

Expert Validation of The Plant Herbarium Collection Based on Local Wisdom of Sepasaran Bayi

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ABSTRACT

The purpose of this study was to describe the results of the validation of herbarium experts and learning media experts on the herbarium collection of plants used in the traditional ceremony of Sepasaran Bayi in the Jombang Regency. This research is development research that refers to the R&D (Research and Development) model. The R&D model has ten stages, but only the first five stages were used in this study. The procedures carried out include: 1) potential and problems, 2) data collection, 3) product design, 4) design validation, and 5) design improvement. The potential and problem stages were carried out to collect information related to the potential of the Sepasaran Baby traditional ceremony in the Jombang Regency. The data collection stage was carried out to collect data on the types of plants used in the traditional ceremony through interviews with resource persons. The instrument is an interview guide. The third stage is the preparation of the herbarium design. The fourth stage is design validation by involving one herbarium expert and one learning media expert. The instrument used is a validation sheet. The fifth stage is design improvement, namely the improvement of the herbarium based on the assessment and suggestions of the two validators. Data analysis was done descriptively. The results showed that the herbarium was declared quite feasible by the herbarium expert with a percentage of 80.00% while the results of the validation of the learning media experts showed that the herbarium was declared very feasible with a percentage of 95.00%.

Keywords: *herbarium, expert validation, traditional ceremonies, Sepasaran Bayi.*

INTRODUCTION

Local wisdom is all forms of wisdom based on good values that are believed implemented, and continuously maintained from generation to generation by people in certain areas (Njatrijani, 2018). There are many types of local wisdom, including traditional ceremonies performed to mark important events in people's lives. In the Jombang Regency area, various types of traditional ceremonies are still carried out by the community, one of which is the Sepasaran Bayi traditional ceremony. This traditional ceremony is carried out by the family on the fifth day after the birth of the baby. The traditional ceremony of Sepasaran Bayi is usually packaged in a joint prayer event called a feast (Widyaningrum & Tantor, 2017); (Meishanti et al, 2021). The meaning of this traditional ceremony is to pray for the safety and well-being of the newborn.

The results of interviews conducted in February 2021 with four resource persons who understand the Sepasaran Bayi traditional ceremony in the Jombang Regency show that the main thing that characterizes the traditional ceremony is the food menu given to the feast guests. The food menu served in the traditional ceremony at the Sepasaran Bayi in Jombang Regency, in general, is tumpeng rice with urap-urap side dishes, fried chili sauce, and processed coconut milk chicken with the addition of tofu and tempeh. Another complementary menu is a traditional cake called iwel-iwel and usually added bananas. Most of the ingredients are used to make the menu plants. Several types of plants are used as the main ingredients, spices, and complementary materials. The types of plants used in the traditional ceremony of Sepasaran Bayi in the Jombang Regency are all members of Angiospermae, namely plants with closed seeds. This is a potential for the development of biology learning media, especially for Kingdom Plantae material.

The form of learning media that can be developed to assist students in studying the Kingdom Plantae material is a herbarium (Sholihah & Prihatiningtyas, 2020). The herbarium has several advantages as a learning medium, namely helping to identify plants through observation of plant morphological structures, easy to use, economical, and easy to carry (Dikrullah et al., 2018); (Meishanti et al, 2020). The development of a plant herbarium collection used in the traditional ceremony of Sepasaran Bayi in Jombang Regency has never been carried out, so the researchers conducted this development research. In addition, this development research is expected to provide education to the younger generation about local wisdom that exists in the community and its relation to the subject matter. This study aims to describe the results of the validation of herbarium experts and learning media experts on the herbarium collection of plants used in the traditional ceremony of Sepasaran Bayi in the Jombang Regency.

