

Development of picture story learning media based on the Buayo Kuning folklore assisted by augmented reality technology in Regional Literature courses

Fina Hiasa ^{a,1,*}, Supadi ^{a,2}, Wisman ^{a,3}

^aBengkulu University, Indonesia.

¹ finahiasa@unib.ac.id; ² supadi@unib.ac.id; ³ wisman@unib.ac.id

*Correspondent Author

Received: December 27, 2023

Revised: April 2, 2024

Accepted: April 22, 2024

KEYWORD

Buayo Kuning Folklore
Illustrated Folk Tales
Augmented Reality

ABSTRACT

This development research aims to produce a product in the form of a picture story using augmented reality technology based on Bengkulu folklore, focusing on the Buayo Kuning folklore. It is hoped that the presence of folk tales transformed into regional language-illustrated story discourse will attract young speakers to read and enjoy their local wisdom. With the help of augmented reality technology, picture books will present an interactive, sophisticated, and modern appearance according to the interests of young speakers, namely students in regional literature courses. The method applied in this development research is Research and Development (R&D). Data collection on Bengkulu ethnic children's literature was carried out by interviewing, recording, and noting relevant informants following standard principles of folklore collection. Apart from that, there is a product feasibility test by material experts, media experts, and user responses. The results of the validation implementation are the total average value obtained from the combined material expert validation of 4.1, media expert validation of 3.8, and user validation of 4.1. The total score from media, material, and user validation is 4, so based on the average score obtained, it can be concluded that the product that the researcher developed is suitable for use as an alternative learning media in increasing regional literary literacy for students based on their local wisdom. The hope is that this product can be used as a medium to introduce local wisdom in an interactive way not only to students but also to pupils and even teachers.

This is an open-access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Introduction

Since 2021, the revitalization of school-based regional languages and speech communities has become one of the main programs launched by the Ministry of Education and Culture of the Republic of Indonesia through the Language Development and Development Agency. Revitalization according to Mu'jizah (2018) is an effort made to increase vitality while providing protection for something that is categorized as endangered. It is recorded that 12 provinces with 38 regional languages are included in the revitalization program category in 2022 and this target has increased drastically compared to 2021. This year's revitalization program is fully supported by the Minister of Education and Culture, Nadiem Anwar Makarim, who on February 22, 2022, launched the Seventeenth Episode of Merdeka Belajar. with the theme Revitalizing Regional Languages (Sitepu & Mahesa, 2023; Saragih, 2021).

Revitalizing regional languages is a movement that must be carried out quickly and continuously. When the inheritance of regional languages is no longer carried out, the treasures of cultural wealth, thought, knowledge and the regional language itself can slowly disappear and eventually become extinct. This concern was felt by Minister Nadiem who said, "Revitalization of regional languages needs to be carried out considering that of the 718 regional languages in Indonesia, most of them are endangered and in critical condition (Kemdikbud, 2022; Hadiwijaya et al., 2023; Chandra et al., 2023; Harimansyah et al., 2019).

Efforts made by the Ministry of Education and Culture to revitalize regional languages have received support from UNESCO. Through her representative, Stefania Giannini, as Assistant General for Education, said that the critical condition of regional languages would cause world culture and ancestral knowledge systems to also become extinct. Referring to the target audience who are young speakers, there must be certainty that digital technology supports the use, preservation, and diversity of language (Kemdikbud, 2022; Ratumanan et al., 2022; Ulya et al., 2024; Ardyaningtyas, 2023; Jamilati et al., 2023; Nauvalia & Setiawan, 2022). The presence of digital technology is an effective strategy so that targets are interested in knowing, learning, and ultimately using regional languages. Researchers utilize augmented reality technology as a medium that will make the process of knowing, learning, and using regional languages fun and meaningful for young speakers.

Augmented Reality is a technology that combines 2D and/or 3D virtual objects into the real world (Masse & Ainun, 2020; Samar, 2023). This combination is carried out using the marker method. Assistive devices that support this technology are smartphones and tablets with the user-friendly Android operating system. This device will later be useful as a connecting tool to the target object so that a real-time display will appear. The camera on the

assistive device is useful for recognizing target object markers so that an interactive virtual object display will appear on the screen.

Augmented Reality Book is a combination of an ordinary book with AR technology. AR-Book has two main components: 1) a book equipped with Quick Response Code (QRC) markers on almost every page; and 2) equipment to capture markers and display the results. Augmented Reality Book is included in the category of specially designed learning resources, because the development of its components makes it easier for users to understand the contents of the book by displaying 3-dimensional objects on the 2-dimensional images displayed in the book. Picture story books are story books that are equipped with pictures to help explain the content of the story (Adipta et al., 2016; Faizah et al., 2023; Purwani, 2020; Sari & Wardani, 2021; Dewanti & Yasmita, 2022; Paramita et al., 2022; Azizah & Widyasari, 2023). Furthermore, Matulka (2008) strengthens this opinion by saying that to support an effective learning process, learning media are needed that are appropriate to student development, for example the use of picture story books as learning media.

The presence of various Augmented Reality features and effects makes the items provided by these features and effects more realistic for students (Widiantara et al., 2014). Augmented reality is an application that can present an object that looks more real in the form of a three-dimensional display (Kato, 2012; Rojiq & Fajri, 2023; Fathoni et al., 2020). This real-time display in the form of virtual objects is certainly interesting when combined with illustrated stories. The development of picture story books that explore local wisdom in the form of Bengkulu ethnic children's literature with the help of augmented reality technology is a solution that researchers offer to support government programs in revitalizing regional languages while increasing student interest in enjoying the local wisdom of Bengkulu province through Regional Literature courses.

