

Validity of Guided Inquiry-Based of Student Worksheets on Plantae and Animalia Material for High School Class X Students

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Abstract - Education has a very important role in the students development. Along with the development of science and technology in the era of globalization, it is necessary for qualitative and competitive education. Therefore, education must continually be adapted and innovated. In accordance with the demands of the 2013 curriculum, the learning process is centered on students. Students are trained to be able to grow and develop their own understanding without relying on the teacher. So that, in the learning process, students is able to think creatively. In achieving the learning process, tools are used specifically for Students' Worksheets that can improve student learning outcomes. This study aims to see the results of the LKPD (*student's worksheet*) validity used to improve student learning outcomes. This research is a development research with the aim of developing products in the form of LKPD. The instrument used in this study is the LKPD validation sheet. The result of the analysis of the validation sheet generally shows that the LKPD meets very valid criteria. The validity of didactic aspects is 93.75. and the construction aspect is 81.25% and the tenure aspect is 82%.

Keyword - *Validity Of Student Worksheets, Guided Inquiry-Based.*

I. INTRODUCTION

Guided inquiry is an approach in learning where the teacher guides students to conduct learning activities that present a phenomenon by giving initial questions about the material which will be studied and directing students to the observation activities. According to Joyce and Weil (2009), the teacher's task in guided inquiry is to provide an active learning environment. Bilgin (2009: 1039) revealed that a guided inquiry learning model trains students in developing critical thinking skills, building a sense of responsibility, developing conceptual understanding skills and problem solving.

In accordance with the demands of the 2013 curriculum, that the learning process is centered on students. Students are trained to build and develop their own understanding without relying on the teacher. By directly observing activities in the surrounding environment, it can stimulate students' knowledge and creative thinking. This is related to biology at

school. According to Lufri (2007) Biology lessons are lessons that present a phenomenon in the form of facts that can spur the ability to think critically, actively, creatively and independently. In this learning process requires the ability of teachers to facilitate students with teaching materials that contain activities in the form of worksheets oriented to the scientific approach. One teaching material that can help students in the learning process is guided inquiry-based LKPD.

Based on observations made on 17 September 2018 at SMAN 4 Tebo with Biology teachers and students. Several problems were found in the process of learning biology. Judging from the existence of the LKPD used did not meet the demands based on the 2013 curriculum. LKPD used by students was a one-sheet LKS containing one sub- material and only contains work or trial steps. Besides, the activity sheet did not contain complete LKPD components. According to Prastowo (2011: 32) a complete LKPD consists

of titles, instructions, basic competencies, material summaries, student worksheets and assessment.

Validity is needed to determine the quality of the developed LKPD. Arifin (2012) said that before the product is used, of course, the validity is based on certain criteria. Yusni (2018) stated that valid means the assessment provides information in accordance with the instructional materials developed. Rochmad (2011) said that a product is declared valid if the product being developed is adequate and all components of the product produced are related to each other consistently.

II. METHOD

This type of research is development research with the aim of developing products in the form of LKPD as a solution. The product developed in this study is in the form of *Guided Inquiry- Based of Student Worksheets* about the material of plantae and animalia biology class X high school. To see the quality of LKPD to be developed, researcher needs to do the validity of the LKPD.

To find out the validity level of the developed LKPD, The researcher uses a validation sheet in the form of a questionnaire given to four lectures/ experts namely biology education experts and languages. The aspects of validity seen in this study are didactic, construction, and technical aspects. Data analysis begins by providing scoring for each item. Scoring based on the Likert scale with provisions such as Table 1.

Table 1. Categories and Likert Scale Score Validity of LKPD

Score	Category
4	Strongly Agree (SA)
3	Agree (A)
2	Disagree (DA)
1	Strongly Disagree (SDA)

Source: Yusuf (2007)

The results of the scoring are tabulated and the percentage is searched using the following formula.

$$\text{Validity Value} = \frac{\text{Obtained score}}{\text{Maximum score}} \times 100\%$$

Based on the value of the obtained validity, the assessment criteria for the guided inquiry-based LKPD validity are determined by the provisions in Table 2.

Table 2. Validity Category of LKPD

Validity Value (%)	Category
0-20	Invalid
21-40	Less Valid
41-60	quite Valid
61-80	Valid
81-100	Very Valid

Source: Riduwan (2011).

