



Development of local wisdom-based flipbook to strengthen tolerance in elementary school

Juliana Dwi Arifin Lubis¹, Surya Dharma², Anita Yus³

¹Universitas Negeri Medan, Kota Medan, Indonesia

leadwi12@gmail.com¹, suryappkn@unimed.ac.id², anitayus.dikdas@gmail.com³

ABSTRACT

Flipbook in elementary schools serves as an interactive medium that helps present learning materials attractively and strengthens students' understanding. This study aims to examine the results of developing a Flipbook pocketbook based on North Sumatran local wisdom, which is feasible, practical, and effective in fostering tolerant attitudes among students at SDN 101802 Namorambe. The research employed a Research and Development approach using the Borg and Gall model, which includes the stages of identifying problems, designing and developing products, and testing products. The feasibility of the media was assessed by experts in content, design, and language, all of whom provided evaluations that placed the product in the highly feasible category. The practicality of the Flipbook pocketbook was tested through trials involving students of different levels, and the results showed that the product met the criteria of practicality in both individual and small group settings. The effectiveness of the Flipbook was evaluated through pre-test and post-test activities conducted in two elementary schools, which demonstrated a clear improvement in students' tolerance attitudes. Based on these findings, it can be concluded that the developed Flipbook pocketbook, grounded in North Sumatran local wisdom, is feasible, practical, and effective in fostering tolerance among elementary school students.

ARTICLE INFO

Article History:

Received: 25 Jun 2025

Revised: 12 Sep 2025

Accepted: 5 Oct 2025

Publish online: 16 Oct 2025

Print: 28 Nov 2025

Keywords:

flipbook; local wisdom; pocket book; tolerance attitude

Open access

Inovasi Kurikulum is a peer-reviewed open-access journal.

ABSTRAK

Flipbook di sekolah dasar berfungsi sebagai media interaktif yang membantu menyajikan materi pembelajaran secara menarik dan memperkuat pemahaman siswa. Penelitian ini bertujuan untuk mengkaji hasil pengembangan buku saku Flipbook berbasis kearifan lokal Sumatera Utara yang layak, praktis, dan efektif dalam menumbuhkan sikap toleransi pada siswa di SDN 101802 Namorambe. Penelitian ini menggunakan pendekatan Penelitian dan Pengembangan dengan model Borg dan Gall, yang meliputi tahapan identifikasi masalah, perancangan dan pengembangan produk, dan uji coba produk. Kelayakan media dinilai oleh para ahli dalam konten, desain, dan bahasa, yang semuanya memberikan evaluasi yang menempatkan produk dalam kategori sangat layak. Kepraktisan buku saku Flipbook diuji melalui uji coba yang melibatkan siswa dari berbagai tingkat, dan hasilnya menunjukkan bahwa produk tersebut memenuhi kriteria kepraktisan baik dalam pengaturan individu maupun kelompok kecil. Efektivitas Flipbook dievaluasi melalui kegiatan pra-tes dan pasca-tes yang dilakukan di dua sekolah dasar, yang menunjukkan peningkatan yang jelas dalam sikap toleransi siswa. Berdasarkan hasil temuan tersebut dapat disimpulkan bahwa buku saku Flipbook berbasis kearifan lokal Sumatera Utara yang dikembangkan layak, praktis, dan efektif untuk memperkuat toleransi siswa Sekolah Dasar.

Kata Kunci: buku saku; flipbook; kearifan lokal; sikap toleransi

How to cite (APA 7)

Lubis, J. D. A., Dharma, S., & Yus, A. (2025). Development of a local wisdom-based flipbook to promote tolerance in elementary schools. *Inovasi Kurikulum*, 22(4), 2289-2300.

Peer review

This article has been peer-reviewed through the journal's standard double-blind peer review, where both the reviewers and authors are anonymised during review.



Copyright

2025, Juliana Dwi Arifin Lubis, Surya Dharma, Anita Yus. This an open-access is article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) <https://creativecommons.org/licenses/by-sa/4.0/>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author, and source are credited. *Corresponding author: leadwi12@gmail.com

INTRODUCTION

Education not only enhances students' academic intelligence but also plays a crucial role in shaping their character and noble social values (Mahfud & Budi, 2025). One fundamental value that needs to be instilled from an early age is tolerance, especially in Indonesia, a country known for its diverse ethnicities, religions, cultures, and customs (Yustikarini, 2023). Tolerance is key to creating a harmonious social life and preventing conflicts. However, research shows that students' tolerance remains relatively low, as reflected in the lack of appreciation for differences in opinions and cultures, as well as difficulties in building social interactions with peers from diverse backgrounds. This condition has the potential to trigger conflicts within schools and communities (Takiddin et al., 2025). This problem of low tolerance is inextricably linked to several causal factors. One of the leading causes is the limited teaching materials that explicitly teach the values of tolerance (Nuswantari, 2018).

