

Analysis of the Need for the Development of Authentic Assessment Instrument in Biology Learning In Class XI MIA SMA Semester 2

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Abstract – This study aimed to describe the learning process Biology, describes the assessment instruments used in learning and knowing the problems concerning the authentic assessment in schools. This type of research is descriptive research. Object of research is a teacher of Biology and MIA in class XI SMA Negeri 1 Batanghari. Data collection instruments used was interview and questionnaire sheet. The data were analyzed descriptively. The results showed that: 1) the teachers difficulties in implementing authentic assessment because of the many instruments that should be made by teachers to assess learners, 2) teachers are still using assessment multiple-choice test to measure students' cognitive abilities, while the attitude and psychomotor no instrument vote, 3) teachers and students need a model of authentic assessment instruments developed especially in the subjects of biology, so it is not in accordance with the demands of the curriculum, 2013.

Keywords – Assessment instruments; Authentic assessments; Teaching Biology.

I. INTRODUCTION

Changes in behavior as a result of learning demonstrated through behavior change as a whole, not just one aspect. Learning is not said to be complete when produced little change in one or two aspects. Students who succeed in memorizing based on learning outcomes; it did not cover all the other behaviors. Students are said to learn if its behavior changes in cognitive (knowledge), affective (attitude), and psychomotor (skills). Therefore, teachers should pay attention to changes in behavior that occurs in students after the learning process. Similarly, in the assessment of learning outcomes, should include all these behavioral changes.

Authentic assessment is a real mirror of the learning conditions of students (Ismet and Hariyanto, 2014: 168). Students are required to show tasks at the actual situation in the application demonstrate the skills and knowledge essential to be meaningful. Students perform a variety of activities, both in the tasks undertaken outside class hours, conducting experiments, as well as students' attitudes

towards something or doing something, there is often no instrument used to assess these activities. Teachers usually only see immediate results and provide value in the absence of the instruments used. Such activities need to be evaluated in real life by using assessment instruments.

Authentic assessment has strong relevance to the scientific approach of learning in accordance with the demands of the 2013 curriculum. The 2013 curriculum requires that the assessment be able to illustrate the improvement of learners' learning outcomes, whether in observation, reasoning, trying, networking, and so on. Authentic assessment tends to focus on complex or contextual tasks, and enables learners to demonstrate their competence in more authentic settings.

Based on observations conducted in SMA Negeri 1 Batanghari provided information that has not been the presence of an assessment instrument in the affective and psychomotor. In addition, the questions that tested the students in the form of multiple choice questions that

measures the ability to memorize. Multiple choices has drawbacks because it cannot develop the analytical skills of students. Generally, teachers are still limited understanding of the scope of authentic assessment. In addition, teachers expect assessment tools are easy to understand and practical.

Authentic assessment is done at school that has implemented the curriculum of 2013. However, the teachers are still difficulties in designing the assessment. Assessment conducted without first designed or carried out carelessly, then the result would not be accountable because it is not consistent. It causes us to be unfair to some students in assessing their performance (Rustaman, 2013: 2).

Those problems can be addressed by implementing authentic assessment in the learning process. Authentic assessment forms include assessing aspects of knowledge that is done through written tests, oral tests, and assignments. Based Azim journals and Khan (2012: 319) authentic assessment is a new idea as an alternative to traditional assessment. This assessment is a process that facilitates student learning, not only to evaluate the teaching and learning process. Based on the research note that the implementation of authentic assessment in any classroom atmosphere changing role of stakeholders, especially the role of teachers and students. During the assessment process is authentic, active learners taking over responsibility for their own learning and on the other hand, the instructor's role only as a facility of the learning process. The main aspect of authentic assessment, i.e. a complete assessment to measure student learning in information processing.

Benefits of using authentic assessment include: 1) the use of authentic assessment allows for direct measurement of the performance of the learner as an indicator of achievement that learned competencies, 2) authentic assessment gives learners the opportunity to construct the learning results. Assessment should not merely ask learners to repeat what they have learned because such are training them to memorize and recall are less meaningful, 3) authentic assessment allows the integration of the activities of teaching, learning and assessment into a set of activities that are integrated, 4) authentic assessment gives learners the opportunity to display the results of their study, work performance, in a way that is considered the most good (Mueller, 2008).

