

The Validity Ethnobotany Book of *Claoxylon indicum* in the Bukit Tamiang Forest Area, Tanah Laut Regency

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Abstract

The people of Kandangan Baru Village have traditional wisdom in utilizing plants. The plants are used as medicine or economic materials. One of them is *Claoxylon indicum* in the Bukit Tamiang Forest, Tanah Laut Regency which can be used as a value of local wisdom for the local community. The purpose of this study was to describe the validity of the ethnobotany scientific work of Indian geranium as supporting material for ethnobotany. This study uses a development research method with the Educational Design Research (EDR) model and formative evaluation of the Tessmer exam. Teaching materials are in the form of a Popular Scientific Book entitled The Ethnobotany Study of *Claoxylon indicum* Plants in the Bukit Tamiang Forest Area in the expert test by two validators with a score of 94.4% as well as the practicality of the content for the individual test (one to one) by 3 biology education students of FKIP ULM Banjarmasin who had passed the ethnobotany course had very good results with a score of 3.7.

Abstrak

Masyarakat Desa Kandangan Baru memiliki kearifan tradisional dalam memanfaatkan tumbuhan. Tumbuhan digunakan sebagai obat atau bahan ekonomi. Salah satunya adalah *Claoxylon indicum* di Hutan Bukit Tamiang Kabupaten Tanah Laut yang dapat dijadikan sebagai nilai kearifan lokal bagi masyarakat setempat. Tujuan penelitian ini adalah untuk mendeskripsikan validitas karya ilmiah etnobotani geranium India sebagai bahan pendukung etnobotani. Penelitian ini menggunakan metode penelitian pengembangan dengan model Educational Design Research (EDR) dan evaluasi formatif ujian Tessmer. Bahan ajar berupa Buku Ilmiah Populer yang berjudul Kajian Etnobotani Tumbuhan *Claoxylon indicum* di Kawasan Hutan Bukit Tamiang pada uji pakar oleh dua validator memiliki hasil validasi sangat valid dengan skor 94,4% serta hasil kepraktisan isi untuk uji perorangan (*one to one*) oleh 3 mahasiswa pendidikan biologi FKIP ULM Banjarmasin yang telah lulus mata kuliah etnobotani memiliki hasil sangat baik dengan skor 3,7.

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A. Introduction

Ethnobotany is of tribal and botanical origin. The nation is a community or socio-cultural group which has a certain meaning due to genetic factors, customs, religion, language, and other reasons, and plants are plants. Ethnobotany is the relationship between local communities and the environment, especially the environment in plants, and assessing the benefits of plants as food, protection or shelter, medicine, clothing, hunting, and traditional rituals. (Purwanto, 1999)

Dharmono (2018) explains that ethnobotany is a botanical science that involves the use of plants for daily needs and tribal customs. Ethnobotany research does not only involve plant taxonomic data, but also regional natural botanical knowledge, in the form of examining the interpretation and linkages between humans and plants, and more involves the use of these plants. The priorities are cultural interests and resource sustainability.

Ethnobotany refers to the study of the interactions between humans and the body. This research is descriptive, noting the traditional botanical knowledge possessed by the local community, including research on botany, ethnopharmacology, ecology, social anthropology, economy, and environment (Martin, 1995).

An important problem in ethnobotany is the lack of learning resources (Rahman, 2020). Teaching materials are all materials (information, tools, and texts) arranged in the system, showing a complete picture of the abilities that will be mastered by students, and used for planning and research implementation purposes during the learning process (Prastowo, 2012).

Two types of teaching materials support the learning process, namely special (local) teaching materials and ordinary teaching materials. Textbooks with general content contain learning information about general materials, while textbooks with local content have regional potential. According to research by Prabowo *et al.* (2016), textbooks with local content focus on the local potential in an area to be used as a learning resource. The learning development process is based on the local potential of the area.

Dharmono (2019) explains that textbooks can come from the local potential of an area, so seeing the importance of this, it is hoped that through this research, other research can also develop books based on local potential. Take advantage of existing potential.

Maritime development can be developed through development research. According to Plomp & Nieveen (2007), experts agree that development research includes three stages, namely: preliminary research, prototype design stage, and evaluation

stage. Tessmer (1993) explains that development research emphasizes formative evaluation so that the development model aims to produce a prototype.

Popular science books refer to books that contain knowledge based on research results, which are presented scientifically in simple, concise, and clear language so that the public and students can easily understand them (Utami, 2017). The language used in writing popular science books should be simple, clear, and not overwhelming. The text must be following the level of education, the ideas conveyed must be structured, the sentences must be understandable, and the sentences used must be clear and convincing (Trim, 2014).

