



## Need Analysis Profile of Pop-up Book Development for Junior High School Students

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**Abstract.** This study aims to conduct a needs analysis on the importance of Pop-up Book learning media for class IX Science-Biology subjects at SMPN 25 Pekanbaru. This type of research is quantitative descriptive research. The instrument used is a questionnaire consisting of 3 indicators: the learning process, the use of learning media and the use of Pop-up Books. The sample used in this study was students in grades IX 4 and IX 5, totalling 70 students. The results showed that overall the average percentage of the needs analysis for developing Pop Up Book learning media was 79.12% in the excellent category. The highest response was found in the indicator of the use of learning media, with a percentage of 93.92% in the very good category, and the lowest response was found in the Pop-up Book usage indicator, with a percentage of 52.49% in the sufficient category. Based on the results of this study shows that no Pop-up Book learning media is available at SMPN 25 Pekanbaru. Therefore it is necessary to develop Pop Up Book learning media for class IX Science-Biology subjects at SMPN 25 Pekanbaru to make it easier for students to understand the material and foster students' learning motivation.

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## INTRODUCTION

Education changes a person's attitude and behaviour in developing humans through teaching or training. National Education System Law No. 20 of 2003 states that education is a conscious and planned effort to create a learning environment and learning process so that students actively develop their potential in religious, spiritual strength, control, personality, intelligence, noble character, and the skills needed by themselves, society, nation and state. Every human being needs education. Education is a planned effort to guide a person to become an individual who is independent, responsible, creative, knowledgeable, healthy and has good morals both from a physical and spiritual aspect (Inanna, 2018). In general, education is a process of self-development for each individual to become an educated human being (Alpian et al., 2019).

The purpose of education is to educate and develop one's potential to contribute to a nation's progress. Every citizen has the right to get quality education, which can produce superior Human Resources (HR). Education is a precious long-term investment, especially for the younger generation, which will determine the progress or decline of a nation



(Muhardi, 2004). Education is a determining factor in the development and realization of individuals, especially in terms of nation and state development (Elvira, 2021). Education can be found anywhere, whether in the family, school or community environment. Several subjects can be studied at school, including natural science.

Science subjects at the junior high school level include several science subjects, namely physics, biology, chemistry and astronomy. IPA is a science that studies the natural environment and its contents. This means that science studies all objects that exist in nature, events and symptoms that appear in nature; science can be interpreted as objective knowledge. Science discusses natural phenomena arranged systematically based on the results of experiments and observations made by humans (Samatowa, 2006). Each lesson has goals to be achieved, and the learning process can influence these achievements in the classroom.

The success of learning can be seen from the ongoing teaching and learning process, so this process will affect the achievement of learning objectives. For students' attention to be focused and motivated to participate in learning activities properly, learning needs to be designed attractively. Exciting and diverse learning media are necessary to support the learning process so that the teacher can communicate what is learned so that students can understand the teaching material. The use of learning media in class can increase students' interest in the learning process (Magdalena et al., 2021; Supriyono, 2018).

Learning media functions as a means of communication in learning activities (Gawise et al., 2022; Miftah, 2013; Saniah & Pujiastuti, 2021). The learning process is monotonous, and the lack of variety in learning media makes students bored and unable to concentrate. This can make students not understand the material presented, so learning objectives are not achieved as expected. The Ministry of Education and Culture emphasized that to generate interest and motivation to learn and develop values in students through media. Psychologically, learning media makes learning easier for students because it can make abstract concepts more real or concrete (Supriyono, 2018). There are many types of learning media, including Pop-Up Book media.

Pop-Up Book is a handmade book made of paper and can be as creative as possible. Pop Up Book is also a collection of books that can move in each section or have three layered components and provide an interesting perception of story ideas, starting from displaying images that can move when each page is opened (Dzuanda, 2011). When the Pop-Up Book is opened, each page shows a real image supported by three-dimensional (3D) visualization. Images on each page can make it easier for students to understand something abstract to be real to increase knowledge and stimulate the imagination.

The results of research conducted by Atikasari & Desstya (2022) state that it is essential to have fascinating scientific literacy-based Pop Up Book learning media for students so that students will find it easier to understand concepts and material. The results of another study conducted by Harisna & Suparman (2018) show that students and teachers need visual aids in the form of Pop Up Books to support and complement teaching materials that already exist and are already being used at school. Referring to the critical role and usefulness of Pop-up



Books in learning, the researcher feels the need to conduct a needs analysis to develop Pop Up Book learning media for class IX Science-Biology subjects at SMPN 25 Pekanbaru.

## RESEARCH METHODS

### Types, Samples and Research Instruments

This descriptive research describes the needs analysis results for the development of Pop-up Book learning media for junior high school students. This research was conducted at SMPN 25 Pekanbaru involving classes IX 4 and IX 5 with a total of 70 students. A questionnaire was used to analyze the need for Pop Up Book learning media for Science-Biology subjects. The questionnaire consists of 3 indicators: the learning process, the use of learning media and the use of Pop-up Books. The questionnaire consists of 5 assessment criteria, namely 5 = very good, 4 = good, 3 = good enough, 2 = not good, and 1 = very bad.

### Data analysis

Questionnaire data in the ordinal form is then converted into nominal data (Sukri et al., 2020). Nominal data are then grouped into five categories, as shown in Table 1.