METHOD

This type of research is development research that refers to the R & D (Research and Development) model. The R & D model is used to develop and validate products used in education and learning (Sugiyono, 2018). The product developed in this study is a collection of plant herbariums used in the traditional ceremony of Sepasaran Bayi in the Jombang Regency. This product can be used as a learning medium for Kingdom Plantae material. The steps in the R&D model consist of ten stages, but in this study, it was only limited to the first 5 stages. The five stages are potential and problems, information gathering, product design, design validation, and design revision. The instruments used in this study were interview guides and validation sheets. The interview guide was used to collect information about the traditional ceremony of Sepasaran Bayi in the Jombang Regency and the types of plants used in the traditional ceremony. The validation sheet was used to assess the feasibility of the herbarium collection developed based on the validation of herbarium experts and learning media experts. The assessment aspects in the validation sheet are adjusted to the expertise of each validator. The data obtained were then tabulated and analyzed descriptively. The validation score is calculated using a formula to obtain a feasibility value, then interpreted based on the criteria in Table 1. The following formula is used to measure the score from the media expert and herbarium expert validation:

$$value = \frac{\sum \text{total score obtained by the validator}}{\sum \text{max total score}} \times 100$$

Table 1. Product Eligibility Criteria

Value	Answer	Descriptions
81 – 100	So worth it	The product can be used
61 – 80	Worth it	The product can be used with minor revisions
41 – 60	Quite decent	The product can be used with moderate revision
21 – 40	Not worth it	The product can be used with
0 – 20	Not feasible	Produk tidak dapat digunakan

(Sumber: (Dahlia, 2020))

RESULT AND DISCUSSION

Result

The results of the herbarium expert validation showed that the herbarium collection developed obtained a score of 80 with appropriate criteria based on the results (Table 2). The highest score given by the herbarium expert validator is 5, while the lowest score given is 3. A total of three aspects of the assessment get a score of 5, seven aspects of the assessment get a score of 4, and three aspects of the assessment get a score of 3. The suggestions given by the herbarium expert are about the addition of plant names in Indonesian on the herbarium label, making it more informative for users. In addition, specimens that have not yet displayed complete vegetative and reproductive organs also need to be completed.

Table 2. The results of the herbarium expert validation

No	Assessment Aspect	Score				
		5	4	3	2	1
1.	Plant specimens in the developed herbarium are clean (no dirt and/or fungus).	√				

No	Assessment Aspect	Score				
		5	4	3	2	1
2.	Plant specimens in a plant herbarium developed in good condition (no defective organs)	√				
3.	Plant specimens in the developed herbarium display vegetative organs (roots, stems, and/or leaves.			√		
4.	Plant specimens in developed herbariums displaying reproductive organs (flowers, fruit, and/or seeds)			√		
5.	The attached specimen label contains information regarding the identity of the plants used in the herbarium			√		
6.	Writing the scientific name of the plant on the specimen label exactly according to the applicable regulations (italics)	√				
7.	The size of the plant specimens used is proportional to the size of the paper attached		√			
8.	Putting plant specimens on a neat paper		√			
9.	Placing plant specimens on paper shows good morphological characteristic		√			
10.	Specimen label placement is precise so that it is easy to read.	√				
11.	The appearance of the herbarium used is attractive		√			
12.	The herbarium developed allows it to be used as a learning medium in morphological structure material.		√			
13.	The shelf life of the herbarium is quite good		√			
Total score		15	28	9	0	0
Jumlah Score total		52				
Value		80				
Criteria		Worth it				

Table 3. The results of the validation of learning media experts

No	Statements about the developed media	Skor				
		5	4	3	2	1
1	The suitability of the media with the purpose of learning "describes the morphological structure of plants"	√				
2	The morphological structure of plants"		√			
3	The developed plant herbarium can be used as a learning medium for class X students		√			
4	The developed herbarium can be used as a learning resource for seed plant material	√				
5	The developed herbarium can attract the attention of students	√				
6	The developed herbarium can be used as a tool to understand the concept of plant morphological structure	√				
7	The herbarium developed can be used as a tool to remember the concept of plant morphological structure	√				
8	The developed herbarium can be used as a tool for retention (repetition) of the concept of plant morphology structure	√				
9	The developed herbarium can be used as an effort to provide feedback in learning	√				
10	Herbarium developed by the learning environment of students (classroom learning)		√			
11	The Herbarium developed is easy to use in learning activities	√				
12	The developed herbarium can increase the efficiency of learning time	√				
13	The developed herbarium can be relatively economical in its procurement	√				
14	The developed herbarium has a good look		√			
15	The herbarium developed is safe for students	√				
16	A developed herbarium is easy to store	√				
Score total		60	16	0	0	0
Jumlah Score Total		76				
Value		95				
Criteria		Very Worth it				

