

# The Development of Panjiasia Book based on Augmented Reality to Strengthen Pancasila Values for Children in Early Childhood Education

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## ABSTRACT

*This research aims to develop a PANJIASIA book based on augmented reality that is able to bridge young children to know, understand, internalize and apply the values of Pancasila in everyday life. This research uses the type of research and development (Research and Development) with research stages 1) the initial survey in the field was taken based on data on the needs of PAUD teachers in instilling Pancasila values in early childhood; 2) Prototype FGD; 3) Development of Augmented Reality-based PANJIASIA Books and prototype workshops; 4) validation of the PANJIASIA Book by validation of media experts and material experts; 5) Implementation of the PANJIASIA Book begins with small scale implementation and large scale implementation; 6) Publication and dissemination of the PANJIASIA Book to PAUD teachers in the Watershed (DAS) of Palangka Raya City. The results of this study, namely based on the results of the responses of PAUD teachers in FGD activities, showed a figure of 96%, which means that the quality of the products being developed is very feasible to be applied in the implementation of Pancasila learning. In addition, based on the validator's assessment, it shows a figure of 86%, which means that the product being developed is valid and feasible to use. Based on the results of small-scale and large-scale implementation, the results show that students are enthusiastic about learning Pancasila using books that have been developed because they are integrated with Augmented Reality technology.*

**Keywords:** *Books; augmented reality; pancasila; early childhood*

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## INTRODUCTION

Pancasila is a reflection of the diversity of the Indonesian nation, and the common experience as a nation that was once colonized is the main reason why Pancasila is used as a common ground for the foundations and ideals of establishing a prototype of Indonesia. In addition, Pancasila functions as a guiding star or Leitstar, as a national prototype, as a nation's outlook on life, as an glue or unifier for the nation, and as the central insight of the Indonesian people in achieving national goals. Pancasila is a fairly flexible container, which can include

positive understandings that are adhered to by the Indonesian nation and consist of positive values and norms following the outlook on life of the Indonesian nation.

Over time, with the rapid development of globalization, modernization and the rapid era of information technology, the values contained in the Pancasila precepts began to erode and experienced a significant setback. Indications of the decline in the implementation of Pancasila values at the practical level can be seen from the diminishing national spirit, many behaviors that deviate from Pancasila values, and the awareness of belonging to the Indonesian nation which has begun to be ignored in almost all generations of the Indonesian nation. The spread of immoral behavior can be seen in the behavior of today's youth, such as the spread of drugs, free sex, violence, and so on. This condition, of course, has an impact on the progress of the nation. Teenagers are the next generation who must always equip themselves with positive values (Prasasti, 2017). Also, immoral behavior can be seen from blurring good and bad morals. Seeing this requires us to protect and save the nation from destruction (Dewantara J.A, 2021).

Seeing this fact, efforts are needed to revive national values, especially the noble values contained in Pancasila. This is none other than aimed at reaffirming national identity amidst the multidimensional currents of globalization and modernization. By orienting behavior to the values of Pancasila, it can be a solution in forming good characteristics in the nation's children, and it is expected to be able to provide fundamental changes in mentality, ways of thinking, ways of feeling and ways of believing that are manifested in behavior and daily actions (Desmita D, 2016).

One way to care for Pancasila values is to pass them on to generations of the Indonesian nation, including early childhood through educational prototypes. Education is one of the most critical aspects of building prototypes (Putri AL, Charista FDF, Lestari S, Trisiana A, 2020). In developing education, it is necessary to apply Pancasila values so that education can create quality human resources. The government considers the most effective socialization of Pancasila by integrating it into the education curriculum (Darmadi, 2020).

The inculcation of Pancasila values into the Early Childhood Education (PAUD) curriculum is very important in realizing the Pancasila Student Profile. Education about Pancasila values is very appropriate when instilled in children from an early age, this is so that when they grow up, they will get used to the actions, attitudes and behavior that are in following Pancasila values (Ruslan, 2017). This is also based on the prototype that early childhood is the initial foundation for further development. Early childhood is the golden age of a child, where moral, cognitive, motor, social, and emotional development is growing rapidly. For this reason, it is necessary to lay the foundations of personality which will become the pillars of identity when the child grows

up. As stated by Sujiono, early childhood is a child who has just been born until the age of 6 years. This age is the age that determines the formation of a child's character and personality (Sujiono, 2009).

