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Development of storytelling media to increase Civic education interest in elementary students

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ABSTRACT

Students' interest in learning about Pancasila Education remains low due to the abstract nature of the materials and a lack of engaging, contextual media. Meanwhile, the analysis revealed that students require learning tools that foster active engagement, relate to real-life experiences, and support concrete understanding of values. The Merdeka Curriculum encourages learning through narratives and experiential activities. This study aimed to develop a valid, practical, and effective digital interactive storytelling-based media to enhance the learning interest of fourth-grade students at SD Negeri 050690 Sawit Seberang. The research employed the Research and Development method, utilizing the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The product was created using Canva and validated by experts in content, media, and language. The results indicated a validity score of 93% and a practicality score of 92%. Learning outcomes showed an average posttest improvement of 27 points compared to the pretest. The media connects Pancasila values to meaningful stories and visual narratives, thereby supporting both emotional and cognitive engagement. The primary contribution of this study lies in providing adaptive and curriculum-relevant learning media that support character education and student motivation in elementary schools.

ABSTRAK

Minat belajar peserta didik terhadap Pendidikan Pancasila masih tergolong rendah karena penyajian materi yang bersifat abstrak, tidak kontekstual, dan belum didukung oleh media yang interaktif. Sedangkan hasil analisis menunjukkan bahwa peserta didik membutuhkan media pembelajaran yang memfasilitasi keterlibatan aktif, pemahaman nilai secara konkret, serta relevansi dengan kehidupan sehari-hari. Kurikulum Merdeka pun mendorong pembelajaran berbasis narasi dan pengalaman personal. Oleh karena itu, penelitian ini bertujuan untuk mengembangkan media digital interaktif berbasis storytelling yang valid, praktis, dan efektif untuk meningkatkan minat belajar peserta didik kelas IV SD Negeri 050690 Sawit Seberang. Penelitian menggunakan metode Research and Development dengan model ADDIE yang mencakup lima tahap, yaitu analisis, desain, pengembangan, implementasi, dan evaluasi. Produk dikembangkan melalui Canva, divalidasi oleh ahli materi, media, dan bahasa. Hasil validasi menunjukkan kelayakan media sebesar 93% dan kepraktisan sebesar 92%. Penggunaan media dalam pembelajaran menghasilkan peningkatan skor posttest rata-rata sebesar 27 poin dari pretest awal. Media ini menghubungkan materi nilai-nilai Pancasila dengan alur cerita yang bermakna dan visualisasi menarik sehingga mendorong keterlibatan peserta didik secara emosional dan kognitif. Penelitian ini menghasilkan kontribusi konkret berupa media pembelajaran yang adaptif terhadap karakteristik peserta didik dan relevan dengan kebutuhan kurikulum, sehingga mampu memperkuat pembelajaran karakter di sekolah dasar.

Kata Kunci: media digital; minat belajar; pendidikan Pancasila; storytelling interaktif

INTRODUCTION

The learning interests of elementary school students remain a crucial issue that affects the quality of the learning process and outcomes. Students' lack of interest in learning activities leads to low active participation in class, weak internal motivation, and a passive attitude towards the material presented by teachers (Oviliani & Susanto, 2023). This problem is exacerbated by the dominance of monotonous teaching methods that do not directly involve students (Sulistiyani *et al.*, 2023). The classroom learning process fails to stimulate students' curiosity and emotional engagement, leading to a significant decline in interest in learning (Setiawan *et al.*, 2024). Recent studies have shown that students' low interest in learning stems from a combination of internal and external factors, including a lack of innovative learning methods and minimal social-emotional engagement during the presentation of material (Mariyana *et al.*, 2023).

