

Analysis of the Needs of the Learning Module Based on Problem Based Learning with Character Education for Class VIII Students of SMPN 28 Kerinci

Deperia¹, Lufri²

¹ Student of Master Degree Program of Biology Education,
Faculty of Mathematics and Sciences,
State University of Padang, Indonesia

² Departement of Biology, Faculty of Mathematics and Sciences
State University of Padang, Indonesia



Abstract - This study was a descriptive study conducted on class VIII students of SMP 28 Kerinci. In the learning process, teachers are expected to understand how to manage learning activities including classes, students, learning activities, content and learning resources. So that in the learning process, students will be active and give a good response to the ongoing learning process. Data from observations and interviews will be explained by explaining how and analyzing data to find conclusions. From the acceptance of the study, it was detected that the module that will be used for the science learning process on the subject of the Digestion System was Problem Based Learning modules that contained character education analyzed, based on curriculum, student character and conceptual description. The conclusion of this study is the analysis of the needs of charged Problem Based Learning learning modules on character education analyzing the curriculum, students, and concepts. The learning process will be used charged Problem Based Learning learning module on product character education is used referring to the steps that exist in Problem Based Learning with a simple and attractive appearance that is tailored to the characteristics of students.

Keywords - Science Learning; Character Education; Learning Module; PBL.

I. INTRODUCTION

Education is the main key for the nation to advance and improve the condition of its people for the better, therefore promoting education is a very important task. The government seeks various things to improve the quality of learning, one of which is by improving curriculum. Sunarti (2014: 1), Changing the KTSP curriculum to the 2013 curriculum is one of the efforts to renew after conducting curriculum development research that suits the needs of the younger generation.

The 2013 curriculum combines three concepts that balance attitudes, skills and knowledge. Education occupies

a central position in all fields of development because the goal is to improve the quality of human resources (HR). Improving the quality of human resources can be done by equalizing the education staff, improving the teaching and learning process, adding educational facilities and infrastructure and various other efforts.

Science becomes one of the subjects that can support the formation and integration of character values of students. Science subjects are expected to be a vehicle for students to learn about themselves and the environment, and further development processes to be applied in daily life.

Science learning with the Problem Based Learning model can improve the mindset of students by solving problems raised in the module and those problems relate to what happens in the community and should be able to encourage students to be able to present contextual problems so as to stimulate students in solving problems in the real world.

The 2013 curriculum focuses on the scientific education approach, which is an approach that emphasizes five steps in gaining knowledge, namely observing, asking, gathering information, reasoning, communicating. This is where the character values of students are expected to be built (Al-Tabani, et al., 2014: 10).

According to Woolfolk (Muhammad, 2006), three conditions are needed for the implementation of good learning, namely: 1) Students must have various sources for the implementation of learning. The source in question is a learning device, teacher, community, family support, provision of knowledge and initial experience, 2) Students must have the opportunity to learn. This means sufficient time for demonstrations, discussions and projects; opportunity to clarify concepts; and learning challenges that will prevent misunderstandings. 3) Students must be able to benefit from learning resources and learning opportunities. Students must pay attention, talk to other teachers and students and express an understanding of key concepts verbally and in writing.

Science learning teachers are expected to understand how to provide a diverse learning experience both from mental, physical, and social experiences, because science learning is emphasized in providing direct experience to develop the character and potential of students. In addition, the teacher is expected to understand how to manage effective learning activities related to the place of learning, students, learning activities, learning content/material and learning resources so that in the learning process students will be active and show a good response to the ongoing learning process.

Problem Based Learning Model students are given the opportunity to solve problems in a collaborative environment, create mental learning, and form habits of independent learning through practice and reflection (Yew and Goh, 2016). This is in line with the study of Mountinho (2015) which states that through Problem Based Learning students can gain experience in dealing with problems that are present in real life, and emphasize the use of communication, cooperation, and various existing resources to form ideas and develop abilities reasoning.

Problem solving activities in PBL are good techniques for students to understand learning material. It makes students discover their own knowledge so that the learning process becomes more meaningful. (Aswan, Lufri and sumarmin, 2018).

Based on these problems, the authors want to do a needs analysis of science learning modules based on Problem Based Learning based on Character Education for eighth grade students of SMP Negeri 28 Kerinci. The purpose of the study was to determine the needs of science learning modules based on Character Based Learning with Character Education in Middle School.

II. RESEARCH METHOD

This research is descriptive research. This descriptive study aims to solve the actual problems faced and aims to collect data / information to be compiled, explained and analyzed, Arikunto (2006). The study was conducted on eighth grade students of SMP Negeri 28 Kerinci. The data collection techniques using instruments and observation.

Data obtained from observations and interviews are processed by describing and analyzing the data until conclusions are obtained. Drawing conclusions made can answer the formulation of the problem that has been formulated, namely how the needs of science learning modules based on Problem Based Learning contain character education?

