

Practicality of pamphlet learning media for Arecaceae family

by Mochamad Arief Soendjoto

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Practicality of pamphlet learning media for Arecaceae family

Muhammad Rizki Anwar ^{(1)*}, Mochamad Arief Soendjoto ⁽²⁾, Dharmono ⁽²⁾

⁽¹⁾ SMA Plus Citra Madinatul Ilmi, Citra Graha City, Banjarbaru, South Kalimantan, Indonesia

⁽²⁾ Master Program of Biology Education, Postgraduate Program, Universitas Lambung Mangkurat, Banjarmasin City, South Kalimantan, Indonesia

*Corresponding Author Email: masoendjoto@ulm.ac.id

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Abstract

This android-based learning media which we call the *pamplet* media (short for *Palmae Plant Ethnobotany*) is a means to convey palm plant ethnobotany material. The purpose of this research was to produce a practical *pamplet* media. The palm plants used as learning materials were those found in the Tabanio Forest, Tanah Laut Regency. Three subjects tested the readability with a test instrument in the form of a questionnaire consisting of 18 indicators. For implementation, five observers tested after observing the activities of five subjects with a ten-indicator-questionnaire in order to obtain the implementation of expectations. They did the same to the activities of ten subjects so that the actual implementation was obtained. Student responses were revealed through a ten-indicator questionnaire by five subjects to obtain an expected response and by ten subjects to obtain an actual response. The assessments were carried out with a score which were then converted to a value (%). From the results of the readability test and also the results of the implementation test which were categorized as Very Good and the results of the student responses who Strongly Agree, this *pamplet* media is quite practical to use, especially for learning the ethnobotany of Arecaceae plants.

Abstrak

Media-pembelajaran-berbasis-android yang kami namai media *pamplet* (kependekan dari *Palmae Plant Ethnobotany*) ini merupakan sarana untuk menyampaikan materi etnobotani tumbuhan palma. Tujuan dari penelitian ini adalah untuk menghasilkan media *pamplet* yang praktis. Tumbuhan palma yang dijadikan materi pembelajaran adalah yang ditemukan di Hutan Tabanio, Kabupaten Tanah Laut. Tiga subyek menguji keterbacaan dengan instrumen uji berupa angket yang terdiri atas 18 indikator, Untuk keterlaksanaan, lima observer menguji setelah mengamati aktivitas lima subyek dengan angket (sepuluh indikator) sehingga diperoleh keterlaksanaan harapan. Mereka melakukan hal yang sama terhadap aktivitas sepuluh subyek sehingga diperoleh keterlaksanaan aktual. Respons mahasiswa diungkap melalui angket (sepuluh indikator) oleh lima subyek sehingga diperoleh respons harapan dan oleh sepuluh subyek sehingga diperoleh respons aktual. Penilaian dilakukan dengan skor yang selanjutnya dikonversi ke nilai (%). Dari hasil uji keterbacaan dan juga hasil uji keterlaksanaan yang dikategorikan Sangat Baik serta hasil respons mahasiswa yang Sangat Setuju, media *pamplet* ini tergolong praktis digunakan, khususnya untuk pembelajaran etnobotani tumbuhan Arecaceae.

A. Introduction

The Covid-19 disease has had an impact on the world of education, both directly and indirectly. Initially, all educational activities using the face-to-face learning method were abolished to avoid the spread of disease. However, because this prolonged and uncertain holiday caused the transfer of knowledge to be interrupted and the development of good character to be halted, schools were reopened. Various restrictions and implementation of health protocols were enforced. The learning method was changed from face-to-face to virtual using gadgets or in combination.

Similar to face-to-face, virtual learning method must still be equipped with learning media. Of course, this media must be used as well as possible. This media must provide an opportunity for someone to be able to learn independently anytime, anywhere, and outside of virtual face time. Virtual learning is a good opportunity to ask questions about material that is not clear or not yet understood and for social interaction (greeting, getting to know characters) between educators and students.

Android-based learning media is one of the media that fulfills these requirements because it applies an open source system and makes it easier and provides flexibility for educators (teachers or lecturers) to develop and modify learning materials. Educators do have to be adaptive or adjust to the situation and are required to be creative and innovative. According to Riefani (2019), Septiani et al. (2020), and Aulia et al. (2021), the development of education and learning requires educators to immediately innovate in making interactive learning media, so that subjects and learning objects can be well connected.

On this occasion, we prepared a learning media which we called the *pamplet* media (short for *Palmae Plant Ethnobotany*). We also tested its practicality, so that this android-based media really becomes the right tool to convey the ethnobotany material of palm plants.