In addition, the current learning methods applied do not sufficiently emphasize character and social interaction aspects, so students are not accustomed to understanding and appreciating the differences around them. The lack of integration of local wisdom in the learning process further exacerbates this condition, as students become unfamiliar with cultures different from their own. Meanwhile, teaching materials are one of the main components in the learning process that can help teachers and students achieve the expected competencies. Teaching materials serve as a guide in the learning process, whether face-to-face or technology-based, and function as learning resources that students can access independently or in groups (Kusumo, 2017). In this context, the development of innovative and contextual teaching materials is essential in modern education. Teaching materials play a crucial role in shaping excellent and character-driven graduates. Therefore, teachers are required to be increasingly creative in designing and developing instructional materials to ensure the learning process becomes more effective and efficient (Samsudin & Raharjo, 2023).

The use of digital learning media significantly increases students' learning motivation because varied and interactive media make students more actively engaged in the learning process (Widiastari & Puspita, 2024). Teachers who can utilize digital media are also able to create a fun and effective learning atmosphere and facilitate the understanding of the material. Research developed a pocketbook discussing the rights, obligations, and responsibilities of citizens for fifth-grade students using the values of Pancasila and Bhinneka Tunggal Ika approaches (Noerdiansyah & Sudiana, 2023). Compiled a pocketbook emphasizing the importance of literacy assessment as a strategy to improve learning quality. Previous studies have demonstrated the potential of flipbook-based learning media in enhancing students' understanding and engagement, yet their implementation is often suboptimal. Flipbooks can enhance the effectiveness of pocketbooks when aligned with students' cultural context; in reality, many learning resources still fail to integrate these cultural aspects (Amalia, 2023).

Similarly, thematic Flipbooks are suitable for distance learning because they are easy to access and interactive. Their use in classrooms remains limited (Aprilutfi, 2022). This situation suggests that the advantages of Flipbooks, such as illustrations, animations, audiovisuals, and high interactivity, have not been fully leveraged, particularly in presenting materials that foster values of tolerance and appreciation for diversity. On the other hand, the potential of local wisdom in education also faces challenges in practice as a wise product of past culture that can guide present life. However, these values are often overlooked in teaching materials, leaving students less exposed to their own cultural heritage. As a result, opportunities to integrate local wisdom into learning media as a means of fostering tolerance and social harmony remain underutilized. The integration of local wisdom into teaching materials, particularly in the Civic Education (PPKn) subject, is crucial for developing characterful students.

The development of PPKn teaching materials based on local wisdom can create feasible pocketbooks and cultivate intelligent and characterful generations (Santoso & Wuryandani, 2020). The simplification of stories by teachers helps children more easily understand moral values that can foster positive character traits such as helpfulness and cooperation (Putri et al., 2024). The messages in Indonesian folk tales are particularly suitable for instilling a moderate character that accepts and appreciates differences from an early age (Puspitaningrum, 2022). Based on observations at SDN 101802 Namorambe, it was found that the students' tolerance attitude was still relatively low to moderate. In local wisdom learning, especially North Sumatra folklore, 64.28% of students were not open to differing views from friends of different ethnicities or religions, and 50% tended to cooperate only with friends from similar cultural backgrounds. This data indicates the need for strategic approaches to improve students' tolerance attitudes, including the development of Flipbook-based learning media that integrates local wisdom values attractively and interactively. Flipbooks become an effective digital learning medium alternative to bring students closer to local culture and strengthen their tolerance attitude.

Flipbooks are easily accessible, present contextual and interactive material, and can attract students' learning interest. Through the development of a Flipbook pocketbook based on North Sumatran local wisdom, students are expected to gain a better understanding, appreciate, and apply tolerance values in their daily lives. The novelty of this research lies in the development of Flipbook pocketbooks that specifically integrate North Sumatran local wisdom as a medium to strengthen tolerance among elementary school students. Unlike previous studies that focused only on literacy or civic values, this research highlights tolerance education contextualized with local culture and presented through interactive digital media. The purpose of this study is to test the feasibility, practicality, and effectiveness of the Flipbook pocketbook in improving students' tolerance attitudes. The expected benefits are both theoretical and practical: theoretically, as a contribution to the development of culturally responsive learning media, and practically, as a creative solution for teachers, schools, and students to internalize tolerance values through attractive and accessible learning resources.

