

## Web-based picture dictionary of Dayak Ngaju language–English

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### Abstract

This study aims to develop a learning application of Dayak Ngaju language - English that can be accessed by children of primary school age through web pages. The vocabularies used in the application were the basic vocabularies learned in elementary school as an introduction to the next step, which includes making simple sentences, both in local and foreign languages. The applied research model was used to adopt techniques in the Agile model using Extreme Programming which consists of planning, design, coding, and testing. For supporting the application development, the data were gathered through direct observation, interviews, and library research. The study was conducted at Sekolah Dasar Negeri Percobaan Palangka Raya, Jl. Damang Leman No. 37 Palangka Raya, Central Kalimantan. The final product of the study was an application of web-based Dayak Ngaju- English Language Dictionary for elementary school age categories. The application displays several nouns related to parts of the body, things in the classroom, as well as food and drinks.

**Keywords:** Dayak Ngaju language, English, picture dictionary, web based

### INTRODUCTION

Dayak Ngaju is one of the local languages used by the natives located in Central Kalimantan. Poerwadi et al in Sigirow (2013:1) states that the number of native speakers of the Dayak Language is around 702,000 people from around 1,6 million inhabitants of the province. The use of this language covers various aspects of life. Besides being used as a unifying language, Dayak Ngaju is also used by its speakers in the family, office, and school environment in informal situations. This native language also faces the other languages competition in its own regions which one of them caused by the rapid development followed by the addition of the population that brought diverse culture and heterogeneous languages. With this progress, it is indirectly possible that Dayak Ngaju language will slowly disappear and may be replaced by other languages. In addition, the development of science and information technology that is able to penetrate space and time also influences people's behavior in acting and speaking, especially among the younger generation (Narang in Sigirow: 2013).

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At the basic education level, native languages are regulated as subjects of local content as well as English. The material given to students includes the ability to use language or communicate, appreciation of literature, and mastery of language rules. One component of Ngaju Dayak language material or teaching material introduced in primary education is nouns. Based on the form, Ngaju Dayak nouns are divided into 2 (two), namely:

a. Basic Nouns

The basic noun is a unit that consists of only one morpheme and is a grammatical unit that has not undergone the process of adding other unit components such as affixes, re-words, and compound words. In Dayak Ngaju language, it could be found basic noun forms such as:

jukung	‘boat’
bauntunggang	‘door’
sapau	‘roof’
balau	‘hair’
kasilu	‘nails’
upak	‘skin’
Jagau	‘Jagau’ (person's name)
sanayan	‘Monday’
mina	‘auntie’

b. Derivative Nouns

The form of derivative nouns in Dayak Ngaju language is the result of the formation of two morphological processes, namely:

1) Derived nouns formed from the word class transfer process.

Example:

<i>lambut</i> ‘muncul’	→	<i>pampa + lambut</i>	→	<i>pampalembut</i> ‘pemunculan’
V		Pre      V		N
<i>busu</i> ‘bungsu’	→	<i>tam + busu</i>	→	<i>tambusu</i> ‘anak bungsu’
		Pre      A		N      A

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- 3) Time, for example: Sanayan 'Monday', Salasa 'Tuesday', October, 8 o'clock, how come 'now', bihin 'first', jewu 'tomorrow'.
- 4) The name of the language, for example: basa Dayak 'Dayak language', basa Maayan 'Maayan language'.
- 5) Measures and measurements, for example: kapucuk 'one', kabatang 'one', kapantis 'one drop'.
- 6) Sound imitation, for example: ngeau, katotok, tantengung, gir-gar.

As explained earlier, nouns in the Dayak Ngaju language consist of several types and categories. But in this study, the writers limited the simple nouns (basic) related to parts of body, things in the classroom, and food and drink.

The nouns above are summarized in a dictionary equipped with pictures. According to the National Library of Indonesia in the Indonesian Language Encyclopedia (2009: 566), the dictionary comes from the English dictionary, a reference book that contains a list of words arranged in alphabetical order with information about various aspects of their meaning and their use in language. The dictionary makes it easy for its users to find vocabulary that is newly known or recently heard so that it can help in interpreting vocabulary information.

Based on the pre-observation, at present, the delivery of Dayak Ngaju and English language learning materials is still using conventional way by using printed media. This media has begun to be less attractive to students, especially children who have started getting to know technology such as computers or smartphones. The children's tendency to interact more intensely with this technology can be directed to introduce culture, especially native languages.

By utilizing advances in technology, in this study, the writers designed and built a simple dictionary application for learning Dayak Ngaju language as well English equipped with pictures. According to Remik (2011), a web application is one application that uses browser technology and computer networks to access applications. Web-based applications are applications that can be built using the PHP programming language. Web-based applications can be accessed without having to be bound by time and place as long as there is an internet network to access them. This application is expected to be able to increase the interest and love of children in getting to know and learn not only the local language namely Dayak Ngaju language but also one of the international languages namely English.

According to Sharif (2012 : 10), use of picture dictionaries is the first step to introduce small children with the concept of 'dictionary'. In a dictionary, every word entry is presented by a picture. Picture dictionaries are almost always made up of a set of basic frequently used vocabulary and contextualised with words associated to the children's daily life experiences. When first using picture dictionaries with children, it is important to provide the text in the child's first language. In this study, the writers developed a web based picture dictionary of Dayak Ngaju language –English with basic vocabulary relates to daily life experience.

## **METHOD**

The applied research model was used in this study to adopt techniques in the Agile model using Extreme Programming which consists of planning, design, coding, and testing.