Discussion

In table 2 the cleanliness of the herbarium specimens scored 5 because the researchers had cleaned the plant organs used as specimens with clean water and alcohol. This is by the procedure for making herbarium according to Mertha et al., (2018), namely that specimens that have been clean and dry are given a preservative in the form of alcohol. The writing of the scientific name of the plant in the herbarium label also received a score of 5 because it had followed the rules of writing the scientific name of the Binomial Nomenclature. Scientific names of plants are written in two words with capital letters at the beginning of the first word, and italicized (Tjitrosoepomo, 2005). The placement of the specimen label also received a score of 5 because it was precise so it was easy to read. The specimen label is an important part of the herbarium which provides information about the plant specimens that make up the herbarium (Tjitrosoepomo, 2005).

The completeness of plant organs displayed in the herbarium got a score of 3 because not all specimens displayed complete vegetative and reproductive organs. This is because several plant specimens are large enough that they cannot be completely attached to one page of A3 size paper which is the specification for the herbarium. Attaching herbarium specimens should pay attention to the neatness and layout of plants to clarify the object of the plant to be studied, to anticipate some organs that cannot be attached intact, by taking photos of the organs of each plant, this is in Sulistyarsi's opinion in Marlina, (2016). Some plant specimens also cannot display reproductive organs because at the time of making the herbarium they have not yet entered the flowering or fruiting period. The completeness of plant organs displayed in herbarium specimens is something that needs to be considered to provide complete information to users (Syamsiah et al., 2020). The component in the specimen label got a score of 3 because it did not include the name of the plant in Indonesian. This has been corrected by researchers by adding plant names in Indonesian according to suggestions from the validator. Plant names in the national language need to be included to provide easy identification for users who live in countries that use the national language (Husain et al., 2019). The results of the expert validation of learning media show a value of 95 with very feasible criteria (Table 3). The learning media expert validator gave the highest score of 5 and the lowest 4. A total of four aspects of the assessment received a score of 4, while the other 12 aspects of the assessment received a score of 5.

The learning media expert validator gave a score of 4 for the assessment aspect about the potential of the herbarium collection developed to be a learning medium for class X students. This is because the developed herbarium displays the morphological structure of plants which is one of the biology teaching materials for class X. Basic eye competencies Class X biology lessons related to plant morphological structure material are 3.8 classifying plants into divisions based on general characteristics, and linking their roles in life. The next aspect of the assessment that gets a score of 4 is the potency of the herbarium to be a learning medium for seed plants. This is because the plant species used as herbarium specimens are only closed seed plants, while the seed plant group consists of closed seed plants and open seed plants (Hartono et al., 2020). Examples of open seed plants are not presented in the herbarium collection developed because not used in the traditional ceremony of the Baby Market in Jombang Regency.

The suitability of the herbarium developed with the learning environment in the classroom got a score of 4 from the validator. The use of herbarium as a learning medium in the classroom learning process can save time for studying plant diversity (Sidabutar et al., 2019). The developed herbarium can be used in the learning process in the classroom to increase students' learning motivation. This is by the results of research by (Afifah et al., 2019) which revealed that the learning media of plant specimens can motivate and improve students' memory. The appearance aspect of the herbarium got a score of 4 from the validator because there were some specimens with mildly moldy conditions. The herbarium specimens can be overgrown with fungi due to errors in the drying and storage processes (Asra et al., 2019). This has been corrected by researchers by cleaning moldy specimens and replacing them with new specimens for specimens that have been damaged.

CONCLUSIONS

The collection of plant herbarium used in the traditional ceremony of Sepasaran Bayi in Jombang Regency, which was developed in this study can be used as a medium for learning biology. This is evidenced by the validation results from herbarium experts and learning media experts. The results of the herbarium expert validation showed a value of 80 with proper criteria and the results of the validation of the learning media experts showed a value of 95 with very feasible criteria.

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