

## UKBM-Based Assessment Study (Independent Learning Activity Unit) Biology in Malang City High School

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### Abstract

UKBM is a small learning unit based on basic competency-based textbooks. The preparation is done sequentially from the easiest to the most difficult to help students learn independently and achieve learning mastery. The research aims to (1) determine the characteristics of the UKBM compiled, (2) describe the preparation and development of UKBM, (3) analyze the development of UKBM-based assessment components, and (4) find obstacles, problems, and solutions for teachers in developing UKBM-based assessment components for Biology High School in Malang City. This research is qualitative descriptive research at State High School in Malang City. The data is primary data from interviews with 5 Biology teachers and secondary data from UKBM scores and documents. The instruments used were interviews, observation, and documentation guidelines. The characteristics of UKBM Biology at State High School in Malang City are in accordance with the characteristics of UKBM guidelines. The preparation and development by the Principal who represents the school in training, then developed by teachers and MGMP that adjusted in each school. Obstacles to implementing UKBM are (1) the emergence of heterogeneous groups in the classroom based on the ability to accelerate UKBM implementation and (2) requiring team teaching and extra effort given that student learning acceleration is different and learning infrastructure adjustment to learning progress and needs.

**Keywords:** 2013 Curriculum; 21st-Century, Independent Learning Activity Unit; Pedagogical Content Knowledge; Semester Credit System

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## INTRODUCTION

The Regulation of the Minister of Education and Culture Curriculum 2013 was developed to prepare students to have the ability to live as individuals and citizens who are faithful, productive, creative, innovative, effective, and able to contribute to the life of society, nation, state, and world civilization (Riwan Putri Bintari et al., 2014). The implementation process has been carried out continuously since the 2013/2014 school year to strengthen and improve school quality. The government expects that for the 2018/2019 school year, all education units will be programmed to implement the 2013 Curriculum (Taubah, 2019).

The policy of the Directorate General of Primary and Secondary Education in implementing the 2013 Curriculum is to provide training and mentoring for teachers from schools that will implement the 2013 Curriculum and develop supporting texts for implementing the 2013 Curriculum for Principals and Teachers (Ardianingsih et

al., 2017). Implementing these policies, the Directorate of High School Development in 2016 and 2017 has developed supporting texts for the implementation of the 2013 Curriculum in the form of guidelines, guidelines, models, and modules as references for Principals and Teachers in managing and implementing learning and assessment activities (Akib & Satriana, 2022).

Semester Credit System (SKS) is one of the products of the 2013 Curriculum. SKS is a form of education provider designed to serve students in completing the learning load with interest, ability, and speed of learning Regulation of the Minister of Education and Culture Number 158 of 2014 (Majid & Linuwih, 2019). UKBM is a small learning unit based on lesson textbooks based on KD (Basic Competence). The preparation is carried out sequentially from the easiest to the most challenging domains to help students learn independently to achieve complete learning (Wahyuningsih, 2022).

The UKBM survey results show that UKBM has not been maximally helpful in understanding students' concepts, and 66.7% of students responded negatively to the implementation of UKBM. The problems in several schools in the research locations varied, considering the school criteria also varied. Overall the problem was that the class was not conducive, so student activities were disrupted considering independent learning so that the class was more heterogeneous. There were variations in student readiness to learn using UKBM ranging from students who were not ready to learn. Independent teachers have difficulty managing students whose progress is different, so several groups appear in one while the teacher teaches himself, not team teaching. Likewise, teachers face new demands, namely preparing to learn such as material components, methods, and media for different groups of students. While the problems in schools other than at the research location are, in principle, the same as at the research location, the problems faced in high and low criteria schools are different. Problems in high schools, for example, the emergence of more learning progress groups, are problems in schools with low criteria, examples of low motivation for independent learning, and the speed of achieving learning targets is still low.

Preparing UKBM in learning activities is essential for schools that administer SKS. UKBM is a small unit of study arranged sequentially from easy to complex. UKBM is a learning tool for students to achieve knowledge and skill competencies by using credits. This can be used as a vehicle for students to grow 21st Century life skills such as critical thinking, acting creatively, working together, communicating, as well as growing culture of literacy and Strengthening Character Education (PPK) (Majid & Linuwih, 2019; Ruslika & Sertiawati, 2020). UKBM can be used to develop independent learning strategies that help students achieve mastery of learning (Megawati et al., 2013).

