Journal of Science and Technological Education, Vol. 2 No. 2, 2023
ISSN: 2830-5043 (Print) 2830-4829 (Online)

Journal of Science and Technological Education
(META)

journal homepage: www.meta.amiin.or.id

Article history: Received June 30, 2023; Accepted Nov 28, 2023; Published Dec 07, 2023

Analysis of Biology Learning Planning on Plant Tissue Course in the Independent Learning Activity Unit (UKBM) based on Scientific Approach Class XI MIPA 5 at MAN Sumenep

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Abstract This article presents a study conducted at MAN Sumenep, the only State Madrasah Aliyah in Sumenep Regency that has implemented the Semester Credit System (SKS) and the Usage of Scientific Approach (UKBM) program. The qualitative research method was used, and data were collected through observation, interviews, and documentation. The findings reveal that MAN Sumenep follows a well-structured planning process for biology learning, including the preparation of syllabus, annual and semester programs, effective week plans, and lesson plans integrated with UKBM content. Special training sessions are conducted for teachers to develop UKBM, and resource persons are invited from the Ministry of Religion's Pusdiklat. The evaluation and review of UKBM are carried out regularly, and revisions are made if necessary. Overall, the article highlights the effective implementation of UKBM in MAN Sumenep, which can serve as a valuable model for other schools.

Keywords: Scientific approach, Biology learning planning, Plant tissue course, Independent learning activity unit

INTRODUCTION

The Independent Learning Activity Unit (UKBM) is a learning medium that rationally and interestingly regulates knowledge, technical boundaries, and evaluation methods to help improve students' critical, creative, collaborative, and communicative thinking skills, reading culture, and character building (Kurnia et al. 2022). UKBM preparation in learning activities is critical for schools that

administer SKS. UKBM is a minor unit of study that progresses from simple to complicated. UKBM is a credit-based learning tool that allows students to gain knowledge and skills (Pantiwati & Sari, 2022). UKBM is a learning media that, if developed effectively and properly, will result in optimal learning (Nasution, 2023).

MAN Sumenep is the only State Aliyah Madrasah with A accreditation in Sumenep Regency. The Minister of Education and Culture Regulation Number 158 of 2014, Article 5 Paragraph 1, states that educational units with A accreditation from the National Accreditation Board for Schools/Madrasahs may apply for credits in educational administration. MAN Sumenep will deploy UKBM in conjunction with the Semester Credit System in 2018.

According to Fajriah's research (Majid & Linuwih, 2019), the implementation of UKBM in numerous schools, particularly in East Java province, is still ineffective owing to a lack of written instructions or emphasis from the instructor, as well as an unappealing appearance, which makes UKBM ineffective.

Effective and engaging UKBM indicators can motivate students to read, practice, study diligently, take the UKBM competence exam, and seek guidance from their teachers when facing challenges. UKBM educational and dialogic learning activities foster the development of 4C (critical thinking, creativity, collaboration, and communication) abilities. The development of higher-order thinking abilities cannot be isolated from the development of lower-order thinking skills.

A well-planned UKBM is one of the criteria for a good UKBM. Generally, a well made teaching materials can help students during the learning process (Dewi & Susilowibowo, 2016). According to the findings of interviews with biology instructors at MAN Sumenep, there were many excellent and fascinating aspects about the implementation of UKBM in this school that might be investigated and turned into lessons for other schools. Both positive and negative values are present. The biology instructor advised performing qualitative study to learn more about UKBM adoption in MAN. So, in this work, a scientific strategy was used to arrange biology learning on plant tissue material at UKBM for class XI MIPA 5 at MAN Sumenep.

METHOD

The qualitative research method was employed in this study. Qualitative research is an investigative approach that emphasizes the exploration of meaning, knowledge, concepts, characteristics, symptoms, symbols, and descriptions of phenomena. It is focused and multi-method, natural and holistic, prioritizes quality, employs several methodologies, and is presented narratively.

The research method employed is descriptive research. Specifically, descriptive research delivered through oral and written data from linked informants. Descriptive research seeks to characterize, describe, and map facts from a certain point of view or frame of mind (Mahmud, 2011).

This study is being conducted in Madrasah Aliyah Negeri 1 Sumenep, Jl. KH Agus Salim No.19, Pangarangan Village District. Sumenep Regency, Sumenep City, East Java 6941. This location was chosen because MAN Sumenep is the only State Aliyah Madrasah in Sumenep district that is rated A and uses the Semester Credit System (SKS) program in the learning process every day since 2018.