Picture story books are books that display pictures and text and the two intertwine (Mitchell in Nurgiyantoro, 2005). According to Mc Elmeel (in Krissandi, 2017), picture story books consist of fiction, historical, informational, biographical, folklore and true story books. According to Hermanto (2019), illustrated stories can have good content (Ria et al., 2023; Rulyansah et al., 2022; Zalmi & Mahyuddin, 2021). Values such as solidarity, friendship, and never giving up can be depicted in a dramatic and moving way. Hurlock (2001) said that one of the benefits of picture stories for children is that children can get a good opportunity to gain insight into their personal and social problems, attract children's imagination, and attract children's curiosity about the picture story (Dharma, 2019). This can also help children solve their own problems. Apart from that, there is also the opinion of Cempaka (2013) who says

that illustrated stories are a unique medium, because they combine text and images in a creative form and are also media that can attract the attention of all ages because they have the advantage of being easy to understand. Apart from that, according to Wikipedia the free encyclopedia, picture stories are a form of art that uses motionless pictures arranged in such a way as to form a story line.

Types of Picture Stories Picture stories can be divided into two types, namely: (a) picture stories with words, which is the most common type. The stories that are generally found are short stories decorated with pictures as illustrations for several parts of the story but do not depict the story. (b) Picture stories without words, namely stories that only consist of pictures but have a clear sequence of activities. This picture story does not have dialogue balloons in text form but in the form of pictures or even none. Researchers will focus on the type of picture story category a. The draft book will also provide full color illustrations and narration with an interesting plot according to the content of the story. The goal is to attract students' attention to read the book in full. The language used also uses simple language typical of children's literature stories dressed in regional languages.

Hunt (1991) said that children's books not only serve to entertain children, but also to shape children's personalities. Lynch-Brown & Tomlinson (2005) define children's literature as follows: "Children's literature is good reading books, intended for children from birth to adolescence, which cover topics that are relevant and interesting for children of that age, through prose and poetry, fiction and non-fiction. Apart from that, Lynch-Brown & Tomlinson said that children who read children's literature are said to be aged from birth to adolescence, or between the ages of 0 – 18 years. This is in line with the government's target of revitalizing regional languages, namely young speakers. Apart from that, the target of this research focuses on early childhood, but it can also be used on target ages of students from elementary to upper secondary and even tertiary education.

Pantaleo (2001), Johnston (2000), and Meek (2001) also say that children's stories are a medium for forming national character. This is especially true of folk tales. When compared with ordinary children's stories, folk tales have more power than ordinary children's stories in nurturing and maintaining the noble values of a nation. Therefore, Bengkulu ethnic children's literature is used as a medium to introduce regional languages as well as cultural values to young speakers. The following are the components of the picture story book draft that will be developed in the research which will feature 2 Bengkulu ethnic children's literary stories, namely; 1) initial section, containing the cover page, book identity sheet, foreword, and table of contents, 2) core section a, consisting of regional language versions of Bengkulu ethnic children's literature illustrated stories accompanied by augmented reality technology, 3) core

section b, consisting of illustrated stories from Bengkulu ethnic children's literature in the Indonesian version, 4) the closing section consists of a book glossary, author's biography and the back cover of the book.

In this research, researchers will develop Bengkulu ethnic literature which is part of folklore. Bengkulu ethnic folklore will be transformed into the form of regional language illustrated story discourse along with picture illustrations. Then the draft book will add augmented reality technology to it as a strategy to attract young speakers. In the process of changing the form of Bengkulu ethnic folklore into illustrated story discourse, researchers must pay attention to the plot of the story, the language used, and the character of the characters presented. The product's target output is not only students taking regional literature courses but also young speakers in general. Therefore, researchers try to place readers, including children, as active readers. This means that the conveying of the meaning in the story will be presented implicitly with the aim of increasing reader participation in interpreting illustrated story works originating from Bengkulu ethnic literature.

Former Head of the Language Agency Sunendar (in Kemendikbud, 2018) once said that there are three cores of literacy, namely family, school, and community. However, the most important thing is family literacy. Internalizing regional languages from an early age through acquiring the mother tongue is a strategic and measurable step to achieve the goal of preserving regional languages. The presence of augmented reality technology in Bengkulu ethnic children's literature picture books will present an interactive, sophisticated, and modern appearance in accordance with the interests of young speakers who are the alpha generation with the object of story development entitled Buayo Kuning.

Relevant research on the development of picture story books based on children's literature using augmented reality was conducted by Lubis & Dasopang (2020) with the title Development of Picture Story Books Based on Augmented Reality to Accommodate Generation Z. The results of the research show that the learning media is picture story books based on Augmented Reality was declared feasible and practical for use in mathematics learning. The difference between the relevant research above and the research that the researcher will carry out is marked by the scope of the book material being developed. Researchers are oriented towards developing picture story books based on Bengkulu ethnic literature, where this topic has not been widely developed in the form of picture stories assisted by augmented reality technology.

Method

The method used in research is Research & Development. This method is a research method that aims to find, formulate, improve, develop, test the effectiveness of effective and meaningful products, models, methods/strategies/ways, services (Putra, 2011). This research refers to the 4D (four-D) research and development model. According to Thiagarajan et al. (1974) the 4D research and development model consists of 4 main stages, namely defining, designing, developing and disseminating. The aim of this research is to develop a product in the form of a draft story book depicting Bengkulu ethnic literature using augmented reality technology as an effort to accelerate cultural literacy. In the process, the product will go through feasibility testing by material experts, media experts and user responses. The research procedures that the researchers carried out as viewed in Fig 1.