The main foothold in the development of UKBM is the Guidelines for the Implementation of SKS and the Complete Learning Implementation Guide issued by the Directorate of High School Development of the Ministry of Education and Culture in 2017. In these guidelines and guidelines, it is stated that each student must achieve individual mastery of the overall Core Competencies (KI) and Basic Competencies (KD) subjects in the implementation of complete learning services through UKBM (Aryanta, 2020). Therefore, assessment in UKBM plays a vital role in assessing and discontinuing student learning. The assessment must be developed in accordance with the requirements of a good assessment (Astuti et al., 2021).

To determine the effectiveness and efficiency of full learning services through UKBM, an assessment was carried out. Assessment is carried out for each UKBM. The assessment results are used as consideration for continuing to the next UKBM. For students who have not met mastery learning, they must take remediation, and for students who have met completeness can proceed to the next UKBM. In contrast, those who exceed minimum completeness can continue to the next UKBM and are entitled to enrichment services as intended in the Completed Learning Guide published by the Directorate of High School Development in 2017. So the purpose of this study is to find (1) the characteristics of UKBM compiled by high school biology teachers in Malang, (2) describe the preparation and development of UKBM conducted by high school biology teachers in Malang, (3) analyze the development of assessment components based on high school biology UKBM in Malang, and (4) find obstacles, problems, and solutions. Teachers develop assessment components based on UKBM Biology for State High School in Malang City. Based on these problems, it is necessary to conduct research related to assessments in UKBM, which have been hamlets into the following problem formulations:

1. What are the characteristics of UKBM compiled by high school biology teachers in Malang?
2. How is the preparation and development of UKBM carried out by high school biology teachers in Malang City?
3. How is the UKBM Biology-based assessment component development for State High School in Malang City?

## METHOD

This research is qualitative. According to Gay 1982, descriptive qualitative research is one part of ex-post-facto research because researchers do not manipulate the state of existing variables and directly look for the existence of variables (Sukardi, 2018). It is classified as descriptive research because this research tries to describe the conditions that have occurred, namely the current conditions. The approach used is qualitative research with the descriptive type (Rukajat, 2018). There are three reasons for using this method, namely; 1) qualitative methods are easier to adapt to multiple realities; 2) connecting directly between researchers and respondents; 3) they are more sensitive and able to adapt to sharpening the common influence on the patterns of values faced (Maleong, 2011).

### Research Subject

The research locations are State High School Malang City, namely State High School 3, State High School 1, State High School 9, State High School 8, and Wahid Hasyim High School. The research subjects examined the characteristics of UKBM, UKBM preparation and development, UKBM-based assessments, constraints, and solutions to developing UKBM-based assessments. Selection of locations as schools representing high, middle, and lower levels.

### Data Types and Sources

The data used in this study consisted of two types, namely primary data and secondary data. Primary data consists of interviews with data sources, namely 5 Biology teachers, and secondary data obtained from UKBM scores and documents.

## **Data Collection Technique**

Techniques Data collection is done by conducting observations, interviews, FGDs, and document studies. Observations were carried out systematically using observation guidelines and non-systematic without using an instrument by observing the activities of students and teachers in learning. Interviews were conducted in a structured and unstructured manner with the Biology teacher. This study was conducted to obtain information from principals, teachers, and students regarding family support and superiors, by asking several systematic questions. Finally, document studies collect and analyze written and unwritten documents (images and electronics). The selected document is the implementation program planning data which includes the UKBM development components: lesson textbooks, Core Competencies (KI) along with Basic Competencies (KD), assignments, and learning experiences, the last of which is a self-evaluation tool. Documents are collected according to the sequence and coding that has been determined, described, and interpreted (Creswell & Clark, 2007; Moedzakir, 2010; Sukmadinata, 2007; Sutopo, 2006)