Pancasila Education is a mandatory subject that contains the basic values of national life, such as cooperation, tolerance, and love for the homeland (Indriyani *et al.*, 2023). Although it plays an important role in shaping students' character, *Pancasila* Education at the elementary school level is often perceived as a boring memorization activity (Dewi *et al.*, 2023). The material is delivered verbally, without visual or interactive media, making it difficult for students to understand the meaning of *Pancasila* values in real-life contexts. The mismatch between teaching methods and the cognitive developmental characteristics of elementary school children tends to make the learning process one-way and minimally involve active participation (Babullah, 2022). Research results indicate that students find it easier to understand and internalize the values of *Pancasila* through a contextual and narrative learning approach (Atmaja, 2024; Hidayanto, 2025; Shofarani & Hidayat, 2021). The lack of variety in the media used to deliver the material also contributes to students' low interest in this subject, necessitating changes in teaching strategies to be more innovative and participatory (Ginting *et al.*, 2021).

The use of storytelling-based digital media has emerged as a promising approach to transforming learning in *Pancasila* Education in elementary schools (Verawati *et al.*, 2023). The characteristics of this medium, which combine visual narration, audio, animation, and text, enable a more lively and meaningful learning environment. Learning materials are no longer delivered abstractly but are presented as digital stories that are concrete and easy for students to understand (Handayani *et al.,* 2021; Restu *et al.*, 2023). This process encourages students' emotional engagement, thereby significantly increasing motivation and interest in learning (Samiyah & Anggraeni, 2021). Study results indicate that integrating narrative elements into digital media can enhance students' attention, information retention, and active interaction during the learning process (Fitriyah *et al.*, 2024). Considering these characteristics, digital storytelling can serve as an innovative solution to address students' low interest in learning in the context of *Pancasila* Education.

Field observations indicate that the ideal of interactive learning has not been fully realized in the practice of *Pancasila* Education learning. Observations at an elementary school indicate that teachers still predominate in the learning process, relying on lecture and note-taking methods. At the same time, the use of digital media remains suboptimal. The media used consists solely of static slides, without narrative or interactive elements that could encourage student participation (Amelia, 2021). This situation has led to low enthusiasm, focus, and participation among students during the learning process. The percentage of students exhibiting low interest in learning is substantial, reflecting a lack of engaging, contextual learning approaches. (Purwaningsih & Wangid, 2021). This finding is consistent with previous research indicating that a lack of engaging media can worsen students' perceptions of certain subjects (Naa'ifah & Suprijono, 2024). Given this reality, there is a need to develop digital storytelling media that are not only responsive to technological developments but also pedagogically designed to stimulate students' interest in learning about the values of *Pancasila* Education.

This condition underscores the importance of learning media that address both students' emotional and cognitive needs in a balanced way. Interactive digital storytelling media becomes a strategic choice because it is designed to convey educational values through a storyline that harmoniously combines text, images, sound, music, and animation (Chen *et al*., 2024). The learning experience presented is not only informative but also builds a deep emotional connection with students. Digital storytelling enables students to internalize values, such as cooperation, through a contextual, multisensory approach (Ngongo & Kerans, 2023). Previous research has shown that this medium is effective in increasing students' engagement, information elaboration, and intrinsic motivation (Çetin, 2021). In addition, the interactive nature of this medium provides students with greater control over their learning process, thereby fostering greater responsibility and independence. However, previous research remains limited in developing digital storytelling media grounded in Pancasila values that are locally relevant and applicable to elementary schools. Therefore, this study aims to develop interactive digital storytelling media that are feasible, practical, and effective in increasing fourth-grade students' interest in learning about cooperation in diversity at SD Negeri 050690 Sawit Seberang.

LITERATURE REVIEW

Interest in learning

Students' interest in learning is a fundamental aspect that determines the success of the learning process, especially at the elementary school level. Previous studies have shown that an enjoyable, contextually aligned learning environment that aligns with children's developmental characteristics contributes to increased active participation and students' interest in the subject matter (Mesra *et al*., 2021; Sulistiyani *et al*., 2023). A learning environment that supports curiosity and meaningful interaction also helps shape productive learning attitudes (Asy'arie *et al*., 2025). These findings underscore that *Pancasila* Education should emphasize not only cognitive but also affective dimensions, thereby enabling students to internalize national values fully.