B. Materials and Method

This method uses descriptive research techniques and snowball sampling, then through the formative evaluation of the Tessmer exam, the educational design research model (EDR) is used to develop teaching materials.

Based on the ethnobotany study of the *Claoxylon indicum* plant, the Tamiang forest area, Tanah Laut Regency, the results of the ethnobotany study of the plant *Claoxylon indicum* in the form of a popular science book were developed into teaching materials. Formative evaluation (1998), the stages of development include (1) self-evaluation; (2) expert review; (3) individual test (one to one); (4) group test; (5) field test. This research includes (1) self-assessment; (2) expert review; (3) individual test (onto-one).

C. Results and Discussions

Verification is defined as the act of producing evidence appropriately, that is, every material, process, procedure, activity, system, equipment, or mechanism used in production and control will always produce the desired results (Gani, 2019).

Based on the recommendations of the two verifiers, the popular science books that have been developed are improved. Advice from expert verifiers is about ecological writing, proofreading invitations, and typos. To get the evidentiary results from scientific books as shown in Table 1.

Refer to Rakedzon and Baram-Tsabari (2016) for popular science books and textbooks used for expert review, evaluation, testing, and evaluation. The evaluation aspect is divided into 9 aspects. If described, they cover 15 sub-aspects. Standard evaluation refers to Akbar (2013). As shown in Table 1, after revising the average verification results obtained from the two verifiers, the developed science book and textbook appear in

the form of coherence. In a very effective standard, the value is 87.5% which is easy to read. The gender of the effective condition was 81.2%, the vocabulary of the effective condition was 81.2%, the active and passive speaking conditions were 100% effective, and in terms of format, the value was 100%. If you are using a very effective condition, get a 100% score in the very effective

condition. In terms of application, it means using a very effective condition. The value is 100%. In terms of definitions of interpretation, use very effective standards and Aspects of style and other tools Aspects (such as narrative, humor, etc.) score 100%, while for very effective criteria they score 100%.

Table 1 Validity of the results of the expert against BIP Ethnobotany of the plant *Claoxylon indicum*

Assessment Indicators	Aspect	Average
Aspect consistency	Each paragraph in BIP has the main idea	3.5
	Connect sentences using conjunctions	3.5
	Ideas are presented in sequence	3.5
	sentences make the reader understand the contents of the book	3.5
Readability	contents of the text are according to age/education	3.5
	Sentences and many words can measure the level of readership	3
Vocabulary: Phrases, work, excessive choice	Use of limited expressions	3.5
	Words or expressions used do not occupy a lot of vocabulary	3
Active and passive	sentences Use active and passive sentences	4
Format	For scientific papers that show evidence in the form of data or images arranged systematically	4
Writing methods	Summarization and attractiveness of writing	4
Applications and implications	Use practical questions to attract readers	4
Definitions and meanings	Use practical questions to attract readers	4
Other stylistic tools: narrative, humor, and analogies	Use analogy to explain complex ideas.	4
	Use analogy to explain complex ideas.	4
Total Score Average Validation		94.4%
Validation Criteria		Highly Valid

The average verification score obtained from the two verifiers is 94.4%, so the criteria obtained are included in the validity criteria very effectively. Based on the results in Table 1 above, textbooks developed procedurally and theoretically are very effective or suitable for further development research testing, namely one-to-one testing (personal testing). Even so, researchers can still make improvements based on the suggestions of the verifier. The second suggestion from an expert verifier is to write and correct the invitation sentence in the discussion section systematically and write typos.

According to Emzir (2014), products developed and researched must be systematically tested or tested, evaluated, and corrected to obtain specific standards related to effectiveness, quality, or equivalent standards. According to BSNP research (2014), this research tool is aimed at the quality of biology textbooks which include four aspects, namely the application of concepts or content suitability, forms of expression, language evaluation, and graphics. At the same time, according to Plomp *et al.* (1999) To determine the quality of the results of developing models and learning tools, three criteria are usually needed, namely validity, practicality, and validity. Three aspects of quality (effectiveness, practicality, and effectiveness) considered in development research can be used in a broader range of educational products. Based on the indicators of the quality of teaching materials mentioned above, this study is only to determine the validity and practicality of the contents of popular science books.