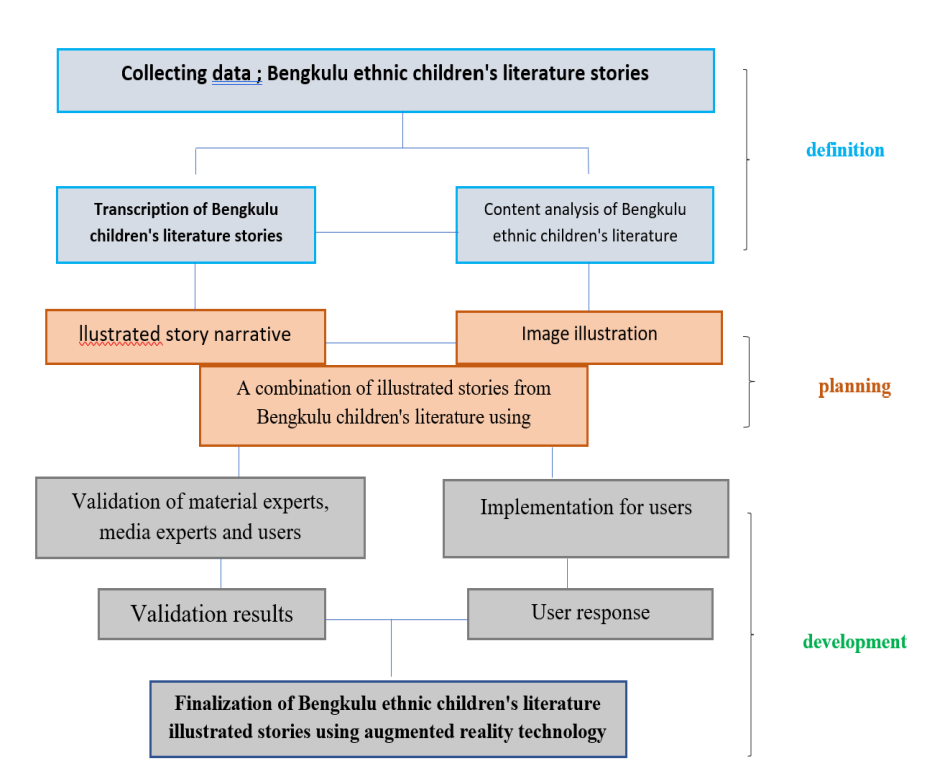


Fig 1. The research procedures

Data collection on Buayo Kuning folklore was carried out by interviewing, recording and noting relevant informants following standard principles of folklore collection. This research will also distribute questionnaires with the aim of collecting data on the feasibility of the products produced in this research, namely material expert questionnaires, media expert validation questionnaires, and user response questionnaires. The aim of distributing the questionnaire was to determine the feasibility of developing a draft picture story product using augmented reality technology based on Bengkulu ethnic folklore.

The data analysis technique used in this research is questionnaire data for material experts and media experts as well as user response questionnaires carried out with five rating scales, where the highest score is 5 (strongly agree) and the lowest score is 1 (disagree). To calculate the total average score from each questionnaire, the formula is used: $X = \Sigma X/N$. The scores obtained are then converted according to the Table 1.

Table 1. Conversion score on a scale of five. (source: Suartama, 2010)

VALUE INTERVAL	RANGE	CATEGORY
$X > X_i + 1,8 S_{bi}$	4,21-5,00	Very Worthy
$X_i + 0,6 S_{bi} < X \leq X_i + 1,8 S_{bi}$	3,41-4,20	Worthy
$X_i - 0,6 S_{bi} < X \leq X_i + 0,6 S_{bi}$	2,61-3,40	Decent enough
$X_i - 1,8 S_{bi} < X \leq X_i - 0,6 S_{bi}$	1,81-2,60	less worthy
$X \leq X_i - 1,8 S_{bi}$	0-1,80	Not feasible

Results and Discussion

1. Definition

At this stage the researchers conducted a needs analysis using the method of observation and interviews. The purpose of this activity is to find out the availability of story books with pictures of Bengkulu ethnic children's literature circulating in the Bengkulu City Early Childhood Prosperity School, Kasih Ibu, and Unib Early Childhood School Lab. The researcher prepared a grid of questions that served as a guide for observations and interviews. The results of this interview will later become the starting point for the movement of researchers to develop product drafts of stories illustrated by Bengkulu ethnic children's literature with augmented reality technology.

It can be concluded that it is necessary to develop a draft storybook with Bengkulu ethnic children's literature based on local wisdom with augmented reality technology. Furthermore, the researchers collected data from the Bengkulu ethnic children's literary stories which will be used as illustrated story discourse with augmented reality technology, namely the story entitled Buaya Kuning. Data collection of Bengkulu ethnic children's literature was carried out by interviewing, recording, and recording related informants following the standard principles of folklore collection. The next step is to analyze the story content of the two stories, which aims to determine the feasibility of folklore to be transformed into children's stories. The story, entitled Buaya Kuning, tells of, "A famous crocodile from the Alas River named Peghiuak Dalung traveled abroad to find a commensurate opponent in the Musi River area. However, Peghiuak Dalung's life ended tragically at the hands of the Siguragu crocodile, the king of the Musi River crocodiles. The death of Peghiuak Dalung saddened the people of Sungai Alas, who finally ordered the Yellow Buayo to avenge the death of Peghiuak Dalung. The

yellow crocodile didn't really want to go because he was aware of his small body and not great strength. Residents and other crocodiles were forced to order the yellow crocodile because there were no more young crocodiles that could be appointed against Siguragu. But thanks to his ingenuity, the yellow crocodile was able to defeat Siguragu and make the crocodiles and the people of the Alas River happy with his victory.

The grid consisting of seven statements is as follows: 1) Bengkulu ethnic children's literary picture books are available in schools, 2) Bengkulu ethnic children's literary picture books are available in regional languages at school, 3) Augmented reality technology illustrated story books are available in schools. school, 4) the character values are reflected in the picture story books available at the school, 5) the character education is reflected in the picture story books available at the school, 6) the Bengkulu local wisdom element is reflected in the picture story books available at the school. schools, and 7) the implementation of routine literacy activities for students. The grid consisting of seven statements is as viewed in Table 2.

Table 2. The grid consisting of seven statements

STATEMENT	PAUD SEJAHTERA		LAB SCHOOL UNIB		PAUD KASIH IBU	
	Yes	No	Yes	No	Yes	No
1		v		v		v
2		v		v		v
3		v		v		v
4	v		v		v	
5	v		v		v	
6		v		v		v
7	v		v		v	

Based on the table 2, it can be concluded that early childhood education for Sejahtera, early childhood education for Kasih Ibu, and early childhood education for Lab School Unib have illustrated story books as a means of improving literacy for their students. This can be seen from statements 4, 5, and 7 which were answered with yes. However, with regard to statements 1, 2, 3, and 6, the two early childhood education institutions stated that there were no illustrated story books for Bengkulu ethnic children's literature, exploration of the Bengkulu regional language in picture story books, and augmented reality technology in picture stories. The results of this observation correlate with the results of interviews where teachers from both early childhood schools stated that the availability of picture story books tended to be in Indonesian and in English. The two early childhood schools do not have picture story books that use the Bengkulu regional language or explore Bengkulu local wisdom with augmented reality technology.