The abstract values of *Pancasila* require learning media that can represent them concretely and meaningfully, making them easier for elementary school students to understand (Adam, 2023; Ardiaulya *et al*., 2025). Unfortunately, most prior research has focused primarily on increasing interest in learning within thematic subjects and science and has not specifically addressed *Pancasila* Education (Prabandari *et al*., 2022; Pratiwi *et al*., 2024). Some studies remain limited to quantitative designs that measure learning outcomes numerically, without examining how students' learning experiences are shaped by the media used. In fact, several studies do not explicitly include affective indicators, thus failing to capture the dynamics of students' emotional engagement during the learning process.

This research aims to address this gap by developing an interactive digital media based on storytelling, specifically designed to support the learning of *Pancasila* Education. This media combines narrative, visual, and audio elements packaged in a value-laden storyline, intending to build an emotional connection between students and the material being studied (Minggi *et al*., 2023; Zulaiha *et al*., 2024). This research occupies a strategic position in the scientific landscape as an integration of humanistic learning approaches and adaptive digital technology, and as a tangible contribution to strengthening national values literacy by fostering students' interest in learning from elementary education.

Development of Digital Teaching Materials

The *Merdeka* Curriculum requires student-centered learning with a contextual, participatory approach, as well as an integrative use of learning technology (Ardianti & Amalia, 2022). The implications of this policy underscore the importance of digital teaching materials that not only deliver content effectively but also

address students' affective dimensions and concrete experiences. This need is even more important in elementary schools, given that students are typically visual and require engaging learning stimuli. *Pancasila* education, which is rich in national values and abstract in nature, requires instructional media that bridge the gap between normative concepts and students' everyday experiences (Yulianti *et al*., 2025).

However, previous studies indicate that the development of digital learning materials remains generally limited to integrated thematic content, while the values of Pancasila Education are often marginalized in digital innovations (Noerdiansyah *et al*., 2023; Tiningrum *et al*., 2025). This tendency creates a gap in the provision of learning media that effectively instill national values through engaging and contextual approaches. The lack of emphasis on the substance of values in the development of digital learning resources indicates a need for media design that is not only technologically adaptive but also responsive to the moral and social characteristics of elementary school students.

This study is positioned to address this gap by designing interactive, storytelling-based digital learning materials. This innovation aims to integrate valuable content in a more humanistic and communicative manner through narrative, visual, and audio elements. This concept not only supports meaningful learning but also provides space for students to engage emotionally and reflectively with the material presented (Ardiawan, 2024; Pernantah *et al*., 2022). Therefore, this study contributes to research on the development of value-based digital media that aligns with the dynamics of Pancasila Education in the era of the *Merdeka* Curriculum.

Interactive Storytelling Teaching Materials

The implementation of interactive, storytelling-based teaching materials is an effective strategy for improving learning quality at the elementary school level. The tendency of young learners to enjoy visual stories with strong narrative flow can be leveraged as an engaging educational tool while also fostering an emotional connection in the learning process (Nair & Yunus, 2021; Nicoli *et al*., 2022). Learning that remains one-directional and teacher-dominated, especially in subjects that emphasize values such as *Pancasila* Education, makes students less actively engaged. Digital storytelling offers opportunities for students to engage in the learning process in a more reflective and meaningful way, as they can place themselves within a storyline presented in a contextual, everyday context (Fu *et al*., 2022).

Previous studies have shown that the use of storytelling media increases students' motivation, attention, and conceptual understanding across subjects, including science and basic literacy (Fadhillah & Dini, 2021; Ilomäki *et al*., 2023; Yang *et al*., 2022). In addition, storytelling-based teaching materials are considered capable of strengthening the instillation of character values because they facilitate connections between the material's content and students' personal experiences (Safitri *et al*., 2025). However, most of these studies are still general and have not specifically targeted the development of interactive digital teaching materials in the context of *Pancasila* Education, particularly on the topic of cooperation within diversity in grade IV of elementary school. This aspect warrants critique because the material is highly urgent in shaping early awareness of diversity.