III. FINDING AND DISCUSSION

A. Curriculum Analysis

Curriculum analysis is focused on the analysis of basic competencies for respiratory system material as listed in Permendiknas Number 24 of 2016 are: basic competencies 3.9 Analyzing the respiratory system in humans and understanding disorders of the respiratory system and efforts to maintain the health of the respiratory system. Next it is described as indicators of learning and learning objectives. The indicators formulated are as follows.

- a. Associating the structure and function of the respiratory system
- b. Explain the exchange of oxygen and carbon dioxide in the respiratory system
- c. Describe the mechanism of chest breathing.
- d. Describe the mechanism of abdominal breathing.
- e. Explain the disorders that occur in the respiratory system
- f. Describe the organ structure and function of the respiratory system in humans.

- g. Describe the mechanism of the respiratory system in humans.

The description of basic competencies and indicators of achievement of competencies is a consideration to determine the concepts needed in science learning in respiratory system material in humans and measure the achievement of basic competencies. From the formulation of indicators it is known that learning in respiratory system material can be supported by facilitating student learning environments by building the interrelated learning in students' daily lives so that the integration of character values into students is easy to implement and applied in their real life through the Problem Based Learning model. Zubaedi (2011: 291) states that efforts to instill character values to students can be integrated into each subject, one of which is Natural Sciences (IPA).

According to Mulyasa (2012: 3), character education has a higher meaning than moral education, because character education is not only related to the problem right-wrong, but how to instill habits about things that are good in life, so students have awareness, and understanding higher, as well as caring and commitment to apply virtue in everyday life.

According to Trianto (2012), it was revealed that the nature of science is not merely on the cognitive dimension, but rather emphasizes spiritual values, where paying attention to the order in the universe will further increase the belief in the creator, in other words, the nature of the link between logic aspects -material with mental-spiritual aspects. This is in accordance with the 2013 curriculum which emphasizes the balance of knowledge, attitudes and skills competencies.

B. Students Analysis

Student analysis is used as an illustration to develop a science learning module based on Character Based Learning with Character Education for Class VIII students. According to the Ministry of National Education (2010: 47), the character values obtained in junior high school science learning include health care, intellectual, religious, empathetic, independent, disciplined, tolerant, careful, friendly or communication, social care, responsibility answer, care for the environment, moral values, hard work, curiosity, love to read, aesthetics, economic value, creative, thorough, skeptical, respect for achievement, never give up, open, honest, peaceful, objective, frugal and confident.

Analysis of these students includes age, interests and talents of students, social life, and trends in learning styles

and basic abilities possessed by class VIII students. In this study, the subjects were students of class VIII of SMP Negeri 28 Kerinci whose average age between 13-15 years was students who were in the early stages of adolescence, as explained by Rumini & Sundari (2004). Rumini and Sundari state that adolescence is a transition from childhood to adulthood which experiences the development of all aspects or functions to enter adulthood. The age range of adolescence is usually divided into three, namely 12-15 years = early adolescence, 15-18 years = middle adolescence, and 18-21 years = late adolescence.

There are a number of prominent characteristics in middle school age children:

1. The occurrence of imbalance in proportion to height and weight.
2. Beginning with secondary sex characteristics
3. Ambivalence tendency, between desires to be alone with the desire to get along, and the desire to be free from domination with the needs of guidance and assistance from parents.
4. It's nice to compare the principles, ethical values or norms with the reality that happens in adult life.
5. Begin to question skeptically about the existence and nature of mercy and justice of God.
6. Emotional reactions and expressions are still unstable.
7. Begin to develop standards and expectations of self-behavior that are in accordance with the social world.
8. The tendency of interest and choice of karer is relatively clearer.

C. Concept Analysis

It is the basis for determining the concepts of the main concepts of respiratory system material in humans. Important concepts that must be understood by students in studying respiratory system material in humans include the following.

1. Nose
2. Pharynx
3. Larynx
4. Trachea
5. Bronchus
6. Bronchioules
7. Lungs
8. Alveolus
9. Inspiration
10. Expiration
11. Chest breathing
12. Abdominal breathing
13. Diaphragm

14. Respiratory frequency
15. Respiratory volume
16. Oxygen
17. Carbon dioxide
18. normal or non-breathing air
19. Inspiring or supplementary reserve air
20. Expiratory or supplementary air reserves
21. backup or residual air

Problem Based Learning (PBL) learning models use real events or problems in the context of students to learn about critical thinking and problem solving skills, and obtain essential knowledge from Basic Competence. With PBL, students develop lifelong learning skills including the ability to obtain and use learning resources. One teaching material that can be used is the module.

Modules as a printed media containing learning materials about a discussion arranged systematically, operationally and directed to be used by students accompanied by guidelines for its use Mulyasa (2006: 232-233).

Prastowo (2011: 124), states that the images that support and clarify the content of the material are needed in making modules because it adds attractiveness and reduces students' boredom in learning. Thus, this has become the answer to the constraints of presenting material on unattractive teaching materials.

