

# Designing Picture Book about The Javanese Vocabulary through Lift a Flap for Children 4-5 Years Old

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## ABSTRACT

According to several studies from 2013-2019, many children in Yogyakarta do not understand Javanese vocabulary, especially krama level. Javanese vocabulary should be introduced to children from an early age. The vocabulary introduction is helpful for children to expand their knowledge and familiarize themselves with the language so that when children move to elementary school, they will have no difficulty following Javanese lessons. Access to the introduction, government policies, and media are still limited. The picture book is a close medium for children. The availability of an easy and attractive picture book to introduce Javanese vocabulary is still lacking. So, the study aims to define and design an easy and attractive lift-a-flap picture book about the Javanese vocabulary for children in Yogyakarta. This study is design-based research uses a mixed method with literature studies, interviews, observations, and surveys. The design process uses the design thinking stages, includes empathize, define, ideate, prototype, and test. The respondents are the DIY Language Center, teachers, and parents. This study conducts in several stages: 1) literature study to deepen theory, 2) interviews with the DIY Language Center and teachers to identify problems and needs for vocabulary introduction through a picture book, 3) perception surveys of parents to design picture book, 4) observations to find out the picture book trends, 5) data analysis, and 6) design the concepts and visualization. The result is a Javanese vocabulary picture book design for children 4-5 years through a lift-a-flap approach and automatic audio. This book provides visual, auditory, and tactile stimulation for children. This book encourages children to play with flaps and repeat vocabulary with the help of automatic audio. This repetition will make it easier to memorize Javanese words.

**Keywords:** *Picture book, Javanese language, Lift a flap, Preschool.*

## 1. INTRODUCTION

The Javanese language speakers have decreased from year to year. The number of Javanese speakers in 2000 was around 84 million people, 2010 around 68 million people, and 2016 around 25 million people [1-2]. A total of 79.55 million people in Indonesia (30.1%) are children [3]. Many children in Yogyakarta do not know Javanese vocabulary, especially krama level. About 84.61% of children do not use polite Javanese because they do not understand the krama vocabulary [4]. The lowest mastery is krama Javanese in the child category. As many as 13 of the 16 children in Yogyakarta cannot speak Javanese. City children answered correctly 10.8% of

the 843 Javanese krama vocabulary than village children answered correctly 5% [5].

Javanese language introduction and preservation in Yogyakarta are still needed. The Javanese language is not about communication but also reflects the way people think to understand the environment, life, and life's problems. The Javanese language's loss will erase the people's way of thinking. The introduction of the Javanese language can teach politeness and character [4,6]. If the children's character is good, then the Indonesian nation will be judged well by other countries and be more advanced. Character values in Javanese have the potential to make the world better, polite, and friendly. Javanese vocabulary should be introduced to children aged 4-5 years. 4-5 years is a

golden age. Children are in rapid vocabulary development [7]. The introduction of Javanese vocabulary will help expand vocabulary knowledge and familiarize with the language so that when children attend elementary school, they will have no difficulty following Javanese lessons. The vocabulary introduction is consistent with the purpose of PAUD, which is to prepare children according to their level of development to enter the elementary school level [3].

Access to the introduction of the Javanese language to children aged 4-5 years in Yogyakarta is still limited. The Javanese language in Yogyakarta began abandoned as a means of communication. Society avoids the Javanese language because it is complicated. They afraid of being wrong. The official forum that uses the Javanese language began to shift to Indonesian. Some Javanese parents not mastery speak Javanese, so they do not use Javanese in their daily communication with their children. The DIY Language Center also stated that the policy for early childhood is still limited [8].

