

Analysis of Teacher Needs in Developing Flipbook-Based Interactive Teaching Materials in Elementary Schools

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Received: 24/04/2024

Revised: 13/08/2024

Accepted: 05/09/2024

Abstract

This research analyzes teachers' needs in developing flipbook-based interactive teaching materials in elementary schools. This research method uses quantitative research with a survey research type and descriptive qualitative. The research locations were Sidosermo 1 Surabaya public Elementary School, Margorejo VI public Elementary School Surabaya, Margorejo 1 public Elementary School, Taquma Elementary School, Kyai Ibrahim Elementary School, and Jemursari I Surabaya public elementary school. Data collection techniques using questionnaires. The research instrument is a wide questionnaire that experts have validated. Data analysis techniques were carried out using descriptive statistics and descriptive qualitative using data reduction, data display, and verification. The research results show that 100% of teachers need flipbook-based interactive teaching materials for elementary school students. This teaching material is considered the most appropriate and effective solution for meeting the learning needs of Pancasila Education in class IV, semester 2. The implications of these findings are significant. The demand for such teaching materials underscores the necessity of providing resources that are not only aligned with the curriculum but also capable of captivating students' interest and facilitating a deeper understanding of the content. Modern, interactive materials like flipbooks can offer a more dynamic learning environment, helping students better grasp complex concepts through engaging and visually stimulating content.

Keywords

Flipbook; Interactive Teaching Materials

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1. INTRODUCTION

The field of education has been impacted by the advancement of information technology, particularly in making learning more engaging and enjoyable. Because of its positive effects, schools are forced to provide this technology (Situmorang et al., 2020). As we enter today's digital era, education must adapt to the growth and expansion of technology. Technology can create new learning spaces necessary to support educational activities. The learning process has been changed by the use of technology in the classroom (Lestari & Nur, 2023). Incorporating digital technology is becoming more and more characteristic of current learning innovations. The transition from manual to electronic formats for developing instructional materials and student books is one notable alteration in this area. Education has been significantly impacted by technological breakthroughs, which have shaped new



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methods of instruction and learning. Digital technology integration is becoming a hallmark of contemporary learning developments. The transition from manual preparation to electronic formats for student books and instructional materials is one notable move in this area. The significant impact of technological breakthroughs on education has shaped new teaching and learning methods. To effectively adapt to these changes, educators must offer learning opportunities that inspire, excite, challenge, and motivate students to engage in active learning and foster interaction (Pebriani, 2017). Technology in education is anticipated to help ensure that learning proceeds smoothly, effectively, and efficiently while offering students new learning opportunities and surroundings. Making digital books like flipbooks is one method to use technology (Hadiapurwa et al., 2021). Teachers must provide learning experiences that encourage engagement and provide students with inspiration, excitement, challenges, and the desire to take an active role in their education if they are to adapt to these changes (Pebriani, 2017); properly click or tap here to enter text. The ability of a teacher to create learning media is essential, particularly when choosing media to use as a teaching aid and ensuring it supports the learning objectives (Yusuf et al., 2022). Integrating information technology in education has revolutionized the learning process, making it more engaging and enjoyable. As education evolves in the digital era, technology plays a crucial role in creating new learning spaces and transforming traditional methods of instruction. The shift from manual to electronic formats for instructional materials is a significant development driven by technological advancements. To effectively adapt to these changes, educators must design learning experiences that inspire and motivate students, ensuring smooth and efficient learning processes. Using digital tools like flipbooks exemplifies how technology can enhance educational outcomes and meet modern learning objectives.

Even with these encouraging results, there is still a big gap in creating and applying interactive educational resources, particularly flipbooks. This gap is especially apparent since teachers lack a thorough guide to help them create interactive flipbooks for elementary. Despite its potential to improve student engagement and learning results, the creation of interactive teaching materials is still mostly lacking. As a component of electronic-based instructional resources, interactive flipbooks have the power to draw students in and improve the quality of instruction. According to Bhat et al. (2018), the increasing utilization of electronic learning will probably supplement or replace traditional classroom learning since it improves system interactivity and personalization, guaranteeing ongoing learner engagement. However, the absence of direction and resources for educators in creating these materials poses a serious obstacle to their broad acceptance and application.