### **Planning**

Knowing the scope of work as a plan to model the system, including searching for information on data and sites related to the needs of making pictorial dictionaries, output in the form of a web-based system, features and functions according to the needs of system development namely vocabulary lists in Ngaju Dayak and English that are equipped drawings for elementary school age children.

### **Design**

This stage makes the design of the work flow and design needed in research that is using diagrams and supporting software.

### **Coding**

The coding stage uses the coding found in supporting software to build web-based systems.

### **Testing**

Test the model using the system to find out the results of the model used so we get a conclusion about the service or features and functionality contained in the application being built.

For supporting the application development, the data were gathered through direct observation, interviews, and library research. The study was conducted at Sekolah Dasar Negeri Percobaan Palangka Raya, Jl. Damang Leman No.37 Palangka Raya, Central Kalimantan.

## **RESULT AND DISCUSSION**

Study carried out starting from data collection to process and results is obtained in the form of an interface for language learning through Dayak Ngaju language - English Dayak picture dictionary in the form of applications intended for elementary school children. Some of the interfaces presented in the application form are as follows:

### **a. Dashboard menu application**

The main menu display accessed by the user, as shown in Figure 1.



Figure 1. Verandah Interface (dashboard)

In picture 1, there are 3 menus that can be clicked, namely the menu with the lowest image of the dashboard. The three parts are:

1. Panginan and Danum Ihup - Food and Drink
2. Ramu Huang Kelas - Things in the Classroom
3. Bagian Biti - Parts of Body.

Each of the 3 menus will display a different theme. With a display dictionary that presents the picture itself, then there is a vocabulary in Dayak Ngaju language on the left, and English on the right. To facilitate the use of language for end users, *help* is also provided in Indonesian at the top of the picture.

#### b. Menu Panginan dan Danum Ihup - Food and Drink Menu

Menu Panginan and Danum Ihup - Food and Drink contains a display with pictures of food and drink as in Figure 2. In Figure 2 shows a number of menus that can be clicked on the menu to display other pages as in the menu with a circle image there is a top left corner. In the circle image there is text that can be clicked on and displays a menu according to the text. As the menu is circled with the text Things of Classroom will display objects in the classroom as shown in Figure 3. For the upper left circle menu with a picture of the house it will connect to the menu menu as shown in Figure 1.



Figure 2. Interface of food and drink menu

Figure 2 shows some of the use of vocabulary in the drawing environment, by displaying several pictures and vocabulary about food and drinks. There are 16 pictures and vocabulary used in the menu of Panginan and Danum Ihup - Food and Drink.

#### c. Menu Ramu Huang Kelas - Things in the Classroom Menu

Menu Ramu Huang Kelas - Things in the Classroom is not much different from the menu facilities provided such as Panginan and Danum Ihup menu - Food and Drink which displays the top menu with links that will display other interface pages as in Figure 3. Figure 3 also facilitated the menu to return to the verandah and menu to access the other two menus namely parts of body and food and drink.



Figure 3. Things in the classroom menu



Figure 3 shows some of the use of vocabulary in the drawing environment, by displaying several pictures and vocabulary about objects in the classroom. There are 16 pictures and vocabulary used in Things in the Classroom menu.

d. Menu Bagian Biti - Parts of Body Menu

Parts of Body menu is also the same as the previous menu which displays the use of illustrated vocabulary with the menu facilities provided such as Panginan and Danum Ihup - Food and Drink menus which display the top menu with links that will display other interface pages as in Figure 3 Figure 4 also facilitated a menu to return to the berandah and a menu to access 2 other menus namely food and drink and things in the classroom.

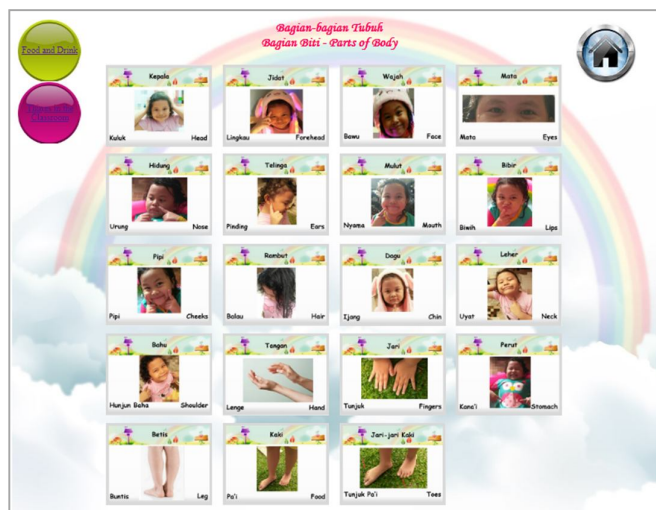


Figure 4. Menu of body parts

Figure 4 shows some of the uses of vocabulary in the drawing environment, by displaying several images and vocabulary about body parts. There are 19 pictures and vocabulary used on Menu Bagian Biti - Parts of Body menu.

## CONCLUSION

In this study, it has been described how the design and development of a web-based picture dictionary of Dayak Ngaju language - English can be used as an alternative learning media for elementary school students, especially on local content subjects. The technology used in the development of this system is a web-based application technology, the formation of a program that can stand by itself and can be run in an internet environment. Therefore, users of this web application can access anywhere and anytime, quickly and easily. This application displays simple vocabulary



that is generally studied at elementary school level such as parts of the body, things in the classroom, and food and drink with real pictures making it more interesting. However, this web-based dictionary application program does not cover all words in both Dayak Ngaju language and English. For further development, it would be better if it will be added a complete vocabulary so that this application can be one of the reference information needed by the user and applies like a conventional dictionary. The addition of categories, varied images and sound effects will make this dictionary application even more attractive, especially for beginner class learners.

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