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POP-UP BOOK DESIGN AS AN EFFECTIVE TOOL FOR PROMOTING CREATIVITY IN THE EIGHTH GRADE SOCIAL STUDIES LEARNING

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ABSTRACT

Based on the results of observations conducted in class VIII D, IPS SMP Bahrul Maghfiroh, it is known that the level of student creativity is still low. The low creativity is mainly caused by the less interesting learning method and the lack of students actively and effectively participating. This study aims to apply Pop-Up Book learning media to improve student creativity. Pop-Up Book media was chosen because it has visual and interactive qualities that can stimulate learning interest and improve students' cognitive and affective development. This study uses the Research and Development (R&D) research method, utilizing the 4D development model, which includes the stages of Define, Design, Develop, and Disseminate. The study results showed that Pop-Up Book learning media could improve student creativity using the Project-Based Learning (PBL) approach. Student creativity significantly increased when comparing the results of cycles 1 and 2 of this study. In cycle I, the average value of 64.17 increased to 84.17 in cycle II. Pop-Up Book media has proven to be a practical, interactive, and innovative learning tool that trains and develops students' creativity in learning activities.

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INTRODUCTION

Education presents an increasingly intricate challenge in contemporary society, primarily due to the multifaceted demands associated with diverse societal progress. The anticipated learning outcomes encompass the cultivation of knowledge and the development of skills across three distinct dimensions: cognitive (knowledge acquisition), affective (attitudinal formation), and psychomotor (skill proficiency). In fostering these dimensions, educational institutions and educators play a pivotal role in facilitating and supporting the holistic development of students, which is essential for their personal and professional growth. However, assessing the quality of education remains a complex endeavor, characterized by many indicators, including teacher

effectiveness and the availability of educational resources (Pristiwanti, 2022). Ultimately, education is a dynamic process aimed at the comprehensive development of individuals, focusing on enhancing competencies critical for effective participation in the workforce and society at large via learning.

Learning is the process of students becoming individuals who develop interests, skills, potential, and creativity through learning activities. Extensive learning resources in the environment can utilize media as a learning tool to increase student creativity. Learning helps individual interactions, and the learning cycle has fast and long stages when learning activities occur (Tafonao, 2018). Therefore, implementing learning media plays an essential role in achieving learning objectives. Learning activities aim to create a conducive classroom atmosphere, encourage students' creativity in learning, and develop their potential in the learning process. Teachers are vital in developing learning media because they need creativity to create effective learning. Innovative and creative learning makes learning more enjoyable. (Yuliandri, 2017).

According to Debeturu (2019), creativity is creating new products or modifying existing ones by developing them. A person can give birth to something new, express and develop creative thinking potential, and produce new and interesting things. Creative thinking skills face obstacles in less supportive classroom learning facilities. The selection of the right learning media is the main factor in optimizing learning. A learning model is needed to train creative thinking skills.

Based on observations that have been carried out at Bahrul Magfiroh Junior High School, class 8 D for Social Studies subjects, it turns out that students have low or minimal creativity. Numerous studies indicate that many students experience limitations in creative thinking, manifesting in their ideas, solutions, and modes of expression. These limitations may stem from monotonous pedagogical methods and a lack of active student engagement in the learning process. Furthermore, there is often a minimal incorporation of innovative educational media into the curriculum. Educators frequently rely on traditional instructional materials, such as textbooks and whiteboards, which can render the learning experience less stimulating and fail to evoke students' imaginations effectively.

In contrast, the researchers develop a medium to help teachers effectively teach in the classroom. It is the Pop-Up Book media. The Pop-Up Book is an innovative educational medium incorporating three-dimensional (3D) elements designed to emerge or move upon page turning. This dynamic feature enhances the content's visual and interactive quality, offering a more engaging educational experience. Pop-Up Book media in instructional settings aims to stimulate students' imaginative capacities, augment their comprehension, and facilitate a deeper understanding of the material presented (Alviolita, 2019). This media is one of the learning models used in Project-Based Learning (PBL), which can encourage students to seek and find solutions in the learning process.

