

The Validity *Handout* about Proboscis Monkey (*Nasalis larvatus*) on Curiak Island as an Enrichment Material for the Concept of Biodiversity in High School

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Abstract

Teaching materials in learning activities have an important meaning so that the learning process is easier and more effective. Local potential can be used as a source of learning to look at phenomena, events, and problems in an area or what is also called contextual learning. The *handout* is one of the teaching materials that is concise and makes it easier for students to understand learning. The research method used was to analyze the results of research on proboscis monkey (*Nasalis larvatus*) on Curiak Island by Zainudin and Rezeki, to be used as material for the development of proboscis monkey (*Nasalis larvatus*) *handouts* on Curiak Island with the Tessmer development model which was limited to the expert stage review (Expert Test). The validation test was carried out with experts consisting of 3 (three) validators with an overall validity value of 90.6% (very valid and fit for use without revision). Its validity is shown by the average assessment on the feasibility aspect of the content of 85.07% (very valid), the assessment of the feasibility of serving 91.25% (very valid), and the assessment of the language aspect of 87.14% (very valid).

Abstrak

Bahan ajar pada kegiatan pembelajaran memiliki arti penting, agar proses pembelajaran lebih mudah dan lebih efektif. Potensi lokal dapat dijadikan sumber belajar melihat pada fenomena, peristiwa, maupun permasalahan pada suatu daerah yang disebut dengan pembelajaran kontekstual. *Handout* merupakan salah satu bahan ajar yang ringkas dan memudahkan peserta didik memahami pembelajaran. Metode penelitian yang digunakan adalah menganalisis hasil penelitian tentang bekantan (*Nasalis larvatus*) di Pulau Curiak oleh Zainuddin dan Rezeki, untuk dijadikan bahan pengembangan *handout* bekantan (*Nasalis larvatus*) di Pulau Curiak dengan model pengembangan Tessmer yang dibatasi hanya pada tahap *expert review* (Uji Pakar). Uji validasi dilakukan oleh para ahli yang terdiri dari 3 (tiga) validator dengan nilai validitas keseluruhan yaitu 90,6% (sangat valid dan layak digunakan tanpa revisi). Kevalidan ditunjukkan oleh rata-rata penilaian pada aspek kelayakan isi 85,07% (sangat valid), penilaian aspek kelayakan penyajian 91,25% (sangat valid), dan penilaian aspek bahasa 87,14% (sangat valid).

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A. Introduction

Biology is the study of living things. The environment and living things in it (*ecosystem*) are important factors in supporting biology learning. In Senior High Schools (SMA) biology learning can be taught by utilizing local potential in schools or the neighborhood as a learning resource so that students do not always read and memorize or just interact with material communication between teachers and students.

In the 2013 Curriculum, students are expected to be able to see directly the object of learning or what is called contextual learning. Teaching materials can help the contextual learning process to make it easier and more effective. Teaching materials as a means of communicating information, concepts, and knowledge clearly so that teachers and students easily understand the lesson (Salirawati, 2010).

Teaching materials as a means of communicating information, concepts, and knowledge clearly so that teachers and students easily understand the lesson (Salirawati, 2010). Teaching materials in supporting the learning process are divided into two, namely specific (local) teaching materials and general teaching materials. Teaching materials with general content contain learning messages on general material, while teaching materials with local content include regional potential. According to Prabowo *et al.* (2016) teaching materials with local content look at the local potential that exists in an area to be used as a learning resource. The learning development process is carried out referring to the local potential of the region.

The teaching material developed in this study was a handout. The handout can be used as an enrichment material about the local potential with concise, interesting, and simple material to make it easier for students to understand learning.

B. Materials and Method

The method used in this research is research development. The handout developed was compiled using secondary data from previous research by Zainudin and Amalia (2016), on "Proboscis Monkey (*Nasalis larvatus*) Population Structure on Curiak Island, Barito Kuala Regency, South Kalimantan" and continued with research on developing teaching materials using the Education Design Research (EDR) model. Through formative evaluation Tessmer test. This study was limited only to the *self-evaluation* stage and *expert review*.

Handout teaching materials were analyzed descriptively by calculating the validity score of the validation result of 3 (three) validators:

$$V = \frac{TSe}{TSh} \times 100\%$$

Information:

V : Validity

TSe : the total validation score of the validator

TSh : the maximum total score expected
 (Akbar, 2013)

The percentage of validation results is then matched with the criteria in table 1.

Table 1 Expert Validity Criteria or Expert Validity

| Numbers | Validity Category |
|-----------------|---|
| 85.01 % - 100% | Very valid, can be used without revision |
| 70.01% - 85.00% | Valid, can be used but needs a small revision |
| 50.01% - 70.00% | Quite valid, it is recommended not to use it because it needs major revisions |
| 25.01% - 50.00% | Not valid, should not be used |
| 01.00% - 25.00% | Not valid, may not be used |

(Adaptation: Akbar, 2013)

C. Results and Discussions

Teaching materials are developed in the form of handouts using the development model according to Tessmer (1998). By conducting a validation test which includes an assessment of the feasibility of the content. The appropriateness of delivery/presentation and language assessment on handouts.

