BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan
Volume 2, Issue 2, October 2020 page. 106-110
https://ppjp.ulm.ac.id/journal/index.php/bino

OPEN ACCESS JOURNAL
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
DOI: 10.20527/bino.v2i2.8505

The Validity Ethnobotany Book of *Jatropha gossypiifolia* in The Coastal Forest Area of Tabanio

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Article Information

Keyword:
Ethnobotany
Validation
Jatropha gossypiifolia
Tabanio Coastal Forest

Kata Kunci:
Etnobotani
Validasi
Jatropha gossypiifolia
Hutan Pantai Tabanio

History:
Received : 26/05/2020
Accepted : 28/09/2020
Published : 01/10/2020

Abstract

One of the urgent problems in Ethnobotany learning is the lack of learning resources. *Jatropha gossypiifolia* is one of the plants found in the Tabanio Coastal Forest Area, Tanah Laut Regency, and has the potential to be used as a learning resource. The potency of the *Jatropha gossypiifolia* plant as a learning resource, teaching materials are made in the form of a scientific book on the study of ethnobotany *Jatropha gossypiifolia* plants in the Tabanio coastal forest as supporting material for the Ethnobotany course. This study aims to describe the validity of scientific books has developed by plant ethnobotany *Jatropha gossypiifolia*. This as supporting material for Ethnobotany courses. This study uses a research development method with the Education Design Research (EDR) model with a formative evaluation of the Tessmer test. This scientific book "Study of Plant Ethnobotany *Jatropha gossypiifolia* Tabanio Beach Forest" has been stated by two valid validated validators with a validity score of 93.75%, and individual tests with a score of 92.11% were in the excellent category.

Abstrak

Salah satu permasalahan penting dalam pembelajaran Etnobotani adalah kurangnya sumber belajar. *Jatropha gossypiifolia* adalah salah satu tumbuhan yang terdapat di Kawasan Hutan Pantai Tabanio Kabupaten Tanah Laut berpotensi dijadikan sebagai sumber belajar. Oleh karena potensi tumbuhan *Jatropha gossypiifolia* sebagai sumber belajar maka dibuat bahan ajar berupa buku ilmiah tentang kajian etnobotani tumbuhan *Jatropha gossypiifolia* hutan pantai Tabanio sebagai materi penunjang mata kuliah Etnobotani. Penelitian ini bertujuan untuk mendeskripsikan validitas buku ilmiah yang dikembangkan tentang Etnobotani Tumbuhan *Jatropha gossypiifolia* sebagai materi penunjang mata kuliah Etnobotani. Penelitian ini menggunakan metode penelitian pengembangan dengan model *Education Design Research* (EDR) dengan evaluasi formatif uji Tessmer. Buku ilmiah yang dikembangkan berjudul Kajian Etnobotani Tumbuhan *Jatropha gossypiifolia* Hutan Pantai Tabanio dinyatakan oleh dua validator bernilai sangat valid dengan skor validitasnya 93,75% dan untuk uji perorangan mendapatkan skor 92,11% dengan kategori sangat baik.

How to cite: Rahman, A., Dharmono, D., & Amintarti, S. (2020). The Validity Ethnobotany Book of *Jatropha gossypiifolia* in The Coastal Forest Area of Tabanio. *BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan, 2*(2), 106-110.

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A. Introduction

The ethnobotany from ethnology is the study of culture and botany is the study of plants. That is a study of the relationship between humans and plants. Ethnobotany means the field of the use of plants used by a certain ethnicity or tribe to meet the needs of clothing, food, and medicine (Safwan, 2008). The traditional use of plants by indigenous peoples is a form of knowledge that has been developed and passed down from generation to generation.

Ethnobotany is knowledge about the traditional use of plants by remote tribes, which is currently the concern of many experts because of its existence and status (Soekarman and Riswan, 1992). According to the teaching lecturer and observation of ethnobotany teaching materials in the Biology Education Study Program at Lambung Mangkurat University, the study of local plants in this course is still limited. Lack of knowledge by the local community on the use of the *Jatropha gossypiifolia* plant, it is necessary to study the use of the *Jatropha gossypiifolia* plant which includes six studies, namely: 1) Botanical study, 2) Ethnopharmacological study, 3) Ecological study, 4) Anthropological study, 5) Linguistic study, and 6) Economic studies.

Some research that examined the ethnobotany has been done. Dharmono (2007) has researched the ethnobotany of Jalukap (Centella asiatica) in the community of Dayak Bukit Loksado. Arsyad (2018) has researched ethnobotany studies of medicinal plants by the people of Sidorejo Village, Tamban District, Barito Kuala Regency. Syaifuddin (2015) has researched the ethnobotany of medicinal forest plants in Mandiangin Barat Village, Karang Intan District, Banjar Regency, South Borneo Province.

Teaching materials are a special's part of the learning process. Mulyasa (2006) argues that teaching materials are a part of teaching resources that can be interpreted as something that contains learning messages, both specific and general that can be used for learning purposes. The teaching materials are divided into general content teaching materials and local content teaching materials. Where in general's content teaching material contains general's material or learning material, while local content teaching material contains material or local learning material.

