

Analysis of the Needs of Fungi Material Teaching Modules at Muhammadiyah 1 High School, Air Saleh Regency Banyuasin

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ABSTRACT

Biology education at the senior high school level has an important role in providing students with an understanding of basic concepts regarding aspects of life, one of which is fungi. Fungi are one of the important topics in biology and have an important role in the ecosystem. The purpose of this study was to determine the needs of schools in creating teaching modules about fungi for grade X that are in accordance with the curriculum. The research method used is descriptive qualitative. The results of the study showed that the curriculum implemented at SMA Muhammadiyah 1 Air Saleh uses the Independent Curriculum, students prefer the way teachers teach using Student Worksheets (LKPD) media, with the Project Based Learning (PjBL) model. Practicum was chosen as a solution to solve problems given by teachers. The conclusion of this study is that schools have implemented the latest curriculum by analyzing student needs and teachers prefer learning using Student Worksheets (LKPD) and solving problems by creating project-based teaching modules.

INTRODUCTION

Education is an important activity for human life because with education a person will become skilled and professional in their field. (Abdillah et al., 2020) . Purposeful education For developing individual potential holistically which includes cognitive, affective and psychomotor aspects. Biology education at the high school level has an important role in providing students with an understanding of basic concepts regarding aspects of life, one of which is a fungus.

Fungi are one of the important topics in biology subjects and have an important role in the ecosystem. In addition with study (Lubis & Rengkap, 2018) which states that fungi material is less in demand or understood by students because the identification of this material is difficult to do because it requires real activities to find out the type of fungi. In addition, there are limitations in the use of media and teaching materials available in schools. Teaching materials act as a very important learning medium, teaching materials are also used as a communication tool to convey important information to participant educate (Supardi & Amelia, 2019) . For know appropriate teaching materials required analysis need .

Analysis need Students are very significant in development curriculum that focuses on learning . With do careful analysis , teachers can identify areas where students need help more carry on or challenge additional . With Thus , the curriculum can arranged such that appearance so that can overcome needs and requirements unique every students . In addition , the analysis need students also help in avoid " approach One size For all " in education . Every student own ability , level mastery , and different interests . With understand difference this , teacher can adapt method teaching they For ensure student feel pushed For reach potential full they . Analysis need done For to obtain information recognize problem or need participant educate (Susanti., 2021).

The results of initial observations that have been carried out in class X of SMA Muhammadiyah 1 Air Saleh show that there are conditions where biology learning is still centered

on the teacher. SMA Muhammadiyah 1 Air Saleh is a final year high school that is still accredited C in the Air Salek sub-district, Air Saleh district. Banyuasin . In reality, teachers still often explain the material with a dominant lecture method. In addition, the teaching materials used by teachers are only textbooks or biology textbooks. The implementation of the Independent Curriculum provides teachers with the freedom to develop teaching materials that are in accordance with student needs and conditions. school (Maulida, 2022) .

Analysis need teaching materials such as the Fungi module are an important initial step to ensure that the materials developed are in accordance with student characteristics and support the achievement of the Pancasila student profile. The availability of teaching modules at SMA Muhammadiyah 1 Air Saleh is currently not in accordance and is not complete with the needs of teachers and students. The teaching modules to be developed must be packaged and designed as well as possible so that they can provide opportunities for students to build his knowledge Alone (Deviana, 2018) .

The teaching module is document planning learning that contains step learning , assessment , and media needed For reach objective learning . Teaching modules are often called as RPP Plus because similarity component with RPP but there is additional media. The teaching module is very useful when learning especially in fungal material , fungal material (mushrooms) is organism eukaryotes , mostly multicellular , some unicellular , no chlorophyll , wall the cell contain chitin and glucan . Fungi are heterotroph that is as saprophytes , parasites , and living symbiotic with other organisms that are difficult For understood If only use theory only and not accompanied by supporting images .

Study previous Umami et al., (2023) have isolated and identified endophytic fungi in citrus plants. lime (citrus aurantiifolia.S), results study This expected can contribute to the creation of mushroom teaching modules in high school. A good teaching module not only conveys theoretical concepts, but can also integrate research results to support practical activities. Before developing a teaching module, a needs analysis needs to be carried out as an important initial step in the development process. teaching materials (Susanti, 2021) . The indicators that will be studied in this study include learning models, learning approaches, and media used to create efficient teaching modules.

The purpose of study This is for researchers can know What just needs required by the school , facilities and infrastructure , learning media used , methods Study what the participants like educate , and matter What only that becomes constraint in the learning process in class , for understand need participant educate , teacher, and context learning , so that The developed teaching module is capable of give contribution real in increase quality learning and results Study participant. Obstacles in the learning process must Can completed with method like No do the same thing in the learning process Next. Learning naturally own guidelines in the process so that learning more directed. Guidelines this is what is called with Teaching Module. Making teaching module must in accordance with analysis needs to be met to participant educate to be appropriate with characteristics participant education and its needs (Melita et al., 2022).

