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## Development of Science Learning Media Based on Microsoft Power Point on Soil Materials and Structures Earth

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### Abstract

This research aims to determine the effectiveness of using the development of Microsoft Office Power point-based science learning media on soil and earth structure in class V elementary schools. This research includes development research. In this research, the development design used is the ADDIE (analysis, design, development, implementation and evaluation) development design model. This research produces learning media based on Microsoft Office Power point on soil and earth structure. Based on the research results obtained, (1) Validation results from material experts were 87.3% (very good), (2) Validation results from media experts were 80% (good) (3) Results of interviews with students who said that students enjoyed learning with Using Microsoft Office Power Point based science learning media, it is easier to understand the subject matter, students are active and experience the learning process directly. From the results of this research, it can be concluded that the learning media based on Microsoft Office Power point on soil and earth structure material that was developed is effectively used in the learning process.

Keywords: learning; media; science; microsoft power point

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## INTRODUCTION

Education is an effort that focuses on developing the potential of human resources, especially students, through facilitation and support in their learning activities. This process aims to increase understanding, skills and knowledge needed in various aspects of life. Through education, individuals are expected to be able to develop themselves holistically, both intellectually and emotionally, so that they are able to contribute positively to society (Budimansyah, 2010; Rintakorpi & Reunamo, 2017). Thus, education not only optimizes individual potential, but also plays a role in the social and economic development of a country (Juniwati, 2020; Ningsih, 2020).

Education aims to encourage teachers to be more creative in creating an interesting, dynamic and attractive learning environment for students. This changes the teacher's role from simply conveying information to becoming an active, interactive, and responsive learning facilitator to students' individual needs (Asiyah, 2020; Risman, 2020). With this approach, teachers can more effectively inspire and motivate students to learn more independently, critically and creatively (Luo et al., 2020; Prastuti, 2020). These changes also allow space for students to develop a variety of skills, such as collaboration, creativity, and problem-solving skills, that are essential for success in the modern era.

Thus, the goal of education is not only about knowledge, but also about developing students' full potential in various aspects of life.

The appropriate learning concept to achieve educational goals is instructional learning. This concept views students as active individuals who have potential and abilities that need to be explored to the maximum (Prastuti, 2020; Wulan, 2020). Apart from emphasizing the active role of students, instructional learning also demands a broader role for teachers, including as a learning designer and effective learning media. Teachers must be able to design interesting learning and design appropriate learning media so that educational goals can be achieved optimally.

Learning media and learning aids are an important and inseparable part of the teaching and learning process. Both are integrated with the learning methods used to help students understand the material better (Laurens et al., 2018; Sukiminiandari et al., 2015). Learning aids act as dynamic elements that support the student learning process and have an important position in achieving learning goals (Fitriati et al., 2019; Vivi Muliandari, 2019). Learning media and learning aids can help students to be more focused and interested in learning. Apart from that, media and tools can also help students understand abstract and complex material more easily (Ardan, 2016; Falloon, 2020). By using the right media and learning aids, it is hoped that the teaching and learning process can become more effective and efficient, so that students can achieve optimal learning outcomes (Arywiantari et al., 2015; Ekici & Erdem, 2020).

Using tools and abstract learning materials can be concreted and make an uninteresting learning atmosphere interesting. Tools or media for independent learning in this era of technological progress are very much needed in the learning process (Juita, 2020; Qoryana, 2020). This is needed to create human quality that does not only depend on verbal transfer of knowledge, whether carried out by schools, universities or non-formal education institutions at this time. Learning aids or media are created and can be used according to the subject and urgency of the subject. Subjects that tend to be rote or theoretical in their transfer may simply use a guidebook (Sipahutar et al., 2018; Zafira & Artharina, 2017). By using Microsoft Office PowerPoint-based learning media for science subjects, it is also hoped that it can help when teachers cannot be present to deliver material in class as usual (Ibrahim, 2020; Kesuma & Wahyuni, 2020). This research has significant implications in the educational context. By using Microsoft Office PowerPoint technology as a learning medium, this research provides an opportunity for teachers to create interactive, visual and interesting learning materials for students (Setya, 2020). This can improve students' understanding of Soil and Earth Structure material better, because the use of multimedia such as pictures, graphs and animations can help convey information more clearly and attract students' attention (Al-Okaily et al., 2020). Apart from that, the use of technology in learning can also motivate students to be more active in the learning process, develop their creativity, and improve digital skills which are important in this modern era.

