

## ANALYSIS OF BIOLOGY LEARNING MEDIA FOR CLASS X STUDENTS IN BLITAR CITY

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### ABSTRACT

*The results of preliminary observations on three high school / MA schools in Blitar City with 71 respondents through questionnaires revealed that the use of instructional media with a percentage of 28.40% was classified as unfavorable and the results of interviews with Biology students stated that 50% with the category was quite difficult to understand Biology material. In this study, researchers analyzed the importance of learning media needs for biology class X students. Research is only limited to the media used when learning Biology. The population in this study was three schools with 71 respondents, with a sample of 33 schools. This study uses a quantitative descriptive approach to the type of survey research. Data from the questionnaire analysis of 50% of 71 respondents stated that biology was difficult to understand because of the large amount of material and the foreign terms they had just heard. The results of the analysis of learning media needs of the use of electronic media that are still much in demand are LCD 95.77%, picture learning media 35.21%, learning media chart 12.67% and video learning media 23.94%. As for what is rarely used is 2.81% radio learning media and the use of posters that have never been applied to biology learning.*

**Keywords:** Needs analysis, Learning media, Biology

### 1. Introduction

In doing learning, every teacher should have a learning medium. Learning media is a learning component that includes materials and equipment. With the entry of various theories and technologies, learning media continues to experience and appear in various types. Some practical uses of the use of learning media are learning media can clarify the presentation of messages and information to facilitate and improve the process and learning outcomes. Besides learning, media can increase and direct the attention of students so that it can lead to learning motivation, more direct interaction between students and their environment, and the possibility of students to learn independently according to their abilities and interests. Learning media can also overcome the limitations of the senses, space and time.

According to Briggs, 1977 learning media is a physical means to convey content / learning material such as books, films, videos and so on. Then according to the National Education Association, 1969 revealed that learning media is a means of communication in the form of print and sight-hearing, including hardware technology.

The development of science and technology is increasingly encouraging renewal efforts in the use of technological outcomes in the teaching and learning process. The teachers are required to be able to use the tools that can be provided by schools, and it is also possible that the tools are in accordance with the development and demands of the times. Teachers can at least use inexpensive and unpretentious tools but it is imperative in the effort to achieve the expected teaching objectives. Besides being able to use the available tools, teachers are also required to be able to develop the tools available, teachers are also required to be able to develop skills make teaching media that will be used if the media is not yet available. Learning Media means everything that can be used to stimulate

the thoughts, feelings, attention and abilities or skills of students so that it can encourage the learning process.

The use of media in the learning process is to facilitate interaction between teachers and students so that learning will be more effective and efficient. Learning media and learning resources. will study visual learning media, reality learning media (original), audiovisual learning media, computer-based learning media. or in the form of animation. In using learning media must be adjusted to the characteristics of students

Therefore, teachers are required to have competence in selecting, determining, and developing learning media, as stated in the teacher competency standards. Based on the professional competence of teachers in Permendiknas Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competence which includes the types of learning media and how to determine the appropriate learning media in the learning process. Besides that, it is also presented how to use learning media appropriately and design learning that uses learning media and learning resources. Each subject matter is packaged in learning activities that contain objectives, indicators of competency achievement, description of the material, learning activities, exercises/cases/assignments, summaries, feedback, and follow-up.

Researchers spread the needs questionnaire and interview sheets to students regarding the use of instructional media in three schools with a percentage of 28.40% classified in the poor category. Researchers also conducted interviews with Biology students from three high schools / MA districts and Blitar City stating that 50% in the category was quite difficult to understand Biology material. The results of the above explanation will analyze the needs of the media in schools, especially class X students in Biology.

## **2. Research Method**

### **a. Types of research**

The research approach used in this study is a quantitative descriptive approach.

This type of research is a survey technique in schools that have been determined.

### **b. Research subject**

The subjects in this study were three high schools equivalent, namely SMAN 4 Blitar City, Muhammadiyah Blitar High School, and MAN Blitar City Class X in Blitar City with 71 students.

### **c. Data collection**

The instrument used to collect data related to the needs of biology learning media in class X SMA / MA in three Blitar City schools is a media needs questionnaire conducted on December 26, 2018.