Initial product validation is very important to find out the deficiencies in relevance, insurance, language, and learning (Mahrudin & Dharmono, 2018). The *handout* developed is as shown in figure 1.



Figure 1
 Handout Cover of Proboscis Monkey (*Nasalis larvatus*) in Curiak Island

Table 2 Results of the Content Feasibility Aspect Validation Test

| Assessment Index | Points Assessment | Expert Validation | | |
|---|--|-------------------|--------------|--------------|
| | | 1 | 2 | 3 |
| A. The alignment of the material with SK and KD | 1. The integrity of the material | 4 | 4 | 4 |
| | 2. Depth of material | 4 | 4 | 4 |
| B. Accuracy of Material | 3. Accuracy of concepts and definitions | 3 | 4 | 4 |
| | 4. Accuracy of facts and data. | 4 | 4 | 4 |
| | 5. Example accuracy. | 4 | 3 | 4 |
| | 6. Question accuracy | 3 | 4 | 3 |
| | 7. Accuracy of drawings, diagrams, and illustrations. | 4 | 3 | 4 |
| | 8. Reference accuracy. | 4 | 4 | 4 |
| C. Supporters Learning materials | 9. Reasoning | 3 | 3 | 3 |
| | 10. linkages | 4 | 3 | 4 |
| | 11. write and talk | 4 | 4 | 3 |
| | 12. Application | 3 | 3 | 3 |
| D. The freshness of the Materials | 13. Material attractiveness | 4 | 4 | 4 |
| | 14. Encourage seeking further information | 3 | 4 | 4 |
| | 15. Suitability of the material with the development of science. | 4 | 3 | 4 |
| | 16. Picture, actual diagrams, and illustrations. | 4 | 4 | 4 |
| | 17. Using case examples inside and outside Indonesian | 3 | 3 | 3 |
| | 18. Up-to-date library. | 4 | 4 | 4 |
| Total Score | | 62 | 65 | 67 |
| Score Percentage (%) | | 86,11 | 90,27 | 93,06 |
| Average Score Percentage (%) | | 89,81 | | |
| Validation Criteria | | Very Valid | | |

Based on the table, the proboscis monkey (*Nasalis larvatus*) handout on Curiak Island is very valid with an average score of 89.81%. The integrity and depth of the handout material presented include material that is following KD. The accuracy of the material includes the accuracy of concepts, definitions, facts, and literature references that do not cause much meaning and is suitable for biology learning. The actuality of the images presented, fact diagrams, data, examples, and illustrations are following the facts, to improve students' understanding. The library used has also been accurate and very good.

The assessment on the reasoning of handout supporting material is quite complete with detailed and coherent explanations. Handout material must contain clear illustrations and descriptions to attract readers to explore further information. This is in line with Prastowo (2015), who argues that original and color images are attractive than black and white images. Meanwhile, according to Mahrudin & Dharmono (2018), the suitability of the content of the material with the development of science in the handout must meet the actual criteria (according to the development of science).

Table 3 Results of the Validation Test for the Feasibility Aspect of the Presentation

| Assessment Index | Points Assessment | Expert Validation | | |
|-------------------------------------|--|-------------------|-------------|-------------|
| | | 1 | 2 | 3 |
| A. Presentation Method | 1. Systematic consistency of presentation in learning activities | 4 | 4 | 3 |
| | 2. Serving wrinkles | 4 | 4 | 4 |
| B. Serving Support | 3. Introduction | 4 | 4 | 4 |
| | 4. Table of contents | 4 | 4 | 4 |
| | 5. Summary | 4 | 4 | 4 |
| | 6. Bibliography | 4 | 4 | 4 |
| C. Presentation of Learning | 7. The involvement of students | 3 | 3 | 3 |
| D. Completeness of Presentation | 8. Introduction section. | 4 | 4 | 3 |
| | 9. Content section | 4 | 4 | 4 |
| | 10. The closing part | 4 | 4 | 2 |
| Total Score | | 39 | 39 | 35 |
| Score Percentage (%) | | 97,5 | 97,5 | 87,5 |
| Average Score Percentage (%) | | 94,17 | | |
| Validation Criteria | | Very Valid | | |

Based on table 3, it is known that the presentation are classified as very valid with an validation criteria on the feasibility aspect of average score of 94.17% from 3 (three) validators.

The presentation technique consists of the consistency of the systematic presentation of the learning activities and the sequence of the presentation consisting of an introduction, content,

and closing. According to Sanaky (2011), the handout contains important summaries of the material so that readers can understand and remind learning concepts.