## **Research Instruments**

The types of instruments used in the study were interview guidelines, observation guidelines, and documentation guidelines. The non-test instrument used was developed by the researcher. An instrument is valid if it can measure what is being measured. The validity of non-test instruments in the study was based on the considerations of experts in their fields. There are several aspects of the assessment assessed by experts. In the interview guide instrument, there are 4 aspects of assessment: aspects of language, construct, content and implementation. The results of the validation carried out by experts on the interview guide sheet got results of 4.1 with details on the language aspect getting an average of 4.2, construction on average 4, content on average four, and implementation on average 4.5 or instrument stated valid (Setyo et al., 2020). Furthermore, the observation guide instrument contained five assessment aspects: language, construction, content, implementation, and average performance. The results of the validation carried out by experts on the interview guide sheet obtained results of 4.1 with details of language aspects an average of 3.7, average construction of 5, the average content of 5, average implementation of 3.5 and average performance of 3.5 or the instrument is declared valid to be used (Setyo et al., 2020).

## **Analysis Techniques**

Data analysis was carried out descriptively, and statistical analysis to see the correlation of variables. According to Creswell & Poth (2016), six steps are taken to analyze and interpret qualitative research data, including (1) preparing and organizing data, (2) exploring and coding databases, (3) describing findings and forming themes, (4) representing and reporting findings, (5) interpreting the meaning of findings, and (6) evaluating the accuracy of the findings.

Testing the validity of the data is done by validating the findings, including Credibility, through continuous observation, extending the period, and triangulating data sources. Transferability and external validity are done by describing the findings in detail. Dependability, audit of research findings conducted by researchers and evaluation experts. Counterpart, see the objectivity of the findings by confirming the data and findings with the experts (Lichtman, 2010).

## RESULTS AND DISCUSSION

UKBM is a model of teaching materials that require students to learn independently and actively. UKBM can assist teachers in assisting and guiding quite diverse students (Suardinata, 2021). UKBM fosters the needs of 21st-century life, such as critical thinking, acting creatively, collaborating, and communicating, as well as the growth of a literacy culture along with Strengthening Character Education (PPK) (Maghfiroh, 2020; Riwan Putri Bintari et al., 2014). UKBM development in learning activities must be in accordance with the main foothold for UKBM development, namely the Guidelines for the Implementation of SKS and the Complete Learning Implementation Guide issued by the Directorate of High School Development, Ministry of Education and Culture in 2017 (Aryanta, 2020).

The results of the UKBM implementation assessment study in four State High Schools in Malang City in Table 1 show that the use of UKBM has not fully acted as an instrument. UKBM provides opportunities for students to develop their potential according to their respective abilities. However, some students are not interested in completing the UKBM immediately and working on the next UKBM. Students prefer to study with all their friends, so they tend to study classical and do not develop their potential. Activities do not provide detailed and systematic directions, so learning tends to be classical. Likewise, assignments and questions are more about moving content than searching, finding, and developing concepts. In measuring the completeness or competency achievement of each subject, each school shows the strength of the UKBM role, which is different from the strong role of UKBM to the weakening of its role. Through UKBM, teachers can measure students' abilities, so UKBM is an assessment instrument. Learning using UKBM is student active student center. However, in four schools, UKBM was implemented in various ways and showed different indications of student activity. Some schools use varied-innovative models, try to be student centers but do not develop students' thinking power, and use a scientific approach, but some concepts have not been studied meaningfully, and some have not used synthetic learning correctly and even tend to move books.

The study's results also show that UKBM and school TPACK have not been appropriately implemented. It was found that schools use technology as a learning resource, schools use technology as a tool, schools use technology to construct content and concepts, and schools use very minimal technology. The 21st-century learning with 4C in UKBM has varied responses from schools. Schools have implemented learning that requires students to think and act 4C, but some schools have not, so the HOTS patterns have not been carried out, or HOTS demands are also used in some questions and assignments. One of the 4C elements, the ability to communicate orally, is still minimally used. While the level of thinking already uses analysis (C4), there are not many levels of thinking C5 and C6. Students need to be directed to arrive at C6.

