

NEED ANALYSIS OF LUMIO BY SMART MEDIA DEVELOPMENT TO FACILITATE CITIZENSHIP LITERACY IN GRADE IV ELEMENTARY SCHOOL

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ABSTRACT

The integration of digital technology is crucial to meet 21st-century educational demands, particularly in fostering civic literacy. This study explores the potential of developing "Lumio by SMART" as an interactive digital learning medium to enhance fourth-grade students' understanding of Pancasila values. The study utilized a needs analysis approach through questionnaires distributed to fourth-grade elementary students, alongside a comprehensive literature review of recent studies on interactive educational media. The findings reveal a significant demand for digital integration, with 100% of surveyed students affirming that interactive features like animations, games, and quizzes improve their interest and comprehension. Furthermore, the literature review confirms that Lumio by SMART is a valid and practical platform that allows teachers to independently create engaging materials. It effectively boosts student engagement and significantly enhances basic civic literacy compared to traditional methods. In conclusion, Lumio by SMART serves as a highly effective tool for delivering Pancasila education. Utilizing this platform provides practical benefits for educators and fosters a dynamic learning environment. Future research should involve large-scale experimental studies to evaluate the long-term impacts of this digital platform on student learning outcomes.

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INTRODUCTION

Literacy is a core competency that enables individuals to interact effectively with written and spoken language. For elementary school students, civic literacy, particularly within the context of learning Pancasila principles, serves as a foundation for shaping the identity and values associated with the nation's ideology. In an era of globalization and rapid information technology advancement, Indonesia's younger generation faces the challenge of understanding and embracing

Pancasila values as the nation's foundation. Civic literacy encompasses not only an individual's understanding of their role as a citizen but also their participation in society. It includes the knowledge and skills required for active participation in civic affairs, as well as an understanding of one's rights and responsibilities (VanFossen & Berson, 2008). Furthermore, results from the PISA (Programme for International Student Assessment) study indicate a need to improve the literacy and mathematical skills of school-aged children in Indonesia. Consequently, innovative pedagogical approaches are required to effectively integrate these competencies across various disciplines, including the Pancasila curriculum (OECD, 2023). However, traditional teacher-centered methods continue to dominate elementary education, thereby limiting opportunities for students to develop civic literacy through interactive and context-based activities (UNESCO Digital Library, 2023).

Pancasila instruction in elementary schools plays a crucial role in shaping students' character and national identity, thereby determining their future contributions to society (Seftriyana & Dewi, 2021). Civic literacy entails not only mastering academic content but also the ability to analyze, evaluate, and apply Pancasila values in daily life (Maulida & Dermawan, 2024). Nevertheless, the learning process often faces challenges, such as a lack of student awareness regarding their civic rights and responsibilities (Maimun et al., 2020). Therefore, enhancing civic literacy requires an innovative teaching approach that enables students to become more active and knowledgeable participants in civic life. One solution to this pressing educational challenge is the implementation of digital platforms such as SMART's Lumio, which facilitates interactive learning and collaboration (R. S. I. Dewi et al., 2025).

Developments in educational technology offer new opportunities to utilize interactive digital tools to improve the quality of education. Implementing SMART's Lumio platform is expected to boost student engagement in the learning process and foster a better understanding of Pancasila values, individual rights, and civic responsibilities. Technology is expected to facilitate student access to information and enable participation in learning activities that promote civic literacy (Maunah, 2015). Research on the use of SMART Lumio remains limited, focusing primarily on enhancing student engagement and interactive learning rather than specifically addressing the platform's potential to develop civic literacy alongside mathematical literacy within Civics (Pancasila) education (Hobbs, 2017; Rohmah et al., 2023; SMART Technologies ULC, 2026). Furthermore, previous studies have paid insufficient attention to developing learning materials that link interactive activities to real-world civic problem-solving and the use of quantitative data in student decision-making (Kementerian Pendidikan, Kebudayaan, Riset, Dan Teknologi, 2024; OECD, 2023).