Additionally, studies on virtual learning environments have shown that they positively impact students' interests. For instance, a study (Dewa et al., 2020) found that using virtual laboratories in conjunction with online learning greatly affected student interest, with a sig (2-tailed) value of 0.0063, less than 0.05. The use of teaching materials in the form of interactive-based books is still largely undeveloped because there is no guide that teachers can use in compiling interactive-based flipbooks for early childhood, elementary, and middle school students. Virtual-based for early childhood, elementary school, and middle school students. Interactive flipbooks are part of electronic-based teaching materials that attract students. Electronic learning is likely to replace classroom learning to enhance system interactivity and personalization and for the continuous engagement of the learners (Bhat et al., 2018). One use of creative media is flipbook media, which is a development of e-books as an alternative learning media (Diani et al., 2018). The use of flipbooks can be presented in electronic format, which is capable of displaying interactive simulations by combining animation, text, video, images, audio, and navigation, which makes students more interactive so that learning can take place more fun and attract students attention (Diani et al., 2018). Using a flipbook will make reading more enjoyable for students.

The urgency of this research lies in its potential to equip teachers with the necessary tools and resources to create engaging and effective learning materials, ensuring that education remains relevant and impactful in the digital age. Given the state of education today, the lack of interactive-based

teaching resources must be addressed immediately. Creating interactive flipbooks is essential for keeping up with the quick changes in educational technology and increasing student involvement. E-books are evolving into alternative learning media in creative media like flipbook media (Diani et al., 2018; Perdana et al., 2021). A flipbook is a traditional animation consisting of pages resembling a lar. Every page illustrates a procedure or activity that, when swiftly turned through, gives the impression that it is moving or animated (Kurniawan et al., 2015). PDF files can be converted into digital magazines and flipbooks using Kvisoft Flipbook Maker. This program can feature animated images, instructional videos, audio, and text (Sriyanti et al., 2020). With this software, a greater variety of media will be displayed; in addition to text, images, videos, and audio, these media can also be incorporated to make learning more engaging (Aswirna & Ritonga, 2020). Reliable software has made the development of flipbooks easier. One such program is Flipbook Maker, which turns PDF files into digital publications with turning pages. Online tools, like those found at <https://flippingbook.com/>, can also be used to produce flipbooks. A book can be augmented with multimedia components, like videos created in a reality lab, once designed and converted into a PDF. These videos can be seen when the book is opened, giving the audience a glimpse into actual life.

For students to become more engaged in their education and attain academic success, digital learning is required. Using a digital flipbook as a teaching tool in the classroom is one such approach (Abror et al., 2020). Creating and utilizing electronic books (e-books) is one appropriate way to address the issue. An e-book is essentially an electronic version of a digital book (As & Carina, 2019). Using digital flipbooks in the classroom represents an effective strategy for enhancing student engagement and achieving academic success. By embracing digital learning tools, educators can create a more interactive, flexible, and inclusive learning environment that meets the diverse needs of today's students. This approach aligns with modern educational goals emphasizing active learning, personalization, and technology integration in education.

Flipbooks are electronic books that can display interactive simulations using text, images, audio, video, animation, and navigation (Diani et al., 2018; Setianingrum* et al., 2022). In its implementation, a flipbook is a digital book where each page can be opened and read on a computer or gadget screen (Kusumaningrum & Masruro, 2022). this combination draws students' attention and enhances the fun and participatory nature of the learning process, making learning more engaging and pleasurable for them. Studies have indicated that using flipbooks can increase pupils' enjoyment of reading. A prior study created a learning medium based on the Kvisoft Flipbook Maker that was deemed practical, achieving an 86.67% media validation result (Fonda & Sumargiyani, 2018). Flipbooks have several benefits, including the ability to display educational content in the form of words, sentences, and images that are all colored to draw in kids. They can boost student learning activities and are inexpensive, portable, and simple to make (Rahmawati et al., 2017). Flipbooks also have the benefit of assisting students in learning abstract ideas or events that are difficult to explain in a traditional classroom. Flipbooks are designed to help students comprehend the content, promote learning objectives, develop their capacity for creative thought, and increase student enthusiasm (N. Sari & Khaidir, 2023). Flipbook-based teaching material must be developed to empower students' 21st-century skills in science learning in elementary schools. Based on the conclusions of this study, the flipbook-based science teaching material can be developed and utilized in the learning process in elementary schools (F. F. K. Sari & Atmojo, 2021).

Several related research studies have demonstrated that incorporating flipbooks into teaching improves student progress in academic and practical domains. Other scholars can conduct more studies to build flipbooks for science education, particularly in biology and related fields. Students' motivation to follow the learning process will increase with the usage of cutting-edge digital teaching resources (Kamil Budiarto, 2021). The medium is operated, and producing a virtual module as a flip book is beneficial (Rini et al., 2021). Flipbook media can help students become active, self-assured individuals who are comfortable expressing their opinions, have a high memory retention rate and are creative in

coming up with new ideas relevant to their everyday lives. This is supported by the results of multiple prior studies (Aprilutfi, n.d.). Research indicates that using flipbooks in teaching boosts students' academic performance and enhances their practical skills. This dual benefit makes flipbooks a valuable tool in education. The suggestion for further research into flipbooks for science education, particularly in biology, underscores the potential for these digital tools to be specialized for different subjects, enhancing their applicability and impact. Additionally, using advanced digital teaching resources, like flipbooks, significantly increases student motivation, which is crucial for successful learning outcomes. This observation aligns with current educational trends emphasizing technology integration to create more engaging and effective learning environments.