Purposive sampling was used to pick the subjects of this study, which comprised the Head of MAN Sumenep, Curriculum Deputy, Biology instructor, and students from class XI IPA 5. Data was gathered through observation, interviews, and documentation. The Miles, Huberman, and Saldana models were utilized for data analysis, which consisted of three stages: data condensation, data presentation, and drawing conclusions. Source triangulation and technical triangulation were used to assure data veracity.

FINDINGS AND DISCUSSION

The instructor must go through many essential steps before beginning a class. The planning stage is the initial stage. This is the first step taken by the instructor to ensure that the learning objectives are met adequately.

Since 2018, MAN Sumenep has been the only State Madrasah Aliyah under the Ministry of Religion to implement the SKS program. The SKS program is a development of an accelerated program, where students can take their education in less time than regular schools. For example, if students normally graduate from high school in three or six years semesters, Sumenep MAN students who take the credit program can complete their studies in just two years or four semesters.

The learning tools are what separates schools that utilize credits from those that do not. If a school uses the credits system, the instructor must create UKBM that will be used later during learning activities. UKBM is one of the learning tools units that students can utilize to attain individual mastery of all Core Competencies (known as KI) and Basic Competencies (known as KD) (Kemendikbud, 2016). According to the Deputy of the Madrasah Curriculum Section at MAN Sumenep: ‘MAN Sumenep was granted SK (Semester Credit) in 2018, and since then, the SKS system has been implemented. Among the institutions under the Ministry of Religion in Sumenep, only MAN Sumenep and UKBM are utilized. UKBM serves as a tool for teachers to interact with students. It is worth noting that the term UKBM existed even before the implementation of K13, but it is a special product owned by institutions and schools, including madrasas that apply the SKS system’.

This is supported by the findings of an interview with the head of the madrasah on September 29, 2022, who stated: 'UKBM has been implemented at MAN Sumenep since 2018. The criteria for schools to be eligible for the SKS program require us to apply, but it is not immediately accepted. The school's accreditation, graduates' performance, and results of the IQ test are taken into account in the application, which is then monitored and evaluated.

Biology learning planning is described in depth in the syllabus, yearly program, semester program, effective week plan (RPE), and lesson plan (RPP). According to the findings of the interview with the biology instructor (14 September 2022), "If our RPP is made before the new school year, and indeed it has been planned and UKBM has been included in it, so it is already planned, for example UKBM KB 1, so learning activities are planned for 2 hours of lessons, 2 hours per KB, although sometimes in its implementation more often takes a lot of time not as easy as we plan and Learning must be properly organized in order to go well". This is backed by the findings of an interview with the madrasa's head (29 September 2022), who stated: "At the beginning of each year, there is an activity for reviewing the lesson plan and UKBM, so if there are weaknesses or deficiencies, a revision is carried out." There is no need to change it if it is good." The data from the interviews correspond to the findings of the biology lesson preparation documents.

Based on the findings of the interviews and documentation, it is possible to infer that the scientific approach-based learning plan for plant tissue biology materials at UKM is implemented before the start of the new school year. At the start of each school year, all instructors gather to organize their lessons. Before beginning to teach, the teacher must prepare a learning plan that includes the following components: syllabus, annual program (prota), semester program (promissory note, effective week plan (RPE)) and lesson plan implementation, and RPP made according to UKBM content, on time allocation in RPP 4JP x 2, in UKBM the time allocation is also 4JP X 2, even though in practice it can take a long time.

In addition to the lesson plans that must be prepared by the teacher before teaching is UKBM, because learning activities at MAN Sumenep use the credit system, and of course special training is needed in preparing UKBM. The results of the interview (24 September 2022) with the Deputy Head of Madrasah for Curriculum stated: "We bring in resource persons, both from the Pusdiklat at the East Java Ministry of Religion, at least once a year, and we are also active in the SKS association group, if there is something new we don't miss it. "

This is supported by the results of an interview conducted on September 29, 2022, with the Head of Madrasah, who stated: 'Teachers need to prepare UKBM, including preparation techniques and assessment techniques. Initially, we invited working group speakers for SMA SKS to facilitate this process'.