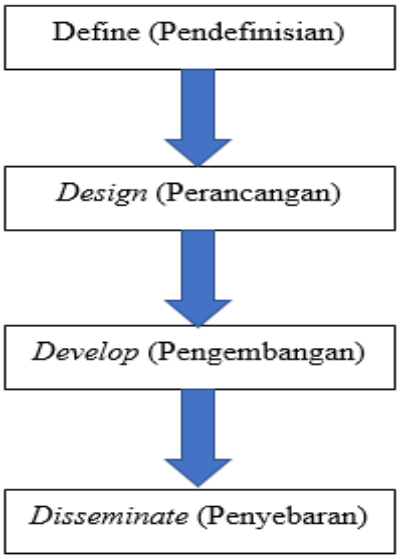
PBL is a learning model that designs an activity that can produce a product from a project that is carried out (Yuniarti, 2021). The Project-Based Learning model

provides a direct learning experience through project creation activities that create a product. Project-Based Learning (PBL) fosters students' creativity in conceptual knowledge and creative thinking skills, enabling them to collaborate effectively in solving problems through innovative ideas and products. Cultivating habits of creative thinking must be integrated into the learning process. The PBL model, enhanced by Pop-Up Book media, aims to develop students' creative thinking skills in population dynamics. By combining PBL with this engaging learning medium, we anticipate significant improvements in students' ability to think creatively while studying the material.

METHOD

Research and development is a research method that develops and tests products that will later be developed in the world of education. Various research models can be used as references in Research and Development. Research and development (R&D) in education is used to develop and validate educational products (Sari et al., 2024). This process is usually called the R&D cycle. It consists of studying research findings related to the product to be developed, developing the product based on the findings, and revising it to correct deficiencies in the testing submission stage. The structured process of knowledge generation implies that research and development are a deliberate and organized endeavor (Djellal et al., 2003). The development stage of the 4D development model consists of four stages of development. The first stage is Define, Design, Develop, Disseminate.

Figure 1: Research and Development (R&D)



The 4D development model has the following stages or development details:

1. Define Phase: This phase focuses on development requirements and serves as the needs analysis stage. In product development, it is crucial to identify and analyze the development needs by gathering information on the extent of

requirements. Reviewing previous research and literature studies can accomplish this definition or needs analysis.

2. Design Phase: The design phase comprises four essential steps: the construction of criterion-referenced tests (establishing test standards), media selection (choosing appropriate media), format selection (deciding on the format), and initial design (creating the preliminary design).
3. Develop Phase: This phase involves developing learning devices based on the 4D model. This stage is dedicated to creating a development product. It consists of two key steps: expert appraisal (evaluation by experts followed by revisions) and developmental testing (trial runs of the development).
4. Dissemination Phase: The dissemination phase involves promoting the developed product to ensure its acceptance among users, whether individuals, groups, or systems. Careful packaging of materials is essential to achieve the desired presentation.

   Data is collected by giving questionnaires to media expert validators and material experts. The data obtained is then analyzed. Analysis of the feasibility test of learning media is carried out to get data from the assessment results that media expert validators and material expert validators have carried out. The data generated from the evaluation is quantitative. This data can be converted into qualitative data in the form of intervals using the following formula:

$$P = \frac{\Sigma x}{\Sigma xi} x\ 100\%$$

   Description:

   P = Validation Percentage

   Σx = The total Number of Answers in all items

   Σxi = The total number of ideal scores in all items

   100 = Constant

   The results of the above calculations are then used to determine the feasibility of learning media. The feasibility categories are shown in Table 1 (Muhsan et al., 2022).

Table 1. The Criteria of Questionnaire Assessment

Percentage	Criteria	Description
1% - 20%	Highly unfeasible	Completely unusable
21% - 40%	Unfeasible	Unusable
41% - 60%	Less feasible	Requires major revision
61% - 80%	Feasible	Usable with revision
81% - 100%	Highly feasible	Usable without revision

RESULTS AND DISCUSSION

Student creativity generates original and valuable ideas, solutions, or works in academic settings and everyday situations. This ability is crucial for nurturing students'

potential and equipping them to tackle future challenges. Creativity enhances students' capacity to think critically, solve problems, and make informed decisions, while also helping them explore their interests and develop their talents. Furthermore, creativity enables students to express themselves, approach problems innovatively, and fully realize their potential. Fostering creativity from an early age is essential for preparing students to confront global challenges that demand critical, flexible, and adaptive thinking skills (Rachmadyanti, 2017).