Based on the background that have been raised, then the preliminary research needs to be done to develop an authentic assessment instruments. The purpose of this study is to describe the process of learning Biology, assessment instruments used in the study and problems encountered in

the implementation of the curriculum Biology teacher in 2013 at SMA Negeri 1 Batanghari.

II. REVIEW OF LITERATURE

1. Learning of Process

The term learning has the essence of planning or design (design) as an effort to membelajarkan students. That is why in learning, students not only interact with teachers as one source of learning, but may interact with the overall learning resources used to achieve the desired learning objectives. Therefore, learning focuses on 'how to teach students', not to "what students learn" (Uno, 2012:2).

Learning is who teach which refers to all efforts how to make people learn, how to produce a study on the occurrence of events in that person (Lufri, 2007: 3).

2. Assessment

Assessment which, if done in the learning it can be defined as a systematic process of gathering information about the various components of learning to know the characteristics of learning components, strengths and weaknesses, the implementation process, and results achieved in accordance with the rules (Yusuf, 2011: 14).

Assessment of learning is done to determine the progress and results of learners, diagnose learning difficulties, providing feedback or improvement of teaching and learning, and determining grade. Through the assessment can be obtained with accurate information about the organization of teaching and learning success of students, teachers, and the learning process itself. Assessment is one important aspect of learning that most learners can develop his potential optimally, because the number of students who scored low or below the standard will affect the effectiveness of the overall learning (Mulyasa, 2013: 137).

3. Authentic Assessment

Authentic Tests centered on learning experience. Authentic assessment is a direct assessment of the feasibility check the performance of students with assignments (Wiggins, 1990: 1). Tombari and Borich (1999: 1.8) suggests that the test is authentic (genuine) involves what is taught and practiced in the classroom and asked the students to use the skills, knowledge, and the thought process.

Authentic assessment forms include assessing aspects of knowledge that is done through written tests, oral tests, and assignments. Skills assessment done through practice, product, project, portfolio, and/or other techniques.

Assessment aspect affective is done through observation as the primary source of information (Permendikbud, 2015: 6).

III. METHODOLOGY

This study is a qualitative descriptive study. Data collection was performed in November 2016. The subject of this research is a biology teacher and class XI MIA in SMA Negeri 1 Batanghari. Students as research subjects were 34 and 1 teacher Biology. Data collection instruments used was the questionnaires (teachers and students) and questionnaires to teachers who use scale, *Guttman* as well as the questionnaire analysis of the concept. The research was conducted by interviewing professors and students related to the analysis of problems and needs, distributing questionnaires to teachers related to curriculum analysis, as well as a questionnaire completed by the relevant researcher concept analysis. The questionnaire results were analyzed by calculating the number of respondents who answered "yes" and respondents who answered "no".

The value of the results of questionnaires:

Yes = 1 No = 0

$$\text{Results} = \frac{\text{number of answer}}{\text{number of answer}} \times 100\%$$

IV. RESULTS AND DISCUSSION

A. Research Results

1. Analysis of Problems and Needs

Analysis of the problems in the learning process at school Biology conducted to find out the problems faced in learning activities at school Biology. Based on this analysis finds that there are some problems, namely problems in implementing the curriculum in 2013, as well as problems in using valuation techniques in accordance with the demands of the curriculum of 2013.

The implementation of the curriculum in 2013 that has been done since the last few years at SMA Negeri 1 Batanghari still not running properly. Based on preliminary observations have been conducted by researchers at the school, only a few subjects that have implemented the curriculum in 2013 properly, including subjects of Arts and Culture. Biology particular subjects not yet fully implemented the curriculum of 2013. Implementation of the curriculum still in process today. The training was conducted on teachers to its implementation in accordance with the demands of the curriculum expected.