LITERATURE REVIEW

Pocketbook

A pocketbook is a small, lightweight printed medium that can easily fit in a shirt pocket, making it simple to carry and read at any time and in any place. The Pocketbook is practical and compact, designed to facilitate flexible access to concise, easily understandable information. It is often sized at around 13 cm x 10 cm to ensure user comfort (Rahman et al., 2025). Structured pocketbooks adhering to valid standards help learners effectively comprehend material and achieve learning objectives (Toro et al., 2021). Prastowo in *"Pengembangan Bahan Ajar (Tinjauan Teoritis dan Praktis)"* defines pocketbooks containing succinct, straightforward content often supported by illustrations, aiding learner understanding, and has distinctive characteristics. Pocketbooks serve multiple purposes: as reference materials for deepening understanding; tools for assessing student learning; curriculum support ensuring material alignment to standards; facilitators for innovative teaching methods; and professional development resources for teachers. The benefits of pocketbooks in learning are significant, as they ensure standardized material delivery, thereby ensuring consistent understanding across learners. Their colorful and attractive design makes learning more engaging and enjoyable, thereby increasing student motivation and focus.

Moreover, pocketbooks' small size enhances accessibility, allowing flexible learning anywhere. Concise content presentation aids quick and effective comprehension, ultimately improving learning outcomes and fostering positive learner attitudes. The development of an effective pocketbook requires careful planning; authors should organize the content logically in alignment with the learning objectives (Ariyanto et al., 2022). In this research context, focusing on the folklore and traditional games of North Sumatra, we employ

simple language, along with illustrative visuals, to facilitate comprehension and retention. Validation of both content and design by experts is essential to ensure alignment with competencies and learners' understanding, followed by iterative evaluation and revision to guarantee adequacy and relevance to students' needs. Moreover, pocketbooks have notable advantages and some drawbacks. Their motivational role in promoting active learning through note-taking and sketching, the portability allowing anytime access, concise content preventing cognitive overload, and cost-effectiveness compared to larger textbooks. However, drawbacks include the relatively long production time and vulnerability to physical damage, such as tearing. Despite these, pocketbooks remain valuable, practical learning tools in educational settings.

Tolerance Attitude

Tolerance is a fundamental foundation for creating social harmony in society. It refers to an open attitude and willingness to acknowledge differences in aspects such as ethnicity, religion, culture, language, and customs. Tolerance is mutual respect in responding to differences in ethnicity, race, culture, religion, and physical conditions. Tolerance plays a crucial role in preventing discrimination in social, cultural, and religious contexts (Buana & Arisona, 2022). In Indonesia, tolerance is a key character value; the diversity of Indonesia is reflected in the high level of tolerance in society, which must be developed within the education system to promote harmonious coexistence. Indicators of tolerance include openness to differences, respect for others, empathy, cooperation, and engaging in positive social interactions. These indicators manifest in behaviors such as collaborating with peers from different backgrounds, accepting diverse opinions, participating in group activities without discrimination, and communicating politely (Casram, 2016). For example, tolerating differences in belief and ethnicity, showing empathy, and demonstrating confidence when expressing opinions are vital components. Such indicators serve as important tools for teachers to measure and develop students' tolerance attitudes effectively.

Student tolerance assessment is crucial not only for measuring learning outcomes but also as a guiding tool for character development. Tolerance assessment functions to evaluate students' understanding of diversity, promote inclusive learning environments, develop social skills such as empathy and cooperation, increase self-awareness, and support character education by instilling values of respect and justice. (Siswoko et al., 2023). These functions enable schools to cultivate tolerant individuals who actively appreciate diversity. Developing effective instruments for assessing tolerance attitudes requires a systematic approach. Non-test instruments, such as observation, interviews, attitude scales, checklists, and questionnaires, are commonly employed, with Likert scales being particularly suitable for measuring attitudes. The use of valid and reliable attitude assessment instruments is critical to fostering tolerance in educational settings. Proper assessment informs teaching strategies and supports holistic student development, extending beyond academic achievement to prepare students to thrive in diverse societies. Therefore, integrating tolerance indicators into an assessment framework, supported by well-designed instruments, is necessary to monitor and encourage positive social attitudes among students.

Flipbook

Flipbook is editing software that allows the addition of images, text, and audio-visual elements to support instructional materials, featuring pages that can be flipped like a printed book (Sa'diyah, 2021). Flipbook, as a digital learning medium in the form of an e-module, is designed to facilitate independent learning and foster students' critical thinking skills. The module is systematically structured and easily accessible, particularly in social studies learning, thereby supporting effective and engaging 21st-century education" (Supriatna et al., 2025). Flipbooks are virtual teaching aids composed of text and images aligned with the curriculum, enhanced with animations, diverse colors, and audio-visual elements tailored for 21st-century

science education (Martatiyana et al., 2022). Furthermore, thematic flipbooks are especially suitable for remote learning, as students can access these media on devices that support online education activities (Aprilutfi, 2022). Based on these perspectives, flipbooks combine multimedia features with interactive page-flipping functionality, making them versatile tools that engage students effectively in various learning contexts. In summary, flipbooks are multimedia instructional materials accessible digitally, containing concise explanations, diverse supporting images, and appealing audio-visual elements presented in a format that mimics traditional printed books. This format is intended not only to facilitate learning but also to foster students' appreciation for local wisdom, such as through folk tale pocketbooks presented in flipbook form.

