

The Validity of a Learner Based Worksheets Based Discovery Learning on the Matter of Biology for Grade 8 VII Students of Junior High School

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Abstract - During the learning of the students already use worksheets. The worksheets are used by learners only contains the steps work or experiment. Besides the learning process simply involves an explanation of the teacher and gives only a question or FAQ on learners so that the learners are less able to develop problems contained in the learning material. At the time of an activity on a worksheet learners are less actively involved in the learning process. At the time of an activity on a worksheet learners are less actively involved in the learning process, learners passive and rely solely on his friend to work. For addressing these problems, then developed a worksheet learners Based Discovery learning. The purpose of this research is to develop a worksheet-based Discovery learning learners and to know the criteria validitasnya. This type of research is the development by using model Plomp. Development model Plomp consists of three stages of development, namely: the initial investigation phase, a phase of development and prototyping phase and the phase of assessment. data-collecting instrument used is the instrument the validity of student worksheets. Learner worksheets based Discovery learning validated by four experts. The results showed that the feasibility aspect of content, presentation and language and graphical aspects of the obtained score of 75.00%, 78.69%, 76.19% 78.57%, and with a valid category. So it can be inferred that a worksheet-based Discovery learning students acquire a valid category so that viable use for the learning process and expected can improve student learning outcomes.

Keywords - Learner Worksheets, Discovery Learning, Validity.

I. INTRODUCTIONS

Guidelines for curriculum development 2013 stressed that the present IPA SMP subjects developed as integrative science subjects, applicative oriented, the development of thinking ability, study skills, curiosity, the attitude of care and responsibility to the natural environment. Learning objectives in General to improve knowledge, skills and attitudes in a balanced way (daughter, 2013:5).

Associated with it is surely leading the ability of teachers to facilitate the students with materials that include activities in the form of worksheets oriented scientific approach (scientific). Where one of the learning materials that can assist learners in the learning process is learner worksheets (LKPD).

LKPD serve as learning guides the learners and also make it easier for learners and teachers conduct teaching and learning activities. LKPD can also was defined as print materials in the form of sheets-sheet of paper that contains content, summary, and leads the implementation of tasks that must be carried out by learners, which refers to the basic competencies are achieved (Prastowo, 2011:204).

Based on the results of observation and interviews conducted in July-August 2017 in the Islamic ummah Khaira JUNIOR Padang, Padang and 16 State JUNIOR HIGH SCHOOL SMP Negeri 4 field. It is known that during the learning of the students already use worksheets. The worksheets are used by learners only contains the steps work or experiment. Besides the learning process simply involves

an explanation of the teacher and gives only a question or FAQ on learners so that the learners are less able to develop problems contained in the learning material. At the time of an activity on a worksheet learners are less actively involved in the learning process, learners passive and rely solely on his friend to work.

According to the IPA teacher all activities in the process of learning had been contained in the nuku LKPD students and learners. Based on the analysis of researchers on a worksheet contained in the book students and LKPD used by learners, can note that while already using a scientific approach, but the steps in the section activities is unclear. As one of the learning media, ideally LKPD can support the learning model used by teachers.

For it needs to be developed a learning materials namely LKPD as a source of learning and a learning approach to suit worn by the teacher so that it can eventually enhance the learning outcome of students. LKPD that will be developed is LKPD based Discovery Learning, theory application of Discovery Learning teachers should provide an opportunity to the students to become a Problem solver, a Scientist, history. Through these activities the students will master it, apply, and find things that are beneficial to him. Teachers should also encourage students to have the experience and experiment and allow them to find principles or concepts for themselves. For that learning should be with regard to the opportunity given to learners to mengontruksi knowledge in the process of kognitifnya (Hosnan, 2014:282). Learning in the Discovery (discovery), or learning activities designed sedimikian a way that students can discover the concepts and principles through his mental process itself. In discovering the concept, students perform observations, classify, make allegations, describe, draw conclusions and so on to find some concept, dali, procedures, algorithms and such (Tompo, 2016:8).