Nasution (2009: 205), states that the purpose of learning with modules is to open opportunities for students to learn according to their respective speeds. This is in accordance with the opinion of Arsyad (2009: 16), that "the module developed must be able to increase student motivation and be effective in achieving the expected competencies", by using modules, students can learn to completion because students will not be able to continue to the next module without completing the previous module, activating students through reading activities, doing activities and solving questions with subject matter.

The material in the module has been presented clearly and simply and uses readable size and type. Especially for teachers, Sudjana and Rivai (2003: 134,) states, that the instructions for teachers aim to make the teacher carry out learning efficiently.

This is in line with the Ministry of National Education (2008: 20), which states that modules must be used as teaching materials instead of teacher functions. The use of colors and images in the module attracts students' attention to read it and is not boring.

PBL based modules with character education are modules that are designed in such a way as to help students find structured directions to understand material provided independently in accordance with PBL principles. This PBL model can help teachers direct students to be able to find concepts through the activities of students contained in the module so that students actively construct their knowledge, besides that character education in this module is very helpful for students in fostering positive attitudes and character in students, be it honest, disciplined, responsible, caring, polite, religious, independent, and friendly and communicative.

IV. CONCLUSION

Based on the results obtained, it can be concluded that the needs analysis of science learning modules based on Problem Based Learning contains character education analyzing curriculum, students and concepts. The learning process will use science learning modules based on Problem Based Learning with character education. Process and Product Modules used refer to the steps that are already available in the Problem Based Learning model with an attractive module display tailored to the characteristics of participants

student.

ACKNOWLEDGMENT

Thanks to Prof. Dr. Lufri, M.S., as advisor, Dr. Abdul Razak, M.Si, and Dr. Dwi Hilda Putri, M.Biomed as kontributor, Sisma Susila, S.Pd., as validator and SMP Negeri 28 Kerinci as location of the research.

REFERENCES

- [1] Al-Tabani, Trianto, Ibnu Badar. 2014. *Mendesain Model Pembelajaran Inovatif, Progresif, dan Kontekstual*. Jakarta: Prenamedia Grup.
- [2] Arikunto, S. 2013. *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- [3] Aswan, D. M., Lufri, L., & Sumarmin, R. 2018. Influence of Problem Based Learning on Critical Thinking Skills and Competence Class VIII SMPN 1 Gunuang Omeh,
- [4] 2016/2017. In *IOP Conference Series: Materials Science and Engineering* (Vol. 335, No. 1, p. 012128). IOP Publishing.
- [5] Kementerian Pendidikan Nasional (Kemdiknas). 2010. *Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 41 Tahun 2007 tentang Standar*

- Proses untuk Satuan Pendidikan Dasar dan Menengah*. Jakarta: Kementrian Pendidikan Nasional.
- [6] Muhammad, N. 2006. *Contoh Proposal Penelitian Pengembangan*. Makalah, Disampaikan pada Workshop Pengembangan Model dan Strategi Pembelajaran Berorientasi Life Skill di Jurusan Studi F isika dan Peningkatan Pengetahuan Dosen dalam Melakukan Penelitian Pengembangan di Jurusan Biologi FMIPA Universitas Negeri Padang pada tanggal 27-29 Juni 2006.
- [7] Mulyasa, E. 2006. *Kurikulum yang Disempurnakan Pengembangan Standar Kompetensi dan Kompetensi Dasar*. Bandung: PT. Remaja Rosdakarya.
- [8] Mulyasa. 2012. *Manajemen Pendidikan Karakter*. Jakarta: Bumi Aksara.
- [9] Nasution. 2009. *Berbagai Pendekatan dalam Proses Belajar dan Mengajar*. Jakarta: Bumi Aksara.
- [10] Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia (Perpendikbud). 2018. *Perubahan atas Peraturan Menteri Pendidikan atas Peraturan Menteri Pendidikan dan Kebudayaan No 58 Tahun 2014 Tentang Kurikulaum 2013 Sekolah Menengah Pertama/Madarasah Tsanawiyah*. Jakarta: Kementrian Pendidikan Dan Kebudayaan Republik Indonesia.
- [11] Prastowo, Andi. 2011. *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Yogyakarta: Diva Press.
- [12] Sudjana, Nana dan Ahmad Rivai. 2003. *Teknologi Pengajaran*. Bandung: Sinar Baru.
- [13] Sunarti & Rahmawati, S. 2014. *Penilaian dalam Kurikulum 2013*. Yogyakarta: C.V Andi Offset.
- [14] Yew, E. H. J., dan Goh, K. 2016. Problem-Based Learning: An Overview of its Process and Impact on Learning. *Health Professions Education*, 2(2), 75-79. <http://doi.org/10.1016/j.hpe.2016.01.004>
- [15] Zubaedi 2011. *Desain Pendidikan Karakter*. Jakarta: Kencana.