validator 2. The results, this media is categorized into "Very Valid". According to tests conducted by experts, this learning multimedia received a very good category rating from all validators. Therefore, multimedia learning about geographic material objects using Microsoft Office Powerpoint has been proven to meet the validity criteria so that it can be used effectively in the learning process of class X high school students.

Table 2. Results of Material Expert Assessment

No	Aspect	Number of Values
1	Content and purpose	44
2	Technical	20
3	Systematics and aesthetics	15
Total		75
Validation Score		98.75%

It can be concluded that the media that was tested on material expert validators received an accumulated score of 98.75% and was categorized as "Very Valid". Therefore, multimedia learning about geographic

material objects using Microsoft Office Powerpoint is valid for use in the learning process.

**Practicality Test**

Next, test multimedia learning about geographic material objects using Microsoft Office Powerpoint for students. The following are the results of the practicality assessment:

Table 3. Practicality Assessment Results

No	Aspect	Average	Percentage
1	Usage guide	4.56	91%
2	Material	4.59	92%
3	Evaluation	4.44	89%
4	Benefits of multimedia	4.51	90%
Average		4.55	91%

Testing the practicality of multimedia learning about geographic material objects using Microsoft Office Powerpoint was tested on 30 students in class XE 2 SMAN 1 Batusangkar. The practicality test results obtained an average of 4.55 and a percentage of 91%. This learning multimedia is categorized as "Very Practical".

**Discussion**

In general, learning media products have met the requirements for testing. With an average gain of 4.40 and a percentage rate of 88% by the first media expert and 4.30 as well as a percentage rate of 86% from the second media expert. After carrying out the first stage of revision, the researcher obtained results from the first media expert in the second stage, namely 4.85 with a percentage level of 97% in the "Very Valid" category, and from the second validator, namely 4.90 with a percentage level of 98% in the "Very Valid" category. For the results of the validity of the material, the researcher only did it once with an average of 4.93 and a percentage of 98.75% which was categorized as "Very Valid". Next, test the practicality by testing the learning media on 30 class XE 2 students at SMAN 1

Batusangkar. Based on the results of testing learning media on class

## CONCLUSION

Development multimedia learning about geographic material objects using the Microsoft Office Powerpoint application in geography subjects for class X students in Senior High Schools (SMA) is a significant step in bringing innovation to the learning process. Thus, the development of learning multimedia on formal object material and geographic material objects for class X SMA is a positive step in increasing students' understanding of learning. The use of this media has been proven to be effective and in accordance with modern educational needs, and can be a model for the development of innovative learning media in the future.

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