Learning media can convey messages or information from educators to students to achieve learning goals. This media includes various forms such as images, videos, audio, animations, and interactive digital media. Appropriate learning media can help clarify abstract concepts, increase learning motivation, and encourage active student involvement in the learning process (Sitepu, 2022). Therefore, learning media is crucial in an engaging, interactive, and meaningful learning atmosphere. Appropriate media not only helps explain abstract material to be more concrete but also attracts attention, fosters learning motivation, and improves students' memory and understanding. In addition, teaching media functions as a two-way communication between teachers and students, allowing for a more active, participatory, and meaningful learning process. In modern learning, using technology as a medium is also essential to adapting to the times' development and the digital generation's needs. Therefore, the selection and use of learning media must consider the characteristics of students, learning objectives, and the suitability of the material presented.

Pop-Up Book is a unique type designed interactively, utilizing specialized folding, cutting, and mechanical techniques that allow images or objects within to emerge in three dimensions when the page is opened. This format is a form of visual-kinesthetic learning media that effectively captures attention and enhances student engagement in the learning process. In an educational context, Pop-Up Books not only act as visual aids but also stimulate students' interest, curiosity, and enthusiasm for the subject matter (Batubara, 2021). *Pop-Up Books* are very effective for early childhood and Elementary School learning because they can convey concepts concretely, make learning more enjoyable, and help improve students' memory of the material presented. In addition, *Pop-Up Books* also contribute to developing students' cognitive and psychomotor skills, especially when they are involved in arranging the book. This activity trains hand-eye coordination, creativity, spatial thinking skills, and strengthens understanding of the contents of the material. Thus, *Pop-Up Books* not only act as a medium for conveying information but also as a means to form an active, exploratory, and meaningful learning experience.

Learning has a fundamental role in increasing student creativity. Varied and interesting media can stimulate imagination, encourage exploration of ideas, and provide space for students to think critically and innovatively. By presenting learning experiences that are not only theoretical but also visual, audio, and interactive, students are encouraged to develop a broader perspective on the subject matter. (Selasih, 2017). Consequently, this study focuses on measuring student creativity, which is carried out

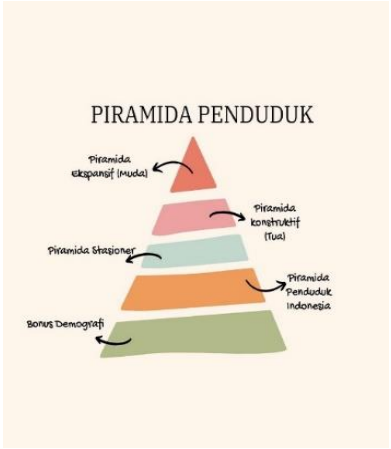
using the learning model PBL. The product produced from this research is a *Pop-Up Book* learning media on population dynamics material in the eighth grade D of Bahrul Maghfiroh Junior High School. The steps involved in developing this product are *Define, Design, Develop,* and *Disseminate.*

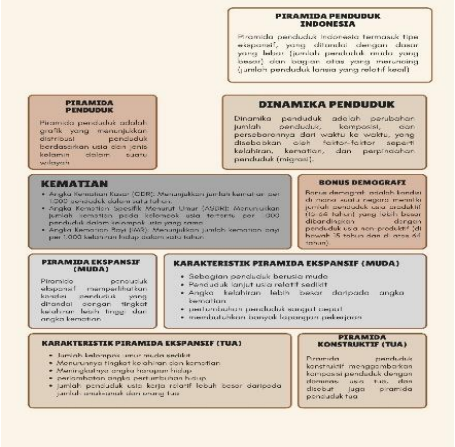
1. *Define*

   This step aims to identify students' needs, problems, and potential. Based on observations, it was found that students' creativity in expressing ideas, drawing, or conveying ideas is still limited due to the dominance of conventional learning methods. Hence, media, one of which is the *Pop-Up Book*, is needed to stimulate students' imagination and interest in learning.