This research was conducted in elementary schools. The foundational level of education known as elementary school allows pupils to attend more advanced courses. A learning activity in education aims to convey knowledge (D. et al., 2023). The learning activities at this stage are crucial as they aim to impart basic yet critical knowledge, setting the groundwork for future educational achievements. Conducting research in this context underscores the importance of ensuring that the learning processes and materials used in elementary schools effectively meet these foundational educational goals.

This study aims to analyze teachers' needs in developing flipbook-based interactive teaching materials in elementary schools. This study will support the larger endeavor to improve educational quality by tackling the current void in creating and applying interactive flipbooks.

2. METHODS

Research design

Research Design Method uses a quantitative approach with a survey method. The data collection technique was carried out using a questionnaire. The selection of subjects for the survey was carried out by purposive sampling. The purposive sampling technique, also called judgment sampling, is a deliberate choice of participants because of the qualities the participants possess (Etikan, 2016). The survey was conducted at Sidosermo 1 Surabaya public elementary school, Margorejo VI Surabaya public elementary school, Margorejo 1 public elementary school, Taquma Elementary School, Kyai Ibrahim Elementary School, and Jemursari I Surabaya public elementary school because these schools have the same A-accreditation and have adequate facilities. Adequate. Data Collection Techniques Data collection techniques are methods used to collect development research data. The data collection technique used in this research used questionnaires. A questionnaire is a tool for collecting information by submitting several written questions to be answered in writing by the respondent. The instruments used in the needs for teaching materials survey are based on a flipbook for elementary school teachers using a questionnaire. The needs analysis instrument grid developed by researchers is as follows:

Table 1. Needs Analysis Questionnaire Grid

No	Assessment Aspects	Question No
1	Need for teaching materials for teachers	1,3,4
2	Difficulties experienced by teachers	2
3	Elements of Required Learning Outcomes	5
4	Teacher's experience using teaching materials	6

Data analysis technique

Data processing in this research uses quantitative analysis, which is adjusted to the type of data collected from the research results. The data analysis technique uses descriptive statistical analysis, a data management process, and presentation in tables, diagrams, graphs, percentages, mean values, and

other variations. This descriptive statistics data analysis approach was applied to analyze teacher needs in developing flipbook-based interactive teaching materials. The final score is obtained by calculating the average of each item contained in the questionnaire, with the step of calculating the suitability value for each aspect divided by the number of statements contained. The formula used to calculate the percentage conformity value is formulated as follows (Anesia et al., 2018):

$$P = \frac{S}{N} \times 100\%$$

P = ideal percentage

S = Number of components of research results

N = Maximum number of scores

3. FINDINGS AND DISCUSSIONS

Results of a needs analysis survey to develop based material to increase the interest in learning and spirit of cooperation of students from class IV in elementary schools. This survey was carried out in six elementary schools located in Wonocolo District, Surabaya, namely SDN Jemursari 1 Surabaya, SDN Margorejo 1 Surabaya, SD Taquma Surabaya, SD Kyai Ibrahim Surabaya, SDN Margorejo VI, and SDN Sidosermo VI. Below are the results of a needs analysis survey conducted at the six elementary schools in Wonocolo District, Surabaya City:

Table 2. What Media/Teaching Materials Do You Need in Teaching Pancasila Education for Grade 4, Semester 2?

No	Name	School	Answers
1	Putri Erliana Nawangsari	SDN Margorejo 1/403	Teaching materials that align with the CP and TP (Competence Standards and Basic Competencies)
2	Atik Suntari, S. Pd	SDNMargorejo 1	Expanded teaching materials that align with the specified CP and TP
3	Mustofa, S. Pd	SD Taquma	Interesting teaching materials appropriate for the grade level. Pancasila Civic Education (PKn) materials should reflect real-life situations relevant to students' experiences/context.
4	Cicik Harira, S.Pd	SD Taquma	Teaching materials that align with CP are easily accessible by teachers and suit the school's and students' characteristics.
5	Tutik Sutihandari, S. Pd	SDN Sidosermo 1/427	There are already appropriate teaching materials from the Ministry of Education; we only need to adjust and develop them if necessary.
6	Izzatud Diniyah, S. Pd.	SDN Margorejo 1/403 Surabaya	<ol style="list-style-type: none"> Teaching materials that align with the learning objectives and the material flow we have structured. Most of the Pancasila Education books owned by students follow the material flow of the authors, which may not align with the material flow