UKBM has facilitated students to develop their respective potentials, but teachers still need assistance to achieve complete learning. However, some students are not interested in immediately completing the UKBM and working on the next UKBM. Students prefer to study with all their friends, so they tend to study classical. Lack of developing student potential. Activities do not provide detailed and systematic directions, so learning tends to be classical. Likewise, assignments and questions are more about moving the contents of the book rather than seeking, finding, and developing concepts. While the learning design using UKBM is engaging and dynamic but needs tips to be able to stimulate and inspire students. The UKBM

concept needs to simplify with more applied learning steps. The learning is less attractive, and some are not dynamic with the form of monotonous questions. Less engaging learning is static because the approach is not active learning. UKBM performance is good but needs to be improved with more attractive pictures, systematic flow, smart metacognition diagrams, and more thoughtful strategies. While the use of learning resources has not been optimal, both technology sources and other learning resources. Not yet utilizing IT learning resources and other sources is also not optimal.

**Table 1.** Result of UKBM Assessment Study at Malang City High School

ASPECT	State High School "A"	State High School "B"	State High School "C"	State High School "D"
<b>Preparation of UKBM</b>	UKBM training results in the province are developed in schools by the teacher, the MGMP team	UKBM training results in the province are developed in schools by the teacher, the MGMP team	UKBM training results in the province are developed in schools by the teacher, the MGMP team	UKBM training results in the province are developed in schools by the teacher, the MGMP team
<b>Based on KD</b>	UKBM is already based on KD	UKBM is already based on KD	UKBM is already based on KD	UKBM is already based on KD
<b>Continuation of mastery of lesson textbooks</b>	The material from lesson textbooks has been well developed	UKBM has developed lesson textbooks materials	The material in lesson textbooks is well developed by going through several practicum activities, questions, and assignments	The material is a continuation of the material in lesson textbooks but has not been fully developed
<b>Can measure the completeness/ achievement of competence in each subject</b>	This UKBM can measure completeness if every bill and normative are part of the completeness measurement	UKBM has not been fully able to measure completeness/achievement of competence. This is because activities, approaches, and assessments have not been able to measure the achievement of KD fully	Assignments and questions have led to the measurement of competency achievement, but it has not been maximized for learning activities. There is no meaningful learning to achieve competence	Have not been able to measure the completeness of competency achievement because the billing instrument is not entirely in accordance with what will be measured
<b>The form of learning activities is student-centered by using various models and learning</b>	The learning activities are student-centered. UKBM has used several varied learning models. Likewise, a scientific approach	Learning activities are student-centered, but the form does not require students to seek or develop their thinking power to	Learning is student-centered with a scientific approach supported by active learning and methods.	Monotonous learning activities. Questions and assignments are not developed as a process of finding concepts but in the form of questions

ASPECT	State High School "A"	State High School "B"	State High School "C"	State High School "D"
<b>methods with scientific approaches and other relevant approaches</b>	has also been used to understand a concept	move more material in lesson textbooks. The scientific approach doesn't seem strong yet	However, some concepts have not been meaningful in their activities, leading to low student understanding. Some concepts have not been directed through questions or activities, so independence can be limited to transferring material from lesson textbooks to UKBM	that students tend to move away from the book. It is necessary to use a scientific approach correctly step by step so that students can develop and find concepts well
<b>Utilizing learning technology in accordance with TPACK concepts and principles</b>	Technology has been used in UKBM but is not yet optimum. Technology can be used as a learning resource and concept discovery process in this topic, but it has not been used appropriately. Technology as a tool has been used, of course	Technology is used only as a tool and infrastructure. It has not been used as a learning resource properly. There are directions to use as learning resources, but the source addresses are not given, so they do not direct well. Technology has the opportunity to be used and developed, especially in practical activities	Learning uses technology to construct content and concepts—simplified concepts using technology through practical work so that concepts are more straightforward to learn. However, technology has not been fully used as a learning resource. Technology is still a tool and infrastructure in learning.	Technology is very minimally used, whether technology is an infrastructure, a tool, or a learning resource
<b>The learning activities lead to the 21st Century with 4C (critical thinking, creativity, collaboration, communication)</b>	Activities have led to 21st-century learning. Learning activities require students to think and act 4C. Critical in solving problems, finding and solving problems. However, the direction is needed	The learning activities have not yet entirely led to the 4C. More dominant questions and assignments do not require students to think 4C. Thus, the HOTS thinking	Learning has ended in the 21st-Century. 4C skills are applied through questions and tasks. However, oral communication skills are still minimally used.	Learning activities are less focused on the 21st century, such as 4C, HOTS, and PPK. Learning does not require students to face challenges both in terms of material and activities