This study aims to fill that gap by presenting a digital learning material product designed based on interactive storytelling. The primary focus of the development is to foster students' affective engagement with the Pancasila values through a communicative, accessible visual narrative. The contribution of this study lies in the innovation of presenting *Pancasila* education material digitally, which is not only visually appealing but also pedagogically relevant and aligned with the demands of the Merdeka Curriculum. This positioning emphasizes that developing digital learning materials grounded in interactive storytelling may be a promising approach to strengthening the humanistic dimension of value education at the elementary school level.

METHODS

This study is a research and development (R&D) project that adapts the ADDIE model, comprising five main stages: analysis, design, development, implementation, and evaluation. The research was conducted at *SD Negeri 050690 Sawit Seberang*, Langkat Regency, North Sumatra, in the even semester of the 2024/2025 academic year. The research subjects consisted of material experts, media experts, and language experts; fourth-grade *Pancasila* Education teachers; and fourth-grade students as media users. The research object was an interactive digital learning media based on storytelling, developed to increase students' interest in learning *Pancasila* Education in the material of *Gotong Royong* in Diversity.

This study employs the ADDIE model, which comprises five stages: Analysis, Design, Development, Implementation, and Evaluation. The analysis stage begins with identifying needs through observation and interviews with teachers and students to understand the challenges in *Pancasila* Education, particularly regarding the material on *Pancasila* values. The researcher also analyzes the curriculum against the learning outcomes of the Merdeka Curriculum and formulates learning objectives aligned with the storytelling approach. In addition, an analysis of student characteristics is conducted to understand their digital literacy skills, preferences for visual media, and interest in stories. The design stage includes preparing the media structure, designing a branching narrative flow that incorporates Pancasila values, determining points of interactivity, and creating flowcharts, storyboards, interface designs, and navigation systems. At this stage, the researcher also designs the reward and feedback system that will be incorporated into the media.

The development stage involved creating all media assets, including writing the story script, designing characters and visual settings, and recording and editing voice narration. Validation was conducted by four experts: a subject matter expert, a language expert, a media expert, and a storytelling expert, who provided feedback for product improvement. After revisions, the media was implemented through a limited trial with 20 fourth-grade students at *SD Negeri 050690 Sawit Seberang*. The implementation process began with teacher orientation, equipment preparation, and the collection of observational data and students' responses to the use of the media. Finally, the evaluation stage was conducted formatively by distributing questionnaires to assess the media's effectiveness in achieving learning objectives, the level of interactivity, and students' affective responses to the values conveyed in the story. Each stage in this procedure is carried out systematically and interrelated to ensure the quality of the developed product.

RESULTS AND DISCUSSION

Analysis Stage

The analysis stage is conducted to identify learning needs and to determine the direction for developing digital storytelling media that aligns with students' characteristics and the teaching materials. This analysis includes identifying learning problems and student conditions, as well as an analysis of the curriculum and the competencies to be achieved. The results of interviews with the fourth-grade teacher at *SD Negeri 050690 Sawit Seberang* indicated that students still have a low interest in learning *Pancasila* Education. The teacher reported that most students are not enthusiastic and are easily distracted during lessons, especially when the material is delivered conventionally using textbooks.

Initial observations in the classroom reinforce these findings, indicating that students appear passive and engage in minimal interaction during the learning process. Analysis of curriculum documents indicates that the learning outcomes in phase B, particularly the material on cooperation in diversity, emphasize the importance of strengthening values of collaboration and tolerance, which ideally should be delivered through a contextual and enjoyable approach. This situation underscores the urgency of developing

learning media that spark interest, facilitate active interaction, and present material in narrative and visual formats to facilitate understanding and retention among elementary school students.

