



Feasibility of Biology Teaching Materials for Class X SMA

Nur AISYAH*

Biology Education, Faculty of Mathematics and Natural Sciences, Universitas Negeri Makassar, Makassar, Indonesia

*Corresponding author: nuraisyah221202@gmail.com

Abstract

Teaching materials in general are something that contains information and knowledge that can be learned by its users. In learning activities, teaching materials act as a medium that mediates the process of conveying knowledge and skills from the resource person to the person learning. This type of research is descriptive qualitative. The qualitative descriptive approach method is a data processing method by analyzing factors related to the research object by presenting data in more depth regarding the research object. Data obtained from interviews with informants were described thoroughly. From the results of the interviews that have been conducted, it can be concluded that the teaching materials used by teachers are quite good, but there is still a lack of image references.

Keywords: Teaching Materials, Biology, Learning

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Introduction

Teaching materials in general are something that contains information and knowledge that can be learned by its users (Darling-Hammond et al., 2020); (Coman et al., 2020). In learning activities, teaching materials act as a medium that mediates the process of conveying knowledge and skills from the resource person to the person learning (Raghupathi & Raghupathi, 2020); (Schneider et al., 2022); (Bell, 2020). The use of teaching materials in the learning process will increase students' interest and motivation to learn. Teaching materials that are designed systematically and comprehensively will certainly increase students' interest in learning and at the same time can facilitate the learning process in students. An important problem that teachers often face in learning activities is choosing/determining appropriate teaching materials in order to help

students achieve the competencies set out in the curriculum. Learning must be able to actively involve students. This is by Active, Creative, Effective, and Fun Learning (PAKEM).

The existence of teaching materials in teaching and learning activities is very necessary to support these activities. Teaching materials are one component of the learning system that plays an important role in helping students achieve competency standards and basic competencies (Wahyuningsih et al., 2021); (Sinaga et al., 2022); (Falloon, 2020). In general, teaching materials or learning materials contain knowledge, skills, and attitudes or values that students must learn. All branches of science in learning need teaching materials, including Biology (Jeronen et al., 2016); (Koponen, 2021).

Teaching materials or learning materials generally consist of knowledge, skills, and attitudes that students must learn to achieve predetermined competency standards. In detail, the types of learning material consist of knowledge (facts, concepts, principles, procedures), skills, and attitudes or values. Teaching materials are one component of the learning system that plays an important role in helping students achieve competency standards and basic competencies or predetermined learning objectives.

Methodology

This type of research is descriptive qualitative. The qualitative descriptive approach method is a data processing method by analyzing factors related to the research object by presenting data in more depth regarding the research object. Data obtained from interviews with informants were described thoroughly. Interview data in research is the main data source that is used as material for data analysis to answer research problems. Qualitative descriptives are used to develop theories that are built through data obtained in the field or research location. In this research, an interview was conducted with one of the biology teachers at SMA Negeri 11 Maros. This research was conducted on March 26 2024 at SMA N 11 Maros. Interviews were conducted to obtain detailed information. The interviews conducted in this research are useful for collecting data used for needs analysis.

Results and Discussion

The results of research on the development of teaching materials on mushrooms include the results of teacher responses regarding teaching materials. The research results are as follows:

Table 1. Research result

Question	Teacher's Opinion
The material in the teaching materials meets SK and KD	The material is by the specified SK and KD
The material in the teaching materials matches the characteristics of the teacher's teaching environment	Teaching materials are appropriate to my teaching environment regarding school facilities, namely laboratories and the internet
Evaluation (questions) and answer keys are needed to achieve the goal	Evaluation and answer keys are important to find out the extent to which learning objectives have been achieved
Learning objectives in teaching materials are formulated clearly and according to the competencies developed	Learning objectives have been formulated clearly and under the specified competencies
The presentation of material in-teaching materials can activate students	Yes, it can activate students because many activities require students' active role

This teaching material allows students to collaborate with friends, teachers and other learning resources	Yes, this teaching material allows students to interact with other students, teachers and other learning resources, which is supported by group work, setting up experiments with teacher guidance, as well as reference information about the material in other learning resources.
This teaching material guides students to reflect, namely compiling summaries and carrying out independent evaluations	Students are required to reflect with concept maps and reading targets that must be filled in at the beginning/before reading and after reading and completing the exercises in this teaching material.
The presentation of teaching materials provides variety for students with several written games, and can help students be more active and understand more easily	They can get variety because this teaching material has lots of colors and lots of exercises in the form of written games, so it can attract their interest
This teaching material trains students' skills in laboratory activities, and trains students to think and work scientifically	Skills are trained habitually, with this teaching material students are introduced to laboratory activities. So it can be a provision for carrying out the next laboratory activity.
The presentation of material in teaching materials does not require a lot of explanation from the teacher and does not make the teacher dominant	Apart from that, there is another benefit, namely that students can learn to do scientific work
The material in the teaching materials meets SK and KD	Students are more dominant in their activities using this teaching material, the teacher only acts as a facilitator
	Teacher's Opinion

Learning Biology in the Education Unit Level Curriculum requires students to be actively involved in learning and be able to act like a scientist who studies natural phenomena through observation, experimentation, and rational analysis. On the other hand, teachers must be able to choose appropriate teaching materials to help students achieve the competencies set out in the curriculum (Muna et al., 2021); (Tong et al., 2022). Learning must be able to involve students actively according to the principles of Active Creative Effective and Fun Learning (PAKEM). The teaching materials used should meet certain criteria to be said to be suitable for use in learning to help students be more active in learning activities so that students understand the material more easily and learning is more meaningful (Lestari et al., 2023).

Content appropriateness can be achieved if the teaching materials have a link between the material and the achievement of Competency Standards and Basic Competencies, and have consistency between the teaching materials and the Basic Competencies that students must master (Getie, 2020); (Zulkhairunnas et al., 2022). The teacher said that the material presented had met the Competency Standards and basic competencies and the learning objectives had been conveyed in the teaching materials (Lodge et al., 2018). The material in the teaching materials is presented in several forms to activate students and discover concepts so that learning is more meaningful (W. Johnson & T. Johnson, 2019). Apart from that, students reflect independently with the reading target sheet in the teaching materials which students must fill in before and after reading and doing exercises in the teaching materials. and there is a mind map that students must complete at the end

of the lesson. The existence of competency test questions is also used as a medium for reflection by students (Maroungkas et al., 2023); (Hui & Mahmud, 2023).

The existing teaching materials emphasize the cognitive aspect, namely the material only emphasizes the concepts without paying attention to the activities that students should be able to carry out in the learning process so that learning is more meaningful (Liu et al., 2024; Gusmaweti et al., 2022). Meanwhile, in the curriculum, it is emphasized that in the basic competency of mushroom material, there must be activities to observe, carry out experiments, and study literature. Teaching materials are needed in practicum activities, where instructions also determine the success of practicum implementation. Under (Fallah Shayan et al., 2022) opinion, detailed instructions for students are very useful in helping them to focus and achieve practical goals, without instructions, students will easily give up or waste time.

Conclusion

Based on the results of the research that has been carried out, it can be concluded that the teaching materials used by teachers are quite good, but there is still a lack of image references

Conflicts of Interest

The author declares no conflict of interest. The funders had no role in the design of the study in the collection, analyses, or interpretation of data in the writing of the manuscript, or in the decision to publish the results.

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