Biology learning assessment in the curriculum in 2013 carried out by using authentic assessment. The problem faced by teachers in the implementation of the assessment, which is the number of instruments that should be made by teachers to assess learners. The assessment used in the learning process in the form of tests. Test used, is example the test objective form. Moreover, the attitude and psychomotor assessment also vote no instruments. According to this problem by developing an authentic assessment instruments that can escort the students to practice the ability to reason and solve problems.

Analysis of needs in the learning process, especially of the assessment system in 2013 revealed that the curriculum used authentic assessment instruments. However, there is no model of authentic assessment instruments developed especially in the subjects of biology, so it is not in accordance with the demands of the curriculum of 2013. Therefore, it takes a model of authentic assessment instruments in accordance with the demands of the curriculum of 2013.

2. Analysis of Curriculum

Analysis revealed that the curriculum needs of students in 2013 has been implemented but not run properly. This is because the assessment done yet using authentic assessment instruments, especially on the subjects of Biology. Assessment techniques used the multiple-choice test. Meanwhile, affective and psychomotor assessment there is no instrument that assesses. There is no model of authentic assessment instruments developed especially in the subjects of biology, so it is not in accordance with the demands of the curriculum of 2013. Therefore, it takes a model of authentic assessment instruments in accordance with the demands of the curriculum of 2013.

Analysis of the curriculum is to explain what capabilities should be owned learners, Based on the questionnaire known that the instrument used by the teacher to load the material on curriculum 2013 (100%). The assessment instruments used to load materials digestive system curriculum 2013 (100%) and the respiratory system in the curriculum of 2013 (100%).

Curriculum Based on the analysis result, the curriculum used curriculum, 2013. Based on the analysis of curriculum known that material digestive system and the respiratory system are sufficient to achieve the objectives of the curriculum of 2013. However, for the development of assessment instruments need to be elaborated indicator.

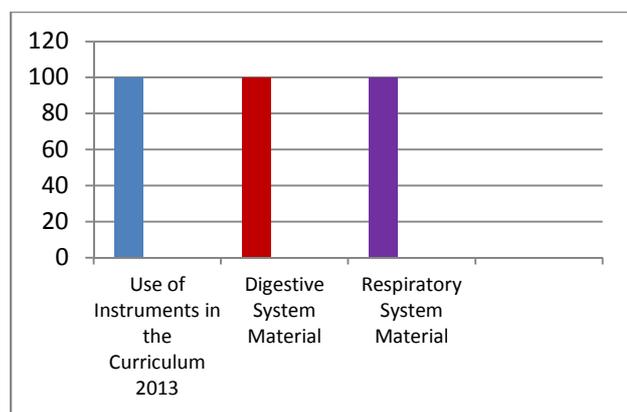


Figure 1. Analysis Diagram Curriculum

3. Analysis of Concept

The results of the analysis of the concept of the material digestive system and respiratory system derived from indicators developed. Material digestive system with indicators linking/analyze the relationship between network structure constituent organs of the digestive system with nutrients incorporated the concept of substances contained in food ingredients and functions for the body, as well as the structure and function of organs in the digestive system of human food to be developed on the test description, Indicators associate/analyze the relationship between network structure constituent organs digestive system by bioprocess incorporated the concept of food digestion process that occurs in the organs of the digestive system of the human diet, as well as the process of digestion in ruminants to be developed on the test description.

Indicators associate/analyze the relationship between network structure constituent organs digestive system abnormalities/disorders of the digestive system needs to put the concept of disorder/disease that is present in the digestive system to be developed on the test description, portfolio, and project. Indicators presents the results of an analysis of the substances/nutrients in food test trials need to put the concept of the nutrients contained in the food material by using simple food test to be developed on the test performance.

Material respiratory system by linking indicator/analyze the relationship between network structure constituent organ of the respiratory system with bioprocess need to put the concept of the structure and function of organs in the human respiratory system, the process of respiration occurs in humans, as well as the process of respiration on vertebrate animals to be developed on the test description. Indicators associate/analyze the relationship between network structure

with the constituent organ of the respiratory system disorders/disturbances in the respiratory system needs to put the concept of disorder/disease found in the human respiratory system to be developed on the test and project description. Indicators presents the results of an analysis of the capacity of the lungs, as well as presenting results of the analysis of factors affecting the respiratory needs to put the concept of frequency and volume of respiratory air to be developed on the test performance. Indicators present the results of an analysis of the effect of smoking on the respiratory system needs to put the concept of disorder/disease found in the human respiratory system to be developed in the portfolio.