No	Name	School	Answers
			we desire.
			c. Teaching materials integrated with other interactive media.
			d. Teaching materials with more exercises for understanding/reasoning.
			e. Teaching materials with an appealing design.
7	Billah Mas Fatih, S.Pd	SD Taquma	Up-to-date teaching materials that stimulate students' interest in learning. Interesting materials are appropriate for the grade level. PKn materials should reflect real-life situations relevant to students' experiences/context.
8	M. Rochilah	SDN Sidosermo 1/427	Simple teaching materials that suit the characteristics of Grade 4 students, accompanied by practice exercises.
9	Siti Nikma	SD Kyai Ibrahim	Digital-based teaching materials
10	Karti S., Pd., M. M	SDN Jemurwonosari 1/417	Yes
11	Hanin Fanida	SDN Margorejo VI Surabaya	Teaching materials that align with students' learning styles.
12	Karti, S. Pd., M. M	SDN Jemurwonosari I/417	Teaching materials that align with today's students and are very easy to develop
13	Anita Rahmawati S., Pd. I	SD Kyai Ibrahim	Cultural card (Learning Media).
14	Galih Pambudi R., S. Pd	SDN Jemurwonosari I/417	Teaching materials that provide complete and detailed content.

The results of the needs analysis survey conducted among 14 teachers in six public and private elementary schools in the Wonocolo district of Surabaya concluded the following: 1) Teachers need teaching materials that align with the CP (Competency Standards) and TP (Basic Competencies). 2) Teachers need expanded teaching materials aligned with the specified CP and TP. 3) Teachers need interesting materials appropriate for the grade level. 3) The Pancasila Civic Education (PKn) materials should reflect real-life situations relevant to students' experiences/context. 4) Teachers need teaching materials that align with the CP, are easily accessible by teachers, and are suitable for the school's and students' characteristics. 5) Teachers need materials that align with the learning objectives and material flow we have structured. 6) Teachers need teaching materials integrated with other interactive media. Teachers need teaching materials with more exercises for understanding/reasoning. 7) Teachers need teaching materials with an appealing design. 8) Teachers need up-to-date teaching materials that stimulate students' interest in learning. 9) Teachers need interesting materials appropriate for the grade level and content that reflects real-life situations relevant to students' experiences/context. 10) Teachers need simple teaching materials that suit the characteristics of Grade 4 students, accompanied by practice exercises. 11) Teachers need digital-based teaching materials. 12) Teachers need teaching materials that align with students' learning styles. The greatest challenge for teachers when teaching Pancasila Education within the independent curriculum, based on survey results, can be seen in Figure 1 below:

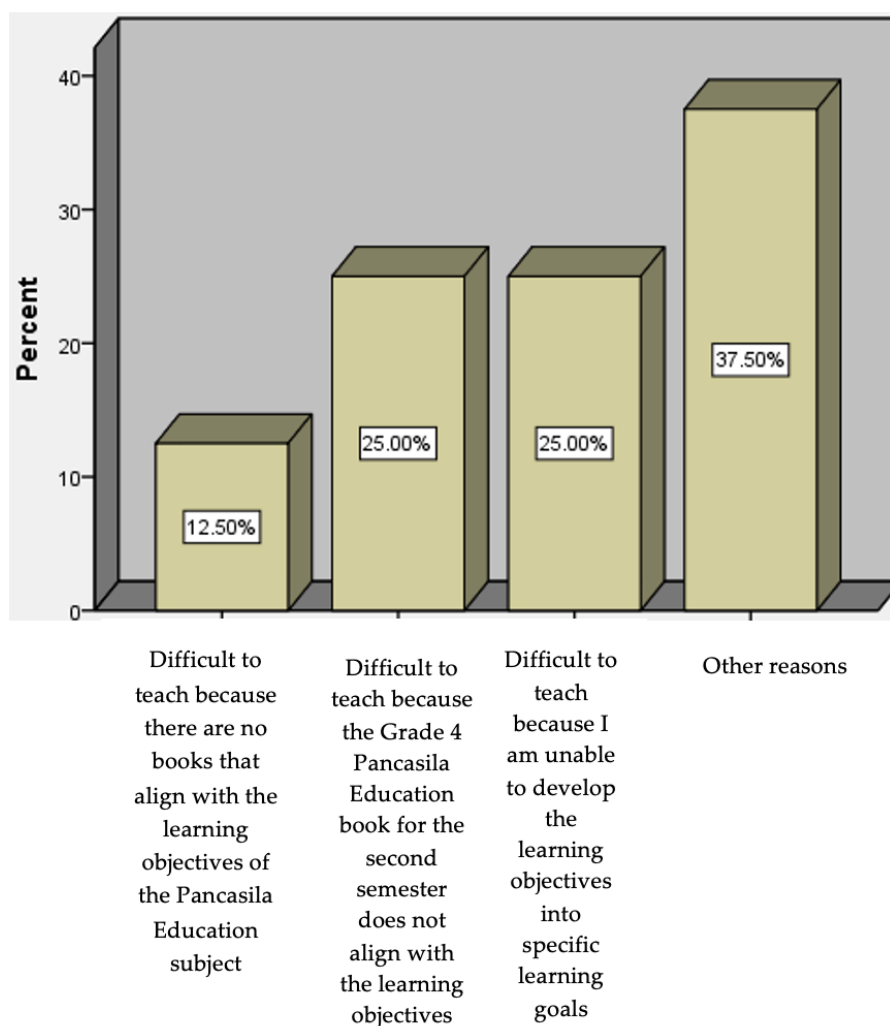


Figure 1. Teacher Difficulties in Teaching Pancasila Education in the Independent Curriculum

Based on Figure 1 above, 12.5% of teachers find it difficult to teach because there are no books that align with the learning objectives of Pancasila Education. 25% of teachers find teaching difficult because the Grade 4 Pancasila Education book for the second semester does not align with the learning objectives. Another 25% of teachers find it difficult to teach because they have not yet been able to develop learning objectives. Lastly, 37% of teachers reported other difficulties. The results of the needs analysis survey in six elementary schools in the Wonocolo district, with 14 teachers, can be seen in Figure 2 below:

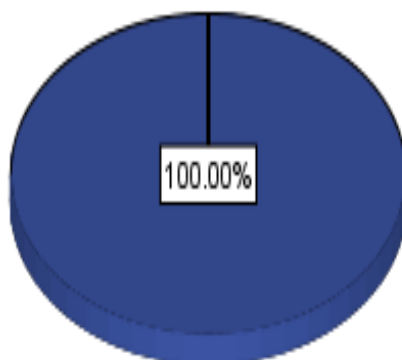


Figure 2. Survey Results Diagram on the Need for Developing Flipbook-Based Interactive Teaching Materials

Figure 2 above shows that 100% of teachers need flipbook-based interactive teaching materials for Grade 4 Pancasila Education in the second semester." This reflects a unanimous consensus among the surveyed teachers regarding the necessity of such teaching materials. The unanimous response from teachers underscores the critical need for flipbook-based interactive teaching materials in Grade 4 Pancasila education. This demand highlights the importance of modern, engaging educational resources in facilitating effective learning and teaching within the framework of the Independent Curriculum. Addressing this need could lead to more successful educational outcomes and better alignment with contemporary educational standards and expectations.

The result identified the elements and learning outcomes needed by Grade 4 teachers for the Pancasila Education subject in the second semester by surveying Grade 4 teachers in six elementary schools in the Wonocolo district of Surabaya City. The survey results can be seen in the table below:

Table 3. Elements and Learning Outcomes Needed by Teachers for Grade 4 Pancasila Education in the Second Semester

No	Name	School	Answers
1	Putri Erliana Nawangsari	SDN Margorejo 1/403	Pancasila Education element related to "Bhinneka Tunggal Ika" as the basis for developing a cooperative living pattern.
2	Atik Suntari, S. Pd	SDN Margorejo 1	On the theme of "My Indonesia".
3	Mustofa, S. Pd	SD Taquma	Students can implement examples of cooperation to achieve common goals.
4	Cicik Harira, S. Pd	SD Taquma	Cooperation.
5	Tutik Sutihandari, S. Pd	SDN Sidosermo 1/427	The element of "NKRI" (Unitary State of the Republic of Indonesia) regarding the diversity of ethnic groups.
6	Izzatud Diniyah, S. Pd	SDN Margorejo I/403 Surabaya	The element of "NKRI." Learning outcome: Students can identify and present various forms of ethnic, social, and cultural diversity in their surroundings. Students can understand their surroundings (neighborhood, village, and district) as an integral part of the NKRI. Students can demonstrate cooperative attitudes in various forms of ethnic, social, and cultural diversity in Indonesia, bound by unity and integrity.
7	Billah Mas Fatih, S. Pd	SD Taquma	Students can implement examples of cooperation to achieve common goals.
8	M. Rochilah	SDN Sidosermo 1/427	The element of "NKRI." Learning outcome: Students can identify and present various forms of ethnic, social, and cultural diversity in their surroundings.
9	Siti Nikma	SD Kyai Ibrahim	Collaboration.
10	Karti, S.Pd., M. M	SDN Jemurwonosari 1/417	Elements that align with the times and technological advancements.
11	Hanin Fanida	SDN Margorejo VI Surabaya	Element: "NKRI". Learning outcome: Students can demonstrate cooperative

No	Name	School	Answers
			attitudes in various forms of ethnic, social, and cultural diversity in Indonesia, bound by unity and integrity.
12	Karti, S. Pd., M. M	SDN Jemurwonosari I/417	Appropriate to the student's needs and easy to implement/daily tasks.
13	Anita Rahmawati, S. Pd. I	SD Kyai Ibrahim	Describing experiences of cooperation in the family, school, and community environment.
14	Galih Pambudi R., S. Pd	SDN Jemurwonosari I/417	She understands and explains the meaning of the Pancasila principles in daily life according to the student's development and context.