According to Kamel (2014:148) application of learning in the Discovery-based Learning LKPD expected to optimize learning conditions learners in attaining the goals of learning and can be a solution as the learning materials that has excess in terms of learning outcomes and activities enhance learner through activities of the investigation done in the learning process and can assist teachers in directing students to discover concepts through activities. In addition, there is a Discovery-based Learning LKPD syntax-syntax that is able to improve thinking ability learners at any time in the teaching and learning activities, so that Discovery-based Learning LKPD is expected according to train critical thinking skills of students at the middle school level first.

To find out the used LKPD accepted. Then the validity of the test needs to be done. Test validity is mean something acceptable or valid. These terms contain the notion that something be declared valid or valid consent in accordance with the expected truth so that it can be accepted within a certain criteria.

Based on the above issues, then do research on validity of Discovery-based Learning LKPD against competencies learning biology learners Class VII junior high school.

II. LITERATURE REVIEW

2.1 Validity

According to Jennifer Goulden (1993:109) the word "validity" means something that is acceptable or valid. These terms contain the notion that something be declared valid or valid consent in accordance with the expected truth so that it can be accepted within a certain criteria. Validity of the components according to the MoE (2008:28) regarding the development of learning materials in General "criteria assessed by the experts include a feasibility komponn content, linguistic component, component rendering and graphics components to.

Component-test the appropriateness of the content validity of a test is the content or material from a learning materials. As expressed by the MoE (2008:28) which States that "the components of the eligibility of the contents include: compliance with KI, KD, for compliance with child development, conformity with the needs of learning materials, learning material, substance, truth the benefit to the addition of insight, conformity with moral values, and social values. " Deodiknas this statement suggests that the validity of a learning materials that are seen from the content of the material or its contents should be in accordance with some analysis as the analysis of KI and KD, substance, truth needs, benefits, social and moral values. The MoE statement indicates that the validity of a learning materials that are seen from the content of the material or its contents should be in accordance with some analysis as the analysis of core competence and Basic Competence, requirements, benefits, substance, truth the value of moral and social values.

Linguistic components include, among others, Readability, clarity of information, Compliance with rules of Indonesian Language that is good and right and using language effectively and efficiently (clear and concise). Presentation components, among others, include: clarity of purpose (indicators) to be achieved, the sequence, the granting of motivation, attractiveness, interaction (awarding

of stimulus and respond), completeness of the information. While the Graphic Components, among others, include: use of fonts; the type and size, Lay out or layout, illustration, image, images, and design view.

Arikunto (2008:65) describes in outline there are two kinds of validity that is logical and empirical validity. Logical validity indicates conditions for an instrument which meets the requirements of valid based on reasoning. The valid conditions are met because the instruments are seen bersakutan been designed properly, following the theory and existing provisions. While the instruments that have empirical validity when an instrument has been tested from experience.

2.2 Student Worksheets

Activity sheet learners are sheets containing the tasks that must be carried out by learners. Activity sheet is usually in the form of guidance, the steps for completing a task. Advantage of the activity sheet is for teachers, makes it easy for teachers in implementing the learning, for students going to learn independently and learn to understand and execute a written assignment (national education Department, 2008:23).

2.3 Discovery-based learning (Discovery Learning)

Discovery is to find the concept of a set of data or information obtained through observation or experiment yourself. Discovery learning is a learning method of cognitive demands more creative teacher creates situations which can make students learn actively discover knowledge themselves. The activities of discovery through experiments can add to the knowledge and skills of students simultaneously (Samsul, 2016:116).

Discovery learning methods are essentially similar to inkuiri, but in inkuiri problems put forth was fabricated. Rahmi Meurut (2018:451) how the presentation of lessons that give the opportunity to students to find information with or without the aid of tutor Pengetahuan is not the result of some facts, but considering the result of the process of finding himself. Discovery (discovery) is a method of teaching which regulates the teaching so as to gain knowledge before unknown. Learning in the discovery (discovery), or learning activities designed sedimikian so that learners can find concepts and principles through his mental process itself. In discovering the concept, students perform observations, classify, make allegations, describe, draw conclusions and so on to find some concept, dali, procedures, algorithms and such. Thus, the discovery learning is a pembejaraan involving learners in the process of mental

activities through the exchange of opinions, discuss, read own and try yourself (Kamel, 2014:8).