The designer works to provide the problem solution. The limited access of the Javanese language introduction for 4-5 years old can be expanded with a media approach. Children use their senses during early development. Children's senses need to stimulate for vocabulary learning to be effective [9]. Based on observation and interview, the media that can be used to introduce Javanese vocabulary to children aged 4-5 years are Javanese songs, traditional toys, flash cards, activity books, story books, smartphone games, and YouTube learning videos. Javanese songs stimulate auditory sense. Traditional toys only stimulate tactile sense. The lack of Javanese songs and traditional toys is that children don't know the writing of vocabulary. Flashcard, activity book, and story book stimulate visual sense. The lack of that medias is that children don't know the right word pronunciation. Smartphone games and Youtube learning videos stimulate visual and auditory. The lack of that medias is limited time. The average parent in Yogyakarta does not allow children to use digital media for too long.

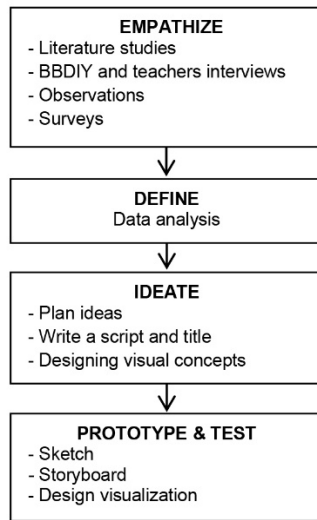
One of the media that is potential to introducing Javanese language for 4-5 years old in Yogyakarta is a lift-a-flap picture book with automatic audio. Picture book plays a crucial role in children's development because they offer opportunities to expand children's awareness of their environment, reflect on themselves, their culture, and their experiences. The illustrations in the picture book help children to understand the story. Children who cannot read yet need pictures to identify scenes and characters in the book. The illustrations also help children prepare for the

fascinating world of words when they start reading on their own [10]. The picture book that the child likes will become a part of the child. Children will read many times because it is familiar and comfortable, like a favorite doll [11]. The picture book needs to develop using a lift-a-flap approach with audio. The lift-a-flap can stimulate motor skills, increase interaction, and attract readers to explore more actively [12]. Children love the interaction of opening and closing book sections so that the reading experience becomes more interesting [13]. Audio provides sound perception that helps children to understand sounds and pronunciation of words. Audio is needed so that children understand the correct pronunciation of Javanese vocabulary. Audiobook brings story narratives more understandable [9]. The picture book with lift-a-flap and audio will stimulate visual, auditory, and tactile children's senses while reading a book. These stimulations transform physical and psychological responses into increased interest and attention in children. This is the attraction of a picture book for children [9]. This picture book encourages children to play with lift-a-flap and repeat vocabulary with the help of automatic audio. This repetition will make children memorize Javanese words.

The study aims to define and design the vocabulary introduction using lift-a-flap picture book for children aged 4-5 years in Yogyakarta. This study has the assumption that children will use the lift-a-flap picture book as an alternative medium for introducing Javanese vocabulary. The lift-a-flap approach assisted by automatic audio will attract children to use the picture book repeatedly until the child memorizes Javanese words. Audio will stimulate child's brain to remember words automatically. This approach helps children to enjoy learning the Javanese language. If the picture book does not use this approach, the child is likely less interested in using the book repeatedly. Children's interactions and experiences when reading book are not as much as when using this approach.

## **2. METHODOLOGY**

This study uses a design thinking process to understand problems in introducing Javanese to children and find solutions to problems. Design thinking has open stages, iteratively adapts to the needs of each case, is user-oriented, and opens opportunities for innovative solutions to problems. The design thinking process includes five steps: empathize (getting an understanding of the problem), define (defining the problem to be solved), ideate (generate ideas to solve problems), prototype (produce products), and test [14].



**Figure 1** Design process.

This study uses a mixed method with literature studies, interviews with DIY Language Center and teachers, observations, and surveys of parent’s perceptions. Data analysis used data triangulation and statistics. The data analysis's result in the form of descriptive explanations. The design of this picture book based on the stages of making a script and making illustrations. The picture book script stages using the Seuling writing guide [10]. The illustrations stages using an illustration guide by Salisbury [15]. Stages of designing a picture book about the Javanese language introduction:

1. Plan ideas. Ideas include characterization, setting, theme, plot. Children's point of view is the best point of view. Characters do not have to be human, like animals or monsters.
2. Write a script and title. Picture book writing is the most difficult because picture book uses few words to explain many meanings and information. The picture book consists of a maximum of 1,000 words. Word choice must be good. The story should be simple but accompanied by interesting actions so that children do not get bored. The title should be catchy and make an impression.
3. Designing visual concepts. Visual concepts include things related to the book's appearance, such as media selection, material, technique, cover, size, shape, color, and typography.
4. Sketch. The sketch includes character development, properties, setting, and layout.
5. Storyboard. The storyboard shows the layout concept and flow of the illustration.