Based on the results in Table 2 from the initial study, it can be concluded that the elements, learning outcomes, and teaching materials needed by teachers for developing teaching materials for Grade 4 in the second semester are: 1) The element of "Bhinneka Tunggal Ika" with the subject of cooperation; 2) The element of "NKRI." Learning outcome: Students can identify and present various forms of ethnic, social, and cultural diversity in their surroundings; 3) The element of "NKRI." Learning outcome: Students can understand their surroundings (neighborhood, village, and district) as an integral part of the NKRI; 4) The subject of cooperation. Based on the needs analysis results, the teaching material to be developed is the "NKRI" element with the learning outcome: Students can identify and present various forms of ethnic, social, and cultural diversity in their surroundings. Decision of the Head of the Agency for Standards, Curriculum, and Assessment of Education of the Ministry of Education, Culture, Research, and Technology No. 033/H/KR/2022 Regarding Learning Outcomes in Early Childhood, Basic Education, and Secondary Education in the Independent Curriculum). This aligns with the needs of most Grade 4 teachers in the needs analysis. Analyzing the necessity of developing teaching materials for learning objectives, some basic issues that arise in teaching are being identified, and learning objective analysis is the first activity in product development (Cahyadi, 2019). The needs analysis activity is the first step before developing a product. During the needs analysis, the step is to analyze the necessity of developing the teaching materials, identify the required learning objectives, identify the basic issues faced in teaching, and conduct a learning objective analysis.

Discussion

A needs analysis survey was conducted to develop materials to enhance interest in learning and foster a spirit of cooperation among fourth-grade students in elementary schools. This sentiment was echoed by a teacher from SDN Margorejo 1 Surabaya, who pointed out that "complete teaching materials should encompass a broad range of content aligned with the learning objectives." She suggested that when developing teaching materials, it is crucial to incorporate content from various sources to ensure alignment with the curriculum. A teacher from SD Taquma highlighted the importance of creating engaging teaching materials appropriate for the student's grade level. He stressed that "teaching materials should be interesting and contextual, particularly within the framework of Pancasila Education." This approach suggests that making learning materials relatable to students' everyday lives can enhance comprehension and relevance. The teacher from SD Taquma underscored the significance of developing teaching materials that are not only accessible but also tailored to the characteristics of the school and its students. In today's digital era, the relevance and accessibility of educational resources are critical. The teacher's emphasis on easy access to teaching materials reflects the recognition of limited resources and infrastructure in some schools. She suggested that teaching materials should be designed for flexibility, such as digital-based resources accessible

online.

Furthermore, she highlighted the importance of aligning these materials with the students' unique social backgrounds, cultures, and learning abilities, which are essential for creating relevant and engaging content. A teacher from SDN Sidosermo 1/427 emphasized the value of utilizing teaching materials provided by the Ministry of Education and Culture. She noted that relying on these official resources ensures alignment with the expected standards and competencies. However, she also recognized the importance of adapting these materials to meet the specific needs of each class and student, as the one-size-fits-all approach may not always be effective. By customizing the materials to include local context or relevant real-life examples, teachers can enhance the attractiveness and effectiveness of the teaching process (Darling-Hammond et al., 2020). A teacher from SDN Margorejo I/403 Surabaya highlighted the necessity of developing teaching materials that are both effective and appealing to students. She emphasized the importance of teachers' control over the learning process by organizing content to align with their instructional goals. Moreover, she stressed the value of integrating interactive teaching materials, which can significantly enhance student engagement and comprehension. Providing more practice questions to assess understanding and reasoning highlights the need for materials that support cognitive development. Additionally, she underscored the importance of aesthetically pleasing teaching materials in maintaining students' interest and motivation. The teacher from Taquma Elementary School stressed the importance of contemporary teaching materials that are engaging, contextually relevant, and aligned with students' developmental levels. He noted that modern teaching materials should be updated to reflect current technological trends, which helps maintain students' interest and motivation. Additionally, he emphasized the importance of relating Pancasila Education content to students' real-life situations, which aids in internalizing Pancasila values and democratic principles (Schutz, 2014). The teacher from SDN Sidosermo 1/427 highlighted the importance of creating simple, age-appropriate teaching materials for fourth-grade students. She pointed out that at this developmental stage, students require straightforward explanations and language that match their cognitive abilities (Piaget, 2017). Including practice questions is also crucial for evaluating students' understanding and reinforcing their learning.

