BIO-LINGUISTICS ACQUISITION OF BALINESE MEDICINAL PLANTS BY BIOLOGY STUDENTS

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ABSTRACT

Plants are the closest nature of human life. People basically cannot live well without plants, therefore generally people have some knowledge about plants which are familiar with their daily life. This study was intended to analyze the bio-linguistics acquisition of Balinese medicinal plants by biology students. Medicinal plants are not something new for the community but they are included in their local wisdom. This study revealed that the benefits of medicinal properties for health have been known and used by the community widely. Furthermore, the present study also revealed that Biology students have sufficient knowledge of linguistic terminology on Balinese medicinal plants. Therefore further learning processes should be intensified to enhance their comprehension of the Balinese medicinal plants.

Keywords: Bio-linguistics, Acquisition, Medicinal Plants

Introduction

Medicinal plants have known to have some beneficial advantages in keeping the community in good health. Treatment using medicinal plants has been happening for years. Traditionally using plants for the sake of curing some illnesses among the Balinese society is a part of daily routine. All Indonesian cooking ingredients mostly have some kind of medicinal properties. Therefore, it can be said that the use of medicinal plants become a natural way of Balinese life.

Balinese people have long known and used medicinal plants as an effort to naturally overcome health problems. Most of their knowledge about medicinal plants based on experience and skills that have been passed down from generation to generation (Adiputra, 2011). The use of natural remedies as a traditional medicine in Bali has been carried out by their ancestors for centuries. The use of traditional medicine in general is considered safer than the use of modern medicine as they believed in chemical-free medicine. Consequently, various types of family medicinal gardens were established in order the plants can easily found (Sujarwo, et al. 2015).

Bali is one island in Indonesia that has many types of family medicinal plants. Their uses however are not yet all known exactly (Adiputra, 2018). Most Balinese plants are discussed in the Balinese palm leaves book which is known as 'lontar'. In some areas of Bali, the books are considered too sacred in which only certain people are allowed to read them. Moreover, the books are written in Balinese manuscripts which are different than roman manuscripts. This added to the difficulty in understanding the content of the manuscripts. There are not many younger generation can read the books properly due to the lack of knowledge of Balinese writing.

Although there is some *lontar* (Balinese palm books) have translated, however, there is still a lack of interest for young Balinese to read them. This phenomenon has occurred for a while. In terms of linguistics, the Balinese books have many linguistics features that should be comprehended by all Balinese for the sake of their better life. Moreover, many Balinese books containing knowledge about medicinal plants, consequently, they are rich in bio-linguistics features. Most of the plants are still growing in Bali. Therefore, this study would provide some insight into young Balinese knowledge of Balinese bio-linguistics medicinal plants. This is because medicinal plants are not merely for medicinal purpose but they may attract people to see and eventually as a part of the tourism industry (Sutomo, 2007)

Along with the development of modern medicine, the knowledge of local wisdom, especially about medicinal plants has begun to

fade. At present, the use of traditional medicines has not been widely practiced by the people in Bali, especially among the town community. Yet as we know today many medicinal products use herbal ingredients or come from nature and are pegged at a high price. Advances in modern technology and culture have led to a decline in knowledge of local knowledge of medicinal plants, especially among young people (Mitra, et al. 2007). An instant lifestyle makes local knowledge of medicinal plants considered not very important because it is considered impractical. As a result, medicinal plant resources are soon no longer preserved and well maintained. The loss of these values causes problems namely morals, ethics, health, and the environment. This is because there is no balance between technological progress and local knowledge. People should have sufficient knowledge about medicinal plants because they are very useful for our health (Nurrani 2013)

The problems that have been raised certainly cannot be separated from the lack of education on local wisdom about medicinal plants. One of the causes of the decline in knowledge of local knowledge of medicinal plants is the lack of early recognition of medicinal plants in educational institutions that should start from basic education. This problem is supported by the lack of facilities for students who live in village areas to become obstacles to get closer and get to know the environment. Unlike students who live in rural areas where the surrounding environment is still fairly natural. Students who live in villages have more opportunities to get closer and get to know the environment than students who live in town (Rachmi, 2014).

Although students have more opportunities to get to know the environment, it is possible that the knowledge of local wisdom about medicinal will be lost if not maintained. Likewise, with students who live in the village, local wisdom knowledge of medicinal plants is important to maintain because, with local knowledge, students will appreciate the environment more and learn to use and preserve existing resources. These problems become a challenge for educators, especially in the field of biology education. As the curriculum develops, the curriculum emphasizes educators to take an environmental approach, so students are able to apply what they have learned to their daily lives.