ASPECT	State High School "A"	State High School "B"	State High School "C"	State High School "D"
<b>n), HOTS, and PPK.</b>	so students can collaborate, especially communication needs to be appropriately given space and time. The use of HOTS still needs to be improved because, in general, it is not yet HOTS. HOTS opportunities are very large considering the characteristics of the material, facilities, and the ability of students to be ready for HOTS. The implementation of character education is also not optimal, especially the strategy of applying honesty in working on UKBM	pattern has not been carried out properly, so the character education is not yet clear.	The HOTS claim is also used in some questions and assignments. However, some questions and assignments are still related to transferring material from lesson textbooks to UKBM. The PPK aspect has also been applied in UKBM, widely used independent character and responsibility. Other aspects of PPK can be developed, such as discipline and honesty, because doing assignments allows students to imitate friends' work so that assignments become meaningless.	
<b>It is applied at the level of analytical thinking (C4), evaluation (C5), and creation (C6)</b>	The level of thinking already uses analysis (C4), but not many levels of thinking C5 and C6. Students need to be directed to arrive at C6	The level of thinking analysis was carried out, but it was still very small. Likewise, with the level of thinking evaluation and creation. Questions and assignments still go to C1, C2, and C3	The level of analytical thinking is used to answer problems in the process of learning activities and answer questions. The level of evaluation is very minimal use as well as the level of creative thinking. Thinking levels C1, C2, and C3 in the form of questions, assignments,	The level of thinking is still in the low-level thinking level, namely C1, remembering, C2 understanding, and C3 applying

ASPECT	State High School "A"	State High School "B"	State High School "C"	State High School "D"
<b>Can develop students to actualize the various potentials they have as fast, normal, and slow learners</b>	UKBM has facilitated students to develop their potential but still needs teacher assistance to achieve complete learning	UKBM does not direct students to develop their potential. UKBM has indeed directed students to be independent, but the directions are not yet clear. The bill is more toward products with unclear processes	UKBM provides opportunities for students to develop their potential according to their respective abilities. However, students are not interested in immediately completing the UKBM and working on the next UKBM. Students prefer to study with all their friends so they tend to study classical	Lack of developing student potential. Activities do not provide detailed and systematic directions, so learning tends to be classical. Likewise, assignments and questions are more about moving content than seeking, finding, and developing concepts.
<b>The learning is designed to be interesting, dynamic, stimulating, inspiring, and convincing to students that the competencies being studied can be mastered easily and meaningfully in their lives</b>	The learning design is interesting, dynamic, but requires tips to stimulate and inspire students. Need to simplify the concept with more applied learning steps	The learning is less interesting, and some are not dynamic with the form of monotonous questions so that they do not stimulate students to be inspired	Learning in UKBM is not entirely enjoyable, dynamic, stimulating, and inspiring. It is still found that the transfer of material that is not conceptual in nature or vice versa to learn concepts requires constructive activities.	Less interesting learning is static because the approach is not active learning
<b>UKBM's appearance attracts students' interest in learning</b>	UKBM performance is good but needs to be improved with more attractive pictures, systematic flow, smart metacognition diagrams, and more	The appearance of UKBM is less dancing, without cover, lacking pictures and lacking attractive illustrations	UKBM's appearance is not yet attractive. It needs an attractive cover. Contents are dense and	UKBM's appearance is not attractive. Less use of illustrations, pictures, and tables.

