Expert Validation of the Herbarium Collection Based on Selapanan Bayi Traditional Ceremony

Vivi Haryani[1], Mucharommah Sartika Ami[2*]
[1,2]Biology Education, Universitas KH. A. Wahab Hasbullah
[*]Email: msartika@unwaha.ac.id

ABSTRACT

The integration of local wisdom, especially the Selapanan Bayi traditional ceremony, in the development of biology learning media has never been done. Through this research, biology learning media was developed in the form of a herbarium collection with plant specimens used were the types of plants used in the Selapanan Bayi traditional ceremony in Jombang Regency. The purpose of this study was to determine the results of the validation of herbarium expert and learning media expert on the products developed. This research is a type of research and development that refers to the R&D model, which consists of 10 stages. Only the first five stages were carried out in this study namely potential and problems, data collection, product design, design validation, and design revision. The instruments used were interview guide, herbarium expert validation sheet, and learning media expert validation sheet. The collected data were analyzed descriptively. The results of the herbarium expert's validation of the developed product showed a value of 80 with the criteria quite feasible. As for the results of the expert validation of learning media, it shows a value of 95 with very feasible criteria. This indicates that the herbarium collection developed can be used as a biology learning media, especially for Plantae Kingdom material.

Keywords: Herbarium; Selapanan Bayi; Learning Media.

INTRODUCTION

The Javanese comunity is one of the people who still uphold the traditional values inherited by their ancestors. The traditions carried out are always related to the human life cycle, such as birth, marriage, and death (Hartika, 2016). The traditional birth ceremony consists of several stages, starting from the time the baby is in the womb until the baby begins to walk. One of the series of traditional ceremonies is the Selapanan Bayi. This traditional ceremony has the meaning of gratitude to God for the birth of the baby, and is carried out when the baby is 35 days old (Widyaningrum, 2017). The people in Jombang Regency, most of whom are Javanese, still preserve and carry out this traditional ceremony.

The results of interviews conducted with four informants in February 2021, revealed that there are various types of plants used in the Selapanan Bayi traditional ceremony. There are about 18 types of plants that are used as ingredients for cooking, spices, and offerings in the Selapanan Bayi traditional ceremony in Jombang Regency. These plant species belong to the Angiosperm group. This is a potential to be developed as a biology learning media, especially for Plantae Kingdom material. The form of learning media that can be developed is a herbarium. Herbarium is a dry preservation of plants attached to paper and equipped with a specimen information label (Ardiansyah & Meishanti, 2021). Herbarium can be a biology learning media because it displays the morphological structure of plants and is known to increase students' learning motivation (Mualimaturrochmah et al., 2020).

The development of a plant herbarium used in the Selapanan Bayi traditional ceremony in Jombang Regency has never been carried out (Sholihah & Prihatiningtyas, 2020). The researchers developed the herbarium collection of these plants through this research. The content of local wisdom in the Selapanan Bayi traditional ceremony can be integrated in the development of this herbarium. This integration is expected to provide insight for the younger generation about their local culture so that they are better

known and loved. The development of a learning media product needs to go through the expert validation stage (Ami & Yuliana, 2021). The purpose of this study was to determine the results of the validation of herbarium expert and learning media expert on the herbarium collection developed.

METHOD

This research is a type of research and development that refers to the R&D model which consists of 10 stages (Sugiyono, 2019). In this study, only the first five stages were carried out, namely potential and problems, data collection, product design, design validation, and design revision. The research instruments used were interview guide and validation sheets. Interview guide was used to collect data on the types of plants used in the Selapanan Bayi traditional ceremony in Jombang Regency. There were four informants who were selected based on their expertise in the field of traditional ceremonies. The validation sheets was used to determine the assessment of herbarium expert and learning media expert on the herbarium products developed. The assessment aspects in the validation sheets are adjusted to the expertise of each validator. The score of the validation results was calculated the average value and interpreted based on the criteria in Table 1 to determine the feasibility of the product being developed. The data collected were analyzed descriptively (Riduwan, 2019).

Table 1. Product Feasibility Criteria

Value Range	Criteria	Information
85,01 – 100,00	very feasible	product can be used without revision
70,01 – 85,00	quite feasible	product can be used with slightly revision
50,01 – 70,00	less feasible	product can be used after many revisions
1,00 – 50,00	not feasible	product can't be used

RESULT AND DISCUSSION

The product developed through this research is in the form of a herbarium collection. The types of plants used in the manufacture of the herbarium are the types of plants used in the Selapanan Bayi traditional ceremony in Jombang Regency. There are 18 plant species used, including: *Oryza sativa*, *Vigna sinensis*, *Amaranthus* sp., *Ipomoea aquatica*, *Cocos nucifera*, *Artocarpus camansi*, *Carica papaya*, *Glycine max*, *Cosmos caudatus*, *Vigna radiata*, *Rosa* sp., *Jasminum sambac*, *Magnolia alba*, *Cananga odorata*, *Musa paradisiaca*, *Capsicum anuum*, *Allium ascalonicum*, and *Saccharum officinarum*. The herbarium collection that has been made is then validated by herbarium expert and learning media expert. Table 2 shows a summary of the validation results from the two validators.

