Building lower secondary school students' interest and motivation towards science: The role of students' worksheet in particles of substance and living organism

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Abstract

Science learning that only focuses on the assignment and exposure to material can cause students to be less interested and less motivated to learn science. One example of a student's worksheet (Lembar Kerja Peserta Didik in Indonesian, LKPD) that effectively attracts students' learning interest is using the LKPD format in comics because it combines visual elements with words. The content of comics can be arranged based on scientific events and dialogues from everyday life, helping students understand the relationship between science and the context of everyday life. This study aims to determine the role of comic-based LKPD in attracting interest and motivation to learn science for grade 9B students of SMPN 11 Malang. This research is included in quantitative descriptive research using survey methods. The data collection for this study was done through a questionnaire distributed through Google Forms with a Likert interval scale. The results of the questionnaire data analysis show that 81.83% of students strongly agree that comic-based LKPD attracts their interest and motivation to learn.

Keywords: *LKPD; comic; interest; learning motivation; students' motivation; attitude.*

I. Introduction

In classroom learning, a tool called learning media is needed to convey certain information that aims to arouse individual thoughts, interests, and attention [1]. Learning media can be used to attract

students' attention to learning so that it can increase student interest and motivation [2]. Science subjects place more emphasis on process than outcome. This phenomenon can be used to provide students with experience in exploring their abilities [3]. Science lessons have a lot to do with life around students. Teachers can create learning that starts from the surrounding phenomena for science learning facilities to increase understanding of science concepts [4]. One learning media that can be used in science learning is the Student Worksheet.

According to Okatavia in Nadzif [1], the quality of Indonesian education is relatively low, which impacts science learning. This situation is due to the lack of maximum learning facilities, such as science learning media. LKPD learning media commonly used in schools only contains a summary of material and questions considered ineffective and uninteresting for students [5]. In addition, based on observations in schools, LKPD has not been implemented optimally in the classroom. Science learning only focuses on the assignment and exposure of material from teachers to students. This can cause students to be less interested and motivated to learn science.

One example of an effective LKPD to attract students' learning interest is to utilize the LKPD format in the form of comics [6]. LKPD, in the form of comics, acts as a means of visual communication containing images and text assembled in a comic narrative to facilitate the understanding of information [7]. According to Desriyanti & Gusnedi, to attract students' attention, involve comics in the teaching-learning process [8]. Comics are compelling because they combine visual elements with words. The content of comics can be arranged based on scientific events and dialogues from everyday life, helping students understand the relationship between science and the context of everyday life.

Previous research examining comic-based LKPD's influence on student interest and motivation included the following. According to Nasriyati, the comic-based LKPD that has been developed affects increasing students' learning motivation regarding the structure and function of plant organs at SMPN 1 Montasik Aceh Besar [9]. According to Lesmono, some students are very motivated and understanding after learning physics using teaching materials like comics [10]. Some junior high school students' average interest in learning physics after learning to use comic media is very good [11]. According to Ferania [12], KOMPAS (Komik IPA SD) media shows an average score of 88.6%, a very good category for encouraging students' interest in learning. Dwiyanti Pratiwi & Fitriana [13] show that digital comic media, based on the Instagram platform, influences the learning interest of SMPN 4 Tarakan students, with a percentage of 84%.

Based on the background of this problem, researchers are interested in researching the role of comic-based LKPD in attracting interest and motivation to learn science for grade 9B students of SMPN 11 Malang.

II. Method

This research is included in quantitative descriptive research using survey methods. The data collection of this study was done through a questionnaire distributed through Google Forms with a Likert interval scale containing 5 answer preferences: strongly disagree, disagree, doubtful, agree, and strongly agree [14]. The study sample was grade 9B students of SMPN 11 Malang.

III. Results and Discussion

The Student Worksheet (LKPD) developed in this study is comic-based with a Culturally Responsive Teaching (CRT) approach. The title is LKPD PAPA MAHI (LKPD Particles Constituent of Objects and Living Things). LKPD PAPA MAHI has conversations between figures who discuss the material particles that make up objects and living things by inserting a culture of mutual assistance in it; the use of LKPD PAPA MAHI is not only a collection of questions that must be discussed and solved by students, but also acts as a means to make presentations in front of the class. The preparation of LKPD PAPA MAHI aims to make science learning more enjoyable, thus triggering students' interest and motivation in learning science.

The development of LKPD follows the stages in design thinking, namely, empathize, define, ideate, prototyping, and test/evaluate. At the emphatize stage, observation is carried out through direct observation of the needs of students by recognizing existing problems. It was found that students were less interested in LKPD, which only contained a collection of questions and paid less attention when presenting in class. The define stage analyses the problems found and then formulated design goals. The analysis results show that students need learning media that makes them interested in working on LKPD and makes presentations that are interesting to pay attention to. At the ideate stage, finding innovative ideas is expected to solve existing problems by making learning media innovations in the form of LKPD PAPA MAHI.

Furthermore, at the prototyping stage, conversation planning was carried out at LKPD PAPA MAHI, which was adjusted to the material and culture to be inserted, questions with varied models were made, and LKPD was designed using the Canva application. The last stage of test/evaluation is the implementation of LKPD PAPA MAHI during classroom learning. At this stage, questionnaires are also distributed to determine the achievement of the expected goals.

The questionnaire is distributed as closed questions using the Likert scale. The questionnaire was distributed through a Google form with some 10 questions, which were grouped into two aspects, namely students' interest in LKPD PAPA MAHI and students' interest and motivation towards learning science particle material that constituent objects and living things using LKPD PAPA MAHI

learning media. The data from the questionnaire obtained was then analyzed and categorized as in Table 1 below.

Table 1. Categories Questionnaire Answers

Percentage (%)	Category
81-100	Totally agree
61-80	Agree
41-60	Doubtful
21-40	Disagree
0-20	Strongly disagree

[15]

The results of data analysis obtained from students' responses to LKPD PAPA MAHI learning media are presented in Table 2 below.

Table 2. Student Response Analysis

Aspects	Percentage	Category
Student interest in LKPD PAPA MAHI	81,83%	Totally agree
Interest & motivation of students towards science learning using LKPD PAPA MAHI	81,33%	Totally agree

The first aspect contains questions about interest in LKPD, such as titles, colours, and images used in LKPD that interest students, as well as the ease of comic-based LKPD when used in learning. The analysis results were obtained 81.83% of students strongly agreed with the questions on the questionnaire. This is in line with research by Nasriyati [9], which states that learning with comic-based LKPD attracts the attention of students more because of the interesting images and easier language.

In the second aspect, the questions were about interest in learning science and ease of learning science using comic-based LKPD. The analysis results found that 81.33% of students strongly agreed with the questions given to the questionnaire. This is in accordance with Kaleka's research [11], which shows that the use of comic media contributes very well to students' learning interests. In addition, according to Nasriyati [9], comic-based LKPD has an influence of 95%, which is a good category for increasing student learning motivation.

IV. Conclusion

Based on the results of this study, it can be concluded that this comic-based LKPD PAPA MAHI has a role in attracting the interest and learning motivation of junior high school students, as evidenced by the results of a questionnaire of 81.83% of students strongly agree that LKPD interests them.

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