Based on this background, this study is considered important because the knowledge about local medicinal should be enhanced (Yulianto, 2016). Moreover, we all know that the role of education is very important in maintaining local knowledge of knowledge in students. As prospective teachers, we must apply the importance of local wisdom knowledge to students. Knowledge of local wisdom, especially medicinal plants, can raise student awareness to preserve their environment, besides learning will be more interpreted because students will apply it in their daily lives. It is necessary to analyze to determine the condition of knowledge of local knowledge of medicinal plants in current students.

Research Method
This study would be dealt with uncovering the biolinguistics acquisition of Balinese medicinal plants by biology students used an ex post facto research design with descriptive analysis. The ex post facto research design was used in this study because the bio-linguistics acquisition of Balinese medicinal plants by biology pre-service teachers as the research variable had already taken place before the undertaking of this study. Moreover, the Pre-service teachers had learned the names of plants since they pursued the study program. The data were collected by utilizing a valid and reliable instrument in the form of productive essay tests in which are asked to mention and describe their knowledge about Balinese Medicinal plants.

Finding And Discussion
Medicinal plants or medicinal trees are all types of plants that are known to contain beneficial and nutritious compounds to prevent, alleviate or cure a disease. Utilization of plants as an herbal medicine has been done since along time ago. In ancient times humans were very dependent on plants that are known to have an effect as a drug to treat various types of diseases in humans. In Bali, our ancestors have long used certain plants as medicine. Hundreds of types of medicinal plants there are many around us, maybe even we are very familiar with the plants. But many of us do not know the benefits and benefits of treatment.

In order to bring the medicinal plants closer to daily life, the Balinese, various types

of family medicine garden are built which add knowledge about the plants and create a better public health. Bali is one island that has hundreds of types of medicinal plants that are not yet all known their benefits and uses. Until now, therefore Balinese medicinal plants have not been used optimally. To improve the quality of family medicinal plants need cooperation

It is important to have strong participation from the government, society and the role of the private sector so that medicinal plants can also be used for the herbal medicine industry as well as to improve the family's economy. Public knowledge about medicinal plants that are useful for promoting, preventive, curative, rehabilitative and to beautify themselves, has been used since the days of our ancestors before modern medical treatment. This knowledge they get downward.

In addition to the discussion related to the benefits of Balinese medicinal plants, the present study particularly dealt with assessing the bio-linguistics acquisition of Balinese medicinal plants through administrating several written questions. A used ex-post facto research design with descriptive analysis was employed to establish reliable findings. The data which were presented in this chapter showed the results of the students' bio-linguistics acquisition of Balinese medicinal plants was sufficiently achieved, however students' mainly capable of mentioning common medicinal plants used in their families.

Below is the list of plants that are mostly acquired by the students in this study.

1.	Adas	1.	*Foeniculum vulgari*
2.	Ambengan	2.	*Imperata cylindrica L.*
3.	Apel Gadang	3.	*Pyrus malus L.*
4.	Base	4.	*Piper betel*
5.	Base barak	5.	*Piper crocatum*
6.	Beluntas	6.	*Pluchea indica Less*
7.	Nyuh	7.	*Cocos nucifera L*
8.	Camplung	8.	*Callophyllum inophyllum*
9.	Canging	9.	*Erythrina fusca*
10.	Cekuh	10.	*Kaemferia galanga L.*
11.	Celagi	11.	*Tamarinda indica L.*
12.	Daluman	12.	*Cyclea barbara M.*
13.	Dapdap	13.	*Erythrina variegate L.*
14.	Don Dewa	14.	*Gynura segetum Lour*
15.	Don Temen	15.	*Grapthopyllum pictum*