According to BSNP (2014), the research tool is aimed at the quality of biology textbooks, which includes four aspects: conceptual application or content feasibility, a form of expression, evaluation of language, and graphics. The indicators of the feasibility of the teaching materials used are validity, practicality, and effectiveness. Based on the indicators of the feasibility of teaching materials

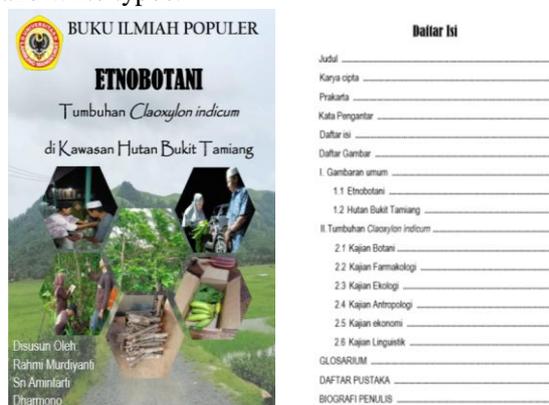


Figure 1
 Cover and table of contents for Scientific Books Popular Ethnobotany Study of *Claoxylon indicum* in Forest Area Bukiti Tamiang

mentioned above, this study only understands the effectiveness of popular science books. The expert validity test was carried out on ethnobotany subjects, while the individual test was carried out by 3 students who passed the ethnobotany curriculum of the biology education research program FKIP ULM Banjarmasin. The following is a description of the complete validity results.

Based on the results of the verification scores from the two expert verifiers in Table 1, the validity standards that will be obtained in popular science books that have been developed are very effective. Quoting Akbar's (2013) evaluation criteria, the books on ethnobotany *Claoxylon indicum* in the Bukit Tamiang Forest, the Butan Tamiang Forest are very effective and suitable for use as a complement to ethnobotany courses.

Expert verification is one of the activities that has been carried out in research and development. The verification test that is carried out is designed to find weaknesses or deficiencies in the product developed based on the input provided by the verifier. Puslitjaknov (2008) explained that the verification test was carried out to review the initial product and then provide suggestions for future improvements. As stated in BSNP (2014), if the components are complete, the textbook will be considered as a valid educational unit textbook.

The indicator for the coherence aspect is that the composition of each paragraph has a main idea, namely the relationship between sentences, continuous thinking, and sentences that lead to understanding. Based on the verification results carried out by the two verifiers, the consistency aspect mainly shows that popular scientific books are very effective standards.

This is in line with Zahro's (2015) research, which explains that the textbooks provided must be correct and correct in Indonesian. Here it is seen whether the language used is reasonable, interesting, and adapted to student development. related to language readability (including the choice of words and the effectiveness of the sentences used) and readability related to the text or written representations and graphics.

Whether the text is the age and level of education can be used to assess the suitability of the reader. Based on the results of the verification conducted by the two verifiers, in terms of readability, scientific books are very effective standards. Based on the results of the verification carried out by two verifiers, vocabulary, active and passive sentences, and format aspects (including very effective standards) are all called readability indicators.

Format indicators are written in scientific books in the form of scientific papers that show evidence in the form of data or images. The proof is systematic reporting, starting from the bottom line and carrying out detailed supporting research. Presentation of material coherently and using pictures in the surrounding environment will greatly facilitate students in the teaching and learning process because they will be familiar with pictures in science books.

According to Suswina (2016), when introducing a topic or topic, examples and illustrations are needed to help and improve student understanding. Meanwhile, according to Suparman (2012), the use of color images can increase object attractiveness and student attention. Therefore, the aspect of speech greatly influences the learning attractiveness of students. On the cover of the "Book of Emaya" I wrote, apart from pictures of mountain forests, the surrounding environment, and pictures of plants that are used in daily life, there are also original pictures of the plants being studied. It is hoped that this cover design can attract the attention of students so that it can inspire motivation and interest in studying ethnobotany subjects.

In terms of application, the meaning has indicators that cover problems and potential applications in the real world by studying the preferences of the readers. Based on the verification results of the two verifiers in their application, it means that scientific books are very effective standards. According to Suparman (2012) relevance is the relationship between learning content and the knowledge students already have and its benefits for life. Therefore, I believe that the concept of relevance is very important so that it can stimulate students to study relevant sciences. There are explanatory indicators for definitions and explanations: explanatory tools such as descriptions of examples, analogies or metaphors can help readers understand and process skills in a scientific manner. Based on the results of the verification carried out by the verifier, in terms of application, this means that popular scientific books are considered very effective standards.

My popular science book "Ethnobotany of *Claoxylon indicum* Plants in the Bukit Tamiang Forest Area" has a sense of humor, so there are some things that are not rigid but contain important information. It is designed so that the material or content is easy to understand, but with different motivations/perceptions. And there is the "Let's Think" direction, which guides students to focus on something or remember past experiences and relate it to new information they can get from books.