Previous research has confirmed the effectiveness of using digital learning tools to improve educational outcomes. (Prasetyo et al., 2023) found that the use of interactive learning tools increased student motivation and understanding in Civics education by 35%. A similar study by (Putri, 2025) found that incorporating gamification elements into instruction could increase student engagement by 40% compared to traditional teaching methods. Despite the abundance of research on digital learning tools, several aspects remain unconsidered when analyzing the need to develop educational materials for civic literacy in primary schools. Furthermore, there is a lack of in-depth study regarding the use of the Lumio SMART platform in the context of teaching civic literacy. While many previous studies have focused on platforms such as Kahoot, Quizizz, and WordWall, research on SMART's Lumio, particularly concerning civic literacy, remains limited.

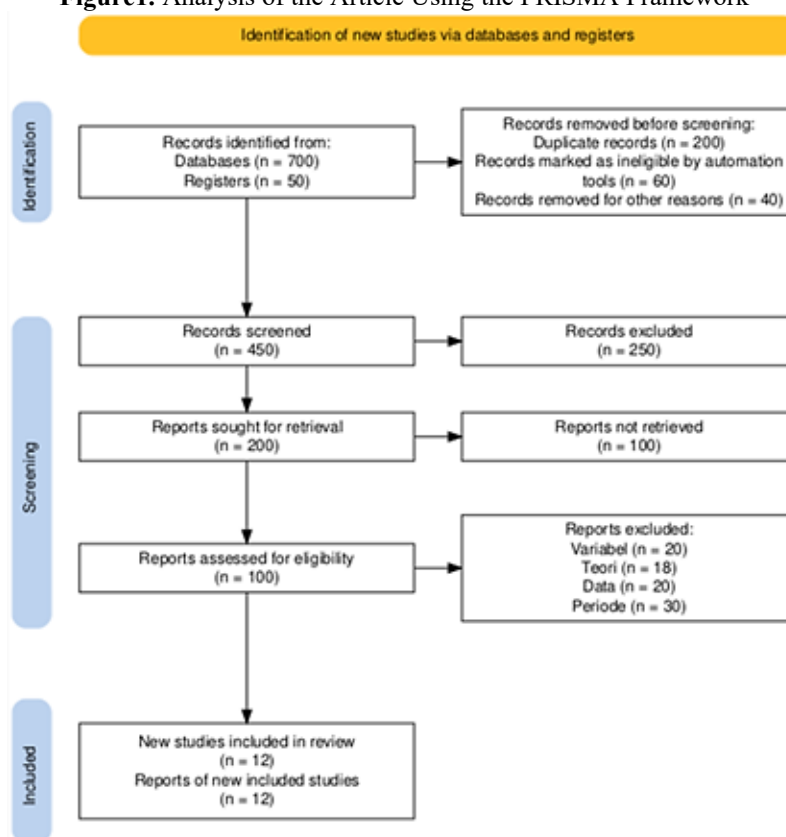
METHOD

In this study, a qualitative descriptive method was employed. The descriptive research technique utilised a Systematic Literature Review (SLR), which is a systematic and structured approach to identifying, evaluating and synthesising research relevant to the topic under investigation. The SLR aims to provide a comprehensive overview of the existing literature and to answer specific research questions. Based on the research method described above, the researcher searched for various articles matching the keywords relating to the use of the 'Lumio by Smart' platform in Pancasila education. In addition to collecting data to review the articles obtained, the researcher also conducted observations, interviews with class teachers and the headteacher, documented findings, and administered questionnaires to students.

In the initial stage of the research, observations were carried out to ascertain the correlation between the needs and conditions of schools regarding facilities supporting the use of digital learning media. Subsequently, interviews were conducted with form tutors and headteachers to identify the complex issues relating to learning media and students'

contributions during the learning process. The next stage involved administering a questionnaire on needs analysis to gauge their requirements for learning media in the learning process, particularly in Pancasila education. In addition, the literature review stage involved 20 articles sourced from national and international journals with a Sinta ranking from Google Scholar that were relevant to the topic under discussion, including the results of observations, interviews and questionnaires.