6. Design visualization. Design visualization includes illustrations, book cover design, and layout of book contents.

### **3. RESULT AND DISCUSSION**

The picture book design of Javanese vocabulary through a lift-a-flap approach for children aged 4-5 years is based on analysis of research data. This design has the aim of developing a picture book so that it can introduce the Javanese language easily and attractively. The main media for this design is a picture book about the Javanese vocabulary introduction. The target of this design is children aged 4-5 years in Yogyakarta. The target is in the golden age of language learning. Positive things can be taught easily. The design of this picture book based on the stages of making a script and making illustrations.

#### **3.1. Javanese Language Introduction**

The use of Javanese in Yogyakarta from year to year has experienced a continuous decline in the number of teak speakers and a shift from Javanese to Indonesian. The government has made various efforts to introduce the Javanese language to society. Unfortunately, policies for early childhood are still limited. Many children aged 4-5 years in Yogyakarta have difficulty speaking Javanese. Children do not use Javanese because they do not know Javanese vocabulary. Children are more familiar with Indonesian and English than Javanese. Javanese is considered out of date, difficult, and uninteresting. Children identify Javanese at home, at school, in society, and at grandma's house.

Parents have a significant role in introducing children to the Javanese language. Parents have a desire to introduce Javanese to their children. Data regarding parent's perceptions of the need for Javanese vocabulary introduction are obtained through a questionnaires survey to 55 respondents. The respondent's criteria are parents who have children aged 4-5 years, domiciled in Yogyakarta, and are responsible for children's education decisions. The average age of parent respondents is 36 years. Most parents in Yogyakarta live with their children. The parent's Javanese language skills were at an above-average level. Nine parents claim to be fluent in Javanese, 21 parents can speak Javanese, 18 parents can speak Javanese enough, and seven parents can speak Javanese a little. No parent cannot speak Javanese at all. Most respondents claimed to use Javanese every day and had introduced Javanese vocabulary to their children. That should provide the

opportunity for the introduction of the Javanese language to children. Unfortunately, many children do not know the Javanese vocabulary. Parent's Javanese language skills do not affect children's Javanese vocabulary mastery. The use of the conversational method in everyday life is less effective for introducing Javanese vocabulary. Therefore, the Javanese vocabulary introduction requires other methods or introduction media. There are several obstacles by parents to introduce Javanese to their children. These are the child's condition, vocabulary, and speech level, parents not fluent, Indonesian language dominance, parents cannot teach, unresponsive environment, not much media, and time. The biggest obstacle is Javanese vocabulary which is difficult to remember and understand (34.55%). Parents leave the introduction of Javanese to the teacher. Teachers are considered more capable, experienced, and knowledgeable in teaching Javanese to children. Unfortunately, the introduction of Javanese vocabulary in schools also encountered problems. Teachers have difficulty because there is no material or curriculum from the government.

### **3.2. Lift-a-flap Picture Book to Introduce Javanese Vocabulary**

Lift-a-flap book is a book that encouraged the reader to open a door or window page, lifting the flap of the page, thereby revealing what is behind it. Based on survey, 90.91% of parents have known and seen a picture book with lift-a-flap feature. 78.36% parents have used this book model. Most parents have known, seen, and used a picture book with lift-a-flap feature. This makes it easier for designers to introduce lift-a-flap book on Javanese vocabulary because children are already familiar with this book model. 43.64% of parents have bought a book lift-a-flap. Parents buy this book model because it is interesting, liked by children, and beneficial for children's development. The large percentage of parent's experience provides great potential for the design of a lift-a-flap picture book. The benefit of lift-a-flap picture book to introducing Javanese vocabulary are children are enjoy learning language, learning vocabulary becomes easy and interesting, the book display is not monotonous, children can learn while playing, and get to know local wisdom.