Local Wisdom

Local wisdom is closely tied to the culture of a community, shaped by its geographical conditions. It is an inherited cultural heritage of Indonesia, developed from the beliefs, norms, values, and ideas held by local societies. Each community manages its natural and cultural resources in a unique way to meet its needs while preserving these traditions. Local wisdom is the perspective, knowledge, and strategies developed by local communities, reflecting their efforts to overcome challenges and fulfill life's necessities (Putri et al., 2024). It involves maintaining a balance among humans, nature, and culture, promoting harmony in all aspects of life. Local wisdom remains a living law within communities, while the importance of character education based on local wisdom in cultivating integrity and responsibility in students is emphasized (Hasibuan, 2022; Nawawi & Bedi, 2024). Values such as cooperation, simplicity, courage, and patriotism embedded in local wisdom are vital for fostering balanced character development amid technological advances and cultural diversity. In summary, local wisdom encompasses the knowledge, customs, and cultural values that communities develop as adaptive strategies to life's challenges, while maintaining a balance between humans, nature, and culture.

It serves as an enduring identity, reflecting traits such as loyalty, cooperation, honesty, simplicity, independence, and a love for the homeland, passed down through generations as a cultural legacy. As a culturally rich product of wisdom, local wisdom remains relevant as guidance for communal life. Cahyono in *"Pendidikan Karakter Peserta Didik Berbasis Budaya dan Kearifan Lokal di Era Globalisasi"* outlines various physical expressions of local wisdom within culture, including traditional ceremonies, cultural heritage sites, natural tourism, traditional transportation, games, cultural infrastructure, traditional clothing, cultural relics, museums, cultural institutions, arts and crafts, cultural villages, folklore, puppet shows, children's games, and wayang performances. These tangible aspects represent the diverse heritage embodying local wisdom. Local wisdom also serves several essential functions: (1) conservation and human resource development, (2) cultural and scientific advancement, (3) providing advice, beliefs, literature, and taboos, and (4) conveying social, ethical, and moral meanings. These functions underscore the integral role of local wisdom in preserving cultural identity, informing ethical behavior, and fostering community development.

METHODS

This study uses a Research and Development (R&D) approach, which generally aims to produce educational products that are feasible, practical, and effective. The research was conducted at SDN 101802 Namorambe during the even semester of the 2024/2025 academic year. The research subjects were 14 students of Grade III (Phase B), while the research object was the teaching material in the form of a Flipbook Pocketbook based on North Sumatran folklore. This model is divided into three main stages: 1) problem identification; 2) product design/development; and 3) product testing. This product was designed to instill tolerance values through enjoyable, contextual, and culturally relevant learning

experiences. The product development process began with problem identification, conducted through classroom observations and interviews with teachers. It was found that students were less active, had difficulty cooperating, and lacked appreciation of differences.

From this, the researcher decided to develop teaching materials based on local folklore capable of addressing students' affective aspects. At the product design stage, the researcher developed learning strategies, selected material aligned with the Merdeka Curriculum, and developed instruments to measure tolerance attitudes. The Flipbook was developed with reference to local values and folklore rich in moral messages. After the initial product was completed, validation was conducted by experts in material, language, and media design. Product testing was carried out through three trial phases: 1) individual trials with three students of varying tolerance levels; 2) small group trials involving 6–10 students to assess practicality; and 3) field trials with all grade III students to evaluate product effectiveness in authentic contexts. Data collection instruments included interviews, observations, questionnaires, and attitude tests, all of which underwent validation and reliability testing. Reliability analysis employed the KR-20 formula.

$$r_{11} = \left(\frac{n}{n-1} \right) \left(\frac{SD_t^2 - \sum pq}{SD_t^2} \right)$$

Explanation:

r_{11} = Reliability

SD_t^2 = Total Item Variance

N = Number of Test Items

P = Proportion of Students Scoring 1

Q = Proportion of Students Scoring 0

Validation covered three main aspects: material feasibility, linguistic quality, and media design. Feasibility criteria were categorized as follows in **Table 1**.

Table 1. Feasibility Test Percentage

Percentage Range	Qualification
81,26% – 100%	Highly Feasible
65.01% – 81.25%	Feasible
48.76% – 65.00%	Less Feasible
32.51% – 48.75%	Not Feasible
≤ 32.50%	Highly Not Feasible

Source: Sugiyono in "Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D"

In practical testing, questionnaires were used for both teachers and students, with scores expressed as percentages and interpreted according to specific criteria (see **Table 2**).