Figure1. Analysis of the Article Using the PRISMA Framework



Source: Researcher (2026)

The literature selection process for this study followed the PRISMA 2020 guidelines, ensuring a transparent and systematic screening process. A total of 750 records were initially identified: 700 articles from electronic databases and 50 records from registries. Prior to screening, 300 records were removed (including 200 duplicates, 60 records automatically excluded by screening tools, and 40 records removed for other reasons), leaving 450 records for screening based on title and abstract.

During the screening phase, 250 records were excluded due to a lack of relevance to the research focus—specifically regarding educational media resources, the Lumio by SMART platform, civic literacy, primary education, or needs analysis. Subsequently, a full-text search was initiated for 200 articles. Access to 100 of these articles was not possible, primarily due to access restrictions or the unavailability of the full text. The remaining 100 articles were assessed for compliance with predetermined inclusion and exclusion criteria.

Following this assessment, 88 articles were excluded for the following reasons: 18 contained inconsistencies in variables, 20 were published outside the specified timeframe, 20 contained data that was unsuitable or irrelevant to the

research topic, and 30 did not meet the publication timeframe criteria. Ultimately, 12 studies met all inclusion criteria and were incorporated into the final review. These studies serve as the primary evidence base for identifying needs and opportunities to develop Lumio by SMART-based educational materials aimed at fostering civic literacy among fourth-grade primary school students.

RESULT AND DISCUSSION

Based on the comprehensive findings obtained from careful observations carried out at SDN Mojolangu 5 in Malang, it can be concluded that there are adequate facilities for implementing digital learning media. These facilities include LCD screens, projectors, speakers, a computer lab and an internet connection. As far as could be observed, there is a lack of use of learning media to support the learning process, particularly digital learning media, as teachers should already be integrating 21st-century learning that utilises technology appropriate to the current era.

Following the observations, the researchers conducted interviews to gather information regarding the existing issues, particularly concerning the use of media, based on the perspectives and first-hand experiences of teachers and headteachers directly involved in the use of learning media. The results of the interviews indicated that the development of learning media is one of the measures that can assist teachers in providing a variety of learning resources, particularly in Pancasila education. To date, the main factors preventing teachers from developing a diverse range of educational media have been time constraints and the heavy administrative workload they face. Furthermore, whilst the use of digital educational media has been implemented in teaching, the only resources currently utilised are educational videos sourced from the YouTube platform. Teachers believe that the Lumio by SMART learning platform has the potential to facilitate the learning process because it can be accessed anytime and anywhere via devices connected to the internet. The needs analysis questionnaire administered to the students helped to strengthen the research data. The questionnaire was administered to 10 Year 4 students, incorporating key points relating to the analysis of learning media needs in order to ascertain the extent of the student needs.

Table1. Results of the Pupil Questionnaire

No	Question
1.	Do you often use a mobile phone, computer or laptop for studying?
2.	Have you ever used digital learning resources in your Pancasila education lessons?
3.	Is the use of learning resources important to you in the Pancasila education learning process?
4.	Can the Lumio by SMART digital learning resources help you understand Pancasila education?
5.	Is the Lumio by SMART learning platform practical for use in both online and face-to-face learning?
6.	Do the materials on rights and responsibilities at home and at school require the Lumio by SMART learning platform?
7.	Do learning resources linked to educational videos help you understand the subject of rights and responsibilities at home and at school?
8.	Does the Lumio by SMART learning resource, which features animations, spark your interest in learning about rights and responsibilities at home and at school?
9.	Does the Lumio by SMART platform, which features interactive games and quizzes, improve your understanding of the subject of rights and responsibilities at home and at school?
10.	Do you think the Lumio by Smart platform on the subject of rights and responsibilities at home and at school needs to be developed in primary schools?