ASPECT	State High School "A"	State High School "B"	State High School "C"	State High School "D"
	innovative strategies		simple but still attractive with pictures, tables, diagrams, or other appropriate images.	
Learning Resources	The use of learning resources is not optimal; both technology sources and other learning resources	Haven't used IT learning resources and other sources yet	The use of learning resources is still lacking in variety, both books, and other IT media	Sources do not use a variety of learning resources. Need to use IT as a learning resource

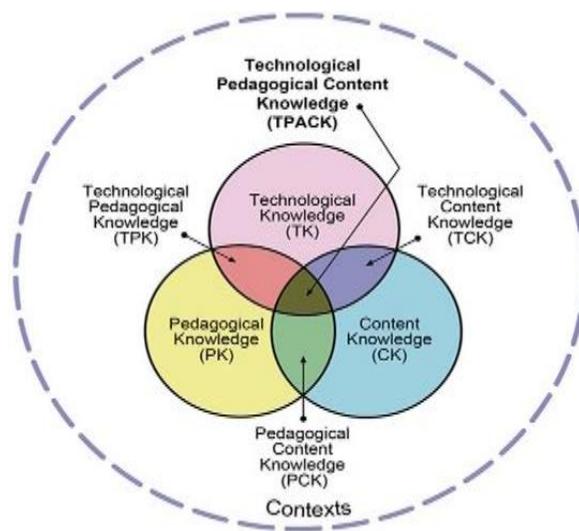
### Characteristics of the Biology UKBM of State High School in Malang City

Based on the preparation and use of UKBM at the discretion of the Directorate of High School Development Kemendikbud through the Biology supervisor of Malang City. The activity began with training at the East Java Province level for representatives of each school, namely the Principal. The UKBM training results are continued to be applied in schools by first being discussed with the teacher in the Subject Teachers' Consultation (MGMP) in the field of study and developed in schools. UKBM has been prepared based on KD. The guidebook for the preparation of UKBM (2017) explains that the KD-based UKBM is used to gradually facilitate students in learning and mastering a subject's learning units. Thus, each student can learn to master the competencies according to their learning style and speed.

UKBM has been prepared as a continuation or development of mastery of textbooks. According to Kusumam et al. (2016), there are several functions of the use of textbooks, namely as: reference material or reference material by students, as evaluation material, teaching aids for educators in implementing the curriculum, one of the determinants of teaching methods or techniques that educators will use, means for career and position improvement.

UKBM has been developed to evaluate the achievement of KD because it is based on KD so that it can represent the achievement of KD. UKBM has used student-centered learning activities. This is indicated by using various models or learning methods with scientific and other relevant approaches. UKBM has utilized learning technology in accordance with the concepts and principles of Techno-Pedagogical Content Knowledge (TPACK).

TPACK consists of three knowledge, namely content, pedagogy, and technology. These three pieces of knowledge will form the core of the technological framework, pedagogy, and content knowledge (Marcelo & Yot-Domínguez, 2019). Figure 1 shows three main components of teacher knowledge: content, pedagogy, and technology. Just as important as the model is the interaction between and among these knowledge sets, which are represented as PCK (Pedagogical Content Knowledge), TCK (Technological Content Knowledge), TPK (Technological Pedagogical Knowledge), and TPACK (Koehler et al., 2013). TPACK consists of TPK, PCK, and TCK, which is about the complex relationship of all constituent knowledge areas (Rosenberg & Koehler, 2015).



**Figure 1.** The TPACK framework

UKBM has used educational and dialogical learning activities that lead to the 2013 curriculum and 21st-century learning. This shows that activities, bills, and assessments have reflected four things: critical thinking and problem solving, creativity and innovation, communication, and collaboration. Critical thinking and problem-solving is a learning activity designed to achieve this through applying a scientific approach, problem-based learning, problem-solving, and project-based learning (Wena, 2020). Creativity and innovation provide opportunities for teachers to open up space for students to develop their creativity. It aims to motivate students to continue to improve their achievements. The teacher's role is only as a facilitator and guides each student in learning because every student is unique (Nurjanah, 2013). Communication, UKBM provides opportunities for students to be required to understand, manage, and create effective communication in various forms and contents orally, in writing, and multimedia. Students are allowed to use their abilities to express their ideas, both when discussing with their friends and when solving problems from their educators (Nurjanah, 2013). In the collaboration context, UKBM allows students to show their ability in group collaboration and leadership, adapt to various roles and responsibilities, work productively with others, put empathy in its place, and respect different perspectives (Nurjanah, 2013).