On discovery learning material to be delivered were not delivered in final form, but students are encouraged to identify what is known to proceed with finding information yourself then organized or formed (constructive) what they know and they understand in a final form. The use of discovery learning learning conditions want to change passive into active and creative (Elok, 2017:147).

III. RESEARCH METHODS

This type of research is the development by using model Plomp. Development model Plomp consists of three stages of development, namely: the initial investigation phase, a phase of development and prototyping phase and the phase of assessment. Data-collecting instruments used are observation sheet to measure competency learning learners on psychomotor and affective domains and reserved competencies to measure objectively studied the cognitive domain. To measure the competence learning learners used two classes, namely class control and experimentation. Class experiment is a group of learners who will use LKPD oriented discovery learning for learning, while the control Class is a group of learners who will use LKPD commonly used by teachers during.

The learning the type of data that will be used in the research is primary data, namely data obtained directly from the samples examined. Primary data is obtained the competence learning biology learners in the realm of affective, psychomotor and cognitive processed samples.

Data obtained from this research is that validation worksheet learners based Discovery learning.

- a. Strongly Agree (SS) with weights 4
- b. Agree(S) with weights 3
- c. Disagree(TS) with weights 2
- d. Strongly disagree (STS) with weights 1

Then the results of the scoring percentage is tabulated and searched by using the following formula.

$$\text{Validity Value} = \frac{\text{score obtained}}{\text{score maximum}} \times 100\%$$

Based on the current validity of the obtained, then set the criteria penilaians against the validity of the discovery-based learning with LKPD provisions as in table 1.

Table 1. Category Validity LKPD

Validity Value(%)	Category
0-20	It is not Valid
21-40	Invalid
41-60	Quite valid
61-80	Valid
81-100	Very Valid

Riduwan (2009:89).

IV. RESULTS AND DISCUSSION

4.1 Results

Results of the validity of a learner worksheets based discovery learning in the biological material can be seen as follows:

4.1.1. The aspect of the eligibility of the contents

LKPD development refers to 2013 curriculum tailored to KI and KD. Furthermore, the indicator will be reduced and the learning objectives based on the KD, design and development of any activity in LKPD adapted to the learning objectives.

4.1.2. Aspect of Language

Language used in making the language spellings conform with LKPD Indonesia. Sentences are arranged in the shape of a sentence that is straightforward and clear and not cause any double meaning so that it can be easily understood by the learners.

4.1.3. The Aspect of The Representation

Of the Cover at LKPD has a clear identity. Where LKPD designed has the title, the curriculum used, based on development, and images. In addition cover also features the author's identity, the learners as well as the appropriate user to LKPD.

4.1.4. Aspects Of Graphic

The typeface used is Comis San MS with size 11, whereas the title of the activity using the Berlin San Sake 12-18 size FB, it is tailored to the needs of learners. While the images that constitute LKPD made proportional, clearly visible, complete with description and source of the image. Duganakan margin-left is 3, top 3, right, and bottom of the 3.

The results of the validation of the expert/LKPD experts contained in table 1 below.

Table 2. The results of the Validation LKPD developed

No	Aspects in validation	Value of Average	Category
1.	The eligibility of the contents	75,00	Valid
2.	The Language	79,69	Valid
3.	Presentation	76,19	Valid
4.	To Graph	78,57	Valid
Average		77,36	Valid

From table 1 it is known that validation LKPD developed in aspects of the content, the presentation, the language and graphics. The fourth aspect is already meet the category is valid.

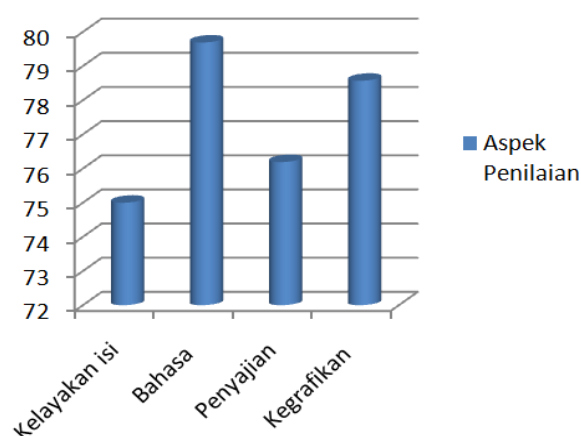


Figure 1. The results of the Validation worksheet Learners by experts.