Source: Compiled by the Researcher (2026)

Based on a survey of 10 students, 90% considered the use of digital learning materials an important element of the Pancasila (Civic Education) subject, and all ten students (100%) expressed a need for more engaging learning materials. However, these findings cannot be interpreted as evidence that the Lumio SMART platform effectively enhances learning, as the materials had not yet been developed or implemented in the classroom at this stage of the research. Therefore, the students' responses should be interpreted as a reflection of their initial perceptions and expectations regarding the desired

characteristics of digital learning materials. This indicates a need for learning materials that are more interactive than those currently used by teachers. Consequently, the survey results serve as a basis for identifying user needs during the initial material development phase, rather than for evaluating the effectiveness of the product itself. The high level of student agreement must also be interpreted with caution. Some survey items asked students to evaluate Lumio SMART, even though they had never used the platform firsthand. Thus, their responses were likely influenced by the general perception that digital materials are more engaging than traditional teaching methods. This perceptual bias is a common limitation in needs-based research, as respondents base their assessments on expectations regarding a future product rather than on actual usage experience.

Survey results from 10 fourth-grade students revealed that all of them (100%) frequently use digital devices, such as mobile phones, computers, or laptops, for learning purposes. This indicates that the students are accustomed to using digital technology in their daily lives and, therefore, possess the basic readiness to work with digital-based learning materials. Furthermore, 8 out of the 10 students (80%) reported having used digital learning materials in Pancasila lessons, while 2 students (20%) indicated that they had never used them. Although the majority of students were familiar with digital learning materials, observations and interviews showed that the tools used by teachers were limited to educational videos, and the variety of interactive materials remained very limited. Survey results also reveal that 9 out of 10 students (90%) consider educational media resources an important component of the Pancasila learning process, while 1 student (10%) expressed a neutral opinion. This data indicates that students desire a more engaging learning experience that extends beyond textbooks or lectures. Regarding the Lumio by SMART platform, 9 out of 10 students (90%) believe it can help them master Pancasila course material and find it convenient for use in both online and face-to-face learning settings. Furthermore, 8 out of 10 students (80%) noted that learning about rights and responsibilities at home and at school requires the use of media resources like Lumio by SMART.

Additionally, all respondents (10 out of 10 students, or 100%) stated that video-based learning materials could help them better understand the topic of rights and responsibilities. Seven out of 10 students (70%) also expressed the view that the animations in Lumio by SMART could boost their interest in learning, while three students (30%) remained neutral. Moreover, all respondents (10 out of 10 students, or 100%) believe that interactive games and quizzes can facilitate learning and unanimously (100%) support the further development of the Lumio by SMART platform for use in elementary schools. However, these results should be interpreted with caution. At the time of data collection, the students had not yet worked directly with the Lumio by SMART platform; therefore, their responses cannot be considered evidence of its effectiveness in enhancing civic literacy. Certain survey questions, particularly those regarding perceptions of Lumio by SMART, were posed to students before the educational resource was developed and implemented in the classroom.

. Consequently, the survey's objective was not to measure the effectiveness of this media resource, but rather to identify student expectations and needs regarding the desired characteristics of educational materials. In the context of product development research, this information serves as a crucial foundation for creating media resources that meet the user needs and preferences identified during the needs analysis phase. Therefore, the results of this survey are considered input for the product development process, rather than empirical evidence of the effectiveness of the Lumio solution from SMART.

To support the data collected for this study, the researcher conducted a literature review focusing on the subject of Lumio by SMART in Pancasila Education as applied in the context under investigation. The analysis carried out in the literature review relates to various titles and elements that have been selected and explored by the researcher, thereby reflecting the scope and focus of the investigation. In compiling this literature review, the researcher included a variety of journal sources, all of which relate to the Lumio by SMART learning medium.

