

**DEVELOPMENT OF BUSAKBAR MEDIA (CULTURAL DIVERSITY POCKET BOOK BASED ON AUGMENTED REALITY) TO ENHANCE STUDENTS' LEARNING INTEREST IN PANCASILA EDUCATION FOR FIFTH-GRADE ELEMENTARY STUDENTS**

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**ABSTRACT**

*This research aims to develop and validate BUSAKBAR (Cultural Diversity Pocket Book Based on Augmented Reality) as an innovative learning medium to enhance fifth-grade students' interest in learning Pancasila Education. The study applies a Research and Development (R&D) approach using the ADDIE model Analysis, Design, Development, Implementation, and Evaluation. Data were collected through questionnaires, expert validations, and pre- and post-tests. The findings revealed that the BUSAKBAR media achieved high validity, with the material expert evaluation reaching 87.5% and the media expert evaluation reaching 91.23%, both categorized as highly feasible. Classroom implementation demonstrated a 47% improvement in learning interest from the pre-cycle to the first cycle, with 88% of students categorized as having high or very high learning interest. The novelty of this study lies in integrating Augmented Reality (AR) technology into a portable pocket book format specifically designed for Pancasila Education an area that has received limited attention in previous research compared to science and mathematics subjects. BUSAKBAR combines visual interactivity, cultural representation, and character education aligned with the Pancasila Student Profile within the Merdeka Curriculum. This innovation provides a practical and engaging learning tool that bridges traditional print-based and digital learning environments. Therefore, BUSAKBAR can be considered a valid and effective medium to foster students' learning motivation and appreciation of Indonesia's cultural diversity.*

*Keywords: Augmented Reality, BUSAKBAR, Learning Interest, Pancasila Education Innovation*

## **ABSTRAK**

Penelitian ini bertujuan untuk mengembangkan dan memvalidasi BUSAKBAR (Buku Saku Keberagaman Budaya Berbasis Augmented Reality) sebagai media pembelajaran inovatif untuk meningkatkan minat belajar siswa kelas V dalam mata pelajaran Pendidikan Pancasila. Penelitian ini menggunakan pendekatan Research and Development (R&D) dengan model ADDIE yaitu Analysis, Design, Development, Implementation, dan Evaluation. Data dikumpulkan melalui angket, validasi ahli, serta pre-test dan post-test. Hasil penelitian menunjukkan bahwa media BUSAKBAR memiliki tingkat validitas yang tinggi, dengan penilaian ahli materi mencapai 87,5% dan penilaian ahli media mencapai 91,23%, keduanya termasuk kategori sangat layak. Implementasi di kelas menunjukkan adanya peningkatan minat belajar sebesar 47% dari pra-siklus ke siklus I, dengan 88% siswa termasuk dalam kategori minat belajar tinggi atau sangat tinggi. Kebaruan penelitian ini terletak pada integrasi teknologi Augmented Reality (AR) dalam format buku saku portabel yang dirancang khusus untuk Pendidikan Pancasila sebagai sebuah bidang yang selama ini kurang mendapat perhatian dalam penelitian sebelumnya dibandingkan mata pelajaran sains dan matematika. BUSAKBAR memadukan interaktivitas visual, representasi budaya, dan pendidikan karakter yang selaras dengan Profil Pelajar Pancasila dalam Kurikulum Merdeka. Inovasi ini memberikan alat pembelajaran yang praktis dan menarik, yang menghubungkan pembelajaran berbasis cetak tradisional dengan lingkungan pembelajaran digital. Dengan demikian, BUSAKBAR dapat dianggap sebagai media yang valid dan efektif untuk meningkatkan motivasi belajar dan apresiasi siswa terhadap keberagaman budaya Indonesia.

Kata kunci: Augmented Reality, BUSAKBAR, Minat Belajar, Inovasi Pendidikan Pancasila.

### **1. Introduction**

Education in the 21st century requires learning transformation that integrates technology, creativity, and active participation. The rapid advancement of digital technology has significantly influenced the field of education, especially in Indonesia. According to the Central Bureau of Statistics (BPS, 2022), 67.88% of Indonesians aged five and above own smartphones, and 93% of students use smartphones for

learning activities (Kominfo, 2022).

This situation provides opportunities for teachers to design learning media that are not only accessible but also engaging for students who are already familiar with digital technology.