And this is reinforced by the results of an interview (14 September 2022) with the biology teacher in class XI MIPA 5 stating that: "There is BIMTEK, we bring in a special resource person for the trainer to make UKBM, on the first day the material is explained as explained at least how many pages the KKM is made of, how many spacing, there must be a concept map, and the BIMTEK implementation is carried out in two days, for the first day it is filled with material, the second day we present it, and UKBM is made based on the existing KD, in KD for example analyzing linkages, it means that the time we need to complete one KD is longer , so we allocated 3x4JP for example for class XI, in the second point after the identity of UKBM, there is a concept map in this concept map

which has already been explained what material will be discussed in UKBM, so in UKBM it discusses the material that has been stated in the concept map, this is also adjusted to the indicators of achievement of basic competencies that have been made"

Supported by the UKBM study load regulation document, the following guidelines apply:

a. RPP for certain subjects contains one KD pair, time allocation for example 4 JP (2 meetings) with 1 UKBM. From the available time units, namely 4x40 minutes (160 minutes) a minimum of 64 minutes for face-to-face activities and a maximum of 96 minutes for face-to-face activities and a maximum of 96 minutes for structured activities and independent activities every week in one semester.

b. RPP for certain subjects contains one KD pair, time allocation for example 4 JP (2 meetings) with 2 UKBM. From the available time units, namely 4x40 minutes (160 minutes) a minimum of 64 minutes for face-to-face activities and a maximum of 96 minutes for structured activities and independent activities every week in one semester

c. RPP for certain subjects contains more than one KD pair, time allocation for example 6 JP (3 meetings) with 1 UKBM. From the available time units, namely 6x40 minutes (240 minutes) a minimum of 96 minutes for face-to-face activities and a maximum of 144 minutes for structured activities and independent activities every week in one semester.

d. RPP for certain subjects contains more than one KD pair, time allocation for example 6 JP (3 meetings) with 3 UKBM. From the available time units, namely 6x40 minutes (240 minutes) a minimum of 96 minutes for face-to-face activities and a maximum of 144 minutes for structured activities and independent activities every week in one semester.

Based on the results of these interviews, it can be concluded that apart from preparing learning tools, teachers are also responsible for creating and developing UKBM. Creating UKBM is not a superficial process, and it requires special training. The madrasa organizes BIMTEK (Training for Implementing UKBM) by inviting experts from the Pusdiklat Ministry of Religion of East Java. UKBM is prepared based on KD that has been included in the RPP, and the time allocation is also adjusted to KD besides that UKBM is equipped with a concept map that contains what material will be discussed in UKBM and of course it is taken from BTP and adjusted with indicators of achievement of basic competencies that have been made and the task of the teacher is not only to compile UKBM but also to prepare assessment techniques.

The evaluation of the UKBM MAN Sumenep planning was carried out by reviewing the instruments provided by MGMPS. All teachers are required to make lesson plans and UKBM. The UKBM component is taken from the lesson plan component. RPP is prepared according to 21st century life skills integrated with 4C, HOTS, literacy and PPK through active learning models (Discovery Learning, Inquiry Learning, Problem Based Learning, Project Based Learning,

etc.). Then after being compiled, the review team will evaluate it before finally being used to teach. The results of an interview (14 September 2022) with a class XI MIPA 5 biology teacher stated that:

"For the UKBM that we give to students, each subject teacher arranges it, so all the biology teachers gather and later are given assignments. For example, I was given the task of making UKBM semesters 1 and 2, Mrs. Iin made UKBM semesters 3 and 4 and for Pak Hamidi made UKBM semesters 5 and 6, so sometimes when I teach UKBM what I use is not what I made, and if there is material that is incomplete, I complete it before I give it to students. And UKBM doesn't change every year, only before new teaching there is a review of the RPP as well as UKBM, if the UKBM is incomplete or there are new rules from the center, we fix the UKBM, like yesterday when learning was carried out online, there were changes to UKBM namely the elimination of practicum activities, because it is not possible to do practicum independently at home.

This is supported by the results of an interview (24 September 2022) with the vice principal for Curriculum which stated: "In schools there is something called MGMPS, whose members are each subject teacher, who has the task of deliberating on learning tools and is also tasked with compiling UKBM. And every semester there is a joint review between subject teachers at MAN Sumenep, also the division of tasks in making UKBM, and if the previous UKBM was incomplete then it is added and corrected and every semester UKBM is not required to be replaced, but suppose there is something new then it is replaced."