B. Material and Method

Eleven plant species were found in Tabanio Forest, Tanah Laut Regency, namely gabang (*Borassus flabellifer*), hanau (*Arenga pinnata*), nipah (*Nypa fruticans*), palm tree (*Cocos nucifera*), habang palm (*Cyrtostachys lace*), yellow palm (*Chrysalidocarpus lutescens*), king palm (*Roystonea regia*), palas (*Licuala spinosa*), areca nut (*Areca catechu*), rattan (*Daemonorops melanochaetes*), and salak (*Salacca zalacca*). Materials related to these eleven species were presented through *pamplet*.

The practicality of this *pamplet* is determined by three parameters, namely readability, implementation, and student response.

- 1) Readability was tested one to one by three subjects.
- 2) The implementation was tested by five observers. Each of these observers assesses the activity of one subject (small group) to obtain the expected implementation value. The observer also assesses the activities of two subjects each (field-test) to get the actual implementation value.
- 3) Student responses consist of expected responses generated from small groups (five subjects) and actual responses generated from field-tests (ten subjects).

Subjects are undergraduate students who have taken Ethnobotany courses. Subjects involved in the one-to-one test were no longer involved in both the small group and field-test. Furthermore, subjects who were already involved in the small group were no longer involved in the field-test.

The readability test instrument is a questionnaire with 18 indicators. The indicator is assessed by the subject with a score of one (if the media is very illegible), two (unreadable), three (readable), or four (very readable). The average score of each indicator is calculated and converted to a value that ranges from 0–100% with the formula 1. The mean value of the 18 indicators is the readability value whose categories are adjusted as shown in Table 1.

$$P = \left(\frac{A}{B}\right) \times 100\% \dots \dots \dots \text{(Formula 1)}$$

In this case, P is the value of each indicator, A: the number of scores obtained by each indicator, B: the maximum number of scores expected for each indicator.

The implementation was tested with a questionnaire consisting of ten statements. The score for each statement is zero (if not implemented) or 1 (if implemented). The average score of each indicator is calculated and converted to a value that ranges from 0–100% with the formula 2.

$$\bar{X} = \left(\frac{\sum X}{n}\right) \times 100\% \dots \dots \dots \text{(Formula 2)}$$

In this case, \bar{X} is the mean value of each statement, x: the number of scores obtained by each statement, n: the number of subjects.

The implementation value is the average of the values of ten statements which are then categorized as in Table 1. If the test is carried out in a small group (five subjects), the resulting value is

the expected implementation value. If the field-test is tested (ten subjects), the result is the actual implementation value.

The instrument for student responses to *pamplet* media is a questionnaire with ten statements. The score for assessing each statement is one (if students strongly disagree), two

(disagree), three (undecided), four (agree), or five (strongly agree). The value of each statement is calculated by Formula 2, while the category is determined according to Table 1. If the test is in a small group, the result is the expected student-response and if the field-test, the result is the actual student-response.

Table 1 Criteria for grades and qualitative categories of readability, implementation, and student responses

Criteria value (%)	Readability or implementability category	Student response category
80,00 - 100	Very good	Strongly agree
60,00 - < 80,00	Well	Agree
40,00 - < 60,00	Pretty good	Disagree
20,00 - < 40,00	Not good	Don't agree

Notes:

a) The range of values according to Ramadhan et al. (2020).

b) The range of values 0-20.00% is intentionally not included in this table. The assumption is that this range is unlikely to be obtained.

C. Results and Discussion

1. Readability of *pamplet* media by students

Eleven of the 18 indicators did not reach a value of 100%, although the value (result) of the *pamplet* media readability test was qualitatively included in the Very Good category (Table 2). Of the eleven, two indicators scored the lowest, namely the type and size of letters, numbers, and characters, the spacing between sentences, and the presentation of material on *pamplet* media. For the record, the full term for letters, numbers, and characters in computing is font. This condition shows that in order to achieve a perfect score related to the readability of this *pamplet*, most of the aspects reflected by the indicators still need to be revised. Two of these indicators are classified as priority revisions.

Priority is for the following reasons. The first impression of a message conveyed by *pamplet* media is embedded in the reader's mind for a long time through a series of processes. First, the type and size of letters, numbers, and characters are messages that are first captured by the senses of sight from the media in general or the *pamplet* media in particular. Neat type and size and in accordance with expectations make the reader get a positive impression and feel comfortable reading. Second, the positive impression of the media increases when the eye also catches the neatness or order that is reflected by the space (distance) between words and the distance between sentences. Third, the impression is then embedded or imprinted in the mind when the message conveyed through the sentence has meaning and is easy to understand.

This statement is supported by Sekarlaranti & Junaedi (2013) who argue that consumer perceptions of product packaging are stimulated by color, typography, graphic forms, and images. For high-end, elegant, and high-quality products, for example, the colors needed tend to be dark with the dominance of blue, red, and black. The typography is capitalized, bold, and has a tenuous character with large font sizes. The graphic form is a vertical line, a circle with a symmetrical composition of elements. The picture is an illustration.