Currently, the world of education is presented with a decline in morale caused by many factors, one of which is the poor social environment coupled with the presence of the internet and gadgets whose contents exacerbate the social environment. The actual incident in September 2016 in Wates District, Kediri Regency was the brutal persecution of kindergarten students against their younger siblings who were in Early Childhood Education (PAUD) because of the struggle (Hari, 2016). Seeing this case, efforts are needed as early as possible to reduce cases of delinquency committed in early childhood. To respond to this, efforts are needed to build the quality of Human Resources (HR) based on Pancasila (Arief, 2018). The noble values that have crystallized in the Pancasila precepts become the foundation in children, so that we can start planting Pancasila noble values in early childhood. Early age is the right time to start instilling Pancasila values. This is based on the argument that early age is a golden age, where it is very easy for children to grasp and practice something. Therefore, it needs to be bridged with the suitable media.

The impact of science and technology development is felt in human life. With the increasingly convergent boundaries between humans, machines, information and communication technology impact various sectors of life, one of which is the impact on the education system in Indonesia. Humans and technology are aligned to create new creative and innovative opportunities, one of which is through effective learning media. One solution to create interesting learning for early childhood is to adapt technology into learning. One of them is by developing a creative, innovative and fun learning book, namely the PANJIASIA Book (Pancasila Jiwa Indonesian Early Childhood). This book was developed to help teachers at the Early Childhood Education level in order to create a fun and meaningful learning process. Augmented Reality technology in the Pancasila learning process for early childhood is outstanding. Through Augmented Reality technology which is integrated into the learning process, it can become a digital visual aid that displays the values of Pancasila. This Augmented Reality technology is interesting and easy to understand for teaching Pancasila values to early childhood (Senduk, E.P, Sinsuw, A.E.E, Karouw, 2016). The book developed is based on Augmented Reality, namely technology that can combine virtual objects into two dimensions (2D) or three dimensions (3D) into a real environment, then project these objects in real-time (Radu, 2012). This book will be adapted to the learning materials at the PAUD level, namely social-emotional material and religious morals.

This research was conducted at early childhood education institutions in the Watershed (DAS) of Palangka Raya City. The choice of location was based on the condition of early childhood education in the Watershed Area which still needed improvement and needed improvement, especially Pancasila education. Conventional learning models and the absence of learning media to teach Pancasila values impact early childhood understanding of Pancasila values and their application in everyday life. This is in line with the results of research (Hendrawati, 2020) that by implementing innovative learning the implementation of the learning process students tend to be active, and the teacher becomes a facilitator. In conventional learning, the teacher is more dominant in the learning process than students. This research focuses on developing books that are capable of being learning media for teachers to teach Pancasila values. With the existence of the PANJIASIA Book, it is hoped that it will become a digital learning media capable of displaying Pancasila values packaged in the form of innovative, creative and fun three-dimensional (3D) animation. This research aims to develop an augmented reality that can bridge young children to know, understand, internalize and apply the values of Pancasila in everyday life.

## **MATERIALS AND METHOD**

The method used in this research is research and development with the stages of analysis, development, testing, product revision and dissemination. Researchers submitted a research design for a period of one year. Within 3 months the results to be achieved were: 1) an initial prototype in the field was taken based on data on the needs of PAUD teachers in instilling Pancasila values in early childhood; 2) Integration of Pancasila values in material through preparatory workshops and development of integration of Pancasila values in Social Emotional and Moral Religion materials, as well as Prototype FGDs; 3) Development of the PANJIASIA Book based on Augmented Reality; 4) Preparation and validation of instruments to validate the PANJIASIA Book followed by the stages of validation of media experts and material experts; 5) Implementation of the PANJIASIA Book begins with small scale implementation and large scale implementation; 6) Publication and dissemination of the PANJIASIA Book to PAUD Cluster Watershed (DAS) teachers in Palangka Raya City.

This goal can be achieved by taking a number of steps, namely:

1. Compile and develop initial prototypes in the field related to teacher needs for the availability of interesting learning media to teach Pancasila material in PAUD.

2. Workshop on preparation for the developing of Pancasila values material in early childhood.

This first workshop was held to provide knowledge to teachers on the importance of learning Pancasila as early as possible in accordance with the Independent Curriculum in PAUD, in order to support the strengthening of the profile of Pancasila students.