Table 1. Results of the Article Review on the Effectiveness of the 'Lumio by SMART' Learning Media

No	Author	Title	Research Findings
1.	(Wirda, 2024)	Development of Ethnomathematics-Based Interactive Multimedia for the AI	The 'Lumio by Smart' learning medium is highly valid and practical for use as a



No	Author	Title	Research Findings
		Falah Grand Mosque in Jambi: Geometric Shapes for Year 5 Primary School	mathematics learning medium for Year 5 primary school students.
2.	(Kaltsum et al., 2024)	Workshop on Creating Lumio and Wordwall Learning Media for Teachers at SDN 03 Makamhaji, Sukoharjo	The use of learning media has not yet been fully integrated into the learning process, but it provides variety in the use of learning media and can increase student engagement.
3.	(Arifin et al., 2025)	Learning Innovation: Design of Lumio ICT Learning Media by SMART at Janti 1 State Primary School, Tarik, Sidoarjo	Thanks to the training on learning resources, teachers are able to independently create interactive learning resources using Lumio by SMART.

Source: Compiled by the Researcher (2026)

Table 2. Results of the Review of Articles on Pancasila Education

No	Author	Title	Research Findings
1.	(Khairunnisa & Apoko, 2023)	Development of Digital Learning Materials Based on the Canva Application for the Subject of Civic and Citizenship Education in Primary Schools	This Canva-based digital learning resource helps to ensure that the learning process is not tedious; furthermore, it is effective, particularly when used with Pancasila and Citizenship Education materials.
2.	(Sutrami & Amrullah, 2023)	Development of PBL (Problem-Based Learning)-Based Flashcard Learning Materials for Pancasila Education	These flashcard learning materials are highly suitable and valid for implementation in Year 1, with content focusing on religious character based on spiritual issues.
3.	(Rizkullah et al., 2025)	Development of Quiziz-Based Interactive Learning Media for Civic Education in Year 5 of Primary School	The use of this learning resource can enhance the effectiveness and conceptual understanding of Civic Education (PPKN)
4.	(Susilawati et al., 2024)	Development of a 'Snakes and Ladders' Secret Card Learning Resource for Pancasila Education in Year 4 of Primary School	The 'Secret Card Snakes and Ladders' learning resource demonstrates innovative, engaging and entertaining learning, yielding valid, practical and effective results in Pancasila education.
5.	(Triana, 2025)	Development of Digital Comics Using the Problem-Based Learning Model for the Pancasila Education Subject	Using the 4D model and the Procreate application to demonstrated that this learning medium is highly suitable for teachers and students in fostering problem-solving skills grounded in Pancasila values.

Source: Compiled by the researcher (2026)

Table 3. Results of the Review of Problem-Solving Approaches

No	Author	Title	Research Findings
1.	(Cahyaningtyas & Wicaksono, 2024)	Development of the 'Rumah Pancasila' Media to Enhance Students' Understanding of Pancasila Character Values in Year 2 Pancasila Education	The 'Rumah Pancasila' teaching resource is considered highly effective and can enhance students' understanding of the character values of Pancasila
2.	(D. A. Dewi et al., 2023)	Design and Development of Interactive Multimedia-Based Civic Education Learning Materials for Mobile Learning to Develop Students' Citizenship Literacy	Interactive multimedia as a learning medium can develop Students' citizenship literacy.
3.	(Wirawan et al., 2024)	Development of Flipbook-Assisted Digital Comic Media Embodying Pancasila to Improve Primary School Students' Literacy	Flipbook-assisted comic media have been found to be effective in enhancing students' interest in reading by helping to visualise learning concepts through engaging images and stories.
4.	(Hasanah, 2024)	Development of a Mohuyula-Based PJBL Model Educational Film to Foster Basic Literacy in Primary School Students	This medium has been shown to be effective in developing literacy in reading and writing, science, financial literacy, digital literacy and civic and cultural literacy.

Source: Compiled by the researcher (2026)

Learning media is an essential strategy used by educators to enhance the learning process. Integrating technology into learning means meeting the demands of 21st-century learning. One digital learning resource that educators can develop and use is Lumio by SMART. This is supported by the results of the literature review, where (Wirda, 2024) found that the 'Lumio by Smart' learning medium is highly valid and practical for primary school students. Additionally, (Kaltsum et al., 2024) noted that such learning media provides variety that can increase student engagement, while (Arifin et al., 2025) demonstrated that teachers can independently create interactive learning resources using this platform.