Usually, based on the verification of these two verifiers of popular science books, the standard is very effective, which is 94.4%. This popular scientific book entitled "The Ethnobotany of *Claoxylon indicum* Plants in the Bukit Dami Forest Area" is very effective because of its contextual nature, easy to understand language, beautiful appearance, and compliance with BIP writing rules. This is procedurally and theoretically feasible.

D. Conclusion

The popular science book developed was considered very important based on the results of the validity test conducted by two experts with a value of 94.4%.

E. References

- Akbar, S. (2013). *Instrument Perangkat Pembelajaran: PT Remaja Rosdakarya*, Bandung.
- Badan Standar Nasional Pendidikan (BSNP). (2014). *Instrumen Penilaian Buku Teks Pelajaran Tahun 2014*. Diakses melalui <http://bsnpindonesia.org/id/?p=1340>. Date access 06 December 2020.
- Dharmono., D. (2019). *Bahan Ajar Etnobotani*. Universitas Lambung Mangkurat Press, Banjarmasin.
- Emzir. (2014). *Metodologi Penelitian Kualitatif Analisis Data. Cet. 4*. Rajawali Press, Jakarta.
- Guntur, Al Gani., Dharmono, D., & Sri, A. (2019). Validitas Buku Etnobotani Tumbuhan *Maranthes corymbosa* di Kawasan Hutan Bukit Tamiang Kabupaten Tanah Laut. *BIO-INOVED: Jurnal Biologi-Inovasi Pendidikan*, 1(2): 90-98
- Martin, G. J. (1995). *Etnobotani: Sebuah Manual Pemuliharaan Manusia dan Tumbuhan*. Edisi Bahasa Melayu Terjemahan Maryati Mohamed. Sabah. Malaysia: Natural History Publications (Borneo) Sdn. Bhd. Kinabalu.
- Plomp, T. (2007). *Proposal for definition and a number of characteristics of EDR*. Shanghai, China: East China Normal University.
- Prabowo, D.L., Nurmiyati, & Maridi. (2016). Pengembangan Modul Berbasis Potensi Lokal pada Materi Ekosistem sebagai Bahan Ajar di SMAN 1 Tanjungsari, Gunung kidul. Pendidikan Biologi FKIP Universitas Sebelas Maret. In *Proceeding Biology Education Conference, Vol. 13 No.1*
- Prastowo, A. (2012). *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Diva Press, Yogyakarta.
- Purwanto, U. (1999). *Etnobotarzi-Bioteknologi: Keterkaitan Sistem Pengetahuan Tradisional dan Modern*. Makalah pada Seminar Ilmiah: Membangun Lingkungan Hidup Yang Lestari Dengan Memanfaatkan Bioteknologi Berbasis Keanekaragaman Hayati. Fak. Pertanian Univ. Janabadra. Fak. Biologi dari Prodi Sosiologi FISIP Universitas Atma Jaya dan Kehati. Yogyakarta.
- Puslitjaknov, Tim. (2008). *Metode Penelitian Pengembangan*. Depdiknas, Jakarta.
- Rahman, A., Dharmono, D., & Amintari, S. (2020). The Validity Ethnobotany Book of *Jatropha gossypifolia* in The Coastal Forest Area of Tabanio. *BIO-INOVED: Jurnal Biologi-Inovasi Pendidikan* 2(2):106-110.
- Rakedzon, T. & A. Baram-Tsabari. (2016). To Make a Long Story Short: A Rubric for Assessing Graduate Students Academic and Popular Science Writing Skills. *Assessing Writing, Elsevier Inc, Vol.32: 28-42*
- Suparman, M. A. (2012). *Desain Instruksional Modern*. Penerbit Erlangga, Jakarta.
- Suwarni, E. (2015). Pengembangan Buku Ajar Berbasis Lokal Materi Keanekaragaman Laba-Laba Di Kota Metro sebagai Sumber Belajar Alternatif Biologi untuk Siswa SMA Kelas X. *BIOEDUKASI (Jurnal Pendidikan Biologi)*, 6(2), 86-92.
- Tessmer, M. (1998). *Planning and Conducting Formative Evaluations*. Kogan Page, London
- Utami, P.U. (2017). *Pengembangan Buku Ilmiah Populer Keanekaragaman Mangrove Berbasis Pembelajaran Kontekstual Pada Materi Keanekaragaman Hayati Di SMA*. Artikel Ilmiah. Pendidikan Biologi FKIP Universitas Jambi.