Despite this technological potential, learning motivation and interest among elementary school students remain relatively low, particularly in civic and moral subjects such as Pancasila

Education. This subject plays a critical role in shaping students' character, nationalism, and understanding of cultural diversity. However, the learning process is often perceived as monotonous because it relies heavily on conventional teaching methods and textual materials (Nababan et al., 2025). As a result, many students lose interest and become passive learners. The findings of preliminary observations at SD Negeri Kutowinangun 08 Salatiga revealed that only 60% of fifth-grade students achieved satisfactory assessment results in Pancasila Education, particularly in the topic of Cultural Diversity in Indonesia. Students reported difficulties in understanding the extensive material and memorizing cultural content, leading to low engagement and attention in class.

To overcome these challenges, innovative learning media that are both interactive and contextually relevant are essential. In this regard, Augmented Reality (AR) technology provides an alternative learning approach that merges virtual and real-world environments, enabling

students to visualize abstract concepts more concretely (Nugroho et al., 2024). Research has demonstrated that AR enhances motivation, attention, and learning outcomes across various subjects. Integrating AR into civic education allows students to explore Indonesia's cultural diversity more vividly, fostering curiosity and appreciation for national values.

At the same time, pocket books serve as practical, portable, and learner-centered materials that support independent study. When combined with AR features, pocketbooks become powerful media that bridge traditional and digital learning (Sucipta et al., 2025). This integration aligns with the Merdeka Curriculum introduced by Indonesia's Ministry of Education, which emphasizes meaningful learning experiences, digital literacy, and character development through the Pancasila Student Profile dimensions critical reasoning, creativity, independence, collaboration, and global awareness (Azzahra & Ali, 2025).

Previous studies have largely focused on applying AR in natural

and social sciences, emphasizing cognitive outcomes rather than affective or motivational aspects. Moreover, research on integrating AR into civic or character education and particularly Pancasila Education remains limited. This study introduces an innovative approach by combining AR technology with a printed pocketbook format, resulting in BUSAKBAR (Cultural Diversity Pocket Book Based on Augmented Reality). The novelty of this research lies in designing a hybrid learning medium that bridges traditional and digital pedagogy while fostering students' national character and cultural awareness. By aligning BUSAKBAR with the Pancasila Student Profile under the Merdeka Curriculum, this study contributes both theoretically and practically to digital learning innovation and offers an evidence-based model to enhance learning interest in civic education contexts.

### **1.1 Literature Review**

- a. Pancasila Education and Cultural Diversity  
Pancasila Education is a core subject in Indonesia's elementary curriculum aimed

at fostering character, morality, and civic responsibility (Usmi et al., 2024). Within the framework of the Merdeka Curriculum, this subject emphasizes the Pancasila Student Profile, which includes dimensions such as faith, global citizenship, critical reasoning, creativity, independence, collaboration, and communication (Hasbi et al., 2023). One of the key themes in Pancasila Education for fifth-grade students is cultural diversity, which encourages learners to appreciate Indonesia's multicultural identity. However, teaching this topic often faces challenges due to the abstract nature of values and limited interactive resources, leading to low learning engagement.

- b. Learning Media and Augmented Reality (AR)

Learning media play an essential role in supporting students' understanding by transforming abstract concepts into concrete

experiences. The integration of Augmented Reality (AR) allows virtual objects to be embedded into real-world environments, creating immersive learning experiences (Ayu Permatasari et al., 2024). AR enhances student motivation, retention, and learning performance by stimulating both visual and kinesthetic senses. Several studies also confirm that AR-based learning can foster deeper understanding and improve learner engagement. However, most AR applications have been focused on STEM-related subjects, leaving a gap in the area of civic and moral education. (Firmansyah & Azhar, 2024)

c. Pocket Book as a Learning Medium

Pocket book is a concise, portable form of printed material designed to simplify learning and promote independent study. Pocket books are especially useful in elementary education because

of their visual appeal and practicality. When enhanced with digital features such as QR codes or AR markers, pocket books can function as hybrid media, combining the tangibility of printed materials with the interactivity of technology (Nugroho et al., 2024). This hybrid approach aligns well with current pedagogical trends that blend traditional literacy with digital innovation.

d. Learning Interest

Learning interest refers to students' psychological tendency to engage actively in learning activities with enjoyment and curiosity (Heri, 2019). Learning interest is measured by four indicators: (1) enjoyment, (2) curiosity, (3) attention, and (4) participation. A high level of learning interest correlates with stronger motivation, better cognitive outcomes, and increased perseverance. Therefore, increasing students' interest in learning is an essential goal of modern education, especially in character-based

subjects such as Pancasila Education(Pendidikan & Perkantoran, 2016).