From this story the reader will be given a lesson that arrogant attitude is something that can lead us to something bad. In addition, physical deficiency is not something that will

prevent someone from succeeding. The researcher chose the story to be transformed into a picture story because the two stories have a good mandate so that they can be inserted into the process of character education for children. In addition, the initial goal of accelerating culture based on local wisdom remains the main thing that researchers are trying to do by using local languages in the drafts of illustrated stories of Bengkulu ethnic children's literature with augmented reality technology that the researchers made.

2. Planning

After knowing the content of the mandate reflected in the Buaya Kuning folklore, the researcher then produced a children's story discourse. The concept of the picture book that the researcher presents is a picture story book based on local wisdom to accelerate cultural literacy with a size of 21cm x 21cm. In addition, this picture book contains folk tales that have been modified for children's literature criteria. This book contains a moral message and can be used as a means of character education. Researchers compiled these stories using the local language of the Seluma Serawai ethnic group. The regional language presented is a simple and communicative language so that it is hoped that it can be understood and understood by the reader.

The characterizations presented in the two stories are adapted and modified from folklore. This modification is needed to meet the criteria for a good children's story. In the Buayo Kuning story, there are three characters that appear the most, namely the yellow crocodile, the Peghiuk Dalung crocodile and the Siguragu crocodile. When the character has an attitude that can represent the character in everyday life. The hope is that through these characters the moral message in the story can be conveyed to the reader. After the narration and characters were prepared in the children's literary story frame, the researchers made illustrations that matched the characters and story narration. In the Buayo Kuning story, the crocodile is described as small, ivory yellow, looks weak, his eyes radiate kindness. Unlike the crocodile Peghiuk Dalung which is described as big, tall, and round like a pot, his face shows arrogance. Like Peghiuk Dalung's character, the Siguragu crocodile is depicted with a tall, muscular body and exudes arrogance. A snippet of the illustrated story narrative accompanied by an illustration that the researcher made as views in Fig 2.

The story is told about the fight between Peghiuk Dalung and Siguragu. However, after fighting each other to show their strength, finally the crocodile Peghiuk Dalung lost. This defeat made the people of the Alas River sad and ordered Buayo Kuning to take revenge. This is reflected in the narration of the local language "Kito harus mbalas dendam ke Siguragu kareno ndo gango agi buayo mudo, buayo kuning harus mbalaskah dendam kito yang dalam bahasa

Indonesia memiliki arti kita harus membalas perbuatan Siguragu karena tidak ada lagi buaya muda di antara kita, kau buaya kuning harus membalas dendam ini”.



Fig 2. Narrative and illustration of Buayo Kuning story

The presence of local language children's literature which is transformed into illustrated story discourse will attract young speakers to read and enjoy their local wisdom. The last step in the planning stage is to add technology to the Bengkulu ethnic children's literary picture story, namely augmented reality-based technology. According to Widiantera et al. (2014) in general, AR-Books have two main components, namely books equipped with Quick Response Code (QR) markers on almost every page, and the second is equipment for capturing markers and displaying the results. The design process begins with the design of the application display and icon using the CorelDraw application. Next, the researchers entered the 3D animation development stage using the help of Unity. The animation design process is carried out using the Blender 3D application, the creation starts from modeling animation, followed by providing textures so that the animation is more interesting and continued by providing movements. There are 5 types of animation created. After the animation creation process is complete, we enter the application development stage. Here are some pictures showing the process as viewed in Fig 3.

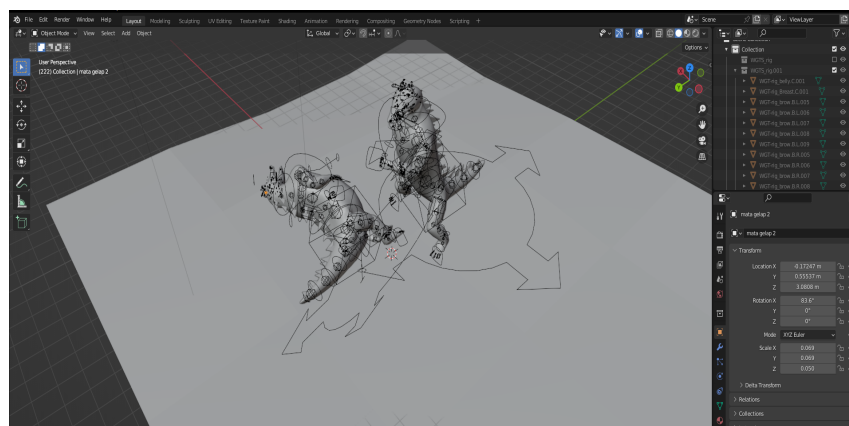


Fig 3. The process of modeling and adding 3D animation motion

Fina Hiasa, et.al (Development of picture story)

The next stage is making markers using Vuforia Developer. The marker is used as an image to be scanned using the Buayo Kuning application, where there are 5 images that are used as markers to display 3D animation. Next is the application creation stage which begins with creating a menu page from the application. using a design that has been made from Coreldraw. At this stage the developer arranges the buttons so that they can function by providing the c# code to the application. Here are the results of the initial appearance of the application that we developed as viewed in Fig 4.