Table 1. Interpretation of the use of Pop-up Book learning media for Science-Biology material

Criteria	Percentage	Category
5	81% - 100%	Very good
4	61% - 80%	Good
3	41% - 60%	Good enough
2	21% - 40%	Not good
1	0% - 20%	Very bad

## RESULTS AND DISCUSSION

The results of the analysis of learning media development are shown in Table 2.

Table 2. Recapitulation of All Indicators for the Development of Pop Up Book Learning Media for Science-Biology Subjects

No	Indicator	Percentage	Category
1.	Learning process	90, 95%	Very good
2.	Use of Learning Media	93,92%	Very good
3.	Use of Pop-Up Books	52,49%	Good enough
	Average	79,12%	Good

The results of the analysis of the needs of Pop-up Book learning media show that the highest indicator is the use of learning media of, 93.92% with a very good category. It can be seen from the research that has been done that, in general, during the learning process, the teacher already uses learning media in the classroom to help students understand the material

and foster motivation to learn for students. The lowest indicator is the use of Pop-up Books, with 52.49% in the good enough category, and it can be seen from the research that has been conducted that teachers have never used Pop Up Book media before in the learning process. Overall, the average percentage of the needs analysis for developing Pop Up Book learning media is 79.12% in the good category (Figure 1). These results indicate that it is necessary to develop Pop Up Book learning media for class IX Science-Biology subjects at SMPN 25 Pekanbaru to increase student motivation in learning.

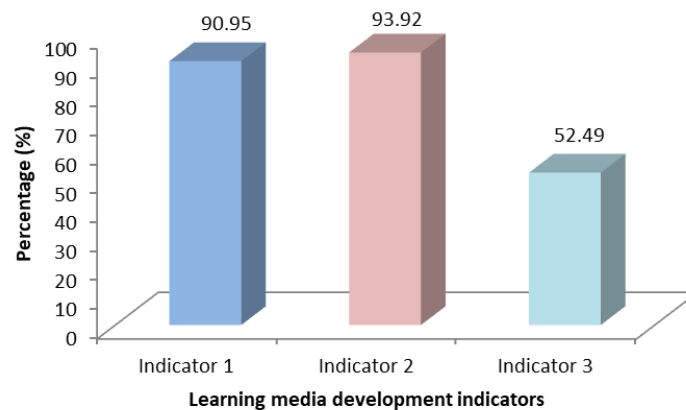


Figure 1. Graph of the Percentage of All Indicators on the Development of Pop-Up Book Learning Media for Science-Biology Subjects

Figure 2 shows that the results of the study with the highest response were found in the indicator of the use of instructional media at 93.92% in the very good category. It can be seen from the research that has been conducted that, in general, during the learning process, the teacher has used learning media in the classroom to make it easier for students to understand the material and foster learning motivation for students. It can be said that learning media plays an important role in the teaching and learning process. Learning media is used as a channel for messages (learning materials), so that it can stimulate students' attention, interest, thoughts and feelings to achieve learning goals (Batlawi & Hamid, 2022; Kristanto, 2016; Wahid, 2018). In general, learning media functions as an aid in communication between teachers and students in the learning process (Hasan et al., 2021; Mahnun, 2012).

The lowest response was found in the Pop-up Book usage indicator of 52.49% in the sufficient category. It can be seen from the research that has been conducted that teachers have never used Pop Up Book media before in the learning process because learning media is still very rarely used in education. Pop Up Book media is a three-dimensional learning media that can encourage children's imagination and broaden their knowledge, make it easier for them to understand how an object is described, expand their vocabulary, and increase their understanding (Hanifah, 2014). Pop Up Book media is very good to use in the learning process because it has many advantages. The advantages of Pop-up Books are: Provide a more interesting story visualization because it looks dimensional, can give surprises when the



page is opened, provokes enthusiasm in reading and strengthens the impression you want to convey (Dzuanda, 2011).

Overall, an average percentage of 79.12% is obtained in the good category. Meanwhile, Pop Up Book media has never been used in the learning process in the classroom. Bluemel & Taylor (2012) state that Pop Up Books have several uses, such as developing young people's love for books and reading, being useful for critical thinking and developing creativity, capturing meaning through attractive image representations and generating the desire and encouragement to read. In the learning process, learning media is needed to attract attention and increase student motivation in learning. The use of learning media in the teaching and learning process can contribute to the effectiveness of achieving learning objectives (Dewanti et al., 2018; Hasan et al., 2021).

Therefore, it is necessary to develop Pop-Up Book learning media for class IX Science-Biology material at SMPN 25 Pekanbaru, so that interesting Pop-Up Book media can increase students' motivation and knowledge in learning. Students will experience interesting experiences using Pop Up Books, such as sliding, opening, and even folding, which makes students more active (Setiyaningrum, 2019; Umam et al., 2019). A tedious learning process can make students feel bored and not interested in participating in learning activities. Encouragement for interest in learning can be obtained from a learning atmosphere that provides motivation and freedom to explore or analyse learning experiences (Trismayanti, 2019).

## CONCLUSION

The results showed that no Pop-up Book learning media was available at SMPN 25 Pekanbaru. Therefore it is necessary to develop Pop Up Book learning media for class IX Science-Biology subjects at SMPN 25 Pekanbaru to make it easier for students to understand the material and foster students' learning motivation.

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