**e. Research Gap and Theoretical Framework**

Previous studies have shown the effectiveness of AR in enhancing motivation and achievement in various disciplines. However, research combining AR with character education, particularly in Pancasila Education, is still limited. Furthermore, few studies have examined how AR-based learning affects the affective domain—specifically learning interest—rather than only cognitive gains. Therefore, this study proposes a conceptual framework in which the integration of AR and pocket book media (BUSAKBAR) is expected to increase students' learning interest by promoting visual engagement, cultural appreciation, and interactive participation.(Sari et al., n.d.)

## **2. Methodology**

### **2.1 Research Design**

This study employed a Research and Development (R&D)

approach using the ADDIE model, which includes five systematic stages: Analysis, Design, Development, Implementation, and Evaluation (Rohaeni, n.d.). The purpose of this model is to produce a valid, practical, and effective educational product—in this case, the BUSAKBAR learning media.

### **2.2 Participants and Setting**

The research was conducted at SD Negeri Kutowinangun 08 Salatiga, Central Java, Indonesia. Participants consisted of 17 fifth-grade students during the 2024/2025 academic year. Expert validators included one media expert and one material expert with relevant academic backgrounds in instructional design and civic education.

### **2.3 Data Collection Techniques**

Data were collected through:

- a. Expert validation sheets, to evaluate the feasibility and appropriateness of the content and design of BUSAKBAR.
- b. Learning interest questionnaires, administered before and after the intervention to measure changes in students' motivation and engagement.

c. Observation sheets and documentation, used to record students' reactions and participation during implementation.

#### **2.4 Instruments and Validation**

The instruments used in this study consisted of structured questionnaires using a five-point Likert scale.

- a. Material validation focused on content accuracy, relevance to learning
- b. objectives, and alignment with the Pancasila Student Profile.
- c. Media validation assessed the design, interactivity, and functionality of the AR integration using the Assemblr Edu application. All instruments were tested for validity and reliability before application.

#### **2.5 Data Analysis**

Quantitative data from validation and questionnaires were analyzed using descriptive statistics and comparative analysis. The validity scores were categorized based on percentage intervals:

- 81–100% = Very Feasible.
- 61–80% = Feasible.
- 41–60% = Fair.
- Below 40% = Not Feasible.

Pre-test and post-test data on learning interest were analyzed using the independent sample t-test to determine the significance of improvement after implementing BUSAKBAR. Qualitative data from observations were analyzed through thematic interpretation to complement quantitative findings.

### **3. Results and Discussion**

#### **3.1 Product Development Results**

The development of BUSAKBAR followed the five systematic stages of the ADDIE model.

- Analysis Stage: Preliminary observations revealed that students' learning interest in Pancasila Education was low, with only 60% of students meeting the minimum learning criteria. The cause was identified as a lack of engaging media and teacher-centered instruction.
- Design Stage: The BUSAKBAR prototype was created containing (1) learning objectives, (2) content about Indonesia's cultural diversity, (3) AR markers integrated via the Assemblr Edu application, and (4) reflection activities.
- Development Stage: Visual and interactive components were designed using AR to visualize traditional houses, clothes, and cultural objects.

- Implementation Stage: BUSAKBAR was tested with 17 fifth-grade students.
- Evaluation Stage: Expert validation and student learning interest data were analyzed quantitatively.

Picture 1. Design of BUSAKBAR (Cultural Diversity Pocket Book Based on Augmented Reality)



The results of expert validation are presented in Table 1.

**Table 1. Expert Validation Results of BUSAKBAR Media.**

No	Validator Type	Evaluation Aspect	Score (%)	Category
1	Material Expert	Content accuracy, relevance, and clarity	87.5	Very Feasible
2	Media Expert	Design quality, interactivity, and usability	91.23	Very Feasible
3	<b>Average Score</b>		<b>89.36</b>	<b>Very Feasible</b>

The data indicate that BUSAKBAR met the very feasible category from both experts. The media was considered accurate, attractive, and

suitable for classroom implementation.