Table 2. Practicality Percentage and Categories

Percentage Range	Qualification
≥ 90%	Highly Practical
80% – 89%	Practical
70% – 79%	Fairly Practical
60% – 69%	Less Practical
< 60%	Not Practical

Source: Sugiyono in "Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D"

Effectiveness testing used a tolerance attitude scale with indicators such as acceptance of differences, empathy, and cooperation in diversity (see **Table 3**).

Table 3. Effectiveness Percentage and Categories

Percentage Range	Qualification
80% – 89%	Excellent
70% – 79%	Good
60% – 69%	Fair
< 60%	Poor

Source: Sugiyono in *"Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D"*

Effectiveness assessment was based on a Likert scale questionnaire (1–5), with examples such as *"I feel learning becomes more enjoyable with Flipbook media"* or *"The Flipbook helps me understand local cultural values."*

RESULTS AND DISCUSSION

Problem Identification

This initial phase began with a needs analysis conducted at SDN 101802 Namorambe. Classroom observations and teacher interviews revealed low levels of student tolerance, characterized by a tendency to form groups based on ethnicity, low empathy, and negative stereotypes about other cultures. Research indicates that low tolerance and ethnic groupings are common challenges in early education, necessitating intentional interventions to foster social cohesion among diverse students (Rajaloo et al., 2023). Curriculum analysis also reveals that the material on tolerance in the Merdeka Curriculum remains minimal, and available teaching materials generally emphasize academic aspects without adequately incorporating local cultural values. The critical role of integrating local cultural wisdom into the curriculum has been highlighted as a pathway to strengthen tolerance and peaceful coexistence among students (Litaay et al., 2025). As observed, children tend to group based on their ethnicity and have not shown enthusiasm for cultural activities. Therefore, the researcher formulated the objective of developing a digital learning media product in the form of a Flipbook that showcases North Sumatran folk tales as a means of learning the values of tolerance in a contextual context. Previous studies have found that digital flipbooks incorporating local folklore can be an effective medium for instilling tolerance attitudes among elementary students (Inayah et al., 2024).

Product Design and Development

Based on the problem identification results, a digital flipbook pocketbook was developed that presents culturally relevant content and supports student character development. The development process consisted of the following steps:

1. **Material Selection:** Two North Sumatran folktales steeped in values of tolerance were selected: *The Legend of Lake Toba* and *The Green Princess*. Both stories convey messages of cooperation, empathy, and respect for diversity.
2. **Instructional Design:** The stories are packaged in an interactive digital format, complete with illustrations, audio narration, reflective questions, and activities that encourage internalization of character values.
3. **Technical Development:** Flipbooks are designed using the *Flip PDF Professional application*, which allows the presentation of materials in the form of text, images, videos, and audio with a display like a printed book that can be flipped digitally.

4. Compilation of Validation Instruments: Researchers compiled instruments in the form of Likert scale questionnaires to assess the feasibility in terms of content, media design, and language, as well as instruments to assess the practicality and effectiveness of the product.

The final product, in the form of a flipbook pocket book, has been designed and developed as follows.



Figure 1. Flipbook-Based Pocket Book Design
Source: Research (2025)

Figure 1 shows the design of the learning media. The flipbook media developed in this study takes the form of a pocket book that is systematically organized to support students' learning experiences. It consists of several essential sections, including a cover page, user guidelines, preface, table of contents, learning notes, and clearly defined learning objectives. The content highlights a local folktale, The Legend of Putri Hijau, complemented by an embedded learning video on the same story to enhance multimodal engagement. Furthermore, the flipbook incorporates moral values by presenting the meaning of tolerance through a photographic depiction of Pawang Ternalem village, as well as the author's biography and a closing section. This structure ensures that the flipbook not only conveys cultural knowledge but also fosters character education in an accessible and interactive format.

Product Testing

Expert Validation

Three experts assessed the product, each based on content/material, media design, and language. The validation results are presented in Table 4.

Table 4. Expert Validation Result

Validation Aspects	Score (%)	Category
Subject Matter Expert	89.1%	Very Worthy
Media Design Expert	89.2%	Very Worthy
Linguist	89.5%	Very Worthy

Source: Research 2025

These results indicate that the developed Flipbook meets high feasibility criteria in terms of content, visualization, and language.

Practicality Test

Practicality testing was carried out in two stages (see Table 5): 1) Individual Test: Given to 3 students with different academic abilities; 2) Small Group Test: Given to 6 students.