RESEARCH METHODS

1. Time and Place of Research

This research was conducted on October 2024 at SMA Muhammadiyah 1 Air Saleh.

2. Research methods

The methods used are observation and interviews, where researchers are directly involved in daily activities at school as active observers. This allows researchers to gain deeper insight into the activities and interactions at school.

3. Population and Sample

The subjects of the study were teachers and students. The sample of the study was all 57 students of class X, 3 biology teachers. The population of the study was 90 students of SMA Muhammadiyah 1 Air Saleh.

4. Research Procedures

The research procedure consists of several stages as follows: Research instruments include questionnaires, interview guidelines, observation sheets.

5. Preparation Stage

The initial stage carried out by researchers is to identify research problems. Then prepare research instruments (questionnaires, interview guides). The outline of this research instrument is presented in table 1.

Table 1. Instrument Grid

Component	Indicator
Teaching Module	<ul style="list-style-type: none">• The teaching modules used are appropriate• Teaching module resources
Learning approach	<ul style="list-style-type: none">• Teaching module with the approach used
Learning model	<ul style="list-style-type: none">• The learning model used• PjBL Model
Media used	<ul style="list-style-type: none">• Media used in LKPD Practical Worksheets
Subject matter	<ul style="list-style-type: none">• Class X Study Material• Class X Mushroom Material• Obstacles faced in class X Fungi material
Measurable abilities and cognitive learning outcomes	<ul style="list-style-type: none">• Science process skills• Learning outcomes include knowledge• Skills results

6. Data collection

The second stage in this research is data collection through interviews, surveys, observations, and document studies. Data collection techniques include questionnaires/surveys, interviews, observations, and document studies related to existing curriculum, syllabus, textbooks, or modules.

7. Data analysis

After the data is collected, it is continued with the data analysis stage which includes qualitative data using thematic methods or content analysis of interview and observation data. Quantitative Data by calculating percentages, graphs, averages to analyze questionnaires or surveys.

8. Conclusion and Recommendation Stage

Develop recommendations for the development of teaching modules based on the results of the needs analysis.

RESULTS AND DISCUSSION

From the results of the questionnaire and interviews conducted by researchers with biology subject teachers at SMA Muhammadiyah 1 Air Saleh, it shows that biology teachers at SMA Muhammadiyah 1 Air Saleh have used teaching modules. Teaching modules are made by taking complete references from the internet. Teaching modules are used to strengthen the culture of reflection and learning culture that can provide direction to teachers during the teaching and learning process in the classroom. Teaching modules are learning tools that must be included in the Independent Curriculum. Teaching modules have a major role in supporting teachers in designing learning, so it is necessary to compile good teaching modules (Nesri & Kristanto, 2020) . If the learning carried out by the teacher is not systematic, it will have an impact on the achievement of the learning objectives that have been set. (Saputri et al., 2019) .

Table 2. Teacher questionnaire sheet on aspects of learning modules and learning models

No.	Question	Answer		
		Teacher 1	Teacher 2	Teacher 3
1	Do you use learning models when teaching and learning in class?	Yes, to be more focused	Yes, as a learning reference	Yes
2	Are your teaching modules appropriate to the learning model used?	Not suitable yet	In accordance with the	Not suitable yet
3	What learning model do you use in the learning process?	Studying	Studying	Discovery Learning
4	What are examples of the application of the learning model that you use?	The teacher divides the students into several groups.	The teacher explains the material	The teacher explains the material
5	Are there any obstacles when you apply this learning model?	The forms of obstacles during learning are students' lack of understanding of the existing material, students' lack of understanding of the values contained in the available media, and very limited facilities and infrastructure.	The problem is facilities and infrastructure	There is material that is less interesting and understood by students

The results of interviews with Biology teachers using learning models but not in accordance with those in the teaching module. The learning model implemented in the classroom uses a lecture model which has the impact of making students less active and lazy. This learning model seems very ineffective considering the number of students in the class is also large. There is a lecture model that is often used by Biology subject teachers when teaching at school. From the results of the questionnaire and interviews, there are 2 biology teachers who are still actively using the lecture method to explain the material, and there is 1 teacher who uses method PjBL (Project Based Learning). Teachers who use the lecture method say that they realize that with the method used, students will feel bored and end up chatting to themselves or even falling asleep. Inadequate teaching materials and media cause teachers to use the lecture method. The lecture method is a teaching method that is carried out by conveying lesson material orally to students which is currently still often used in the learning process because it is easy and practical. (Nurhaliza et al., 2019). However, the lecture method also has weaknesses, including students becoming more passive, students can feel bored if the teacher is not skilled in building a classroom atmosphere, not all students understand the material presented by the teacher and students become less active.