Design Stage

The design phase is conducted to develop the structure and content of interactive digital storytelling learning media appropriate for fourth-grade students. The design process begins with drafting a storyline that integrates Pancasila values, particularly the principle of cooperation in diversity. The story is developed with characters and settings that are close to the students' daily lives, making it easier for them to understand the moral message and meaning conveyed. The visual design of the media encompasses the storyboard, display layout, interactive button navigation, and the integration of text, images, and sound elements. The narrative is structured as a dialogue between characters, interspersed with reflective questions to enhance student participation.

This design also includes usage instructions for teachers and students to serve as an initial guide to operating the media. The initial media design is shown in Figure 1, which depicts the opening interface, interactive button navigation, and digital narrative elements that have been systematically designed to support *Pancasila* Education learning.

Figure 1. Initial display of the interactive digital media
Source: 2025 Research

Development Stage

The development process began with validation by material experts to ensure that the media content aligned with basic competencies, learning indicators, and the characteristics of elementary school students. Validators assessed material alignment with the curriculum, language use, and the relevance of the content to students' real-life experiences. The results of the first validation indicated that the material content was considered good and relevant. Material experts suggested strengthening the material's connection to real-life situations in students' daily lives to improve contextual relevance; therefore, the video material needed revision. Revisions were made in response to these suggestions by adding more concrete, student-relevant story elements. The second validation demonstrates that the product meets the feasibility standards and is classified as "Highly Feasible" for use as learning media in *Pancasila* Education. The assessment data from this validation process are presented in **Table 1.**

Table 1. Material Validation Results

Statement	Assessment Score	
	Stage 1	Stage 2
Material Aspect		
The content in the learning media aligns with the learning objectives.	4	5
The presentation of material in learning media supports the achievement of competencies.	4	5
The content of the learning media is relevant to students' needs.	4	5
The material in the learning media is presented with adequate depth and completeness.	4	4
The material in the learning media is arranged systematically.	5	5
The material is presented in an orderly manner, making it easy to understand.	3	4
The relationships between sections in the material are clear and structured.	4	4
The material in the learning media is easy for students to understand.	4	5
Language Aspect		
The language used in learning materials is easy for students to understand.	3	5
The language in learning media follows the rules of EYD.	3	4
Feasibility Aspect		
Learning media motivate students to study more effectively.	5	5
Learning media provide an enjoyable learning experience.	5	5
Total Score	**48**	**56**
Percentage	**80%**	**93%**
Category	**L**	**SL**

Source: 2025 Research

Media experts continued the media validation process to assess the technical and visual quality of the learning media developed to meet the needs of fourth-grade students at *SD Negeri 050690 Sawit Seberang*. Validation was conducted in two stages to comprehensively assess the tools' feasibility. The initial assessment employed technical and aesthetic indicators for evaluation, which were then used as references to revise the media. The revision process was conducted in response to suggestions from validators who examined the stability of functions, the delivery of information, and the creativity and relevance of the visual design.

The revision resulted in a significant improvement in the second-stage assessment, indicating a real enhancement in technical functionality, ease of use, interface appearance, and language usage. The initial assessment score was 77 points (77%) and fell into the Feasible (*L*) category, while the second assessment score increased to 91 points (91%) and entered the Very Feasible (*SL*) category. This validation proves that the digital storytelling interactive learning media meet technical and aesthetic criteria, can engage students' interest, and support the achievement of learning objectives. The assessment data from this process are presented in **Table 2.**

Table 2. Media Expert Validation Results

Statement	Assessment Score	
	Stage 1	Stage 2
Software Engineering Aspects of Learning Media		
This learning media is effective in increasing students' interest in learning.	4	5
I feel I understand the material better by using this learning media.	4	5
This learning media can be maintained easily.	5	4
This learning media is easy for teachers and students to use.	4	5
This learning medium is easy to use and requires minimal assistance.	4	5
This learning media interface is easy for users to understand.	4	4
This learning media runs smoothly without many interruptions.	3	4
This media encountered technical difficulties during use.	4	4
This learning media has documentation that makes it easy to use.	4	4
This learning media is clearly depicted.	3	5
The information in this learning media is very accurate.	4	5
The Aspect of Visual Communication in the Development of Learning Media		
This learning media communicatively presents information.	3	4
This learning media design is creative and engaging.	3	4
The presentation of this learning medium differs from that of other learning media.	3	4
The video element in this learning media aligns with the learning objectives.	3	5
The videos in this learning media support understanding of the material.	4	5
The videos presented in this learning media are relevant and interesting.	3	4
The layout of this learning media is attractive and clear.	5	5
The colors used in this learning media are appropriate and visually comfortable.	5	5
The color combination in this learning media helps focus on the material being presented.	5	5
Total Score	**77**	**91**
Percentage	**77%**	**91%**
Category	**L**	**SL**