The teacher from Kyai Ibrahim Elementary School emphasized the necessity of digital-based teaching materials, reflecting an understanding of the growing importance of technology in education. Digital teaching materials offer significant benefits, including flexibility and interactivity, which can enhance student engagement and learning. These materials are accessible from various devices, allowing students to learn in diverse environments, which extends the learning experience beyond the classroom (Allan Collins & Ricard Halverson, 2018). The SDN Margorejo VI Surabaya teacher highlighted the importance of aligning teaching materials with students' learning styles, and recognizing that students have diverse learning preferences — whether kinesthetic, visual, or auditory — is crucial for creating effective instructional materials. By tailoring materials to these preferences, teachers can increase engagement and understanding, leading to better retention and application of knowledge.

The SDN Jemurwonosari I/417 teacher emphasized the need for adaptable teaching materials for today's students. She stressed the importance of flexibility in material development, which allows teachers to respond to curriculum changes and student needs effectively (Tomlinson, 2018). Teachers can develop more relevant and impactful teaching materials by considering students' unique social and cultural contexts. Mr. G from SDN Jemurwonosari I/417 highlighted the importance of comprehensive and detailed teaching materials. He argued that thorough content is essential for ensuring students develop a deep understanding of the subject matter, which is critical for building a strong educational foundation. However, he also cautioned against overwhelming students with overly complex material, stressing the importance of presenting information in an accessible and age-appropriate manner. The needs analysis survey conducted among teachers in six public and private elementary schools in the Wonocolo sub-district of Surabaya revealed a wide range of requirements for teaching materials that

address different aspects of learning and student characteristics. The results highlighted the importance of aligning teaching materials with official curricula, expanding content to provide deeper learning experiences, creating engaging and contextually relevant materials, and integrating technology to enhance accessibility and interactivity. However, the survey also identified significant challenges. For example, 12.50% of teachers reported difficulties due to the lack of books that align with the learning outcomes of Pancasila Education. In comparison, 25% struggled because the existing textbooks for Grade IV, semester 2, did not match the curriculum's learning objectives. Additionally, 25% of teachers had difficulty developing learning outcomes into specific teaching objectives, highlighting the need for further professional development and support. Finally, the unanimous demand for interactive, flipbook-based teaching materials underscores the potential effectiveness of these resources in enhancing the learning experience. Flipbooks combine visual appeal with interactivity and can significantly boost student engagement and comprehension, making them a valuable tool in modern education (Diani et al., 2018). A flipbook is a collection of pictures that change every page. The graphics seem animated by many images as the pages are turned quickly (Y. Damayanti et al., 2023). Research indicates that digital learning tools like flipbooks can improve student outcomes by providing more engaging and personalized learning experiences.

The flipbook-based instructional resource provides an example of creating appropriate instructional materials for particular needs (Mutiaru & Emilia, 2022). According to the study, adopting flipbook culture as a medium helps primary school pupils become much more proficient readers. The experimental class (using the flipbook media) and the control class (not using the flipbook media) had significantly different post-test mean results, according to the t-test results. The average score of the experimental group was higher (80.04) than that of the control group (71.36), suggesting that the flipbook media had a beneficial effect on reading literacy (Anggrasari et al., 2021). The study supports the integration of flipbook media into primary education to improve reading literacy, offering a modern, engaging, and effective approach to traditional reading instruction.

Flipbooks are necessary to increase students' interest in learning for several reasons; using flipbooks is a visually appealing and dynamic approach to conveying learning content that can draw in and hold students' attention. Learning becomes more engaging and pleasurable when done interactively. The portability and accessibility of Flipbooks allow students to examine content independently at home, as they can be viewed from anywhere. This mobility encourages ongoing participation and learning from students outside of the classroom. Interactive Simulations: Flipbooks offer an immersive learning environment by combining features, including text, animation, video, photos, audio, and navigation (Nafiah et al., 2023). Flipbooks are an essential tool in modern education, offering a combination of visual appeal, interactivity, accessibility, and immersive learning environments. They cater to the needs of today's learners by making education more engaging, flexible, and effective. By incorporating flipbooks into the curriculum, educators can enhance students' interest in learning and support their academic success.