2. *Design*

   Once the needs have been identified, the next step is to design *Pop-Up Book* media that aligns with the subject matter and the characteristics of the students. These *Pop-Up Books* will feature engaging visual elements, vibrant colors, and interactive components that can be opened or pulled, encouraging active learning among students. Additionally, the worksheets accompanying the *Pop-Up Book* will be structured to help students develop their skills in creating simple visual works.

Number	Part	Picture
1.	Cover	
2.	Aspect 1	

3.	Aspect 2	
4.	Aspect 3	

1. *Develop*

   At this stage, the Pop-Up Book design is tested on a limited basis with students. An evaluation is conducted to gauge their responses, interests, and the book's effectiveness in sparking creativity, such as encouraging redrawing, crafting new stories, or creating pop-up versions. Following revisions based on the feedback received, the media is then refined.

2. *Disseminate*

   The final step is to share the Pop-Up Book media with other teachers and students. Teachers will conduct brief training sessions on how to use and create simple Pop-Up Books. This media can also be shared through forums and creative teacher communities and utilized as products in learning innovation competitions.

Table 2. The Results of the Feasibility Media Test by Media Experts

No	Aspects of Assessment	Score
1	Usability	16
2	Image Quality	16
3	Display Quality	16
4	Word and Language Usage	15
5	Media Quality	16
The Total Score		**79**
Percentage		**79%**
Criteria		**Feasible**

The feasibility test by media experts aims to obtain input and recommendations to ensure that the developed learning media meet quality standards and are suitable for use. Based on the assessment results, this media received a feasibility score of 79%, which is included in the "feasible" criteria. This achievement shows that the learning media in a Pop-Up Book is considered proper for delivering material on population dynamics. This assessment is based on various aspects such as usability, image quality, display quality, words and language usage, and media quality.

Table 3. The Results of the Feasibility Learning Material Test by Material Experts

No	Aspects of Assessment	Score
1	Imaging Design	24
2	Material Content	30
3	Language and Communication	26
The Total Score		**80**
Percentage		**80%**
Criteria		**Feasible**

The feasibility test results of the material expert validator on the developed learning media obtained an overall percentage of 80%, with a feasible category. It proves that the Pop-Up Book learning media can be used as a learning medium for population dynamics material. The media development is possible in terms of learning design, material content, and language and communication, thus making it easier for educators to provide material and also making it easier for students to comprehend the contents of the material. The study results that have been conducted using the Project-Based Learning (PBL) learning model show an increase in student creativity in population dynamics subjects in the eighth grade of D of Bahrul Maghfiroh Junior High School. The increase in creativity in learning social studies is evidenced in the table below:

Table 4. The Comparison of the Percentage Distribution of Social Studies Learning Creativity in 2 Cycles

No	Nilai	Cycle 1		Cycle 2	
		F	%	F	%
1	Completed	2	33%	5	83%
2	Uncompleted	4	67%	1	17%
Total		6	100%	6	100%
The Low Score		45		70	
Average		64,17		84,17	

Based on the results of the study using PBL comparing the results of cycle one and cycle 2 in the eighth grade of D of Bahrul Maghfiroh Junior High School, the results increased in each cycle. In the first cycle, the average score obtained was 64.17, which increased to an average result of 84.17 in the second cycle. With this increase, students' creativity has enhanced significantly. Through the Pop-Up Book media, it can provide solutions for classroom learning to improve student creativity.

CONCLUSION

Based on the research, it can be concluded that using Pop-Up Book media in learning activities significantly enhances students' creativity. Pop-Up Book media is an effective and enjoyable learning alternative that fosters creativity. With the appropriate approach, this media can transform the learning experience into imaginative, expressive, and meaningful. The results from Cycle 1 and Cycle 2 of the study indicate a notable improvement in students' creativity. In the first cycle, the average score was 64.17, which increased to 84.17 in the second cycle. It demonstrates that Pop-Up Book media is an interactive and innovative learning tool and effectively trains and develops students' creative skills. This study emphasizes the importance of creating learning media to stimulate and enhance students' creativity.

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