The survey about interest in the lift-a-flap book is on a scale of 1-5 points from very disinterested-very interested. The lift-a-flap feature is considered very suitable for children aged 4-5 years with an average of 4.78 points. This study distinguishes three features of the book. The order of features that children are most

interested in is the lift-a-flap with audio, lift-a-flap, and audio features. The lift-a-flap feature accompanied by audio is the most desirable compared to separate features. A total of 41 parents considered lift-a-flap and audio the most attractive to their children with an average of 4.73 points. The Javanese vocabulary book can be expanded with lift-a-flap and audio features. Children will be interested in reading books if these two features are included in the book.

### **3.3. The Easy and Attractive Vocabulary Introduction through a Lift-a-flap Picture Book**

The easy vocabulary introduction focuses on content that is close to children and the harmony of illustrations and narratives. The attractive vocabulary introduction focuses on lift a-flap with audio. There are two games in this book support by lift-a-flap: guess the vocabulary and guess the picture. There are six lift-a-flap interactions that can be implemented in Javanese vocabulary books: hiding characters, adding vocabulary text, describing object changes, expanding book pages, matching pictures with text, and describing sequences. This study defined some factors causing the easy and attractive vocabulary introduction through a lift-a-flap picture book for children aged 4-5 years in Yogyakarta. The easy factors lie in the content that is often used in children's daily lives, repetition of important vocabulary, simple language style, 1-47 words per page, 1-500 words per book, the suitability of narration and illustration, easy-to-read text size with sans serif font, progressive plot with close-ending, way of depicting *wimba* (expressive, head-to-toe size, the same scale as the original, and front view), *wimba* style of expression frequency of appearance, the consistent lift-a-flap layout for important vocabulary and lift-a-flap interactions. The attractive factors are animal category, modern fable genre with animal characters, typical conflict with surrounding objects, the local values, main characters illustration in the cover, the dominant image proportion, cartoon visual style, lift-a-flap with audio, the spreads out lift-a-flap layout, the narrative language with direct sentences, and lift a-flap interaction match the pictures with text.

### **3.4. Segmentation**

The picture book's design is limited by audience segmentation. The main target is children. Demographics: 4-5 years old, golden age, alpha generation, male and female, domiciled in Yogyakarta, have no income. Psychographics: self-focused, likes new things, loves to read books. The

secondary target audience is parents. Demographics: 30-45 years old, between millennial and gen-X generations, male and female, working, all economic status, domiciled in Yogyakarta. Psychographics: have an interest in picture books, want to introduce Javanese to children, want to do anything for the development of children.

### 3.5. Design Concept

The main idea of this picture book is to make it easier for children aged 4-5 years to know vocabulary by reading book. The purpose is to introduce children about the vocabulary, culture, and ethics of Javanese society. The picture book is designed as attractive as possible with lift-a-flap accompanied by audio so that children will enjoy reading this book repeatedly. Readers are invited to play guessing vocabulary with the help of lift-a-flap. Readers are conditioned to follow the story and learn Javanese vocabulary at the same time. Picture book also pay attention to illustrations and visual styles which are expected to enrich children's visual galleries. This picture book raises the local wisdom of authentic Javanese food.

The introduction content is expected to be age-appropriate and attract children's interest in learning Javanese vocabulary. The right content according to the development of children aged 4-5 years are *ngoko* and *krama* level vocabulary. Vocabulary that children need to know is vocabulary that is close to the child's daily life, such as oneself and the environment. This book introduces at least 32 Javanese vocabularies. The vocabulary used includes greetings, division of times, traditional food, and verbs.

