**BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan**
Volume 3, Issue 1, February 2021 page. 1-5
https://ppjp.ulm.ac.id/journal/index.php/bino

**OPEN ACCESS JOURNAL**
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
**DOI: 10.20527/bino.v3i1.9348**

# Contents Practicality of the Popular Scientific Book on Ethnobotany *Gliricidia maculata* in the Bukit Tamiang Forest Area, Tanah Laut Regency

**Naufal Hafidh Mahdi Sujarwo Putra [(1)] *, Dharmono [(2)], Mahrudin [(1)]**

[(1)] Biology Education Study Program, Faculty of Teacher Training and Education, Lambung Mangkurat University, Banjarmasin, South Kalimantan, Indonesia
[(2)] Biology Education Master's Program, Postgraduate Program, Lambung Mangkurat University, Banjarmasin, South Kalimantan, Indonesia

**Corresponding Author Email:* naufalhafidhmahdi@gmail.com

**Article Information**

**Keyword:**
Ethnobotany
Popular Scientific Books
Contents Practicality

**Kata Kunci:**
Etnobotani
Buku Ilmiah Populer
Kepraktisan Isi

**History:**
Received : 14/10/2020
Accepted : 05/02/2021
Published : 18/02/2021

**Abstract**

The teaching materials need to see the reader's ability for how to understand the intent, to know the feasibility, and also for improvement practical content. This study wants to describe the contents practicality of popular scientific book on the ethnobotany's *Gliricidia maculata* as supporting material for ethnobotany courses in biology education, FKIP ULM Banjarmasin. Ethnobotany popular scientific book refers to Tessmer Formative Evaluation with the steps on content practicality using individual tests (one to one) and also the content practicality assessment instrument too. The research subjects were 3 students of Biology Education FKIP ULM Banjarmasin who had passed the ethnobotany course and for the average result has 3.6 with very good criteria. Teaching materials that accordance with student characteristics allow more contextual learning experience, complete learning experience, developed according to the student conditions and implementation based on indicator as guidance.

**Abstrak**

Bahan ajar yang dikembangkan perlu melihat kemampuan pembaca dalam memahami maksud yang ingin disampaikan, mengetahui keterlaksanaan dan kemudahan penggunaan bahan ajar untuk penyempurnaan melalui suatu kepraktisan isi. Penelitian ini bertujuan untuk mendeskripsikan kepraktisan isi buku ilmiah populer etnobotani tumbuhan *Gliricidia maculata* sebagai materi penunjang mata kuliah etnobotani di pendidikan biologi FKIP ULM Banjarmasin. Buku ilmiah populer etnobotani sebagai bahan ajar dikembangkan melalui Evaluasi Formatif Tessmer dengan tahap yang dilakukan pada kepraktisan isi menggunakan uji perorangan (*one to one*) serta instrumen penilaian kepraktisan isi juga mengacu pada Tessmer. Subjek penelitian merupakan 3 orang mahasiswa Pendidikan Biologi FKIP ULM Banjarmasin yang dinyatakan telah lulus mata kuliah etnobotani. Hasil rata-rata kepraktisan isi buku ilmiah populer memiliki nilai 3,6 dengan kriteria sangat baik. Bahan ajar yang sesuai dengan kondisi mahasiswa dapat membuat pengalaman belajar yang semakin kontekstual, pengalaman belajar yang utuh, serta dikembangkan sesuai kebutuhan mahasiswa dan keterlaksanaan ditentukan berdasarkan indikator yang dijadikan pedoman.



**How to cite:** Putra, N.H.M.S, Dharmono, D., & Mahrudin, M. (2021). Contents Practicality of the Popular Scientific Book on Ethnobotany *Gliricidia maculata* in the Bukit Tamiang Forest Area, Tanah Laut Regency. *BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan, 3*(1), 1-5.

**BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan**
Volume 3, Issue 1, February 2021 page. 1-5
https://ppjp.ulm.ac.id/journal/index.php/bino

**OPEN ACCESS JOURNAL**
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
**DOI: 10.20527/bino.v3i1.9348**

# A. Introduction

Ethnobotany popular scientific books as teaching materials serve to strengthen ethnobotany learning. Learning content based on real life makes teaching materials that made in accordance with the times. Context based on real objects is expected to make it easier to solve environmental issues (Situmorang, 2016). Popular Scientific Books (BIP) synthesize, reorganize, and present knowledge for various social disciplines, both from the author himself (Schirrmacher, 2009).