4.2 Discussion

Aspects of validity were assessed by experts is composed of four aspects, namely the aspects of contents, language, specialties and of graphics. The validity of the assessment conducted of experts as a whole gained value by category is valid. Assessment of the eligibility of the contents obtained LKPD valid. Valid category obtained from expert assessment due LKPD developed presents indicators and clear learning objectives.

Based on the results of the research conducted by Landyana (2014:400) stated that the suitability of the material with the intention of learning constitute LKPD is a very important thing. This is because the learning objectives developed from KI and KD that contains the spiritual attitudes, social attitudes, knowledge (the material that must be mastered by learners) and skills. activities in LKPD

presented by adjusting the activities performed with the subject matter. Activities in LKPD presented systematically and in accordance with the Discovery phase is Learning.

The second is the assessment of the linguistic aspects, aspects of the obtained LKPD on the linguistic values by category is valid. This is because the language used in accordance with the Indonesian Language Spelling LKPD is right though in some parts there is still an error in the use of punctuation, sorting the words still less precise and error in typing. In addition LKPD designed not to cause a double interpretation and use of sentence structure are clear. According to Pattashiki and judge (2016:5) all materials should pay attention to the linguistic components that comply with the linguistic aspects of feasibility, so that ketepatan sentence structure and arrangement of the material systematically facilitate learners in understanding material pembelajaran. While based on research done Afza (2016:139) a good and clear Language is the language that suits the purposes of communication in language learning that will encourage good language proficiency among the learners both oral or writing.

The next aspect is an aspect of presentation. Aspects of the obtained value by rendering the category is valid. This is because LKPD designed has a clear identity, consisting of learning objectives to be achieved and in accordance with the indicators, the order of the material systematically arranged. In addition, LKPD also comes with a step-by-step discovery learning. In accordance with the Arifatud research (2015:29) stating the stages in the process of study discovery model leaning i.e. stimulation/stimulation, statement granting/problem identification, data collection, evidentiary and drawing conclusions/ generalizations lead learners direct their own learning activities by engaging mind and motivations of its own. A model of discovery learning helps learners to use their knowledge and scientific understanding of which are owned by individual learners or collectively to science literacy. In accordance with the Zhasda research (2018:408) which States that the ability of use of knowledge science, megidentifikasi questions, and draw conclusions based on the evidence in order to understand and make decisions with regard to nature can be improve the ability of students in critical thinking about science.

The last aspect is an aspect of kegrafikan. Kefrafikan aspects of the obtained value is valid. This is because the use of the type and size of the letters on the right already LKPD tailored to the needs of learners. LKPD has an appealing layout because it comes with animated images, colors and cover. According to Pattashiki and judge (2016:5) stating

kemenarikan color and design and illustration on the cover and contents section LKPD LKPD, can clarify concepts, messages, and material presented in LKPD. An interesting illustration plus the right layout can make materials more harmonious and interesting to learn as well as be able to motivate students to use learning materials in the process of learning.

LKPD developed have valid criteria, so it can be worth it used during the learning process and used for the next stage. According to Kimberlin and Winterstein (208:2278) validity is defined as the ability of an instrument to measure that will be measured. Validity requires instruments can count on. While according to Arikunto (2012:82-83), if the results of the data of a product, then the product valid said had described about the purpose of development, in accordance with the real situation and indeed.

V. CONCLUSION

Based on the research results and discussion can be inferred that the learner worksheets based Discovery learning has developed a valid category of content, language, and graphic. So the learner worksheets based Discovery learning can be used during the process of learning as learning materials that help teachers and learners to understand the material and help in achieving the learning objectives that can be meningkatkan the results of student learning.

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Biography



Weni Novita Sari, Born in Koto Baru, 24 November 1991, and finished the Bachelar Art from STKIP PGRI Sumatra Barat. Now, be Magister Biology Education Program in Universitas Negeri Padang.