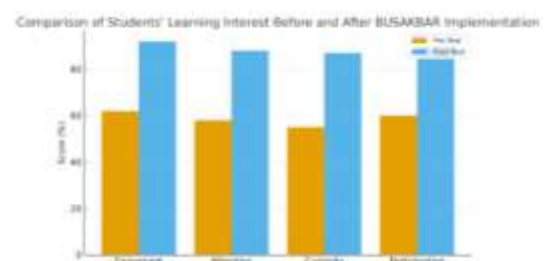
### 3.2 Implementation Results

The determine BUSAKBAR's effectiveness, students' learning interest was measured before and after the learning intervention using a standardized questionnaire.

**Table 2. Comparison of Students' Learning Interest Scores.**

No	Indicator of Learning Interest	Pre-Test (%)	Post-Test (%)	Gain (%)	Description
1	Enjoyment	62.0	92.0	+30.0	Increased significantly
2	Attention	58.0	88.0	+30.0	Increased significantly
3	Curiosity	55.0	87.0	+32.0	Increased significantly
4	Participation	60.0	90.0	+30.0	Increased significantly
	<b>Average</b>	<b>58.75</b>	<b>89.25</b>	<b>+30.5</b>	<b>Improved</b>

Picture 2. Comparison of Students' Learning Interest Before and After BUSAKBAR Implementation).



The table shows that students' average learning interest increased from 58.75% (moderate) to 89.25% (very high) after using BUSAKBAR, indicating an improvement of 30.5%. Statistical analysis using an



independent sample t-test confirmed a significant difference between pre-test and post-test scores ( $p < 0.05$ ).

The improvement covered all four indicators: enjoyment, attention, curiosity, and participation. Students were more enthusiastic during AR exploration, asked more questions, and demonstrated greater collaboration during activities.

**Figure 3 (Classroom Implementation Results).**



### 3.3 Discussion

The results indicate that BUSAKBAR effectively enhanced students' learning interest in Pancasila Education. The integration of AR features provided a multisensory learning experience that supported visual, auditory, and kinesthetic engagement. This finding supports (Ayu Permatasari et al., 2024), who found that AR improves motivation and attention in classroom settings.

Moreover, the hybrid format of BUSAKBAR—combining printed materials with AR—bridges conventional and digital learning paradigms. This aligns with (Rohaeni, n.d.), who emphasized that AR-based pocket books can make abstract content more concrete and engaging.

From a pedagogical standpoint, BUSAKBAR promotes independent learning, collaboration, and national character formation aligned with the Pancasila Student Profile dimensions. Students' enthusiasm when exploring Indonesian cultural artifacts reflects an increased appreciation for cultural diversity and civic values.

Thus, BUSAKBAR is not only effective as a digital learning innovation but also as a character-based media supporting Indonesia's Merdeka Curriculum. It offers both theoretical and practical implications for educators aiming to integrate technology with moral and civic education.

## 4. Conclusion and Suggestions

### 4.1 Conclusion

This study developed and validated BUSAKBAR (Cultural Diversity Pocket Book Based on Augmented Reality) as an innovative learning medium for Pancasila Education in elementary schools. The product achieved very high validity levels from both material and media experts (87.5% and 91.23%, respectively). Implementation results demonstrated a 47% improvement in students' learning interest, with significant gains across indicators of

enjoyment, curiosity, attention, and participation.

The novelty of this research lies in combining traditional pocket book media with Augmented Reality (AR) technology to support the Merdeka Curriculum and strengthen the Pancasila Student Profile. BUSAKBAR not only enhances learning interest but also promotes cultural appreciation and digital literacy among young learners.

#### **4.2 Suggestions**

Teachers can utilize BUSAKBAR as an alternative medium to enhance students' engagement and understanding of cultural diversity in Pancasila Education. Future research is recommended to:

1. Apply BUSAKBAR to different subjects and grade levels to examine broader educational impacts;.
2. Integrate additional features such as gamification or voice narration to further increase interactivity;.

Conduct longitudinal studies to assess its long-term influence on students'

character and learning motivation

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