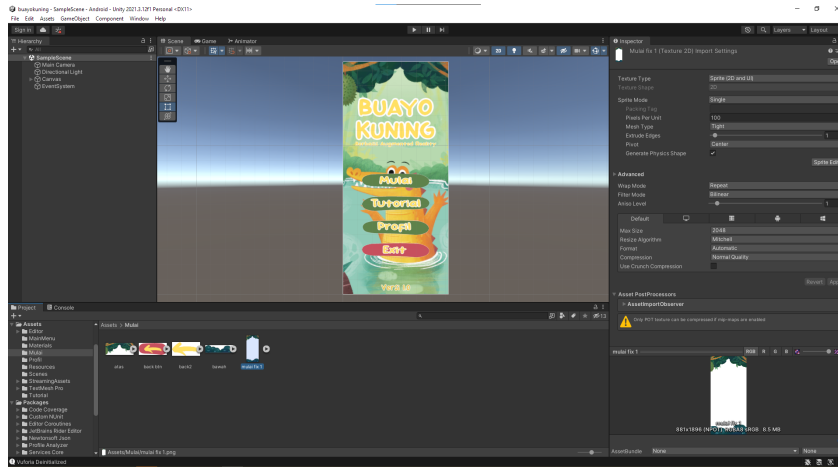


Fig 4. Initial view of the application

In addition, markers and 3D animations that have been made previously are then arranged in the application that the researcher developed. The process of compiling markers functions so that animations can be displayed when the image is scanned using the application. Below are screenshots when the researcher's arranged markers and 3D animations as viewed in Fig 5.

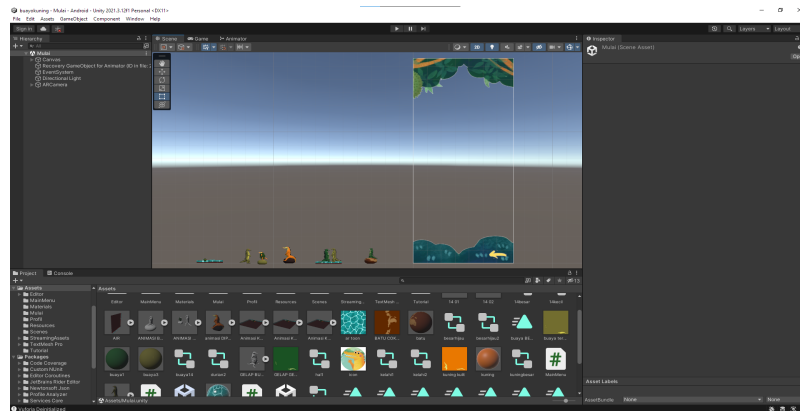


Fig 5. Arrangement of markers and 3D animation

After the marker and 3D animation are connected to the application, it can be stated that the application is ready to use. The application, called the Buayo Kuning application based

on augmented reality technology, consists of several parts, namely the start button, tutorial section, developer profile, and exit button. This application is friendly to users both adults and children. The features of this application are simple and ready to be accessed by all ages by simply pointing the camera at the yellow buayo 2D book, a 3D version of the image will appear. Here is an example of what it looks like when the app is used as viewed in Fig 6.

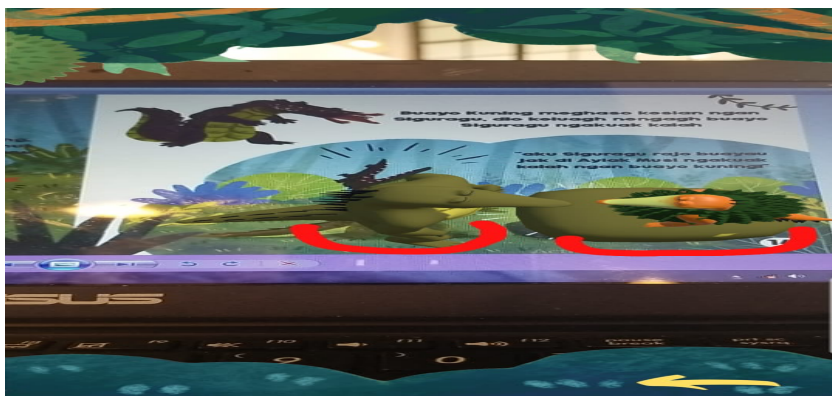


Fig 6. Display when the yellow buayo apk is used

3. Development

At the development stage, the activities carried out are to test the feasibility of the products that have been made. This feasibility test is carried out by asking for validation from material experts, media experts, and user responses. In the validation process, the product that the researcher develops will be assessed, given suggestions, and also input by the validators so that the product developed will be better. The validators will later fill out a questionnaire related to the product being developed. After the questionnaires were filled in, the research team then calculated the content validity or CV of the questionnaires. Calculations from the CV will later be converted to a conversion table of assessments 1 to 5 starting from the lowest which is not feasible to the highest which is very feasible. Next will be explained the results of the feasibility test on the material on the product, product media, and also the user's response to the product.

a. Material Expert Validation

The material validation stage aims to determine the harmony of the discourse of the Bengkulu ethnic children's literary picture story that the researcher made with the folklore that became the source. In addition, the validation of this material is also related to the relevance of the illustrated illustrations that the researcher presents to the discourse of the pictorial stories that the researchers make. The researcher submitted a questionnaire containing an assessment instrument for the product material that the researcher presented

to two validators who had a scientific background in the field of Indonesian literature. The researcher calculates the CV based on the points given by the material validator to assess the feasibility of the material on the product that the researcher makes. The assessment aspects contained in the questionnaire for material experts are as follows; 1) the relevance aspect of the story element consists of 4 indicators, 2) the language aspect consists of 2 indicators, and 3) the image illustration aspect consists of 2 indicators. Material expert validation results for the product development of picture story books assisted by augmented reality (AR) technology based on Bengkulu ethnic children's literature as viewed in Table 3.

Table 3. Material Expert Validation Results

No	Assessment Aspects	Total score	Average Score	Category
1	relevance of story elements	33	4,125	worthy
2	language	15	3,75	worthy
3	picture illustration	18	4,5	so worth it
TOTAL			4,125	worthy

From the table above, the aspect of the relevance of the story elements gets a score of 33 or with an average of 4.125. The indicators contained in aspect 1 are 1) The content of the illustrated story is relevant to the Bengkulu ethnic children's literary story, 2) the meaning of the story is conveyed through a picture story format, 3) the illustrated story discourse presented is interesting, and 4) the suitability of the image with the storyline. The two validators concluded that the aspect of the relevance of the story elements presented by the researcher on the illustrated story product developed was valid or feasible to use.