The concept of the story includes characterization, setting, theme, plot including surprising actions that occur, point of view, and conflict. The main character of this picture book is a lion cub named Dibal, Javanese, and lives in Yogyakarta. The main characters are helpful, friendly, and polite. The setting of the place is supported by a traditional Javanese setting. The time setting chosen is during the day when the children are active. The social environment in the book tells the Javanese people in Yogyakarta who are polite, friendly, and helpful. The story uses a simple plot with one main character. The plot uses progressive plot with the story of the character's emotion. This book tells the story of Dibal the lion cub who wants to hurry home from school and assemble his favorite robot. Unfortunately, Dibal could not go home quickly because he met a chatty traditional seller goose and a chef monkey who needed help. Dibal also helped them so that he could quickly return home. Finally, Dibal returned home after finishing

decorating the Tumpeng rice. It turned out to be fun to help. Arriving home, Dibal was greeted by his family, goose, and monkey. Today is Dibal's birthday. Everyone cares about Dibal's birthday. This book is entitled "*Ayo Mulih!*" ("Let's Go Back!") to describe Dibal's feeling of wanting to go home quickly. The narrative uses Dibal's point of view. Sentences use direct sentences so that readers can enter and be involved in the story, especially considering the main character as a close friend.

Visual concepts include illustration and design. Illustrations tell the script visually. Local Javanese wisdom is reflected in place settings, properties, and characters. The character's gestures are also adapted to the politeness. Visual characters illustrate with soft lines, faces tend to be round, cheerful gestures, and dynamic without bones. This makes the character look funnier and more interesting. The cover illustration is an illustration of the main character. Illustration of the contents of the book in the form of a spread page. The size of the book is 20x20 cm. Colors tend to be bright. Typography uses a sans serif typeface.

The lift-a-flap interaction concept accompanied by audio serves to attract children to continue playing with book. Lift-a-flap provides the child experience to open and close the page. This book uses magnets embedded in each page to produce automatic audio. The magnet is embedded between the sheets of the book. It also connected to the magnetic sensor and microcontroller behind the book. The sensor will read how many pages are opened and then make a sound according to the text listed. When the child opens the lift-a flap with audio, a voice in the form of Javanese vocabulary will be heard. This will stimulate children to play this book repeatedly. The limitations of the magnetic sensor affect the layout of lift-a-flap. The position of lift-a-flap is arranged as in Fig. 2.

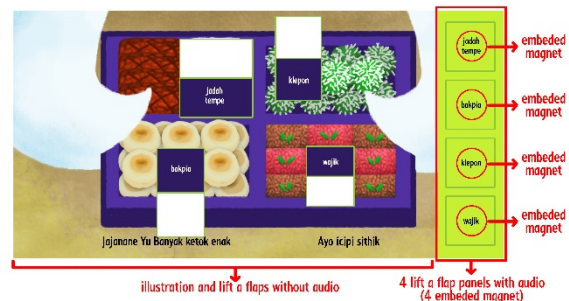


Figure 2 Lift-a-flap and audio layout.

### 3.5. Design Output

Visualization design through the stages of sketching, storyboarding, and visualization. Some examples of visualization results can be seen in the figures.

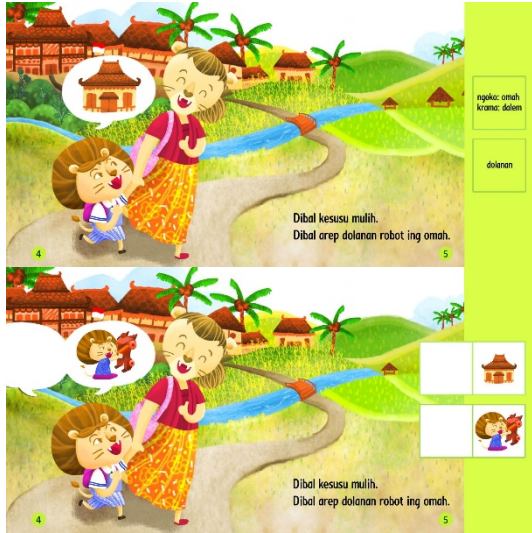


Figure 3 Visualization of Dibal going home.