In addition, UKBM also applies and demands Higher Order Thinking Skills (HOTS) or higher order thinking skills and has character. This can be seen from the UKBM activities that require students to solve problems in a HOTS manner and do not require Lower Order Thinking Skills (LOTS) or low-level thinking skills (Sukmawati & Permadani, 2017). Ennis (1985) in goals for a critical thinking curriculum, critical thinking includes character and skills. Character and skills are two inseparable things in a person (Siti Zubaidah, 2010).

UKBM is applied by providing opportunities for students to think analytically (C4), evaluate (C5), and create (C6) (Fatmawati, 2019). UKBM activities require students to analyze through problem-solving, be creative in solving problems, and be creative in doing something. UKBM has also developed students to actualize their various potentials as fast, regular, and slow learners. Designed to be used in classical, group, individual, and online or offline learning according to students' varied learning needs (Agstiningrum, 2019). This facility is given considering that students have differences.

Several individual differences exist in students, including intellectual development, language skills, background experience, learning styles, talents and interests, and personality (Sari & Mudjiran, 2020). UKBM has also provided an atmosphere and process for conducive learning activities, so UKBM has been designed attractively for successful learning. UKBM is dynamic, stimulating, inspiring, and convincing students that the studied competencies can be mastered easily and meaningfully in their lives (Ernawatiningsih, 2021). UKBM's appearance attracts students' interest in learning (Susilo & Makhful, 2020).

### **Preparation and development of UKBM Biology State High School in Malang City**

The existence of the Biology UKBM in Malang City began with an explanation from the Biology High School supervisor, followed by training. The UKBM training at the provincial level was attended by representatives of each school, explained the respondent. The informant said, "The supervisor provided UKBM training in Surabaya, which each school's Principal attended. The result is UKBM, then at school using the UKBM while practicing." This statement is the result of an interview with one of the Biology teachers at a public high school related to the UKBM government program.

The supervisory steps as a manifestation of the policy of the Directorate of High School Development in 2016 and 2017 have developed supporting texts for the implementation of the 2013 curriculum in the form of guidelines, guidelines, models, and modules as references for principals and teachers in managing and implementing learning and assessment activities. One of these texts is the Guide to the Development of Independent Learning Activity Units (UKBM). The main foothold in the development of UKBM is the Guidelines for the Implementation of SKS and Guidelines for Implementing Complete Learning issued by the Directorate of High School Development, Ministry of Education and Culture in 2017. Schools apply UKBM products as a result of training which is then discussed and revised repeatedly, as stated by the teacher below: "UKBM is not good, it is still being revised, even though there is e-UKBM, the UKBM is still being revised."

The UKBM revision takes into account the scope of material, time, students, facilities, infrastructure, and costs. In the guidebook and guidelines for the implementation of UKBM (2017), it is stated that each student must achieve individual mastery of the overall Core Competencies (KI) and Basic Competencies (KD) of subjects in the implementation of complete learning services through UKBM. The development of UKBM as a teaching tool is prepared by combining the components of UKBM development which include (a) lesson textbooks enriched with other actual and relevant sources, (b) Core Competencies (KI) and Basic Competencies (KD), (c) assignments and learning experiences of rhyme texts, and (d) self-evaluation tools (Aziziy et al., 2019).

### **Development of assessment components based on UKBM Biology for State High School in Malang City**

The UKBM development components in the UKBM implementation guidelines 2017 include textbooks, core competencies, essential competencies, self-evaluation tools, assignments, and learning experiences per the competencies to be achieved (Aziziy et al., 2019). The informant stated, "Assessment in UKBM using various ways to measure knowledge and skills." Meanwhile, the following informants conveyed the

UKBM-based assessment: "Teachers must correct student assignments in UKBM which may vary in student achievement."