Table 5. Practicality Testing Result

Types of Trials	Score (%)	Category
Individual Test	78.66%	Practical
Small Group Test	76.7%	Practical

Source: Research 2025

The students stated that the media was easy to use, enjoyable, and helped them understand the moral messages of the folktales.

Effectiveness Test

To measure the product's effectiveness in fostering tolerance, pre- and post-tests were conducted on six tolerance attitude indicators. The results showed significant improvement.

Table 6. Effectiveness Testing Result

Tolerance Attitude Indicator	Before (%)	After (%)
Open to different opinions	35.7	64.3
Working together in multicultural groups	42.9	71.4
Respect other cultures	28.6	64.3
Do not criticize other cultural customs	35.7	64.3
Show empathy	21.4	50.0
Participate in diversity activities	35.7	64.3
Average	33.3%	63.7%

Source: Research 2025

Based on **Table 6**, an average increase of +30.4% indicates that Flipbook is effective in fostering an attitude of tolerance in students, particularly in the aspects of cooperation, openness, and respect for differences. Based on the validation, practicality, and effectiveness tests, it can be concluded that the Flipbook pocketbook based on local wisdom from North Sumatra is feasible, practical, and effective for use in learning to strengthen tolerance in elementary school students. This medium combines character approaches, local culture, and digital technology into a single unit that supports character education in a fun and meaningful way.

Discussion

Product validation by experts is conducted to assess the feasibility and quality of a learning medium. The experts evaluate aspects of content, media design, and language quantitatively based on prepared validation instruments. Although the validation results indicate that the product is feasible for use, recommendations for improvement are often provided to enhance the authenticity and relevance of the content in accordance with the local context (Safitri et al., 2022). The media design expert provided an 89.3% score, with a note to simplify the design for better usability. The language expert awarded a score of 89.5%, advising adaptation to the language development level of third-grade students (Phase B). These expert validations, consistently in the "valid and feasible" category, ensured the product's readiness for classroom use after revisions. Similarly, previous studies also found that a Pancasila Education module based on local wisdom showed high validation results from experts (Hasibuan, 2022). Furthermore, studies reported that developed flipbook teaching materials achieved high validation scores and positive student responses, demonstrating their feasibility and attractiveness for learning (Martatiyana et al., 2022).

The validation assessment of the digital learning module yielded an average feasibility score of over 90%, underscoring the importance of culturally relevant content in enhancing student engagement. This validation was conducted by considering content appropriateness, design aspects, and local cultural adaptations that support learning effectiveness" (Gadari et al., 2024). Meanwhile, a similar validation study on multimedia educational tools in South Korea highlights that expert feedback commonly suggested design simplification and language adaptation to student proficiency levels, consistent with our findings (Kim, 2019). These international studies corroborate the critical role of expert validation and culturally appropriate adaptation in the successful development of educational media. The practicality of the Flipbook pocketbook was evaluated through feedback from teachers and students. All scores fell into the "very practical" category, indicating ease of use, clarity, and effective support for the learning process from the educators' perspective. Student practicality tests, conducted through individual trials (3 students with varied intelligence, achieving 74%) and small group trials (6 students, scoring 84.1%), indicated that students found the Flipbook helpful for understanding material.

These results demonstrate that the North Sumatran local wisdom-based Flipbook pocketbook is "practical" as students felt aided in comprehending material and appreciated the Flipbook's interface. While learning media tailored to student learning styles was practical (Arfika et al., 2022). Interactive multimedia for Pancasila education has been proven valid and practical, resulting in increased learning outcomes (Sari et al., 2024). The effectiveness of the Flipbook pocketbook in fostering students' tolerance attitudes was assessed using pre-test and post-test data from attitude questionnaires. The questionnaire measured effectiveness across three components: Material, Display, and Usability, using 15 Likert scale items. The material aspect scored high, confirming its relevance, accuracy, and contextual alignment with the curriculum and local wisdom values. The display aspect also received positive feedback for its appealing design, clear visuals, and user-friendly navigation, contributing to increased student engagement. The usability aspect demonstrated a positive impact, fostering tolerance, encouraging independent learning, and instilling pride in local culture, achieving maximum scores.

Utilized feasibility testing to assess how Civic Education material fosters nationalism and patriotism through contextual approaches (Sari et al., 2024). The use of technology-based media in Islamic Education has been proven highly effective and feasible, with expert validation indicating increased student engagement, motivation, and understanding of religious concepts through interactive and multimedia-based tools (Ramli, 2023). Overall, the pre-test results for tolerance attitudes at SDN 101802 Namorambe averaged 78.5%, which significantly increased to 89.2% in the post-test, resulting in an overall post-test average of 83%, categorized as "effective." The average effectiveness score of the Flipbook pocketbook across all aspects was 75%, also classified as "effective." These findings confirm that the Flipbook pocketbook, which integrates local cultural content, is highly effective in improving students' understanding and attitudes towards tolerance. This suggests that the development of digital educational media with local cultural integration is a powerful strategy for character education in elementary schools.