Lumio by SMART has the potential to serve as an alternative digital education platform for educators implementing integrated technology in the learning process. Based on the student needs analysis at Table 1, conducted by the researcher, 90% of students consider digital learning resources important in Pancasila education. Furthermore, 100% of the student respondents believe that interactive features, such as animations, games, and quizzes found in platforms like Lumio by SMART, can improve their understanding and spark their interest in the subject.

Lumio by SMART serves as an effective tool for educators to deliver educational materials, particularly in teaching Pancasila, to foster civic literacy. As demonstrated in Table 3, the use of digital and interactive learning media has been proven effective. For instance, (Khairunnisa & Apoko, 2023) found Canva-based resources effective for Pancasila materials, (Rizkullah et al., 2025) highlighted the effectiveness of Quizizz in enhancing conceptual understanding, and (Triana, 2025) showed that digital comics foster problem-solving skills grounded in Pancasila values. Furthermore, Table 4 highlights studies by (D. A. Dewi et al., 2023) and (Hasanah, 2024), which confirm that interactive multimedia and project-based educational models are highly effective in developing students' citizenship literacy and basic civic literacy.

Based on the research results presented in the tables, an analysis was conducted to determine the development needs for Lumio by SMART educational resources to improve civic literacy in fourth-grade elementary schools. The results indicate that: (1) There is a high student demand for engaging digital learning resources, with 100% of surveyed students supporting the development of the Lumio by SMART platform for learning, (2) The 'Lumio by Smart' platform is recognized as a valid

and practical learning medium (Wirda, 2024) that can be independently designed by teachers (Arifin et al., 2025) to increase student engagement (Kaltsum et al., 2024), (3) Interactive multimedia and problem-based digital media have a proven track record of effectively enhancing civic and citizenship literacy among students, as supported by the findings of (D. A. Dewi et al., 2023), (Khairunnisa & Apoko, 2023), and others.

Based on the results of the student questionnaire and article reviews, it can be concluded that the development and use of Lumio by SMART learning resources to foster civic literacy in fourth-grade elementary school brings various benefits. The key benefits observed and achieved include: (1) Increasing student engagement and interest through interactive content, animations, and games, (2) Providing teachers with practical tools to independently create varied learning media, (3) Enhancing students' conceptual understanding of Pancasila values and citizenship literacy through interactive digital multimedia.

CONCLUSION

In conclusion, this study demonstrates that Lumio by SMART is a highly valid, practical, and effective digital learning medium for enhancing civic literacy and understanding of Pancasila values among fourth-grade students. The main findings indicate a strong student demand for interactive digital platforms, confirming that features like animations, games, and quizzes significantly boost engagement and conceptual comprehension. Furthermore, the literature confirms that such interactive multimedia effectively fosters essential citizenship skills.

The implications of these findings highlight the necessity for educators to integrate interactive digital tools into their pedagogy. By independently developing learning materials through platforms like Lumio, teachers can align their instructional strategies with 21st-century educational demands, creating a more dynamic, varied, and engaging environment for civic education. However, this study has certain limitations. The current findings rely primarily on student needs analysis, questionnaires, and a literature review, lacking the empirical weight of a large-scale experimental study. Additionally, the scope is limited to fourth-grade elementary students. Future research should address these limitations by conducting quantitative experimental studies or longitudinal research across broader grade levels to thoroughly evaluate the long-term impact of Lumio by SMART on learning outcomes.