Source: 2025 Research

Linguists conduct the next stage of validation to assess the linguistic quality of the interactive digital storytelling media under development. This validation aims to ensure that the language conforms to Indonesian grammar and optimally meets the understanding level of elementary school students. Validators evaluate two main aspects: language conformity to the Enhanced Spelling System (EYD) and communication and interactivity. The assessment of the language aspect includes grammatical accuracy, clarity of meaning, and the absence of ambiguity. The assessment of the communication aspect includes the ease of understanding the language, its suitability for students' cognitive development level, and the clarity of sentences in both visual and audio formats.

Validation was conducted in two stages using a scoring questionnaire. The first validation yielded a score of 29 out of 40 (73%), placing it in the Feasible (*L*) category. Indicators that received low scores included spelling, ease of understanding, and the appropriateness of the language to students' abilities. Revisions

were made based on these inputs, and in the second validation stage, the score increased to 37%-93%, placing it in the Very Feasible (*SL*) category. These findings indicate that the revisions made successfully improved language quality, in terms of structure, readability, and communication. Overall, this validation states that interactive digital storytelling media is suitable for use in *Pancasila* education at the elementary school level. A summary of the validation results is presented in **Table 3**.

Table 3. Language Expert Validation Results

Statement	Assessment Score	
	Stage 1	Stage 2
Aspect of Conformity With the Rules of the Indonesian Language		
Language in accordance with the Perfected Spelling System	3	5
Grammar Accuracy	4	4
Does not have a double meaning	4	5
Communication and Interactive Aspects		
Easy-to-understand language	3	5
The appropriateness of the language used with the abilities of elementary school students	3	5
The language used is communicative	4	4
The sentence used represents the content of the message and the information conveyed	4	4
The sentence used is easy to hear clearly	4	5
Total Score	**29**	**37**
Percentage	**73%**	**93%**
Category	**L**	**SL**

Source: 2025 Research

Implementation Stage

The implementation stage is the fourth phase of the ADDIE model, focusing on the direct use of digital storytelling by *Pancasila* Education teachers at *SD Negeri 050690 Sawit Seberang*. The practicality of the media is tested through its use in the fourth-grade classroom, with two teachers as respondents. The purpose of this practicality test is to assess the extent to which the media can be easily used, clearly understood, and capable of supporting the delivery of material to students. A questionnaire is used to evaluate several important aspects, including ease of use, clarity of instructions, comprehensibility of content, student engagement, and the effectiveness of the media in supporting understanding of the concept of *gotong royong*.

The teachers' responses indicate that this digital storytelling media is considered very practical and appealing. This medium can increase students' interest in learning, facilitate the delivery of material, and does not cause technical difficulties when used. The assessment also includes teachers' views on students' enthusiasm, challenges in understanding the material, and the support provided by school facilities. The questionnaire results indicate that Teacher I received a score of 50 (91%) and Teacher II received a score of 52 (95%). Both scores fall within the Very Practical (SP) category, indicating that this medium is effective and easy to implement in teaching and learning activities. A summary of the teachers' practicality test results is presented in **Table 4.**