The benefits of teaching materials with local content include the learning process becoming more interesting and impressive students getting more opportunities to learn independently with the guidance of various instructional materials from educators. Teaching materials with local content are very useful because apart from being a support in the learning process, teaching materials with local content also help in maintaining and introducing local culture as additional information in learning.

Some of the research on local content teaching materials that have done include Adriannur (2016) who developed a Population Concept Handout in the Plant Ecology Course Based on Research Results of Plant Population Structures (Artocarpus odoratissimus Miq.) Around Rampah Menjangan Loksado Waterfall. Hardiansyah (2018) developed a Handout on the Diversity of Vegetation Types in the Treeless Swamp Area of Bati-bati Village, Tanah Laut Regency as an Enrichment Material for Wetland Ecology Subjects. Similar research has also been reported by Ummi Hayati (2017) developed a Popular Scientific Book on the Development of Popular Scientific Books on Mangrove Diversity Based on Contextual Learning on Biodiversity Materials in High Schools. Based on these studies, it appears that the opportunity to develop teaching materials is still wide open. One of the teaching materials that can be developed is scientific books.

Scientific books are scientific works that are arranged and printed in the form of a book in which there is an essay or writing obtained following their scientific nature and based on the results of observations, reviews, research in specific fields. Arranged according to specific's methods with systematic written in the language and content can be justified (Susilo, 1995). This scientific book can take advantage of local potential because apart from being a support in the learning process, this scientific book with local potential also helps in maintaining and introducing local culture as additional information in learning.

Researches on scientific books that have been conducted include Haisiyah (2014) Ethnobotany Study for Women's Health Care by the Community in Bondowoso Regency and Its Use as a Popular Scientific Book. A similar thing was done by Patmawati (2017) regarding the Development of a Popular Scientific Book on the study of the Morphology of Wood Pacat (Harpullia arborea (Blanco) Radlk.) as a rare plant in West Kerinci National Park.

B. Materials and Method

This teaching material development research uses the Education Design Research (EDR) model through a formative evaluation of the Tessmer test. Scientific book's data will analyze by calculating the validity score from the results of expert validation (Akbar, 2013):

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$$V = \frac{Tse}{Tshx} x\ 100\%$$

Information:
V = Validity
TSe = The total validation score of the validator
TSh = The maximum expected total score

Table 1 Value-Based Validity Criteria

No	Score	Validity Category
1	85.00%-100%	Very valid, can be used without revision
2	70.00% -< 85.00%	Valid, can be used but needs minor revisions
3	50.00% -< 70.00%	Quite valid, needs major revisions
4	25.00% -< 50.00%	Not valid, should not be used
5	01.00% -< 25.00%	Not valid, may not be used

The one to one evaluation data will analyze by the results of a questionnaire using the following formula (Sugiyono, 2012):

Response score (%) = Total score obtained x 100%
Maximum total score

Table 2 One to one Test Assessment Category

No	Score	Description
1.	85.00 - 100%	Very good
2.	70 - < 85%	Good
3.	60 - < 70%	Passably
4.	50 - < 60%	Deficient
5.	< 50 %	Tidak baik

C. Result and Discussion

Expert validation was carried out by two validators whose aim was to determine the validity of scientific books. The assessment of scientific book validation consists of several components with each assessment indicator, namely: 1) coherence, 2) readability, 3) vocabulary: expressions, work, choice, exaggeration, 4) active and passive sentences, 5) format, 6) application, implication and 7) definition and explanation. Based on the results of expert tests on scientific books developed, it shows in the following Figure 1.

The Figure 1 shows the results of expert validation provided by the validators after the scientific book has been corrected by the suggestions given. Scientific books developed on the coherence aspect got a score of 93.75% (very valid). The legibility aspect gets a score of 87.5% (very valid). Vocabulary aspect: verb, excessive choice get a score of 87.5% (very valid). The active and passive aspects of the sentence get a score of 100% (very valid). Format aspects get a score of 100% (very valid). The application aspect implies getting a score of 100% (very valid). Aspects of definition and explanation get a score of 87.5% (very valid).

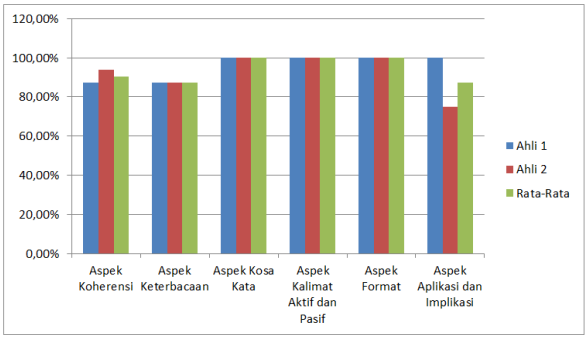

Figure 1 Expert Review Results

Based on the results of the average validity of two validators on seven aspects, the value is 93.75% with very valid criteria. So the scientific book developed is very valid or worthy of use. Both in the aspects of coherence, readability, vocabulary (expressions, work, choices, exaggeration), active and passive sentences, hedging (words that mean uncertainty), applications, implications, definitions and explanations, and other styles of devices (narrative , humor, analogy).