The results of the study showed that students liked the biology learning process using the practicum method. This practicum was carried out to work on experiments given by the teacher or questions given by the teacher, then students worked on them with practicum and ended by answering the Student Practical Worksheet (LKPD) especially on the Fungi material. According to Suryaningsih (2017) Activities Practical work carried out in learning can develop many skills, both physical skills and social skills. Carrying out practical activities can be a means for students to practice applying science process skills. Practical work is defined as a learning method that functions to clarify concepts through direct contact with tools, materials or natural events, improve students' intellectual skills through observation or searching for complete and selective information that supports solving practical problems, practicing problem solving, applying knowledge and skills related to the situation at hand, practicing designing experiments, interpreting data, and developing scientific attitudes.

Table 3. Questionnaire sheet for teachers regarding aspects of media and teaching materials

NO	Question	Answer		
		Teacher 1	Teacher 2	Teacher 3
1	Do you use media/teaching materials in the teaching and learning process?	Yes, Power Point No materials used	No materials used	No materials used
2	Do you feel helped by the media you use?	Yes, to help teaching and learning activities to be more focused.	Not using teaching materials yet	Not using teaching materials yet

Biology teachers have used media during learning. The media used is power point. Teachers feel helped by the media because by using the media the learning process will be directed. However, the media used by teachers is less efficient because there are still some students who are busy in class when the teacher is explaining, and some are bored to the point of falling asleep. The obstacle in the learning process is the lack of teaching materials and media provided by the teacher so that learning becomes boring with a method that is still lecture-based which will make students passive in class. This can be avoided by teachers by using sufficient teaching materials and strategies in the sense of using the right method according to needs. PjBL Model can make student active because in between the learning process there will be a project where this fun material will be filled with practical work. By doing activities, students will be more active and creative in learning. PjBL Model will produce a product where each group that has been created will produce a work for example in 3-dimensional form or in the form of a poster. Teachers are given the freedom to apply learning methods that are considered appropriate for students so that the implementation of teaching and learning activities can take place pleasantly, deeply and independently (Priantini and friends, 2022) .

The solution to the obstacles faced can be done by teachers by carrying out other supporting activities such as practicums after the theory is taught. Based on the problems that occur in schools, efforts to create teaching modules on Fungi material are very helpful for teachers in the learning process because the teaching modules are made according to student needs because a needs analysis has been carried out on teachers and students. Students also like interactive PPT media where many images are provided so that students do not get bored and tired quickly. At the end of the learning, an evaluation is also given in the form of a Practical LKPD sheet so that they can find out how far the material has been understood after learning.

Table 4. Questionnaire sheet for teachers on mushroom material

No.	Question	Answer		
		Teacher 1	Teacher 2	Teacher 3
1	What material is difficult to learn in grade X?	Mold	Mold	Virus
2	Do you encounter problems with mushroom material in the learning process?	Yes, there are obstacles.	Lack of learning media child lacks enthusiasm	The problem is the material is difficult
4	Is there a teaching module for the Mushrooms material?	Yes, but still copy-paste from the internet.	Not yet	Own
5	What solutions do you plan to address these constraints?	Maybe by changing the learning model	Add teaching materials	Changing the learning model

Teachers strongly agree that by using teaching modules that are in accordance with field conditions, the modules used are also in accordance with the existing curriculum, namely the independent curriculum. Teaching modules have a very important role because this teaching tool acts as a guideline for teachers to carry out learning activities. Therefore, teachers must be able to design and develop teaching modules well. Teaching Modules Based on the Independent Curriculum to achieve CP which is reduced to TP which has been set (Nurdyansyah, 2018) . The media used for

teaching is student worksheets (LKPD). The LKPD created is a practical LKPD used after carrying out practical activities as a medium for assessing student knowledge. With the existence of practical LKPD, students will focus on the questions given by the teacher and answer significantly what they have obtained in the practicum, the steps of which have also been outlined in the LKPD. LKPD is a guide in which as a student facilitator, students have compiled sheets containing materials, instructions and summaries that students have worked on so that they can improve their abilities in cognitive aspects as information provided by students. (Rahmawati & Wulandari, 2020) .

Researcher give question around science process skills participant educate and also results Study participant educate . Questions answered by 3 Biology teachers at school Muhammadiyah Senior High School 1 Air Saleh.