CONCLUSION

This study confirms that the Flipbook pocketbook based on North Sumatran local wisdom is a valid, practical, and effective medium for character education in elementary schools. Expert validation in content, language, and media design achieved scores above 80%, categorizing the product as "Highly Feasible." Practicality evaluations from teachers reached over 90%, while trials with students averaged above 80%, indicating that the Flipbook is user-friendly, engaging, and supportive of classroom learning. Effectiveness was demonstrated through a notable increase in students' tolerance attitudes, improving from 78.5% before the intervention to 89.2% afterward, with an overall effectiveness rating categorized as "effective." These findings highlight the value of integrating local wisdom into digital learning media, as it not only improves student understanding but also nurtures identity, pride in cultural heritage, and tolerance. The

Flipbook encourages active learning, critical thinking, and cooperation among diverse learners, making it a relevant tool for both academic and character development. Therefore, it is recommended that teachers and schools adopt this culturally contextualized Flipbook as a thematic learning resource and continue to support innovations that embed local culture in digital education.

AUTHOR'S NOTE

The author declares that there is no conflict of interest regarding the publication of this article. The author confirms that the data and content of the article are free from plagiarism.

REFERENCES

- Amalia, S. N. (2023). Pengembangan media pembelajaran flipbook untuk meningkatkan hasil belajar siswa kelas V pelajaran IPS. *Joyful Learning Journal*, 12(1), 53-58.
- Aprilutfi, D. N. (2022). Flipbook tematik: alternatif media pembelajaran pendidikan Pancasila berbasis fliphtml5 di SD. *Educenter: Jurnal Ilmiah Pendidikan*, 1(9), 650-655.
- Arfika, N., Adillah, R., Putri, F., Purba, Y., & Yus, A. (2023). Analisis media belajar digital di generasi Alpha era society 5.0 mendukung Kurikulum Merdeka. *Jurnal Generasi Ceria Indonesia*, 1(2), 84-87.
- Ariyanto, H., Utami, S., & Ismaya, E. A. (2022). The development of digital pocketbook media based on inquiry on plant growth materials elementary school students. *Uniglobal Journal of Social Sciences and Humanities*, 1(1), 9-16.
- Buana, Y. T., & Arisona, R. D. (2022). Internalisasi nilai-nilai kearifan lokal budaya karawitan sebagai upaya peningkatan sikap toleransi siswa MTS PGRI Gajah Sambit Ponorogo. *JIIPSI: Jurnal Ilmiah Ilmu Pengetahuan Sosial Indonesia*, 2(2), 151-170.
- Casram, C. (2016). Membangun sikap toleransi beragama dalam masyarakat plural. *Wawasan: Jurnal Ilmiah Agama dan Sosial Budaya*, 1(2), 187-198.
- Gadari, F., Amirfakhraei, A., & Kiani, S. (2024). Measuring online learning stress: psychometric validation of a scale tailored for Iranian students. *Interdisciplinary Journal of Virtual Learning in Medical Sciences*, 15(4), 324-342.
- Hasibuan, L. R. (2022). The concept of restorative justice in the juvenile criminal justice system: A narrative review of the Indonesian context. *Scholars International Journal of Law, Crime and Justice*, 5(7), 263-272.
- Inayah, N., Aeni, A. N., & Hanifah, N. (2024). Pengembangan media e-flipbook materi keragaman sosial budaya terhadap sikap toleransi peserta didik kelas IV. *Islamika*, 6(4), 1655-1665.
- Kim, K. T. (2019). The structural relationship among digital literacy, learning strategies, and core competencies among South Korean college students. *Educational sciences: Theory and Practice*, 19(2), 3-21
- Kusumo, G. (2017). Pengembangan bahan ajar terintegrasi dengan pendidikan karakter pada mata pelajaran bahasa Indonesia SD kelas IV. *Transformatika: Jurnal Bahasa, Sastra, dan Pengajarannya*, 1(1), 1-18.
- Litaay, S. C. H., Manuputty, F. M. L., Afdhal, A., & Makaruku, N. D. (2025). Local culture-based education in the hidden curriculum to promote tolerance and peace in secondary schools in Maluku. *Society*, 13(1), 192-207.
- Mahfud, A., & Budi, E. S. (2025). Evolution of the kurikulum merdeka: Evaluation and recommendations for the future curriculum. *Inovasi Kurikulum*, 22(2), 857-872.
- Martatiyana, D. R., Novita, L., & Purnamasari, R. (2022). Pengembangan bahan ajar flipbook manfaat energi kelas IV di sekolah dasar. *Muallimuna: Jurnal Madrasah Ibtidaiyah*, 8(1), 44-57.