The illustration tells Dibal coming home from school with his mother. Lift-a-flap without audio describes an ongoing incident that tells Dibal wants to go home because he wants to play a robot. Lift-a-flap with audio contains vocabulary text and illustrations that match the text, making it easier for children to remember. Readers can play guessing vocabulary by looking at lift-a-flap without audio (image: house) and then matching it with lift-a-flap with audio (text: ngoko: *omah*, krama: *dalem*). When the reader opens the flap ngoko: *omah*, krama: *dalem* will sound the right pronunciation and illustration of the house so that the reader knows that the answer is correct. Children can also know how to pronounce correctly and read aloud based on the audio.



Figure 4 Visualization of Dibal meet Yu Banyak.

The illustration tells Dibal and Bu Singa meeting with Yu Banyak, a traditional snack seller. Lift-a-flap without audio describes the ongoing occurrence of how to greet and behave when Javanese people meet people who are older than their age. This helps the reader to know the stages of body language greeting. In addition, lift-a-flap without audio can hide objects such as traditional food that will surprise the reader. Lift-a-flap with audio contains vocabulary text and illustrations of greeting words. Readers can play guessing vocabulary by looking at the *sugeng siyang* narration and guessing which lift-a-flap with audio makes the sound and the *sugeng siyang* vocabulary.

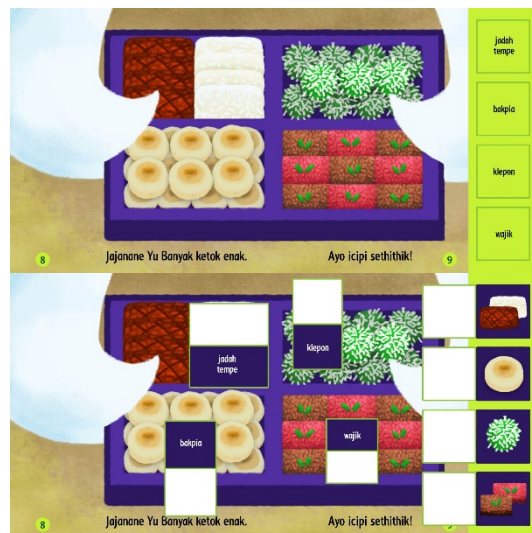


Figure 5 Visualization of Yogyakarta snacks.

Illustration and lift-a-flap without audio tell traditional snacks in Yogyakarta. Lift-a-flap with audio contains vocabulary text and illustrations. Readers play guessing vocabulary by matching the

pictures of snacks with the appropriate text. Readers are expected to be familiar with traditional snacks and how to pronounce them. Audio can be used to check whether the child's pronunciation is right or wrong.



Figure 6 Visualization of Dibal angry

The illustration tells Bu Singa and Yu Banyak talking while tasting delicious traditional snacks. Dibal looks tired waiting for his mother who never finished talking. Lift-a-flap focuses on hand signals that are often used by Javanese. Readers play guessing vocabulary by matching pictures, text, and audio.

#### 4. CONCLUSION

This study defined some factors causing the easy and attractive vocabulary introduction through a lift-a-flap picture book for children aged 4-5 years in Yogyakarta. This study created an easy and attractive picture book design about Javanese vocabulary for children aged 4-5 years. A lift-a-flap picture book with automatic audio can be implemented for the introduction of Javanese vocabulary. Children can play match pictures with words. It helps children to memorize vocabulary. This book encourages children to play with lift-a-flap and repeat vocabulary with the help of automatic audio. This repetition will make it easier to memorize Javanese vocabulary. Lift-a-flap picture book with automatic audio offers visual, audio, and tactile interactions for children's learning experiences.

This research is not yet fully completed. This work requires collaboration with others outside the design field to fine-tune the audio system. The next research that can be done is testing the quality and usefulness of picture book on Javanese vocabulary through a lift-a-flap approach for children aged 4-5 years.

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