Assessment of learning outcomes based on UKBM to determine the effectiveness and efficiency of whole learning services through UKBM, an assessment is carried out. Assessment is carried out for each UKBM. The assessment results are used to consider continuing to the next UKBM. Students who have not met the mastery of learning must take remediation, and those who have fulfilled the mastery can proceed to the next UKBM. In contrast, those who exceed the minimum mastery can continue to the next UKBM and are entitled to enrichment services as intended in the guide 2017.

Students are allowed to learn independently using UKBM so that the development and achievement of each student are different until they reach the predetermined mastery. Complete learning published by the Directorate of High School Development in 2017, namely: in accordance with competencies (GPA and or KD), according to the activities carried out in learning, according to learning materials, containing HOTS questions and questions of unique skills for subjects (religion, arts, and culture, language). The question form is prioritized as a description or essay test (Aryanta, 2020).

Assessment of learning outcomes in the State High School Biology UKBM is in accordance with UKBM-based assessment standards. This is indicated by conformity with competencies (GPA and or KD), according to (1) the activities carried out in learning, (2) learning materials containing HOTS questions, (3) loading instruments in the form of observation sheets, self-assessment sheets, assessment sheets between friends, multiple choice questions, questions essay containing HOTS, and (4) the rubric (practice, project, portfolio) contains assessment and assessment techniques.

### **Obstacles, problems, and solutions for teachers in developing assessment components based on the UKBM Biology State High School in Malang City**

In the implementation of UKBM, there are problems faced by teachers. The following is an example of the problems faced by teachers in implementing UKBM in one of the State High Schools in Malang. "UKBM is tough because there are several groups of students in the class, namely high, middle, and low. The three achievement groups are different, the material is different, and the different abilities are in one class with 36 students. There are not only three groups in class, but there is also one classic group. In addition, it is also challenging to correct each task in UKBM, considering that the teacher teaches eight classes.

Regarding the practicum, it cannot be overcome if individually to serve the complete first". However, one school is not so heavy with UKBM learning, but it seems that the teacher has not interpreted learning well. Learning is still confused with SKS (choose 4,5,6 semesters), acceleration, or KBM. All three are different things. The following is the teacher's statement "This school can graduate students from 4 semesters as many as 30 students, so 10% of the total 300 students. There are 30 students in one class who have taken four semesters since the beginning". The teacher's explanation shows that it has not fully differentiated learning from SKS, acceleration, and UKBM. Teachers respond to UKBM differently. In addition, other teachers also said, "UKBM such as student worksheet still finds it difficult to implement everything, students are not motivated to complete UKBM on their own. Students prefer to be with other friends".

The problems of implementing UKBM in learning activities are quite varied. Of the four State High Schools in Malang City that were involved in the research, the

problems faced included (1) the emergence of heterogeneous groups in the class based on the ability to accelerate the implementation of UKBM, (2) the need for team teaching considering the different accelerations of student learning, and (3) extra preparation needed to serve different students. The needs of other components and learning facilities and infrastructure to adjust progress and different learning needs. The finding is in accordance with the research results conducted by Fajriyah (2018) UKBM implementation is still lacking UKBM is still considered confusing and complicated. In its implementation, UKBM is expected to provide a stimulus to foster student independence in learning (Majid & Linuwih, 2019).

## CONCLUSION

The Biology UKBM is in accordance with the UKBM characteristics in the UKBM Learning Implementation Guidelines, i.e., the preparation and development by the Principal who represents the school in training, then developed by the teacher and the MGMP and adjusted in each school. Assessment of learning outcomes in the State High School in Malang City Biology UKBM is in accordance with UKBM-based assessment standards. Obstacles to learning with UKBM include (1) the emergence of heterogeneous groups in the class based on the ability to accelerate implementing UKBM, (2) requiring team teaching considering the acceleration of different student learning, and (3) needing extra preparation to serve different students, as well as the needs of other components and the need for adjustment of facilities and infrastructure, learn to adapt to different learning progress and needs.

## RECOMMENDATION

The study research results can be used by educational institutions including schools and even the Education Office as a benchmark in implementing UKBM in Malang City. In addition, further research can be used in other subjects, apart from Biology, to determine the implementation of UKBM in these subjects.

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## DECLARATION OF INTEREST

There are no conflicts of interest declared by the authors.

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