An adequate learning resources can produce excellent and quality human resources. The necessity to assess that the teaching materials developed are in accordance with the user's conditions in learning can be seen through the practicality of the content of a teaching material.So that the expected complete learning can be achieved, the use of targeted teaching materials can make a maximum contribution, allows adding to the learning experience and emphasizes contextual learning (Aisyi *et al*., 2013). This is the main concern for the learning process. Therefore, the assessment of teaching materials is important to use in determining the feasibility and convenience of products in supporting learning.

One example of research on the development of teaching materials by Irwandi *et al*. (2019) on "Kepraktisan Buku Ilmiah Populer tentang Penyu untuk Siswa SMA Kawasan Pesisir" which can increase reading interest and encourage motivation in learning. Meanwhile, in this research, the popular scientific book developed focuses on the use of language styles, so that the expected targets are not only from academics but can also be used by the general public. The aspects of assessment in a teaching material are expected to improve and be able to make teaching materials that are made right on target. As described by Plomp *et al*. (1999) that the models and tools developed are said to be practical if the user states that theoretically they can be applied in the field and the level of implementation is at least good.

Therefore, in development research that uses formative evaluation, the practicality aspect of the content is very important as material for revisions or improvements before production (Asyhar, 2012). The practicality of the content focuses on the substance contained in a teaching material that has an impact on the usefulness and convenience of learning tools. Furthermore, it can accompany the learning process in a better and more directed way.

This research was conducted to describe the practicality of the contents of popular scientific books on ethnobotany *Gliricidia maculata* which was developed as a supporting material for ethnobotany courses in biology education FKIP ULM Banjarmasin.

# B. Materials and Method

The research conducted was a developmental rese arch using Tessmer's formative evaluation model. In the practicality stage, the content was done through an individual test (one to one) by 3 biology education students of FKIP ULM Banjarmasin who had completed and graduated taking ethnobotany courses. In terms of formative evaluation, the main objective is to find deficiencies and produce suggestions for improvement, the number of respondents is less of a concern. Comments from only one respondent can be very valuable because of their importance. A small sample of respondents is usually carefully selected. Even a sample can be deliberately selected as a specific sampling objective because of several characteristics (Plomp *et al*., 2007).

The another one is explained by Miles and Huberman (1994), in order to gain insight into the practicality of the prototypes of some student material, in addition to high achieving students also a group of low achieving students and a group of average students need to be selected. Triangulation is important to increase the reliability and internal validity of the findings. One can triangulate by using a different type of person, a different time, and a different place.

The practical instrument for the contents of Popular Scientific Books (BIP) includes 6 aspects of assessment which is an adaptation of Tessmer (1998), namely that every part that is studied is easy to understand; the entire contents of the BIP is complete; the words used are easy to understand; image quality is good and the meaning can be understood; and the photo on the cover is clear and understandable. Meanwhile, the assessment of the practicality of the content is the student's response based on learning during the individual test. The results of the assessment were then analyzed descriptively according to the average score with the assessment criteria based on Suryani *et al*. (2017).

**Table 1. BIP practicality categories**

| No. | Score | Category |
|---|---|---|
| 1 | 3.5 - ≤ 4.0 | Very good |
| 2 | 2.5 - <3.5 | Good |
| 3 | 1.5 - <2.5 | Not good |
| 4 | 1.0 - <1.5 | Not good |

Source: Suryani *et al*. (2017)

**BIO-INOVED : Jurnal Biologi-Inovasi Pendidikan**
Volume 3, Issue 1, February 2021 page. 1-5
https://ppjp.ulm.ac.id/journal/index.php/bino

**OPEN ACCESS JOURNAL**
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
**DOI: 10.20527/bino.v3i1.9348**

## C. Results and Discussions

The popular scientific book which developed was entitled "Ethnobotani *Gliricidia maculata* Hutan Bukit Tamiang". The front and back cover views of popular scientific books in this follows:


Figure 1. Cover of Popular Scientific Book

After conducting an individual test (one to one) by 3 students, the practicality of the contents of the popular scientific book was obtained as follows with the aspect of the assessment indicator adapting from Tessmer (1998).