### **d. Data analysis technique**

Data analysis techniques in this study were done by two ways; qualitatively and quantitatively. Quantitative data were obtained from student scores. Whereas, qualitative data were obtained from responses, criticisms, and constructive suggestions from student responses. Quantitative data were analyzed as a basis for the results of a questionnaire study which was converted into interval data with the guidance of the instrument scale namely the Likert scale as follows.

Score 5 = very decent

Score 4 = decent

- Score 3 = decent enough
- Score 2 = not decent enough
- Score 1 = not very decent

The percentage of validator assessment is calculated by using formula.

$$\text{Percentage} = \frac{\sum \text{score product of collecting data}}{\text{total score criterion}} \times 100\%$$

To determine the category of media that was used frequently and used rarely, the percentage is ranged as follow.

$$\text{Range percentage} = \frac{\text{maximum percentage}}{\text{the highest score}}$$

(the source was adapted from Sugiyono, 2011).

Tabel 1. Assessment criteria

Percentage Questionnaire Assessment	Qualitative Criteria
$80\% < x \leq 100\%$	Very decent
$60\% < x \leq 80\%$	Decent
$40\% < x \leq 60\%$	Decent enough
$20\% < x \leq 40\%$	Not decent enough
$0\% < x \leq 20\%$	Not very decent

(the source was adapted from Sugiyono, 2011)

Keterangan.

X = The score of percentage student's assessment

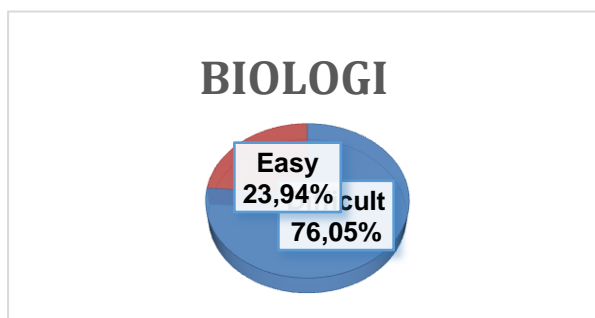
### 3. Results and Discussion

#### a) Results

The need analysis was done by distributing a questionnaire to 71 respondents of first grade in three schools in Blitar city. The result which has been analyzed could see in table 2 as follows

Table 2. The analysis result of biology lesson

Biology		
categories	difficult	easy
Total respondent	54	17
%	76,05%	23,94%

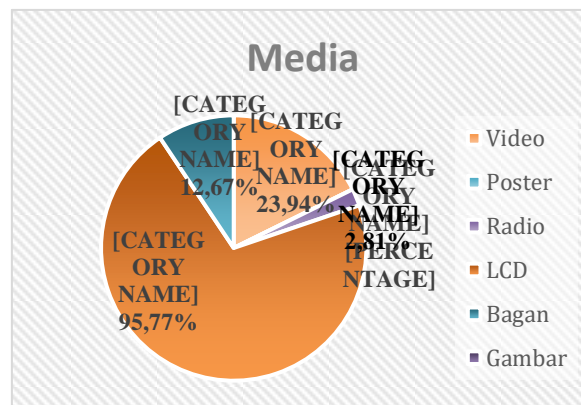


Picture. 1 Diagram of the analysis result of biology lesson

Based on Picture 1 above can be known that 23, 94% respondent stated that biology lesson is easy. Whereas, 76, 05% respondent stated that biology is difficult. It because there are so many materials which made them difficult to understand and many new terms that they had just heard. So, the media that is used also affects the difficulty in biology lessons or not. The result of need analysis in learning media can be seen in Table 3 as follows.

Table3. The analysis result of the use learning media

Media							
Kin d of media	ideo	oster	adio	CD	L	chema	icture
total	7	1		8	6	9	5
%	3,94%	2	,81%	5,77%	9	1	3



Picture 2. Diagram of the analysis result of learning media

Based on Picture 2 can be seen that the use of electronic media LCD is still many interested people as much as 95,77%. It because LCD can make learning easier, like a group presentation. Video media is 23,94% used when learning and schema media is 12,67% plays an important role in learning, so the students understand easily how a process can occur. In this media analysis that was rarely used is radio media 2,81% and poster 0%.