REFERENCES

- Arifin, S. F. A., Sasmita, F. E., Machfud, N. U. A. C., Alfiyah, H. Y., Amin, M., Shofiyah, R., & Alam, M. B. (2025). Inovasi Pembelajaran: Desain Media Pembelajaran ICT Lumio by Smart DI SD Negeri Janti 1 Tarik Sidoarjo. *MAJU : Indonesian Journal of Community Empowerment*, 2(1), 91–101. <https://doi.org/10.62335/zpk3gp87>
- Cahyaningtyas, V. A., & Wicaksono, V. D. (2024). Pengembangan Media Rumah Pancasila Untuk Pemahaman Nilai Karakter Peserta Didik Pada Pendidikan Pancasila Kelas II. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 12(9). <https://ejournal.unesa.ac.id/index.php/jurnal-penelitian-pgsd/article/view/64286>
- Dewi, D. A., Yunarti, Y., Mulyati, T., & Wahid, R. (2023). Rancang Bangun Media Pembelajaran Pkn Berbasis Multimedia Interaktif Mobile Learning Dalam Mengembangkan Literasi Kewarganegaraan Siswa. *Naturalistic: Jurnal Kajian Dan Penelitian Pendidikan Dan Pembelajaran*. <https://journal.umtas.ac.id/index.php/naturalistic/article/view/3363>
- Dewi, R. S. I., Widiyanti, W., Chisbiyah, L. A., Ekawati, R., Randy, M. Y., Fatiha, D. A., Pramesti, F. A. A., & Rosyada, N. A. (2025). The Development of Learning Media Based on Articulate Storyline 3 to Improve Numeracy Literacy Skills at SDN Kasembon 3 Kasembon District Malang Regency. *Jurnal Pendidikan Dasar Nusantara*, 10(2), 230–247. <https://doi.org/10.29407/jpdn.v10i2.23777>
- Hasanah, U. (2024). Pengembangan Media Film Edukasi Model PjBL Berbasis Mohuyula untuk Membentuk Literasi Dasar Siswa Sekolah Dasar. *Jurnal Didaktika Pendidikan Dasar*, 8, 221–242. <https://doi.org/10.26811/didaktika.v8i1.1281>
- Hobbs, R. (2017). *Create to Learn: Introduction to Digital Literacy*. John Wiley & Sons.
- Kaltsum, H. U., Wulandari, A. S. M., Fadillah, R., Fauzy, I., Khotimah, N. A., Ayu, D. P., Mahya, Y. M. Z., & Qonita, F. R. (2024). Workshop pembuatan media pembelajaran Lumio dan Wordwall bagi Guru SDN 03 Makamhaji,