Next is the language aspect which consists of two indicators, namely 1) the regional language used communicatively and 2) the correctness of the regional language terms used. The validation results from the two validators show that the total score obtained is 15 points or an average of 3.75. In other words, these results indicate that the language aspect contained in the picture story product is categorized as feasible. The last is the aspect of image illustration which consists of two indicators, namely 1) Illustration of an interesting picture and 2) Illustration of an image representing the story. The results obtained in this aspect show a final score of 18 points or the average score is 4.5, which means that image illustrations which are visualizations of story narratives are suitable for use in the Bengkulu ethnic children's literary illustrated story products that the researchers made.

b. Media Expert Validation

The second stage of the product feasibility test is media expert validation, where the researcher asks for media validation of picture story book products with augmented reality technology to

media experts who have expertise in the field of computer science. There are 4 aspects that are assessed in this validation process, namely 1) media display aspects, 2) media content aspects, 3) augmented reality effects on media, and 4) media functionality. The results of an assessment by media experts on the media in the form of a product of the Bengkulu ethnic children's literary picture story with augmented reality technology that the researcher made as viewed in Table 4.

Table 4. Media Expert Validation Results

No	Assessment Aspects	Total score	Average Score	Category
1	Media display	11	3,67	worthy
2	Media Content	16	4	worthy
3	Augmented Reality Effect	11	3,67	worthy
4	Media Functionality	8	4	worthy
TOTAL			3,8	worthy

There are 4 aspects assessed by media experts, aspect 1, namely the appearance of the media consisting of 3 indicators, namely 1) virtual image quality, 2) color selection, and 3) font selection. The total score of the three indicators is 11 or gets an average of 3.67. The appearance of the media on the illustrated story product with augmented reality technology that the researcher developed based on the results of the converted content validity calculation, this aspect gets a decent category.

Next is the aspect of media content which consists of 3 indicators, namely 1) the suitability of images with text, 2) interesting book layouts, and 3) interactive picture illustrations. The result of the assessment of the three indicators is 16 or a conversion score of 4, which means that the media content inserted in the picture story book product with augmented reality technology that the researcher developed is categorized as feasible.

The third aspect is the aspect of the effect of augmented reality which consists of three indicators, namely 1) the suitability of the use of 3D effects, 2) the accuracy of the image design, 3) the functionality of the barcode for the augmented reality effect. The results of the assessment of media experts on this aspect are getting a score of 11 or getting an average of 3.67. In other words, the augmented reality technology that the researcher added to the Bengkulu ethnic children's literary picture story was well realized and suitable for use in the picture story book product that the researcher developed.

The last is the aspect of the functioning of the media which consists of two indicators, namely 1) the smoothness of the barcode (marker) transcription process and 2) the ease of operation of the media. The final score of the media expert validator's assessment is 8 or gets an average of 4. This value indicates that the media that the researcher developed on the picture story book product can be run properly and has a proper function. The four aspects

assessed by the media expert validator get an average final score of 3.8 or fall into the proper category. In other words, the media in the Bengkulu ethnic children's literary picture book product with augmented reality technology deserves to be used as a reference in an effort to accelerate cultural literacy by exploring local wisdom.

Conclusion

The draft of the Bengkulu ethnic children's literary illustrated story book which has been validated by material experts and media experts, is then tested on users. The users in question are young speakers who attend early childhood education. It is hoped that the introduction of the draft book can make young readers interested in their local wisdom. In assessing the feasibility of this product by users, the researchers asked early childhood teachers from Bengkulu City Paud Sejahtera, Ibu Nakau Paud Kasih, and Unib Early Childhood School Lab to help students introduce the draft picture story book. This is because students have not been able to fill out the questionnaire independently, so we ask the teachers to fill in based on the responses and feedback from young readers.

The user validation assessment aspect consists of two aspects. The first is the visual display aspect which consists of two indicators, namely 1) the attractiveness of the design, image, and color in the illustrated story with augmented reality technology and 2) the attractiveness of the font size and type. The total score of the indicator assessment is 13 or getting an average score of 4.3. Based on the visual display aspect, it can be concluded that the design, color, image, size, and typeface used in the product draft of the illustrated story received a very decent or attractive rating.

The second aspect of user validation is the aspect of media usability. This aspect consists of 4 indicators, namely 1) Students are motivated to learn regional languages, 2) Students are motivated to read illustrated stories of Bengkulu ethnic children's literature with augmented reality technology, 3) Students like certain characters in stories, and 4) Students have a desire to resemble the characters they like. Based on user ratings of the product of the Bengkulu ethnic literature illustrated storybook with augmented reality technology, an average score of 3.9 was obtained, which means that the media is considered useful by users. Based on two aspects of the assessment at the user validation stage, the average score obtained is 4.1, which means that the product that the researcher developed is useful for young speakers. Based on the product feasibility test phase by asking for validation from material experts, media experts, and users, it can be concluded that the product that the researcher developed

is feasible to be used as an alternative in improving literacy for young speakers of their local wisdom.

This product development research will produce a product in the form of a picture book design with augmented reality technology based on Bengkulu ethnic children's literary stories. The presence of digital technology is an effective strategy so that target audiences are interested in knowing, learning, and ultimately using regional languages. Researchers use augmented reality technology as a medium that will make the process of knowing, learning and using regional languages fun and also meaningful for young speakers. The folklore in the picture story that the researcher developed is limited to one story, therefore further research is expected to explore several folktales so that the variety of stories in introducing local wisdom to young speakers can be more varied.

Declarations

- Author contribution** : Fina Hiasa was responsible for the entire research project. She also led the writing of the manuscript and the collaboration with all authors. Supadi and Wisman participated in the data collection, transcription, and analysis. They also revised the manuscript. All authors approved the final manuscript.
- Funding statement** : This research was funded by LPPM, Bengkulu University
- Conflict of interest** : This research was funded by LPPM, Bengkulu University
- Ethics Approval** : Information on Ethics Approval and informed consent statements are required for all articles published in BAHASTRA since 2024.
- Additional information** : No additional information is available for this paper.