Flipbooks have several benefits, such as the following: 1) They can be used to deliver learning materials in a clear, simple, and useful way; 2) They can be used in any setting, including open and closed spaces; 3) They are easily transportable and moveable; and 4) They can increase student engagement and interest in the material (Ilham Setiadi et al., 2021). The integration of flipbooks in educational settings can contribute to more effective teaching and learning by offering clear, versatile, and engaging content delivery.

They are using electronic teaching materials as an alternative to printed ones. Unlike printed teaching materials, they can include multimedia content, which makes the learning process more enjoyable and the learning materials more engaging. They can also be used as a medium for information sharing. Finally, compared to printed teaching materials, electronic teaching materials can be distributed more easily through websites, virtual classrooms, email, and other digital platforms (Yulaika et al., 2020). Flip-book-based teaching materials have the following benefits: (1) They are less

expensive than traditional book-based teaching materials; (2) They are also more environmentally friendly because we can save paper that comes from trees and ink because they do not require ink; and (3) They will not break as long as they are not exposed to a virus. (4) Flipbooks are lightweight and convenient to carry. Thanks to our existing technological resources, we can bring hundreds or even thousands of Flip-Book teaching materials that are required for the lecture process. (5) Time and space can be saved. (6) The Flip-Book distribution mechanism is incredibly quick. We can provide Flip-Books in minutes (Simatupang et al., 2020). It is possible to determine whether flipbook learning materials are effective by examining those that have satisfied the requirements of interactive multimedia assessment. The flipbook media has a very basic design. The study demonstrates that the generated medium is effective based on the respondents' responses (Hardiansyah & Mulyadi, 2022). The instructional materials are produced as flipbooks, unquestionably a state-of-the-art educational tool. That both educators and students can use (Gusman et al., 2021). Using electronic teaching materials as an alternative to printed ones reveals several advantages. Firstly, electronic materials offer a more dynamic and engaging learning experience due to their ability to incorporate multimedia content, such as videos, animations, and interactive elements. This feature makes learning more enjoyable and helps maintain students' interest and attention. Secondly, electronic materials are effective tools for information sharing and facilitating collaboration among students and educators. Lastly, the easy distribution of electronic teaching materials through digital platforms like websites, virtual classrooms, and email makes them more accessible and convenient, especially in remote or online learning environments. This flexibility in distribution also allows for quick updates and customization of content to meet the specific needs of students. The shift towards electronic teaching materials significantly improves educational resources, providing a more interactive, engaging, and accessible learning experience.

The creation of learning resources like flipbook learning resources profoundly impacts students. Flipbook media increases student interest and motivation to learn by helping them comprehend the content better and by presenting the learning materials in an appealing way (Bunari et al., 2024).

To overcome the limitations of using flipbook-based application media that can only be accessed via the Internet, a possible solution is to provide flipbook-based application media in PDF format (Ramadhina & Pranata, 2022). The statement addresses a significant limitation of flipbook-based application media—its reliance on internet access. By proposing converting flipbook content into PDF format, the solution provides an effective workaround that ensures broader accessibility. PDFs can be viewed offline, making educational content available to students regardless of internet connectivity. This approach enhances the flexibility of flipbook media and supports continuous learning in various environments, especially in areas with limited or unreliable internet access. Furthermore, it ensures that students can revisit the material at any time, thus reinforcing learning outcomes. The practicality and simplicity of PDFs as a widely accepted format also mean that this solution is likely to be easily implemented and used by both educators and students.

4. CONCLUSION

In conclusion, addressing these needs by developing and providing the appropriate flipbook-based interactive teaching materials will likely enhance the educational experience for teachers and students, leading to better alignment with modern educational standards and improved learning outcomes. The research results showed that all teachers who were research subjects considered flipbook-based interactive teaching materials to be very necessary. This shows a strong consensus among teachers that interactive learning methods like this are an important need in the learning context in elementary schools. Teachers believe that this teaching material is the most appropriate and effective solution to meet the learning needs of Pancasila Education in class IV, semester 2. This shows that this teaching material can provide real benefits in increasing students' understanding of the subject matter. The use of teaching materials that suit current technological preferences shows a response to technological

developments in the educational context. Using flipbooks as a learning tool shows that technology in learning is appreciated and is considered to improve the quality of learning. The conclusion highlights hope for a more interesting, interactive, and effective student learning process. This reflects the desire to create an engaging and effective learning environment to improve the quality of education. This research shows the importance of developing and using interactive teaching materials in the context of basic education, hoping to improve students' learning experiences and overall learning effectiveness.

The implications of these findings are significant. The demand for such teaching materials underscores the necessity of providing resources that are not only aligned with the curriculum but also capable of captivating students' interest and facilitating a deeper understanding of the content. Modern, interactive materials like flipbooks can offer a more dynamic learning environment, helping students better grasp complex concepts through engaging and visually stimulating content.

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