3. FGD *prototype* material of Pancasila values in early childhood.

Based on this FGD activity, an outline of Pancasila values material was obtained which was packaged in the form of stories themed on children's daily lives and integrated into *Augmented Reality-based books*.

4. Improvement of the material development of FGD results of Pancasila values material in early childhood. In this improvement activity, several material contents were selected in the PANJIASIA Book which was displayed in the form of the Pancasila symbol.

5. Workshop on the development of PANJIASIA Books based on *Augmented Reality*.

In this second workshop, training was carried out for teachers in using *Augmented Reality* applications.

6. Design and manufacture of PANJIASIA Book *Prototype based on Augmented Reality*.

7. Expert validation of early childhood learning media.

8. The media validation step is needed before the PANJIASIA Book is tested by involving validators who are PAUD PG Lecturers at Palangka Raya University, who teach the Moral and Religious Values Development in Early Childhood course

Small-scale and large-scale implementation of the PANJIASIA Book

This study's small-scale and large-scale implementation involved students from the Central Kalimantan Watershed PAUD Cluster with an age range of 4-6 years.

9. Reflect and evaluate the results of the validation and implementation of the PANJIASIA Book.

Furthermore, an evaluation of the assessment and suggestions from validators is carried out, as well as deficiencies found from small-scale and large-scale implementation activities to improve the final product.

10. Disseminate the PANJIASIA Book

The final product of the PANJIASIA Book was then disseminated to the Central Kalimantan Watershed ECD Cluster.

11. Recorded PANJIASIA Book on HaKI

12. Prepare reports and draft articles to be published in accredited journals and mass media publications

## RESULTS & DISCUSSION

Based on the research that has been carried out, the research results were obtained from the results of the teacher's response during the workshop activities and FGD, as well as the results of the validation test by the validator. The results are as follows.

### *Results of Teacher Responses*

Based on the Workshop and Forum Group Discussion implementation, the results of teacher responses were obtained from 5 teachers from the Bahalap Mutiara Hati Mendawai Integrated PAUD, Palangka Raya City. Data on the results of teacher responses are listed in the following table.

**Table 1.** Teacher Response Results

No	Name	Position	Precentage
1.	TS	Pengelola PAUD	92%
2.	P	Wali Kelas B1	100%
3.	SW	Wali Kelas A	100%
4.	HS	Wali Kelas KB	86%
5.	A	Wali Kelas B2	100%
<b>Average</b>			<b>95.6%</b>

The results of calculating the average percentage of product feasibility from the teacher's response amounted to 95.6%, with very decent product qualifications. Suggestions and input from teachers regarding the development of the Augmented Reality-Based Panjiasia Book, namely that more books can be printed and distributed to other PAUD institutions because they are very useful as teaching materials for teachers to introduce Pancasila to early childhood.

### *The results of the Substance Validation*

The substance in the Panjiasia Book was validated by the validator, a Lecturer in PG PAUD FKIP, University of Palangka Raya, lecturer in the course on Development of Moral and Religious Values in Early Childhood. The results of the validation aim to determine the validity and feasibility of the book developed using indicators 1) content quality; 2) coverage accuracy; and 3)

language. The results of the validation of the Panjiasia Book can be seen in Table 2, and it can be seen that the calculated results of the validation test are 86%, with the product criteria being very valid or usable without revision.

**Table 2.** Validation Test Results by Validators

No	Indicator	Grain Evaluation	Score
1	Content Quality	1. Book contents give Children's knowledge of Pancasila	4
		2. Story content in book in accordance with objective Pancasila learning in PAUD	4
		3. Picture presented in accordance with objective Pancasila learning in PAUD	4
		4. Picture presented is form innovation learning in early childhood education	4
2	Accuracy Scope	5. Example activities carried out by the Panji figure inside book in accordance with effort Strengthening Profile Pancasila students at PAUD	4
		6. Example activities carried out by the Panji figure inside book in accordance with level development child age early	4
		7. Example activities carried out by the Panji figure inside book in accordance with activity daily child	4
3	Language	8. language used easy understood child	5
		9. Sentence used in book easy understood child	5
		10. Sentence used is good sentence For child	5
<b>Total Score</b>			<b>43</b>

$$P = \frac{\sum X}{\sum Xi} \times 100\%$$

$$P = \frac{43}{50} \times 100\% = 86\%$$

Based on the suggestions and input from the validator, the drafting team continued to revise the product as a follow-up to improving the Panjiasia Book by adding a *barcode logo* or *scan me description* on pages that required HP and application assistance when reading. The product revisions carried out are presented in the following figure.