III. RESULTS AND DISCUSSION

The results of the LKPD validation from lecturers/experts consist of three aspects, namely didactic, construction, and technical aspects can be seen in Table 3 below.

Table 3. Results of Analysis of Validated Inquiry Based LKPD Test Validation Data

No	Assessment Component	Indicator	Validator Assessment				SUM	Validity Value	Criteria
			I	II	III	IV			
1	Didactic aspect	a	4	4	4	3	15	93,75 %	Very Valid
		b	4	4	4	3	15		
		c	4	4	4	3	15		
Total			12	12	12	9	45		
	Construction Aspect	a	3	3	3	3	12		

2		b	3	3	3	3	12	81,25%	Very Valid
		c	4	3	3	3	13		
		d	4	3	3	3	13		
		e	4	3	4	4	15		
		Total			20	15	16		
3	Technical aspect	a1	3	3	4	4	14	82 %	Very Valid
		a2	3	3	3	3	12		
		a3	4	3	3	3	13		
		a4	4	3	3	3	13		
		b1	3	3	3	3	12		
		b2	4	3	3	3	13		
		c1	4	4	3	3	14		
		c2	4	4	3	3	14		
	Total			29	26	25	25		
SUM							2537 %		
Average							85,66%	Very Valid	

Based on the analysis of the results of the validator's assessment of the guided inquiry-based of student worksheets validity, it can be seen from Table 3 that the results of guided inquiry-based student worksheets validation which is assessed by four validators. This means that the guided inquiry-based student worksheets developed in this study has already had very good quality and can be used.

The validity obtained from the didactic aspects is 93.75% which consider as very valid. Completion components of the LKPD on didactic aspects include instructions for using LKPD, material descriptions, student activity sheets, evaluation sheets, and assessment sheets developed. The developed LKPD can be used as a guide in learning activities and it can be said that the validity of the LKPD can be accounted for because it has been assessed by experts. Referring to the product validity indicator on didactic aspects according to Roheti (2009), it can be stated that guided inquiry-based of student worksheets developed has fulfilled didactic requirements.

Viewed from the construct aspect, guided inquiry-based of student worksheets is declared as very valid by the validator when it reaches 81.25%. The results of this validation show that the LKPD construct contains guided inquiry steps which include student orientation, formulating problems, formulating hypotheses, testing hypotheses, collecting data, and concluding.

The next validity is assessed from the technical aspects. This aspects stated in the very valid category when it reaches 82%. Very valid values are given by the validator based on several indicators. First, the type and stile of writing in the LKPD can increase students' interest in reading. Second, the clarity of the letters used with the font size is clear and attractive enough to be looked at. Third, the conformity of punctuation makes it easier for users to read sentences from the contents of the LKPD, where punctuation is adjusted to the sentence form used. Fourth, the used sentences in the LKPD are in accordance with the correct Indonesian language rules. Fifth, the suitability of the presented or displayed images help students understands the material. According to Prastowo (2011), the presentation of images is needed to support and clarify the content of the material to attract the students and reduce their sense of boredom to learn it. Sixth, the description of the image is in accordance with the appearance of the image, and can be read clearly and easily. Seventh, from the graphic aspect the color composition used in the LKPD is appropriate, attractive. This means that it does not disturb the readability of the LKPD contents and the overall design of the LKPD.

Based on the results of the validity analysis obtained an average value of 85.66% with belong into very valid category. According to Yusni (2018: 2) validity is a measure of the feasibility of a product or instrument based on assessment, where this assessment provides information in

accordance with the developed product. This is supported by the research of Firdaus and Wilujeng (2018), that guided inquiry-based LKPD has valid criteria and can be used as teaching materials to improve student learning outcomes.

IV. CONCLUSION

From the results of the study, it can be concluded that the guided inquiry-based of Student worksheets obtained in this study has already had very good quality and applicable. Judging from the didactic aspects, namely instructions for using LKPD, material descriptions, student activity sheets, evaluation sheets, and assessment sheets. Construction aspects, namely orientation of students, formulating problems, formulating hypotheses, testing hypotheses, collecting data, and concluding. Technical aspects, namely in terms of type of writing, clarity of letters, suitability of punctuation, conformity of sentences, conformity of material, description of images.

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