References

- Azizah, S., & Widyasari, C. (2023). Analisis kemampuan anak usia 4-5 tahun dalam menceritakan kembali buku cerita bergambar yang telah dibacakan. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(3), 3498-3508. doi: [10.31004/obsesi.v7i3.4255](https://doi.org/10.31004/obsesi.v7i3.4255)
- Adipta, H., Maryaeni, M., & Hasanah, M. (2016). Pemanfaatan buku cerita bergambar sebagai sumber bacaan siswa SD. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 1(5), 989-992. doi: [10.17977/jp.v1i5.6337](https://doi.org/10.17977/jp.v1i5.6337)
- Ardyaningtyas, R. (2023). Basabali wiki, penggunaan website kamus digital sebagai langkah untuk melestarikan bahasa Bali. *Journal of Education and Instruction (JOEAI)*, 6(1), 205-222. doi: [10.31539/joeai.v6i1.6052](https://doi.org/10.31539/joeai.v6i1.6052)
- Chandra, Z. (2023). Analisis kurikulum merdeka: Mampukah merevitalisasi bahasa daerah? *Journal of Information Systems and Management (JISMA)*, 2(6), 28-38. doi: [10.4444/jisma.v2i6.565](https://doi.org/10.4444/jisma.v2i6.565)

- Cempaka, A.G. (2013). *Penerapan media story pictures dalam pembelajaran membaca* [Skripsi, Universitas Pendidikan Indonesia].
- Dewanti, L., & Yasmita, E. M. (2022). Pengembangan bahan ajar tematik terpadu berbasis buku cerita bergambar pada siswa di SDN 17 Pasar Surantih Pesisir Selatan-Sumatera Barat. *Jurnal Ilmiah Hospitality*, 11(1), 381-388. doi: [10.47492/jih.v11i1.1622](https://doi.org/10.47492/jih.v11i1.1622)
- Dharma, I. M. A. (2019). Pengembangan buku cerita anak bergambar dengan insersi budaya lokal Bali terhadap minat baca dan sikap siswa kelas v SD kurikulum 2013. *Journal for Lesson and Learning Studies*, 2(1), 53-63. doi: [10.23887/jlls.v2i1.17321](https://doi.org/10.23887/jlls.v2i1.17321)
- Faizah, N., Suyoto, S., Listyarini, I., & Murdhiati, E. (2023). Pengembangan media cerita bergambar digital pada pembelajaran IPS siswa kelas 5 SDN Kalicari 01. *Jurnal Pendidikan Tambusai*, 7(1), 3819-3825. doi: [10.31004/jptam.v7i1.5838](https://doi.org/10.31004/jptam.v7i1.5838)
- Fathoni, K., Setiowati, Y., & Muhammad, R. (2020). Rancang bangun aplikasi modul pembelajaran satwa untuk anak berbasis mobile augmented reality. *Jurnal Media Informatika Budidarma*, 4(1), 32-41. doi: [10.30865/mib.v4i1.1797](https://doi.org/10.30865/mib.v4i1.1797)
- Hadiwijaya, M., Sulistiono, E., & Budiono, D. (2023). Sosialisasi program konservasi dan revitalisasi bahasa daerah melalui aplikasi nusantara in your hand. *Anfatama: Jurnal Pengabdian Masyarakat*, 2(1), 1-5. doi: [10.572349/anfatama.v2i1.244](https://doi.org/10.572349/anfatama.v2i1.244)
- Harimansyah, G., Setiawan, D., Suladi, Inayatushalihah, Jalbi, I., Purwaningsih, Sianipar, J., Handayani, R., Prihartono, W., Nugroho, M., Sudarmaji, M., Susanto, D.A., Suharto, P., Hidayat, R., & Prasetyawan Ps, N. A. (2019). *Menjaga bahasa, memuliakan bangsa: Bunga rampai konservasi bahasa dan sastra daerah*. Badan Pengembangan dan Pembinaan Bahasa Kemendikbud RI.
- Hermanto, Y. A. L. (2019). Visual storytelling in folklore children book illustration. *Asian Journal of Research in Education and Social Sciences*, 1(1), 62-70. <https://myjms.mohe.gov.my/index.php/ajress/article/view/7107>
- Hunt, P. (1991). *Criticism, theory, and children's literature*. Basil Blackwell Ltd.
- Hurlock, E. (2001). *Psikologi perkembangan*. Erlangga.
- Jamilati, N., Anshori, M. I., & Salsabila, S. N. (2023). Penggunaan teknologi digital untuk meningkatkan kinerja pengelola pariwisata berkelanjutan studi kasus di kabupaten Bangkalan. *Innovative: Journal of Social Science Research*, 3(6), 154-169. doi: [10.31004/innovative.v3i6.6102](https://doi.org/10.31004/innovative.v3i6.6102)
- Johnston, I. (2000). *Literature and social studies: Exploring the hyphenated spaces of canadian identity*. Canadian Social Studies.
- Kato, H. (2012). Introduction to augmented reality. *Journal of the Institute of Image Information and Television Engineers*, 66(1), 51-56. doi: [10.3169/itej.66.53](https://doi.org/10.3169/itej.66.53)
- Kementerian Pendidikan dan Kebudayaan. (2018, Maret 28). *Sukseskan GLM, badan bahasa siapkan peta literasi nasional*. Kemendikbud. <https://www.kemdikbud.go.id>
- Kementerian Pendidikan dan Kebudayaan. (2022, February 22). *Sasar generasi muda, festival tunas bahasa ibu jadi puncak revitalisasi bahasa daerah*. Kemendikbud. <https://www.kemdikbud.go.id>
- Krissandi, A.D.S. (2017). *Merancang buku cerita bergambar sebagai media membaca anak yang berkarakter*. Sanata Dharma University Press.
- Lubis, A.H., & Dasopang, M.D. (2020). Pengembangan buku cerita bergambar berbasis augmented reality untuk mengakomodasi generasi z. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 5(6), 780-791. doi: [10.17977/jptpp.v5i6.13613](https://doi.org/10.17977/jptpp.v5i6.13613)