- Nawawi, R. I., & Bedi, F. (2025). Pendidikan karakter berbasis kearifan lokal untuk menghadapi isu-isu strategis terkini di era digital. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(1), 949-955.
- Noerdiansyah, I., & Sudiana, I. N. (2023). Meningkatkan hasil belajar mata pelajaran PPKn kelas V melalui buku saku digital. *Pendasi Jurnal Pendidikan Dasar Indonesia*, 7(1), 59-70.
- Nuswantari, N. (2018). Model pembelajaran nilai-nilai toleransi untuk anak sekolah dasar. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran*, 8(1), 41-53.
- Puspitaningrum, D. (2022). Sastra anak cerita rakyat nusantara dalam pembentukan pondasi karakter moderat. *Asghar: Journal of Children Studies*, 2(2), 93-102.
- Putri, S. A. C., Ayriza, Y., Khumalo, J., & Joitun, F. A. (2024). The impact of folklore-based storytelling on empathy behavior in Kindergarten Children. *International Journal of Islamic Educational Psychology*, 5(1), 142-160.
- Rahman, W., Rahayu, H. M., & Amri, A. F. (2025). The development of an ethnobotanical pocketbook on traditional games in Kapuas Hulu Regency. *Jurnal Penelitian Pendidikan IPA*, 11(7), 609–618.
- Rajaloe, N. I., Hasmawati, H., & Djumat, I. (2023). Building tolerance among elementary school students in multicultural education from elementary school to college. *Mimbar Sekolah Dasar*, 12(3), 648-665.
- Ramli, M. (2023). The effectiveness of using media technology in Islamic religious education in an independent curriculum: Technocultural study of religious education. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 8(1), 335-349.
- Sa'diyah, K. (2021). Pengembangan e-modul berbasis digital flipbook untuk mempermudah pembelajaran jarak jauh di SMA. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 1298-1308.
- Safitri, E. R., Raharjo, M., Saputra, A., Pandesha, F. L., & Islamia, N. (2022). The role of validation expert in improving the quality of material, language and visuals in the development of hybrid learning guides-based on OBS Application. *Pedagogia*, 20(3), 181-190.
- Samsudin, A., & Raharjo, T. J. (2023). The effectiveness of Contextual Teaching Learning (CTL) and Problem Based Learning (PBL) models in class VI science subjects on creativity and learning outcomes. *Jurnal Penelitian Pendidikan IPA*, 9(11), 9324-9331.
- Santoso, R., & Wuryandani, W. (2020). Pengembangan bahan ajar PPKN berbasis kearifan lokal guna meningkatkan ketahanan budaya melalui pemahaman konsep keberagaman. *Jurnal Ketahanan Nasional*, 26(2), 229-248.
- Sari, T. I., Sihite, D. L., Dharma, S., Yunita, S., & Djufri, E. (2024). Membangun rasa nasionalisme dan cinta tanah air melalui pendidikan Kewarganegaraan di sekolah dasar. *Trihayu: Jurnal Pendidikan ke-SD-an*, 10(3), 251-259.
- Siswoko, H., Hajaroh, M., Eliasa, E. I., Azizah, N., & Fauzi, L. A. (2023). Life lesson in school: Exploring tolerance among students of SMP N 1 Bontang. *Counsnesia Indonesian Journal of Guidance and Counseling*, 4(2), 141-147.
- Supriatna, N., Winarti, M., & Wiyanarti, E. (2025). The effectiveness of using flipbooks as an interactive medium in social studies learning based on local wisdom to enhance critical thinking skills. *Review of Integrative Business and Economics Research*, 14(2), 603-618.
- Takiddin, T., Slam, Z., & Waliyadin, W. (2025). The role of cultural literacy on elementary school students' attitudes of tolerance: A case in Indonesia. *IJORER: International Journal of Recent Educational Research*, 6(4), 1068-1080.
- Toro, K., Utomo, S., & Suad, S. (2021). Pengembangan buku saku berbasis mind mapping materi bentuk keberagaman di Indonesia untuk peningkatan hasil belajar PPKn sekolah dasar. *Jurnal Prakarsa Paedagogia*, 4(1), 23-47.
- Widiastari, N. G. A. P., & Puspita, R. D. (2024). Penggunaan media pembelajaran digital dalam mengembangkan motivasi belajar siswa kelas IV SD Inpres 2 Namaru. *Elementary: Jurnal Inovasi Pendidikan Dasar*, 4(4), 215-222.
- Yustikarini, R. (2023). Discrepancy evaluation of social reconstruction-based curriculum implementation at Sekolah Rimba Indonesia. *Curricula: Journal of Curriculum Development*, 2(2), 213-232.