- Sukoharjo. *Tintamas: Jurnal Pengabdian Indonesia Emas*, 1(1), 38–48.
<https://doi.org/10.53088/tintamas.v1i1.1000>
- Kementerian Pendidikan, Kebudayaan, Riset, Dan Teknologi, Nomor 032/H/KR/2024 Capaian Pembelajaran Pada Pendidikan Anak Usia Dini, Jenjang Pendidikan Dasar, Dan Jenjang Pendidikan Menengah Pada Kurikulum Merdeka (2024).
- Khairunnisa, A., & Apoko, T. (2023). Pengembangan Media Pembelajaran Digital Berbasis Aplikasi Canva Pada Mata Pelajaran Pendidikan Pancasila dan Kewarganegaraan Untuk Sekolah Dasar. *Jurnal Kewarganegaraan*, 20, 191–203. <https://doi.org/10.24114/jk.v20i2.48898>
- Maimun, M., Sanusi, S., Rusli, Y., & Muthia, H. (2020). Internalisasi Nilai-nilai Karakter Kebangsaan Melalui Literasi Budaya dan Kewarganegaraan di Sekolah Menengah Atas (SMA) Kota Banda Aceh. *CIVICUS : Pendidikan-Penelitian-Pengabdian Pendidikan Pancasila dan Kewarganegaraan*, 8(1), 8–15.
<https://doi.org/10.31764/civicus.v8i1.1789>
- Maulida, F., & Dermawan, H. (2024). Penguatan Profil Pelajar Pancasila (P5) Pada Kurikulum Merdeka di Sekolah Dasar. *TADRUSUUN: JURNAL PENDIDIKAN DASAR*, 3(1), 239–245. <https://doi.org/10.62274/tadrusuun.v3i1.124>
- Maunah, B. (2015). Implementasi Pendidikan Karakter Dalam Pembentukan Kepribadian Holistik Siswa. *Jurnal Pendidikan Karakter*. <https://doi.org/10.21831/jpk.v0i1.8615>
- OECD. (2023). *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. OECD Publishing.
<https://doi.org/10.1787/53f23881-en>
- Prasetyo, A., Santosa, M. D., Nurhayati, S., & Setiawan, B. (2023). Pengaruh Media Pembelajaran Interaktif Terhadap Motivasi Belajar Siswa. *Journal Central Publisher*, 1(11), 1257–1264. <https://doi.org/10.60145/jcp.v1i11.238>
- Putri, R. (2025). *Gamifikasi dalam Pendidikan*. NABA EDUKASI INDONESIA.
https://www.researchgate.net/publication/388231261_Gamifikasi_dalam_Pendidikan
- Rizkullah, M. F., Sahlan, M., & Puspitarini, D. (2025). Penggunaan Media Pembelajaran Quizizz'' dalam Proses Pembelajaran di Sekolah Dasar. *Jurnal Basicedu*, 9(4), 860–867. <https://doi.org/10.31004/basicedu.v9i4.10201>
- Rohmah, D. A. A., Nawawi, I., & Mahanani, P. (2023). Pengembangan Media Pembelajaran Berbantuan Sparkol Videoscribe Materi Hak, Kewajiban Dan Tanggung Jawab DI Kelas V Sekolah Dasar. *Wahana Sekolah Dasar*, 31(1), 1–7. <https://doi.org/10.17977/um035v31i12023p1-7>
- Sefriyana, E., & Dewi, R. S. (2021). *Buku Guru Pendidikan Pancasila dan Kewarganegaraan Kelas 1 SD*. Pusat Kurikulum dan Perbukuan, Balitbang, Kemdikbud. <https://kbk3315646.perpustakaanandigital.com/detail/buku-guru-pendidikan-pancasila-dan-kewarganegaraan-kelas-1-sd/24158>
- SMART Technologies ULC. (2026). *Lumio: Interactive Teaching Tools for Student Engagement*.
<https://www.smarttech.com/lumio>
- Susilawati, W. O., Darniyanti, Y., & Dewi, G. K. (2024). Pengembangan Media Pembelajaran Ular Tangga Kartu Rahasia Dalam Pembelajaran Pendidikan Pancasila Kelas IV Sekolah Dasar. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, 9(3), 545–558. <https://doi.org/10.23969/jp.v9i3.17960>
- Sutrami, K. F., & Amrullah, M. (2023). Pengembangan Media Pembelajaran Flashcard Berbasis PBL (Problem Based Learning) Pada Pembelajaran Pendidikan Pancasila. *Dharmas Education Journal*, 4(1), 97–107.
<https://doi.org/10.56667/dejournal.v4i1.922>
- Triana, N. W. (2025). Pengembangan Komik Digital Dengan Model Problem Based Learning Pada Mata Pelajaran Pendidikan Pancasila. *Jurnal Muara Pendidikan*, 10(2), 303–309. <https://doi.org/10.52060/mp.v10i2.3464>
- UNESCO Digital Library. (2023). *Global education monitoring report summary, 2023*.
<https://unesdoc.unesco.org/ark:/48223/pf0000386147>
- VanFossen, P. J., & Berson, M. J. (2008). Social Studies Special Issue: Civic Literacy in a Digital Age. *Contemporary Issues in Technology and Teacher Education*, 8(2), 122–124.
- Wirawan, I. M. B., Wahyudi, P. D., Cindyawati, D. P., & Cahyani, N. K. S. J. (2024). Pengembangan Media Komik Digital Berbantuan Flipbook Bermuatan Pancasila Untuk Meningkatkan Literasi Siswa SD. *Jurnal Penelitian Pendidikan Indonesia*, 1(1), 41–54.

Wirda, A. (2024). *Pengembangan Multimedia Interaktif Berbasis Etnomatematika Pada Bangunan Masjid Agung Al Falah Di Jambi Materi Bangun Ruang Kelas V Sekolah Dasar* [Other, Universitas Jambi]. <https://repository.unja.ac.id/>