- Lynch-Brown, C. & Tomlinson, C. (2005). *Essentials of children's literature*.
- Masse, B. A., & Ainun, A. N. (2020). Perancangan aplikasi magic book pengenalan hewan air dengan teknologi augmented reality. *Jurnal Elektronik Sistem Informasi dan Komputer*, 4(1), 47-62. <https://jesik.web.id/index.php/jesik/article/view/78>
- Matulka, D. I. (2008). *A picture book: Understanding and using picture books*. Greenwood Publishing.
- Meek, M. (2001). *Children's literature and national identity*. Trentham Books.
- Mu'jizah. (2018). Preservasi dan revitalisasi bahasa dan sastra Nafri, Papua: Sebuah bahasa hampir punah. *Aksara*, 30(1), 75-88. doi: [10.29255/aksara.v30i1.217.75-88](https://doi.org/10.29255/aksara.v30i1.217.75-88)
- Nauvalia, N., & Setiawan, I. (2022). Peran media "Tik Tok" dalam memperkenalkan budaya bahasa Indonesia. *Satwika: Kajian Ilmu Budaya dan Perubahan Sosial*, 6(1), 126-138. doi: [10.22219/satwika.v6i1.20409](https://doi.org/10.22219/satwika.v6i1.20409)
- Nurdiyantoro, B. (2005). *Sastra anak pengantar pemahaman dunia anak*. Gajah Mada University Press.
- Pantaleo, S. (2001, September 2). *Exploring Canadian identity through Canadian children's literature*. Eric. <https://eric.ed.gov/?id=EJ667635>
- Paramita, G. A. P. P., Agung, A. A. G., & Abadi, I. B. G. S. (2022). Buku cerita bergambar guna meningkatkan keterampilan membaca muatan pelajaran bahasa Indonesia siswa kelas III SD. *Mimbar Ilmu*, 27(1), 11-19. doi: [10.23887/mi.v27i1.45499](https://doi.org/10.23887/mi.v27i1.45499)
- Purwani, R. (2020). Pengembangan buku cerita bergambar berbasis karakter untuk pembelajaran membaca siswa SD kelas iv. *Jurnal Pendidikan Bahasa Indonesia*, 8(2), 180-194. doi: [10.30659/j.8.2.180-194](https://doi.org/10.30659/j.8.2.180-194)
- Putra, N. (2011). *Research and development (Penelitian dan pengembangan: Suatu pengantar)*. Raja Grafindo Persada.
- Ratumanan, S. D., Rahman, H., Karlina, D. A., Rahayu, G. D. S., & Anggraini, G. F. (2022). Upaya pemberdayaan penggunaan bahasa daerah melalui budaya literasi digital. *COLLASE (Creative of Learning Students Elementary Education)*, 5(1), 69-76. doi: [10.22460/collase.v5i1.9990](https://doi.org/10.22460/collase.v5i1.9990)
- Ria, F. X., Awe, E. Y., & Laksana, D. N. L. (2023). Kemampuan membaca pemahaman dalam pembelajaran literasi dengan suplemen buku cerita bergambar: Studi tindakan kelas pada pembelajaran tematik. *Jurnal Pendidikan Dasar Flobamorata*, 4(2), 570-577. doi: [10.51494/jpdf.v4i2.1006](https://doi.org/10.51494/jpdf.v4i2.1006)
- Rojiq, A. F., & Fajri, B. R. (2023). Rancang bangun augmented reality 3 dimensi untuk promosi perumahan archipel. *Jurnal Pendidikan Tambusai*, 7(1), 976-981. doi: [10.31004/jptam.v7i1.5200](https://doi.org/10.31004/jptam.v7i1.5200)
- Rulyansah, A., Asmarani, R., Mariati, P., & Rahmawati, N. D. (2022). Kemampuan guru junior dalam mengajarkan proses berpikir untuk menyelesaikan soal cerita sederhana: Studi pada guru matematika sekolah dasar. *Jurnal Basicedu*, 6(1), 203-213. doi: [10.31004/basicedu.v6i1.1941](https://doi.org/10.31004/basicedu.v6i1.1941)
- Samar, I. (2023). Implementasi augmented reality pada aplikasi pengenalan objek wisata di kota Ambon. *Jurnal Informatika Polinema*, 9(2), 183-192. doi: [10.33795/jip.v9i2.1224](https://doi.org/10.33795/jip.v9i2.1224)
- Saragih, E. N. (2021). *Serentak bergerak, wujudkan merdeka belajar*. Deepublish.
- Sari, L. D. K., & Wardani, K. W. (2021). Pengembangan buku cerita bergambar digital untuk meningkatkan karakter tanggung jawab siswa di sekolah dasar. *Jurnal Basicedu*, 5(4), 1968-1977. doi: [10.31004/basicedu.v5i4.1138](https://doi.org/10.31004/basicedu.v5i4.1138)

- Sitepu, R. K. K., & Mahesa, R. (2023). *Kajian pembangunan daerah pada rencana kerja pemerintah tahun 2023*. Widina Bhakti Persada Bandung.
- Thiagarajan, S., Semmel, D.S., & Semmel, M.I. (1974). *Instructional development for training teachers of exceptional children*. Leadership Training Institute.
- Ulya, D. F., Aziz, F. A., & Rahma, T. F. (2024). Dinamika sikap generasi milenial terhadap bahasa Indonesia pada mahasiswa fakultas dakwah Unisba angkatan 2022. *Perspektif: Jurnal Pendidikan dan Ilmu Bahasa*, 2(1), 167-180. doi: [10.59059/perspektif.v2i1.1061](https://doi.org/10.59059/perspektif.v2i1.1061)
- Widiantara, E.P., Darmawiguna, I.G.M., Crisnapati, P.N., & Sunarya, I.M.G. (2014). Augmented reality story book project. *Karmapati*, 3(5), 326-333. doi: [10.23887/karmapati.v3i5.19799](https://doi.org/10.23887/karmapati.v3i5.19799)
- Zalmi, R. Y., & Mahyuddin, N. (2021). Analisis kesantunan berbahasa anak pada buku cerita bergambar di taman kanak-kanak. *Jurnal Golden Age*, 5(2), 482-492. doi: [10.29408/goldenage.v5i2.3957](https://doi.org/10.29408/goldenage.v5i2.3957)