The practical instrument for BIP content comes from the adaptation of Tessmer (1998) which includes 6 aspects of assessment, namely that each part that is studied is easy to understand, the entire contents of the BIP are complete (cover, editorial, introduction, table of contents, introduction, main content, references, glossary), the words used are easy to understand, the image quality is good and the meaning can be understood, and the photo on the cover is clear and understandable.

The results of the individual test by 3 biology education students of FKIP ULM Banjarmasin who have completed and passed the ethnobotany course, obtained an average score of a total of 3 students, namely 3.6 which is included in the very good category. According to Suryani *et al*. (2017) the practicality score of student responses with intervals of 3.5 - ≤ 4.0 is included in the very good category. The results of the 3 students' assessment of 6 aspects which were assessed on average gave a score of 3 (good) and 4 (very good).

In terms of completeness, BIP contents and cover photos are clear and easy to understand, getting the highest average score, which is 4 (very good). This cannot be separated from the systematic preparation of BIP which is based on LIPI and the BIP cover photo which received input from 2 validators at the expert review stage to be corrected.

Meanwhile, for the aspects of typos and grammar errors, it gets the lowest average score, namely 3 (good). This is because there are still writing errors in some sentences, although not quite a big mistake. So that only a small revision is needed. According to Hidayati (2016) the individual test is a means of measuring practicality, obtained from responses to the content of teaching materials and assessing the teaching materials given to understand their meaning or not, especially in the language and images sections.

**Table 2 Student Individual Test Results**

| No. | Statement | M1 | M2 | M3 |
|---|---|---|---|---|
| 1 | Every part that is studied is easy to understand | 4 | 4 | 3 |
| 2 | The entire contents of the BIP are complete (cover, editorial, preface, table of contents, introduction, main content, references, index, glossary) | 4 | 4 | 4 |
| 3 | The words used are easy to understand | 3 | 4 | 4 |
| 4 | The image quality is good and you can understand the meaning | 3 | 4 | 3 |
| 5 | No typos or grammar errors found. | 3 | 3 | 3 |
| 6 | The photo on the cover is clear and understandable | 4 | 4 | 4 |
| **Total** | | **21** | **23** | **21** |
| **BIP Practicality Score** | | **3.5** | **3.8** | **3.5** |
| **Average** | | | **3,6** | |
| **Content practicality criteria** | | | **Very good** | |

Popular scientific books are intended for the wider community to gain insight and knowledge, but the main target is students who teach ethnobotany subjects, because this popular scientific book is a development of ethnobotany science. This is in accordance with Alkatiri (2012), where the development of compiled teaching materials must be assessed by people who have the same understanding of the quality of learning scientific books, have an understanding of the concepts and truths of each subject matter according to the curriculum.

Practicality itself looks at the level of product using, the measurement in practicality taking into account that the material is easy to use. In development research, the model or device

OPEN ACCESS JOURNAL
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
DOI: 10.20527/bino.v3i1.9348

developed is said to be practical if the user states that in theory and implementation, it can be used in the field and the category of use is at least good. The term good itself is determined based on the parameters that refer to respective implementations (Plomp *et al*., 1999).

This individual test is important so that the teaching materials developed are in accordance with the conditions of students in their implementation in the field. In addition, teaching materials that suit student needs allow students to have independent learning, thereby increasing interaction as a process in the learning experience, as explained by Aisyi *et al*. (2013), that the development of teaching materials that are made must be contextual, that is, they come from the surrounding environment and are closely related to everyday life. Therefore, an assessment by students of teaching materials needs to be done.

Popular science writing can be deductive, inductive, or a combination of both, and can be wrapped in the author's opinion based on actual everyday conditions (Dalman, 2014). The developed popular scientific books have advantages that differentiate them from other popular scientific books. Based on the individual test conducted, one of the students explains that the book was very interesting because it had pearls of wisdom which had very good meanings and was related to development materials, namely "The existence of ethnobotany makes humans aware that being a living creature has to be useful and beneficial to those around you, because it describes how important you are ".