Table 4. Practicality Test Results of Media Usage

Statement	Assessment Score	
	Teacher 1	Teacher 2
Learning Aspects of *Pancasila* Education		
Students' interest in *Pancasila* Education learning.	4	5
Pancasila Education Learning Material with Low Scores.	5	5
Challenges faced during *Pancasila* education.	5	5
Methods used during *Pancasila* education learning.	5	4
Advantages and disadvantages of the method used.	5	5
School Facility Aspects		
Availability of *Pancasila* education learning media in schools.	4	5
Availability of facilities and infrastructure in schools.	5	5
Aspects of Using Learning Media in *Pancasila* Education Learning		
Learning media used in *Pancasila* Education Learning	4	5
Advantages and disadvantages of the learning media used	5	5
Interactive storytelling learning media in *Pancasila* education	4	4
The media used can support *Pancasila* education learning	4	4
Total Score	**50**	**52**
Percentage	**91%**	**95%**
Category	**SP**	**SP**

Source: 2025 Research

Evaluation Stage

The evaluation stage aims to measure the effectiveness of interactive digital storytelling media in improving students' learning outcomes on the topic of Cooperation in Diversity. Evaluation is conducted through learning outcome tests using instruments consisting of a pretest and a posttest. The pretest is administered before the learning process, without digital media, whereas the posttest is administered after the learning process, using digital media. Both tests were administered to 20 fourth-grade students at SD Negeri 050690 Sawit Seberang, and the results were analyzed using the N-Gain Score to determine the extent of cognitive improvement. The pretest scores ranged from 30 to 80, whereas the posttest scores increased significantly, ranging from 75 to 100.

All students demonstrated improved learning outcomes, as indicated by the "Improved" status for all respondents. The Minimum Competency Criteria (*KKM*) score was set at 75. In the pretest, only 4 students (20%) met the competency standard, whereas 16 students (80%) did not. The posttest results showed that all students (100%) achieved scores above the *KKM*, thereby considered competent. These findings confirm that interactive digital storytelling is effective in enhancing students' comprehensive understanding of the *Pancasila* concept. The developed media not only simplifies the delivery of material but also promotes significant cognitive improvement.

Discussion

The validity assessment was carried out by three experts: a content expert, a media expert, and a language expert. The validation was conducted in two stages and showed a significant increase in scores following revisions based on each validator's input. The final results indicate that the interactive digital storytelling media is considered highly feasible in terms of content, visual display, and language appropriateness. These findings are consistent with research indicating that expert validation is an important indicator of the quality of developed learning media (Fadhillah & Dini, 2021). Similar support is provided by research concluding that media development processes that incorporate validation across multiple dimensions produce products that meet learners' needs and the learning context (Noverdika, 2021). Research findings also indicate that expert involvement in content and media validation can improve the alignment of materials with the curriculum and students' characteristics (Genisa *et al*., 2025). Another study emphasizes that product validity is determined by the synergy among content clarity, integration of visual media, and language appropriateness (Fadilah *et al*., 2023). In general, interactive digital media that has been thoroughly validated has great potential to support the effectiveness of value-based learning, such as *Pancasila* Education.

The practicality test conducted by teachers showed that this interactive digital storytelling medium is easy to use, does not require additional technical training, and is effective at delivering material to students. Teachers assessed that the media had intuitive navigation, clear usage instructions, and visual displays that could attract students' attention. This positive assessment aligns with findings that well-designed digital learning media can improve teaching efficiency and facilitate learning in the classroom (Zalukhu *et al*., 2023). Other studies also show that teachers tend to accept and use digital-based media if it is easy to operate, relevant to the material, and does not require special devices (Salsabila *et al*., 2021). Other studies also show that teachers tend to accept and use digital-based media if it is easy to operate, relevant to the material, and does not require special devices (Rusiyono & Apriani, 2020). Another finding reinforces that practical learning media enable teachers to focus on conceptual understanding without being burdened by technical issues (Najla *et al*., 2022). This indicates that the developed digital storytelling media has met the practicality criterion from the educators' perspective.