## b) Discussion

Learning media is a tool used by teachers to deliver learning material to students as well as a tool to stimulate students' thoughts, feelings, concerns and interests in learning. Determination of the media to be used is based on what will be taught, how to be taught and how it will be evaluated and who will be students. Therefore, the professional abilities of teachers must be improved, because in turn will have a positive impact on improving the quality of the process and learning outcomes (Satori, 1998).

According to Sarwiko,2014 one of the external factors that can improve the quality of education is the use of instructional media. Learning media is an intermediary used to convey information students to learn. The existence of media is expected that the learning process will be easier for students and teachers because learning media can overcome the limitations of space and time in learning. The choice of media as an inseparable part of instructional development. Sadiman, 2009 states that the use of instructional media can also motivate students to learn. However, when implementing learning the use of

instructional media is still not optimal. This can be seen from the lack of a variety of media used by the teacher in the subject. The teacher is still fixated on the book or module given to students so that the enthusiasm of students to practice becomes low.

Educational media are expected to present clearer learning material that is not verbalized. Interesting examples of facts, data, images, graphics, photos or videos with or without sound make learning activities more interesting. The materials can be presented with a series of events that are simplified or enriched so that the learning activities are not a boring description of students. The use of media will also overcome the limitations of space, time and sense ability. This is possible because objects that are too large can be made smaller in photos, pictures or models. The biology learning activity is a process that requires student activities, thus the development of media is directed at activities supported by practical teaching aids and observation tools. The development of biology learning media aims to improve the quality of learning. In line with the spirit of regional autonomy whose basic assumption is diversity, in terms of local capabilities or content, it is very possible and broad to develop various learning media, in line with the applicable curriculum.

In a teaching and learning process, two very important elements are the teaching method and the teaching media. These two aspects are interrelated. The choice of one particular teaching method will affect the type of teaching media that is suitable, although there are still many other aspects that must be considered in choosing media, including teaching objectives, types of tasks and responses expected by students to master after teaching takes place, and the learning context including student characteristics . Nevertheless, it can be said that one of the main functions of teaching media is as a teaching aid that also influences the climate, conditions, and learning environment that are arranged and created by the teacher.

Arsyad, 2013 explained that learning media must be chosen based on instructional objectives which would be better if it refers to at least two of the three cognitive, affective and psychomotor domains. It aims to make learning media in accordance with the directions and not deviate from the goal. Learning media are also not only able to influence the intelligence aspects of students, but also other aspects, namely attitudes and actions. Appropriate Supporting Material Facts, Concepts, Principles, and Generalization. Not all material can be presented clearly through learning media, sometimes it must be presented in concepts or symbols or something more general then an explanation is included. This requires special processes and skills from students to understand and analyze the material presented. The selected learning media should be able to be adjusted according to the abilities and needs of students in exploring the contents of the material.

According to Hamalik, 1994 teachers must have sufficient knowledge about teaching media, which includes:

1. Media as a communication tool to make the teaching and learning process more effective;
2. The function of the media in order to achieve educational goals;
3. The intricacies of the learning process;
4. The relationship between teaching methods and educational media;
5. The value or benefits of educational media in teaching;
6. The selection and use of educational media

7. Various types of educational media tools and techniques;
8. Educational media in each subject;
9. Innovation efforts in educational media

Thus, it can be concluded that the media is an inseparable part of the teaching and learning process for the achievement of educational goals in general and learning objectives in schools in particular.

#### **4. Conclusions**

Based on the data obtained from the analysis of biology subjects in class X students in three schools in the city of Blitar obtained results of 23.94% of students said it was easy to understand biological material, while 76.05% of students stated it was difficult to understand biology because the material was large, difficult to understand and many foreign terms they just heard. The results of the analysis of learning media from the three most popular schools namely LCD media 95.77% because of the easy use and can display images and videos. The second most popular is the media image of 35.21% so that students easily understand the parts of the organ. Third video media 23.94% video media also play an important role in learning. The four media charts were 12.67% and the lowest demand was radio media 2.81% and also poster 0%.

#### **5. Suggestions**

It is expected that related to the use of media so that it can be used in a balanced and varied manner so that students do not feel bored when learning using only LCD, image and video media.

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