Based on the results of the expert test validation score, it is known that the teaching materials developed are valid. This shows that the scientific book on the Ethnobotany Study of the *Jatropha gossypiifolia* Plant of the Tabanio Beach Forest is suitable for use as a support for Ethnobotany Subject material. Expert validation is one of the activities carried out in research and development. The validation test that is carried out aims to determine the weaknesses or deficiencies of the product that has been developed based on the input provided by the validator. Product validation is very important to do in order to know the weaknesses or short comings of the teaching materials developed in terms of relevance, accuracy, language and learning. As explained by Setyosari (2013) that expert testing or validation was carried out with expert respondents aimed at reviewing the initial product and providing input for improvement. As also explained by BSNP (2014), if the component is complete, the teaching material will be considered valid to be used as teaching material in an educational unit.

The suggestions given by 2 validators have been revised or corrected. Revisions were made to improve suggestions and input on scientific books developed on the aspects of content feasibility, presentation feasibility and language appropriateness before being used by students. According to the Ministry of National Education (2008) revision aims to make a comprehensive

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finalization or improvement of the product, so that the product matches the input obtained from the validation activity.

Based on validation by the two validators, scientific books on the Ethnobotany Study of *Jatropha gossypiifolia* in the Tabanio Beach Forest have very valid criteria, which means that scientific book products are procedurally and theoretically feasible to be used for further tests in development research. Research that produces products such as scientific books intended for publication requires validation

Individual tests were carried out on 3 students who were followers of the Ethnobotany Course. The assessment of scientific book validation consists of several components with each of the assessment indicators, namely: 1) completeness, 2) language, and 3) presentation. Based on the results of individual tests of scientific books developed, it can be seen in the following Figure 2.

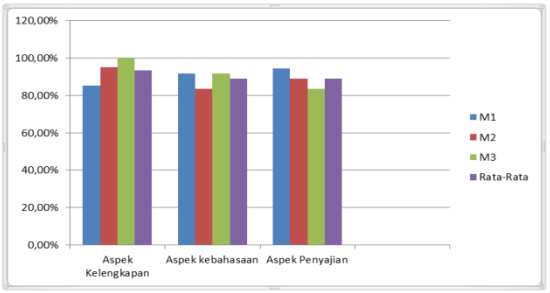

Figure 2 One to one Evaluation Results

Scientific books that are made contain covers, topics, objectives and pictures, so that this scientific book is quite easy to understand because it is accompanied by pictures, is linked to student knowledge, and is adjusted to student experience and learning objectives. In the linguistic aspect, the teaching materials developed have met the linguistic quality of a learning device, namely having good legibility using understandable language and terms, in accordance with good and correct Indonesian rules. The use of appropriate language and in accordance with student development will make it easier for students to use and understand scientific books.

In the aspect of presenting scientific books developed, it is made to be attractive and fun by paying attention to the color selection of scientific book designs and adjusting to the level of thinking and reading abilities of students. So that it can invite student curiosity and encourage students to be more active in learning. Based on the results of the individual test (one to one), it was obtained an average score of 92.11%, including very good criteria. So that the scientific book on the ethnobotany study of the *Jatropha gossypiifolia* plant in the Tabanio Beach Forest area is suitable for use in the Ethnobotany course.

This individual test is carried out to determine the feasibility and benefits as well as the effectiveness of using media in learning for revision or improvement materials before production (Asyhar, 2012). This trial aims to determine the feasibility, benefits and effectiveness of using media in learning so that it needs to be done before the next trial. This individual test is important so that the teaching materials developed are in accordance with the conditions of students who will use them in the real field. In addition, teaching materials that are suitable for student characteristics allow students to learn on their own, thereby increasing the student learning experience, As explained by Aisyi, et al. (2013) that the development of teaching materials that are arranged must be contextual, meaning that they come from the closest environment and are familiar with everyday life. -day. Therefore, an assessment by students of teaching materials needs to be done.

The results of the individual test by 3 students are included in the very good criteria. This shows that the teaching materials are easy to understand, contain interesting content and are easy to apply the material in everyday life. Researches on the development of teaching materials in the development process must go through the validation stage and revision of previous designs on the developed teaching materials before conducting the main field trials (using teaching materials developed for student learning). This was also carried out in Hardiansyah's (2018) research on the Diversity of Vegetation Types in the Swamp Area of Bati-bati Village, Tanah Laut Regency as an Enrichment Material for Wetland Ecology Subjects, obtaining individual test results by students, most students stated that the teaching materials were good to use. in terms of appearance, presentation of the material, and its benefits.

D. Conclusion

The validity of scientific books developed according to the validator is in the very valid category with a score of 93.75%. Based on the one to one test of 3 students, the scientific book developed was in the very good category with a score of 92.11%.

E. Acknowledgment

Thanks to my supervisors who have provided criticism, suggestions, and also guidance during the process of making this article. Thanks are also expressed to other parties for their willingness to help and provide valuable input so that this article

OPEN ACCESS JOURNAL
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
DOI: 10.20527/bino.v2i2.8505

can finally be accepted and useful for all parties who read.

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