Effectiveness was measured by analyzing students' learning outcomes before and after the use of the media. All students increased their posttest scores and achieved mastery, indicating that the media significantly enhanced students' understanding. This medium employs narratives and visualizations to convey Pancasila values more concretely and contextually. These results align with research indicating that storytelling-based digital media can increase emotional engagement and students' understanding of national values (Alvendri & Effendi, 2024). Penelitian lain mengungkapkan bahwa integrasi unsur cerita dan visual mampu meningkatkan daya serap informasi peserta didik secara bermakna (Lestari & Pertiwi, 2025). Other studies reveal that integrating story and visual elements can significantly improve students' information retention (Aryati *et al*., 2024). In addition, other research indicates that the effectiveness of digital media largely depends on the relevance of the content to students' real-life contexts (Fitriyaningrum & Alriningrum, 2023). The overall improvement in learning outcomes in this study underscores that the developed media are not only visually appealing but also effective in facilitating the achievement of Pancasila Education's learning objectives.

The success of this study in developing digital storytelling media is evident not only in increased student interest in learning but also in teachers' enthusiasm for using technology as a learning aid (Asy'arie *et al*., 2025). Teachers find the media packaged in an attractive, informative, and easy-to-use format more helpful, making the time usually spent on preparing materials more efficient (Amelia, 2021). This indicates that media development is oriented not only toward students' needs but also toward the practical benefits for teachers as learning facilitators.

The development of digital media based on storytelling makes a significant contribution to the learning of Pancasila values at the elementary school level, particularly by fostering students' interest and emotional engagement. The use of digital narratives enables the delivery of material on national values to be more contextual and meaningful, as it combines elements of stories, visuals, and audio into a single engaging unit. Research findings indicate that digital storytelling can strengthen students' understanding of cultural and moral values while also facilitating critical and participatory thinking skills (Hanum *et al.*, 2023). The use of digital storytelling also encourages students to be more active and reflective in internalizing the moral messages conveyed through the stories (Puspitasari *et al.*, 2025). In the context of social studies learning that incorporates *Pancasila* values, this approach has proven effective because it bridges pedagogical needs with the development of children's character in the digital era. Therefore, integrating digital storytelling into Pancasila education not only enriches teaching strategies but also strengthens character education sustainably grounded in local culture.

Digital storytelling-based learning media have been shown to significantly improve the quality of learning at the elementary education level. The use of digital storytelling in language lessons has been shown to enhance fourth-grade students' reading comprehension skills (Kandemir & Bay, 2023). Students' writing learning outcomes also increased significantly when learning was delivered through engaging and contextual digital content (Sönmez & Dadandı, 2023). The implementation of digital storytelling can develop students' writing skills, critical thinking, and cultural awareness, including among learners with learning difficulties such as dyslexia (Kritsotaki *et al.*, 2025). Digital storytelling activities also foster a positive attitude toward digital literacy among prospective teachers, an important asset for pedagogical transformation (Altuğ & Kırmızı, 2024). These findings reinforce the urgency of developing learning media grounded in digital storytelling that not only support academic achievement but also shape the character and understanding of elementary school students in value-based learning, such as *Pancasila* Education.

CONCLUSION

This study concludes that the interactive digital storytelling-based learning media developed are valid, practical, and effective in increasing fourth-grade students' interest and learning outcomes on the topic of *Gotong Royong* in Diversity. Validation by material, media, and language experts demonstrated that the product met the feasibility criteria for content, technical aspects, and language. Practicality tests by teachers also indicated that this media is easy to use and relevant to learning needs. The effectiveness of the media is demonstrated by a significant improvement in students' learning outcomes, as evidenced by pretest and posttest results. The implications of these findings suggest that storytelling-based digital media can be an innovative alternative for reinforcing *Pancasila* values through a contextual, communicative, and enjoyable approach. One suggestion is that the development of similar digital media should expand the scope of the material and be applied at multiple levels to strengthen character-based learning. The small number of trial subjects limits this study. It has not yet reached long-term evaluations of changes in students' behavior, so further studies are needed to explore the long-term impact of using interactive digital media in values education.

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The author states that there is no conflict of interest related to the publication of this article. The author emphasizes that the article's data and content are free of plagiarism.

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