This is supported by the results of an interview (29 September 2022) with the madrasah head stating that: "At the beginning of every year, there is an activity for reviewing lesson plans, UKBM, so they are reviewed again if there are weaknesses or deficiencies, then a revision is made, if it is good then there is no need to revise it" .

The data obtained from the interviews are corroborated by the documentation of UKBM in biology on plant tissue material.

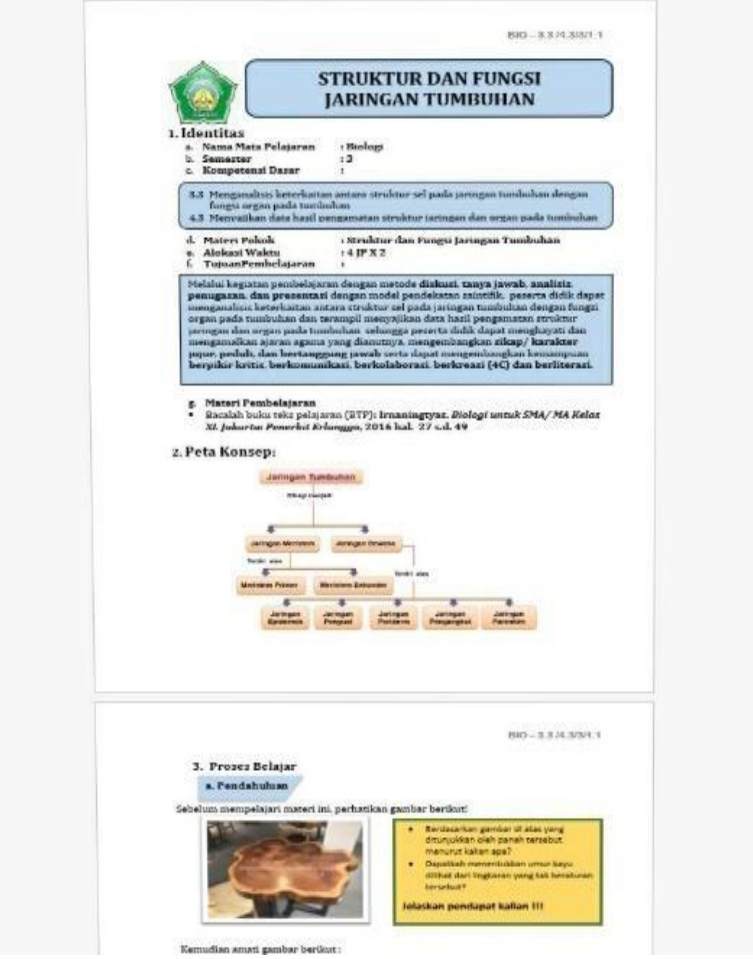

Figure 1. UKBM biology of plant tissue material.

From the results of the interviews and documentation, it can be concluded that those who compile and develop UKBM are MGMPS whose members are teaching teachers from each subject, so there is a division of tasks in preparing UKBM, and sometimes the biology teacher teaches, the UKBM is made by another biology teacher or someone else. already on duty. and the contents of UKBM do not have to be replaced every year, but a review of the RPP and UKBM is held at the beginning of each year in accordance with the latest rules or making changes to incomplete parts.

Researchers also recommend that teachers employ a variety of instruments to aid in the design of UKBM-based Teaching Materials type learning. Other researchers have constructed some of these instruments in an authentic and reliable manner (Dewi & Susilowibowo, 2016). Additionally, UKBM can be used with a variety of learning models, including Inquiry Learning, Discovery Learning, Problem Based Learning, and Problem Based Learning, to help students enhance their critical thinking skills (Markhus et al., 2019) remembering that critical thinking skills and other thinking skills are necessary for students to succeed in the twenty-first century (Nasution et al., 2023). Furthermore, transferring UKBM into electronic form will be a future challenges. Several studies have done so

(Setiyani et al., 2022), and as new digital goods develop, it is vital to analyze their acceptance (Nasution, 2023).

CONCLUSION

The planning for learning biology on plant tissue material using the UKBM based on a scientific approach in class XI MIPA 5 at MAN Sumenep is carried out at the beginning of the academic year. The learning tools, such as syllabus, prota, RPE, and RPP promissory notes, are compiled to align with those used in other schools. However, MAN Sumenep differentiates itself by utilizing the Semester Credit System (SKS), requiring each teacher to prepare integrated UKBM with RPP. The planning results are then evaluated by colleagues and the school principal.

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