According to Rakedzon and Baram-Tsabari (2016), writing BIP needs to require humor. Humor in this case is defined as the writer's creativity in conveying a specific purpose which is packaged in a more unique way. This is good in presenting other language styles which is one way of attracting readers' interest.

Apart from the existing advantages, this BIP also has disadvantages. Students suggest paying more attention to color contrastphotos, proportions of photos and fonts. However, the deficiencies based on student suggestions and comments have been fixed.

The development research carried out refers to Tessmer with a model or learning device that takes special attention to research products and uses a prototype approach. To create a prototype of a quality learning device, a quality test is needed. The prototype quality test can using the validity test, the practicality test, and the effectiveness test. The practicality of the content through individual tests is carried out after previously going through an expert review.

# D. Conclusion

The contents practicality of the popular scientific books conducted by 3 biology education students of FKIP ULM Banjarmasin who had completed and passed the ethnobotany course obtained a mean score of 3.6 with very good criteria in the one to one test.

# E. References

Aisyi, F.K., S. Elvyanti, T. Gunawan, and E. Mulyana. (2013). Pengembangan Bahan Ajar TIK SMP Mengacu pada Pembelajaran Berbasis Proyek. *Jurnal Invotec, 9*(2): 117-128.

Alkatiri, I.J. (2012). *Pengembangan Handout Berbasis Kontekstual untuk Pembelajaran Kimia Materi Makromolekul sebagai Sumber Belajar Mandiri Peserta Didik Kelas XII SMA/MA*. Skripsi Sarjana. Universitas Negeri Yogyakarta.

Asyhar. (2012). *Kreatif Mengembangkan Media Pembelajaran*. Referensi, Jakarta.

Dalman. (2014). *Menulis Karya Ilmiah*. Rajawali Pers, Jakarta.

Hidayati, N. (2016). Pengembangan Perangkat Pembelajaran IPA Topik Energi Dalam Sistem Kehidupan di Madrasah Tsanawiyah. *JINoP (Jurnal Inovasi Pembelajaran), 2*(2): 389-399.

Irwandi, A. Winarti, and M. Zaini. (2019). Kepraktisan Buku Ilmiah Populer tentang Penyu untuk Siswa SMA Kawasan Pesisir. *Prosiding Seminar Nasional Lingkungan Lahan Basah, Vol. 4, No. 3: 548-554.*

Miles, M. B., and Huberman, A. M. (1994). *Qualitative data analysis: An expanded source book*. Sage, London.

Plomp, T., Nieveen, N., Gustafson, K., Branch, R. M., and van den Akker, J. (2007). An Introduction to Educational Design Research SLO, Netherlands Institute for Curriculum Development. *Proceedings of the Seminar Conducted at the East China Normal University*: Shanghai.

Plomp, T., Nieveen, N., Gustafson, K., Branch, R. M., and van den Akker, J. (1999). *Design Approaches and Tools in Education and Training*. Kluwer Academic Publisher, London.

Rakedzon, T. and 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.

**OPEN ACCESS JOURNAL**
P-ISSN : 2684-9062 | E-ISSN : 2714-9803
**DOI: 10.20527/bino.v3i1.9348**

Schirrmacher, A. (2009). *Communicating Science in 20th Century Europe, A Survey on Pesearch and Comparative Perspectives*. Max-Planck-Institut fur Wissenschaftsgeschicte:Max Planck Institute for the History of Science.

Situmorang, R. P. (2016). Analisis Potensi Lokal untuk Mengembangkan Bahan Ajar Biologi di SMA Negeri 2 Wonosari. *Jurnal Pendidikan Sains Universitas Muhammadiyah Semarang, 4*(1): 51-57.

Suryani, D., Nur. M., and Wasis, W. (2017). Pengembangan Prototipe Perangkat Pembelajaran Fisika SMK Model Inkuiri Terbimbing Materi Cermin untuk Melatihkan Keterampilan Berpikir Kritis. *JPPS: Jurnal Penelitian Pendidikan Sains, 6*(1): 1175-1183.

Tessmer, M. (1998). *Planning and Conducting Formative Evaluations Improving the Quality of Education and Training*. Kogan Page, London.