V. DISCUSSION

Preliminary analysis phase authentic assessment instruments is done in steps, is example the analysis of the problems and needs, analysis of curriculum, as well as the analysis of the concept. Problem analysis was conducted to determine the problems encountered in learning activities at school Biology. Based on the analysis of the issue in mind, there are several problems, namely problems in implementing the curriculum in 2013, as well as problems in using valuation techniques in accordance with the demands of the curriculum of 2013. Analysis of the needs in the learning process, especially of the assessment system in 2013 revealed that the curriculum used authentic assessment instruments. However, there is no model of authentic assessment instruments developed especially in Biology. One of the efforts made by teachers in achieving the learning objectives of Biology, by implementing authentic assessment in learning activities.

1. Analysis of Problems and Needs

A teacher in addition to implementing the learning activities, also have to carry out the assessment. Authentic assessment in 2013 curriculum is an activity that cannot be separated in learning biology. Results of interviews with teachers of Biology in SMA Negeri 1 Batanghari, authentic assessments, especially on the subjects of Biology have not been done. The problem faced by teachers in implementing authentic assessment, is example there is no instrument as a measuring tool. Under these conditions, authentic assessment can be a solution to these problems. It refers to the idea that the authentic assessment approach to assess the readiness of learners, processes and learning outcomes in their entirety. The integration of these three components votes capable of producing instructional impact on aspects

of knowledge and accompanist impact on aspects of attitude (Permendikbud, 2016: 13).

Assessment conducted is a test to measure the cognitive abilities of students. If students can take the test, then the student is deemed to have completed the study. Therefore, assessment of student attitudes and skills to be neglected. The written test consists of selecting or supply an answer. It refers to the idea that the pick consist of multiple choice answers, two values (true-false, yes-no), matching, and causation. Meanwhile, supplies the answer consists of stuffing or complementary, short or short answer, and a description (Permendikbud, 2014: 2).

Assessment instruments used by teachers in SMA Negeri 1 Batanghari form of multiple choice questions that measure the ability to memorize. Multiple choices has drawbacks because it cannot develop the analytical skills of students. Therefore, a written test about the authentic assessments is questions that require students to formulate its own answer, such questions description. Students will be trained to express or express their ideas in the form of a written description by using his own words.

2. Analysis of Curriculum

The material that learned on the subjects of Biology is material digestive system and the respiratory system. Based on the learning syllabus Biology known that the learning materials are done by the digestive system, such as lab testing of foodstuffs, whereas the respiratory system in practical activities to measure lung capacity and the activity of the factors that affect breathing. Therefore, the learning of Biology in SMA Negeri 1 Batanghari can be said to have been in accordance with the demands of the curriculum.

Analysis curriculum needs to be done in order to see the indicators that support in elaborating a learning material. This is in accordance with the opinion Prastowo (2011: 19) states that the curriculum analysis done by looking at what is taught and the core competencies and learning outcomes that should be owned by learners.

3. Analysis of Concept

Based on the analysis of curriculum known that material digestive system and the respiratory system are sufficient to achieve the objectives of the curriculum of 2013. The indicators developed in the curriculum analysis are then followed by concept analysis. The concepts that have been formulated to be the foundation in developing assessment instruments to be developed.

VI. CONCLUSION

The conclusion of the research conducted, the teachers difficulties in implementing authentic assessment because of the many instruments that should be made by teachers to assess learners, teachers are still using assessment multiple-choice test to measure students' cognitive abilities, while the attitude and psychomotor no instrument vote, teachers and students need a model of authentic assessment instruments developed especially in the subjects of biology, so it is not in accordance with the demands of the curriculum of 2013. Therefore, it takes a model of authentic assessment instruments in accordance with the demands of the curriculum, 2013. This study is a preliminary analysis or investigation phase early conducted by researchers to develop products of authentic assessment instruments on learning Biology.

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