According to Sihombing (2001), the principles applied in typography are the quality or level of density of letters (legibility), spacing or size between letters (readability), reading distance between letters and readers (visibility), and the level of clarity/ease of words or sentences to be understood (clarity). Pradika et al. (2020) argue that typography serves to make text useful and easy to use.

Illustration is an image formation that is represented visually to clarify information, ideas, and concepts (Witabora, 2012). Illustrations are widely used in learning materials and media because they function as a means of supporting a story and making the story come alive. In addition, illustrations can be used to fill empty spaces that can appear in a media due to incorrect, inappropriate, or unaccounted for layout settings. According to Riefani (2019) and Riefani et al. (2020), examples, illustrations, and original colored pictures are needed in presenting a topic or subject in teaching materials because they can motivate, grow interest, strengthen memory, and increase students' knowledge, especially critical thinking skills.

Related to words or sentences that are easy to understand, students suggest that this *pamplet* media should be equipped with a glossary. From the glossary, students really hope that it will be easy to understand the meaning or definition of terms that have never been heard or understood before, moreover, *pamplet* is made to facilitate independent learning. Language Development and

Development Agency, The Ministry of Education and Culture (2021) defines a glossary as a dictionary in concise form or a list of words with explanations in certain fields. According to Susanti (2016), a glossary is an alphabetically arranged list of terms and their definitions in certain knowledge domains.

Table 2 The score and value of each indicator as well as the readability value

No.	Readability indicator	Students			Value (%)
		1	2	3	
1	The initial appearance of the main menu is attractive	4	4	4	100,00
2	The layout (actions/buttons, text, images, and animations) is orderly so that the sequence of learning materials flows	4	4	4	100,00
3	The <i>pamplet</i> media background design has an appropriate color composition that does not interfere with reading material and observing images	4	4	4	83,33
4	The type and size of letters, numbers, and characters as well as the spacing between sentences are appropriate so that they are clearly legible	3	3	3	75,00
5	Buttons are easy to recognize and easy to operate	4	3	4	91,67
6	The color combination in the <i>pamplet</i> media is just right	3	4	4	91,67
7	Images are clear and support learning materials	3	3	4	83,33
8	The layout of the template is interesting and helps me understand the material	4	4	3	91,67
9	There is enrichment material on the <i>pamplet</i> media	4	4	4	100,00
10	There is a learning objective in the <i>pamplet</i> media	4	4	4	100,00
11	Instructions for using <i>pamplet</i> media are clear and helpful	4	4	4	100,00
12	The language used is communicative, making it easier to understand and deliver messages	3	3	4	83,33
13	The presentation of the material is good and easy to understand	3	3	3	75,00
14	The composition of the material presented is coherent	4	4	3	91,67
15	Instructions for working on questions are clear and understandable	4	4	4	100,00
16	Evaluation questions are easy to understand	3	4	3	83,33
17	There is feedback that helps the discovery of the correct concept.	4	3	4	91,67
18	The material in this <i>pamplet</i> is motivating to learn	4	4	4	100,00
Readability value (%)		92,13			
Category		Very Good			

2. Implementation of the use of *pamplet* media

The value of one of the 10 indicators, which provides opportunities or guides observation and recording, decreased from 100% on expected implementation to 90% on actual implementation (Table 3). The cause of this decline can be seen from two sides. The observer considers a subject not to carry out activities according to the guidelines. The other side is that the subject focuses on the material and evaluation questions that have been printed on paper, thus ignoring the *pamplet* media as a practical guide.

The decline in the value of the indicator did affect the average value of all indicators quantitatively. The increase in the value from the expected implementation to the actual implementation is not high enough to be a perfect score of 100%. Although the increase was only 3%,

the value of the implementation qualitatively, both expected and actual, was still in the Very Good category. In other words, based on both quantitative and qualitative values, this *pamplet* is practical.

This *pamplet* media has a positive value. This media serves to explore, generate, facilitate, and continue to develop critical thinking skills. The ability to think critically has actually been owned by a person since childhood, but it is his parents who then make that ability weaken or even die. Febrianti et al. (2021) and Frasandy & Anggraini (2021) argue that learning media contributes to improving critical thinking skills. Agnafia (2019) adds that one of the factors causing the lack of critical thinking skills in students (in this case students or students) is the lack of learning that empowers critical thinking skills. According to

Santi et al. (2018), to develop these abilities, exercises related to asking questions, making assumptions, identifying information, making inferences, and identifying impacts must be carried out or reproduced frequently. Jannah & Atmojo

(2022), Munawarah et al. (2018) and Nuryanti et al. (2018) states that critical thinking skills are needed to help someone, both in their personal capacity and social capacity (in society) to face various daily problems and determine the right solution.