Result

Table 2. Summary of Validation Results

Validator	Total of Assessment Aspect	Total Score	Average	Criteria
Herbarium expert	13	52	80	Quite feasible
Learning media expert	16	76	95	Very feasible

The validation sheet used by herbarium expert contains 13 aspects of the assessment, while the validation sheet for learning media expert contains 16 aspects of the assessment. Scores for each aspect of the assessment range from 1 to 5. A score of 1 is the lowest score and a score of 5 is the highest score. The total score obtained from the herbarium expert was 52 so that if the average was calculated, it obtained a score of 80 with the criteria quite feasible. Of the 13 aspects of the assessment, there are 3 aspects with a score of 3, 7 aspects with a score of 4, and 3 aspects with a score of 5. As for the results of the validation of the learning media expert, the total score is 76 with an average of 95 and the criteria are very feasible. Among the 16 aspects of assessment for learning media expert, there are 4 aspects with a score of 4 and the other 12 aspects get a score of 5.

Discussion

The making of the herbarium begins with cleaning the plant specimens to be preserved. The cleaning process can be done by washing with the clean running water and can also be added by spraying 70% alcohol on the specimen. This is done to prevent rot or mold growth on the specimen (Primawati et al., 2021). This step has been carried out so that the herbarium expert validator gives a score of 5 for the condition of the herbarium specimen. The herbarium expert validator also gave a score of 5 for writing the scientific name of the plant in the specimen label and placing the specimen label. The scientific name

of the plant in the specimen label has followed the rules of writing the nomenclature of Binomial Nomenclature, which is written in two words and italicized (Sumardi et al., 2020). Specimen labels are an important component of herbarium collections, as they serve as a source of information about the type of plant being preserved (Syamsiah et al., 2020). The placement of the specimen label on the herbarium collection must be proportional to the location of the plant specimen so that it is easily read by the user. The specimen label in this developed herbarium collection is placed on a blank part of the paper so that it does not cover or be covered by plant specimens.

The herbarium expert validator gave a score of 3 for the aspect of completeness of the organs displayed in the herbarium collection. This is because some plant specimens do not display vegetative or reproductive organs completely. Completeness of plant organs in herbarium specimens is an important component to display. Complete organs will provide complete information about the morphological structure of preserved plants (Afifah et al., 2017). Some herbarium specimens that were developed could not display the complete organ because it was not yet time for flowering or fruiting. Herbarium expert suggest to complete the specimen label with the name of the plant in Indonesian to make it more informative for the users. This is the reason the herbarium expert gave a score of 3 for the aspect of completeness of information in the specimen label. Local names of plants need to be included to provide information about the mention of plants in their area of origin (Jannah & Safnowandi, 2018). Suggestion from this validator has been carried out by researchers at the revision stage.

Learning media expert validator gave an assessment with a very high average, as much as 75% of all aspects received a score of 5. As for the aspects that got a score of 4 were aspects about the potential of herbarium collection as learning media for class X students, as a learning resource for Spermatophyta material, its suitability for use in classroom learning, and the appearance of the specimen. The herbarium is an example of an original learning media for biology subjects, and is suitable for use in learning activities that discuss the structure and diversity of plants (Marlina et al., 2016). The herbarium can be used as a learning media for class X students because it is in accordance with one of the basic biology competencies for class X according to the 2013 curriculum. All of the plant species used as herbarium specimens are from the Angiosperm group, so the validator suggests adding specimens from the Gymnosperm group. This suggestion cannot be carried out because the Selapanan Bayi traditional ceremony which is the basis for selecting plant species in this study does not use plant species from the Gymnosperm group.

The appearance of some herbarium specimens during the validation process by learning media expert looked black, so the score given by the validator was not optimal. This happens because there is a possibility that the specimen will rot due to the poor drying process (Muflihaini, 2017). Validator recommend replacing the rotten specimens. This has been done in the revision stage. The herbarium can be used as a learning media to increase students' learning motivation so that learning outcomes can also increase (Asra et al., 2019). The development of a quality herbarium must be carried out properly so that it can become an ideal learning media for biology learning activities.

CONCLUSION

The herbarium expert gave a score of 80 for the developed herbarium collection, so the criteria obtained were quite feasible. This makes the herbarium collection need a little revision to be used as a learning media. The learning media expert gave a score of 95 for the product developed, so the criteria were very feasible. This makes the developed product can be used as a learning media without revision. The revision of the developed herbarium collection was carried out based on suggestions from the validators.

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