16.	Gatep	16.	*Quassia indica Gartn*
17.	Gedang	17.	*Carica papaya L.*
18.	Gemitir	18.	*Tagetes erecta*
19.	Intaran	19.	*Azadirachta indica Juss*
20.	Isen	20.	*Alpina galanga L.*
21.	Isep Nanah	21.	*Euphorbia thymifolia L.*
22.	Jae	22.	*Jingiber officinalle Rose*
23.	Jangar Ulam	23.	*Eugenia polyantha W.*
24.	Jangu	24.	*Acorus calamus*
25.	Jepun	25.	*Plumeria acuminate*
26.	Juwet	26.	*Syzygium cuminii M.*
27.	Juwuk Nipis	27.	*Citrus sp.*
28.	Keluncing	28.	*Pithecellobium dulce*
29.	Kesuna	29.	*Allium sativum L.*
30.	Lili Gundi	30.	*Vitex trifolia L.*
31.	Cerme	31.	*Phyllanthus acidus L*
32.	Gamongan	32.	*Zingiber cassumianar*
33.	Limo	33.	*Citrus vulgaris L.*
34.	Pala	34.	*Myristica fragrans*
35.	Ketumbah	35.	*Melaleuca leucadendra L.*
36.	Liligundi	36.	*Vitex trifolia L.*
37.	Cengkeh	37.	*Syzygium aromaticum*
38.	Mahkota Dewa	38.	*Phaleria macrocarpa*
39.	Kumis kucing	39.	*Orthosiphon aristatus*
40.	Seledri	40.	*Apium graveolens*
41.	Sotong	41.	*Pisdium guajava*
42.	Tibah	42.	*Morinda citrifolia*
43.	Kayu manis	43.	*Cinnamomum verum*
44.	Paya	44.	*Momordica charantia L*
45.	Cendana	45.	*Santalum album L*
46.	Awar-awar	46.	*Ficus septica*
47.	Bangle	47.	*Zingiber purpureum Roxb*
48.	Masui	48.	*Cryptocarya massoia*
49.	Sembung	49.	*Blumea balsamifera* L.
50.	Mahoni	50.	*Switenia mahgoni B.*

The final data were analyzed by using norm-referenced measures of five standard values, showing excellent, good, sufficient, insufficient and poor achievement of bio-linguistics acquisition of Balinese medicinal plants. The first thing that should be figured out was the average score or the mean score (M) and the standard deviation (SD) of the raw score. The results of the test that were obtained by the samples could be clearly seen that students' acquisition of bio-linguistics acquisition of Balinese medicinal plants was sufficient. This means that the students

were sufficient knows about bio-linguistics of Balinese medicinal plants

The finding of this study was in the form of the converted scorer of norm-referenced measure five standard values which showing excellent, good, sufficient, insufficient and poor achievement of bio-linguistics acquisition of Balinese medicinal plants. Based on the data analysis, (1) 6% or 3 of samples under study got excellent achievement, (2) 24% or 12 of samples under study got good achievement, (3) 44% or 22 of the samples under study obtained sufficient achievement, (4) 20% or 10 of samples under study got the insufficient achievement, and (5) 6% or 3 of samples under study got the poor achievement.

The result of the data showed the samples in this study showed sufficient achievement in the bio-linguistics acquisition of Balinese medicinal plants. There were 74% of students under study were succeeded and 26% were failed. The samples' failure might be caused by several factors, as most of them had less attention in learning biolinguistics acquisition of Balinese medicinal plants. Some students failed in getting higher ability in the bio-linguistics acquisition of Balinese medicinal plants are due to their poor awareness of the use of the plants for medicinal purposes. They simply do not try to understand because modern medicine is more preferably used.

On the other hand, 74% of students were a success in the bio-linguistics acquisition of Balinese medicinal plants were due to their high exposure to the use of Balinese plants in their families. They mainly had a good understanding of the medicinal properties of the plants and they fluently mentioned the Balinese names of the plants. This knowledge has to be nurtured in order that they can develop their understanding and possibly able to use some of the plants for alternative remedies when they experience some. The local authorities may become more interested in developing to grow the plants for educational and medical purposes if more people are interested to use them as alternative remedies. Therefore, with the government began to develop medicinal plants, hoping to reduce the triggering factors for the emergence of degenerative diseases and to accelerate the healing process for people who are sick, natural medicine remains the choice of the community.

Conclusion

This study dealt with assessing the bio-linguistics acquisition of Balinese medicinal plants through a number of written questions to students who are going to take part in their teaching practice in junior and senior high schools. The result of the data analysis was calculated by using a norm-referenced measure of five standard values, which were excellent, good, sufficient, insufficient and poor. Based on the data analysis, (1) 6% of samples under study got the excellent achievement, (2) 24% of samples under study got a good achievement, (3) 44% of the samples under study got sufficient achievement, (4) 20% of samples under study got the insufficient achievement, and (5) 6% of samples under study obtained poor achievement.

The result of the data showed the samples in this study showed sufficient achievement in the bio-linguistics acquisition of Balinese medicinal plants. There were 74% of students were succeeded and 26% were having low achievement. It meant some students still had difficulties in acquiring bio-linguistics of Balinese medicinal plants due to their poor interest and lack of exposure to the use of Balinese medicinal plants.

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