Table 3 Expected and actual implementation value

No.	Statements	Implementation (%)	
		Expected	Actual
1	Read carefully the instructions for use and the introduction to the <i>pamplet</i> media, so that you can find out the contents of the media, the benefits obtained, and how to operate this media.	100,00	100,00
2	Operate with this <i>pamplet</i> media trace, from start menu to pre-test work in this media	80,00	90,00
3	Easily find words that are difficult to understand or are newly known related to Areaceae family material.	60,00	80,00
4	Helping the arrangement of important words/sentences, attracting attention, and I don't understand.	100,00	100,00
5	Read carefully the contents of the Areaceae family material in the <i>pamplet</i> media.	80,00	80,00
6	Discuss in a warm atmosphere the material on <i>pamplet</i> media, so that the material is easier to understand.	100,00	100,00
7	Allows <i>pamplet</i> media to provide opportunities or guide observations around and record them	100,00	90,00
8	Using <i>pamplet</i> media makes it easier to classify the use of the Areaceae family when observing or observing	80,00	90,00
9	Doing seriously and systematically the tasks in the available Practicum Guide.	100,00	100,00
10	Asking various things or materials that I do not understand to the lecturer.	100,00	100,00
Implementation value (%)		90,00	93,00
Category		Very Good	

3. Student responses to *pamplet* media

Only one of the ten indicators scored 100%, which is an indicator related to the ease of using the menu button. The other nine indicators have values of 92% on the expected response or 98% on the actual response (Table 4).

The perfect score shows that students are actually already used to using gadgets, so they are very familiar with the use of the menu button. The experiences teach students to always pay attention to the menu button because this button guides them to choose. If the choice does not match or the menu button does not work, the student can return to the original choice or previous choice. There is no risk when students do have to return.

Second, after pressing the menu button and selecting, the student gets a choice. Even though this choice contains statements or information that are not in accordance with their expectations, desires or needs, students continue to press the option button until it is finished and do not care whether this student likes or dislikes the choice. For students, learning through *pamplet* is an obligation that must be followed. Not surprisingly,

the increase in value can be considered insignificant (only 0.60%) from the expected response to the actual response even though both responses are qualitatively categorized as Strongly Agree.

It is not easy to meet the wants or needs of many individuals. Each individual has different or unique characteristics (Pamungkas & Alfian, 2018; Wahidah, 2019; Turhusna & Solatun, 2020), so that what they want or need is also different. Therefore, certain strategies must be applied so that the learning materials delivered through *pamplet* media are equally liked and of course have the same place in the heart or soul of each individual.

Strategies related to language, for example. The use of words or terms in biology that have been included in the Big Indonesian Dictionary or biology glossary from official institutions must be cultivated. *Gelugu* is used to refer to the trunk of a chopped coconut tree, *janur* for (young) coconut leaves, *belarak* for dry coconut leaves, *mayang* for palm flower cobs, *manggar* for the base of the palm midrib, *pedet* for calve, and *belo* for foal that are less than one year old. There are many more

biological words that come from local languages whose use can be utilized.

Another strategy is the use of illustrations. Illustrations can be in the form of graphs, tables, flow charts, pictures, and photos which of course correspond to a general theme or a particular

theme (topic material) that is conveyed through the media. Pratama & Yasa (2020) argue that illustrations not only clarify messages or information, but also make teaching materials interesting, motivating, communicative, and easy to understand.

Table 4 Student responses to the media pamphlet

No.	Statements	Response (%)	
		Expected	Actual
1	I am motivated to study seriously with this medium.	92,00	92,00
2	I can learn actively and independently with this medium.	92,00	92,00
3	I can easily understand the material presented.	92,00	92,00
4	I got additional material, especially the use of <i>Arecaceae</i> plant species	92,00	84,00
5	I can classify the uses of various <i>Arecaceae</i> plant species	84,00	90,00
6	I can easily read the text in this <i>pamphlet</i> because the type and size of letters, numbers, and characters are selected correctly.	92,00	92,00
7	I like the overall look because this learning media uses an appropriate color composition.	92,00	98,00
8	I can understand the material with the help of good quality pictures.	92,00	94,00
9	I can study according to my own learning needs.	88,00	88,00
10	I can use the menu button on the media easily.	100,00	100,00
Student response value (%)		91,60	92,20
Category		Strongly Agree	

D. Conclusion

Based on the results of the readability test and the results of the implementation test which were categorized as Very Good and the results of the student responses who Strongly Agree, this *pamphlet* media is quite practical to use in ethnobotany learning, especially those related to *Arecaceae* family plants. However, its effectiveness still needs to be tested so that this media is truly categorized as feasible.

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Address:

Jl. Brigjend. H. Hasan Basry Banjarmasin; Telp. & Fax. : (0511-306488);
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