Table 4 Validation Test Results for Language Assessment Aspects

| Assessment Index | Points Assessment | Expert Validation | | |
|--|---|-------------------|--------------|-----------|
| | | 1 | 2 | 3 |
| A. Presentation Method | 1. The accuracy of sentence structure | 4 | 4 | 3 |
| | 2. The effectiveness of sentences | 4 | 4 | 3 |
| | 3. The rigor of the term | 4 | 4 | 3 |
| B. Communicative | 4. Message readability | 4 | 4 | 3 |
| | 5. The accuracy of using the language rules | 4 | 4 | 3 |
| C. Dialogical and Interactive | 6. The ability to motivate messages or information | 3 | 3 | 3 |
| | 7. Ability to encourage critical thinking | 3 | 4 | 3 |
| D. Compatibility with the level of development of students | 8. The suitability of students' intellectual development | 4 | 4 | 3 |
| | 9. Conformity with the level of emotional development of students | 4 | 3 | 3 |
| E. Cluster and coherence of thought lines | 10. Cluster and cohesiveness between activities | 4 | 4 | 3 |
| | 11. Clarity and coherence between paragraphs | 3 | 4 | 3 |
| F. Use of terms, symbols, or icons | 12. Consistent use of terms | 4 | 4 | 3 |
| | 13. Consistent use of symbols or icons | 4 | 3 | 3 |
| Total Skor | | 49 | 49 | 39 |
| Score Percentage (%) | | 94,23 | 94,23 | 75 |
| Average Score Percentage (%) | | 87,82 | | |
| Validation Criteria | | Very Valid | | |
| Average Percentage Score per Aspect (%) | | 90,6 | | |
| Validation Criteria Handout | | Very Valid | | |

Based on Table 4, the language feasibility test is included in the very valid criteria with an average presentation score aspect of the validators that is 90.6%. The purpose of assessing the language in the handouts developed (Dharmono & Mahrudin, 2018). Language feasibility assessment is important because of the importance of a sentence in the handout. If the sentence in the handout is considered not good, it will make it difficult for students to understand the content of the content in the sentence. The validator evaluation is then used to show the accuracy of the sentence structure of the message or information to be conveyed that still follows Indonesian grammar. The validity of the sentences used in the handouts has been made simple.

Handout entitled "Proboscis Monkey (*Nasalis larvatus*) on Curiak Island. Getting the assessment criteria according to Akbar (2013), is very valid if it has a validity assessment percentage between 85.01%-100%, while the average validation score results by 3 (three) validators, namely 90.6%. The lowest percentage was 87.82% in the aspect of content feasibility. Overall the handouts developed can be used without revision. Based on the results of the validation score assessment (expert validator), the handout developed received very valid criteria and can be used without revision. Even so, revisions are still

made based on the suggestions and input that have been given by the validator.

Revisions were made to obtain data in the form of assessments, opinions, suggestions, weaknesses, strengths, and appropriateness of the contents of the handouts before they were used by students. The teacher's response is used as a reference in repairing the product if the product being developed is to be distributed widely (Iskandar & Raditya, 2017). Then according to Sugiyono (2010), revisions are very important to make better products. Meanwhile, according to Riefani (2019), is it stated that input in the validation activity is carried out to revise the product which aims to make comprehensive finalization or improvement. Product perfection can be achieved by considering the results and suggestions from the validator.

According to Novitaningrum *et al* (2014), a good handout must have consistency, format, and appeal to the reader and the information in it must be up-to-date describing current events by adding facts, concepts, and symptoms. in the community, because the teacher always surrounding the environment. So that students find it easier to explore the material.

In the aspects tested in the handout, many assessment items still got a score of 3 either from validator 1, validator 2, or high school biology teachers, namely: on the feasibility aspect of the

content on the assessment items, the accuracy of concepts, and definitions, the accuracy of questions, reasoning, communication, application, encouraging students to seek further information, the suitability of the handout material with scientific developments, and the use of examples inside and outside Indonesia. In the aspect of the feasibility of presenting the assessment items that get a score of 3 with the good or appropriate information, namely the assessment items of the systematic consistency of the presentation in learning activities and the involvement of students. And on the aspect of language assessment, the assessment items still get a score of 3 with the clear and appropriate information, namely the assessment items for the accuracy of sentence structures, sentence effectiveness, term stiffness, message readability, correct use of rules, ability to motivate messages or information, abilities that can encourage critical thinking, students' intellectual appropriateness of emotional development, coherence between activities, coherence between paragraphs, consistency of use of terms, and consistency of use of symbols/icons. These assessment points need to be improved so that the handouts that are developed are better and get a perfect score.

The handout developed has specialties, namely: 1) presenting a color design and a glossary of terms, 2) presenting material according to facts and real life. Also, this handout was made in a situation where the Covid-19 pandemic so requires Work From Home (WFH) which results in difficulty finding information both directly and via the internet because of the bad signal in the researcher's so there are very few references to make handouts to be interesting. However, researchers tried to develop a handout that still contains relevant material. The handouts developed can be a learning supplement, especially in the material on the concept of biodiversity to add insight and knowledge of students to identify local potentials that exist around students' are such as proboscis monkey.

According to Riefani & Mahrudin (2020), Educators must be more creative in utilizing local potential as a source of learning, have the knowledge and master the material, and use learning media around to achieve learning objectives. Also, students can know the behavior and participate in preserving the proboscis monkey

as an endemic animal of Kalimantan. especially the proboscis monkeys is an animal that must be protected.

D. Conclusion

The Proboscis Monkey (*Nasalis larvatus*) handout in Curiak Island as a whole received very valid criteria or was suitable for use with a value of 90.6%.

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