Table 5. Teacher questionnaire sheet on aspects of science process skills and science learning outcomes

No.	Question	Answer		
		Teacher 1	Teacher 2	Teacher 3
1	How are students' science process skills in conducting observations, making hypotheses, planning research, and using tools and materials?	students are relatively low in terms of observation and use of tools and materials.	Never done KPS	Never done KPS
2	How are the students' learning outcomes on the mushroom material?	Many students' learning outcomes are below the KTTP, because students do not like the learning model used.	Daily test results range from 50-60	Based on Learning Objective Achievement Criteria

Students' Science Process Skills (SPS) are classified as low in terms of observing and using materials and tools. Meanwhile, second and third grade teachers have never conducted a science process skills assessment so they do not know the abilities of students in the class. This value does not meet the KTTP for the subject lesson biology . Learning outcomes obtained by participants educate No fulfilling the KTTP, namely only ranges from 50-60. According to Ministry of National Education (2006), learning it is said succeed if , percentage completeness Study reach 85 %, the average grade of the class get value 7.0 to on .

learning materials available in class X start from from virus material up to Fungal material allows existence difficulties for participants educate . Table 6 explains percentage difficulty The material in class X in the Biology subject . The material that is considered the most difficult will can seen with the amount child who fills in the questions material hard learning understood .

Table 6. Learning materials that are difficult for students to understand

No.	Material	Percentage
1	Mushroom Kingdom	55%
2	Viruses and their roles	30%
3	Innovation Technology	10%
4	Scope of biology	5%

The mushroom material gets a fairly large portion of the presentation compared to other materials. In interviews with students, it was found that the material that is difficult to understand is mushrooms. This is because the mushroom material is abstract. The mushroom material consists of the characteristics of mushrooms, the structure of mushrooms, the morphology of mushrooms, and the reproduction of mushrooms. With the characteristics and morphology that are difficult to use only as theory, practical activities must be carried out to know morphology microscopic .

Assigned tasks to participant educated by teachers there are various , starting from from task project , task individual , and there are also tasks practicum . According to Suharso (2011), practicum is a part of teaching that aims to give students the opportunity to test and implement in real situations what they learn in theory.

Table 7. Forms of Assignments Given to Students

No.	Question	Percentage
1	Project assignment	10%
2	Individually	80%
3	Practicum	10%

Students are given individual assignments, namely after the learning activities students are given a comprehension test in the textbook. Meanwhile, in reality when interviewing students, they prefer practical activities because they can experiment and find new things that were previously unknown. Practical activities also have a positive impact on teachers and students because students will be more active in the learning process. Practical work can also improve KPS on observation indicators and the use of tools and materials. In the fungi practicum, students will be guided to use a microscope so that students can use a microscope.

Table 8. Observation Results

No.	Statement	Yes	No	Information
1.	Teachers in the classroom use models	✓		Classroom learning is not active
2.	Teachers use teaching modules	✓		Teachers use learning modules sourced from the internet that are less appropriate to environmental conditions.
3.	Teachers use the TCL model	✓		The TCL (Teacher Centered Learning) method makes lessons only focus on the teacher and makes students less active.
4.	The teaching materials used are complete		✓	The teaching materials only use textbooks from the government.
5.	Students are active in the learning process		✓	Students are less active in learning because teachers still use the TCL model.

Table 8 shows that there are still students who are less active in the learning process, this is proven when given questions by the teacher only the same students answer. During the observation, the teacher provides learning using lecture and discussion methods. Textbooks are teaching materials used during the learning process. Teachers still use textbooks as the main learning source, so students are still dependent on the teacher. There are no new teaching materials used during learning. Students are still less active in the learning process and teachers are still the main learning source where in the independent curriculum students are required to be active in the learning process so that the independent curriculum has not been implemented optimally as expected. Teaching modules must be made independently according to the conditions in the field. By looking at the conditions in the school, the modules made by the teacher will be in accordance with the needs of the school and students. Quality teaching modules can help teachers carry out learning effectively and efficiently, so that they can improve learning outcomes. Study student (Nengsih, 2014). The preparation of learning modules is very important for teachers because it can help teachers in designing learning scenarios that are in accordance with the characteristics of the subjects, students, learning outcomes and learning objectives that have been analyzed and determined previously (Tusyanah et al. , 2024) .

CONCLUSION

In this study it can be concluded that initial needs analysis is very important to create a teaching module. This needs analysis helps teachers/educators to find out what students like and what obstacles are felt by students of SMA Muhammadiyah 1 in accordance with the applicable curriculum. The learning model used by the teacher is a lecture which is considered inappropriate, so the solution is

to replace the model used, namely the Project Based Learning (PjBL) learning model which is accompanied by practical activities according to what students are interested in and is considered an efficient and appropriate media. which is used after the practical activities is the Student Practical Worksheet (LKPD) so that it can be seen how far the material has been understood after learning.

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