**Figure 1.** Before Revision



**Figure 2.** After Revision



Based on the results of the product validation test from the validator who obtained very valid results and was feasible to use, then small-scale and large-scale implementation of the Panjiasia Book was carried out with the results that in general the children in PAUD institutions responded well to the Panjiasia Book because children felt interested and enthusiastic about learning Pancasila from the interesting and innovative substances presented in the book.

Early age is the right time to instill Pancasila values. Early childhood tends to act according to their own wishes regardless of the consequences they will receive. In addition, early childhood has a high curiosity, so they often ask questions because their curiosity is very high. Every behavior and deed also needs guidance so that little by little his behavior is following Pancasila. Moral formation in children from an early age is needed. This is intended so that the child's behavior does not deviate from the values of Pancasila. Moral formation needs to be done gradually so that children can understand and absorb it which can then be applied to their behavior and actions. Instilling Pancasila values in early childhood can be done in various ways. It can be started with small things that are easily captured, understood and carried out by the child. This is meant to be easy for children to do. Thus, children feel comfortable and happy to do it without feeling burdened.

One way to instill Pancasila values in early childhood is by packaging them into an interesting book technology based on Augmented Reality. Augmented Reality (AR) technology has the potential to become a source of knowledge and development for early childhood (Cansu, 2019). The advantage that can be obtained from Augmented Reality technology is that it can increase understanding of the object that is being studied by children, this is because the use of Augmented Reality technology as a learning medium in early childhood can provide an understanding of an object in a concrete way, sound and image improvisation that supports a learning atmosphere, as well as being able to attract children's attention and focus in the learning

process (Anggara & Kustiawan, 2019). Augmented Reality is more effectively used as a learning medium, compared to media such as books, videos and the use of ordinary prototypes (Yuen SCY, Yaoyuneyong G, Johnson, 2011). In this Augmented Reality technology, there is a process of combining real and virtual objects in the form of integration between objects in three dimensions, namely virtual objects that are integrated into the real world, thus helping the learning process run interactively in real time.

Integrating Pancasila values into the Early Childhood Education curriculum packaged with Augmented Reality-based books is an innovative and renewable breakthrough. The content of the early childhood education curriculum must contain and focus on aspects of child development which include 1) Religious and Moral Values, 2) Physical Motor, 3) Cognitive, 4) Language, 5) Social and Emotional and most recently, 6) Pancasila Values (PP Number 4 of 2022 concerning National Education Standards). From the contents of the curriculum, this research will focus on the material values of Pancasila, which are packaged into an augmented reality-based book named PANJIASIA Book (Pancasila Jiwa of Indonesian Early Childhood).

### ***Results of Small-Scale and Large-Scale Implementation***

The small scale implementation involved five children and the large scale implementation involved 25 children. Based on of small scale and large scale implementations, it was found that early childhood was easier and very enthusiastic about learning Pancasila and its implementation in everyday life using the PANJIASIA book. Children's interest is seen when there is a change in appearance from the image of the Pancasila symbol to the image of activities carried out by characters in the PANJIASIA Book. The following is documentation of small scale implementations and large scale implementations.

**Figure 3.** Small Scale Implementation Documentation



**Figure 4.** Large Scale Implementation Documentation



## **CONCLUSION**

The impact of science and technology development is felt in human life. With the increasingly convergent boundaries between humans, machines, information and communication technology impact various sectors of life, one of which is the impact on the education system in Indonesia. Humans and technology are aligned to create new creative and innovative opportunities, one of which is through effective learning media. One solution to create interesting learning for early childhood is to adapt technology to learning. This Panjiasia book that has been compiled contains learning Pancasila in early childhood and is presented with augmented reality. Based on the validation test by obtaining results of 86%, with very valid product criteria or can be used without revision. In addition, based on the product feasibility test from the teacher's response during the workshop and FGD activities, 95.6% was obtained, with the product qualification being very feasible to use. Suggestions and input from teachers regarding the development of augmented reality namely so that more books can be printed and distributed to other PAUD institutions because they are very useful as teaching materials for teachers to introduce Pancasila to early childhood.

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