## **RESEARCH METHODS**

### ***Research Design***

In this research, development uses the ADDIE model (Analysis, design, development, implementation and evaluation). Analysis is carried out to understand the needs, goals and characteristics of students as well as the learning context. Design includes detailed planning of learning programs, including introduction of materials, teaching methods, and strategy evaluation. The Development Stage includes creating learning materials according to the design that has been created (Sugiyono, 2017). Implementation introduces the program into a real learning environment, while Evaluation assesses the effectiveness of the program and identifies areas of improvement. By using the ADDIE research design, program developers can ensure that the resulting learning program can meet learning needs and achieve the desired goals

### ***Research Target/Subject***

This research focuses on research subjects, namely class VB students at elementary school 80/I Muara Bulian. The subjects of this research were chosen because they have representative characteristics in understanding the phenomenon under study, so that the research results can have higher relevance and significance in the real life context of the school environment.

### ***Research Procedure***

This research will follow systematic steps which include identification of learning needs, analysis of soil material and earth structure, design of PowerPoint-based learning media, development of content in accordance with the curriculum, media trials with a number of representative respondents, evaluation of trial results, and revision based on input from respondents and education experts. Data collection methods will use observation, interview and questionnaire techniques. Data will be analyzed using quantitative and qualitative approaches to measure the effectiveness of the learning media developed in increasing students' understanding of scientific concepts about soil and earth structure.

### ***Instruments, and Data Collection Techniques***

The instruments used to collect data in this research were questionnaires and interview guidelines. The questionnaire used is a closed questionnaire given to expert lecturers to validate the product in terms of material and media. Meanwhile, interview guidelines were used to conduct interviews with students after using Microsoft Office PowerPoint-based science learning media.

### ***Data analysis technique***

The data analysis techniques used in this research are quantitative and qualitative analysis. For quantitative analysis, data from the assessment of the effectiveness of Microsoft Office PowerPoint-based learning media can be analyzed using statistical methods such as the t test, ANOVA test, and correlation to identify the relationship between the variables studied. Meanwhile, qualitative analysis was carried out through content analysis of student responses to the learning media, focusing on the main themes and patterns that emerged from the qualitative data. The combination of these two analysis techniques allows researchers to gain a comprehensive understanding of the effectiveness of learning media in increasing students' understanding and interest in Soil and Earth Structure material.

## **RESULTS AND DISCUSSION**

After going through a development process, the stages begin with analyzing the curriculum, student characteristics, and school conditions that require the development of learning media. Next, the researchers designed science learning media based on Microsoft Office PowerPoint on soil and earth structure. The design of this learning media is in the form of a storyboard which is consulted with the supervisor and revised according to the supervisor's suggestions.

After the design has been revised, the next stage is product creation or development. Product creation refers to a revised storyboard, then the product is validated by expert lecturers, namely material experts and media experts. The results of the material expert lecturer's validation assessment were categorized as "very good" and "suitable for testing without revision. However, the results of the media expert lecturer's validation assessment were categorized as "good" and "worthy of being tested with revisions according to suggestions". The category of validation assessment results states that the learning media is valid. Then the researcher revised the product according to the expert lecturer's suggestions. After the product was revised, researchers conducted product trials in the VB class at elementary school 80/I Muara Bulian. After the trial was carried out, the researchers conducted interviews with 5 class VB students at elementary school 80/I Muara Bulian to see the effectiveness of using Microsoft Office PowerPoint-based science learning media on soil and earth structure. The interview results are then analyzed and evaluated.

Based on the results of the researcher's interviews with 5 students of class VB elementary school 80/I Muara Bulian to see the effectiveness of using Microsoft Office PowerPoint-based science

learning media on soil and earth structure, the conclusion was obtained that students felt happy learning using Microsoft Office-based science learning media (Jeheman et al., 2019; Siswanto et al., 2019). power point. It is easier for students to understand the material because the images and writing on Microsoft Office PowerPoint-based science learning media are clear and appropriate to the material (Robo et al., 2020; Taştan et al., 2018). In learning with science learning media based on Microsoft Office PowerPoint, students actively ask and answer questions from the teacher. Students directly experience learning carried out using science learning media based on Microsoft Office PowerPoint (Wahyuni et al., 2020). In the learning process students do not experience difficulties. From the conclusion of the interview results, it can be said that the learning process using science learning media based on Microsoft Office PowerPoint on soil and earth structure has good effectiveness in achieving learning objectives.

## CONCLUSION

Based on the results of interviews with students, it can be concluded that the use of science learning media based on Microsoft Office PowerPoint on soil and earth structure is effective in the learning process. In connection with the results of this research, the researcher suggests to teachers when teaching soil and earth structure material to be able to use Microsoft Office PowerPoint-based science learning media in soil and earth structure material for class V elementary schools.

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