

Innovation of Local Wisdom Based Pop-Up Book Learning Media to Foster Students' Character Development

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Abstract

Background – The background of this research is based on the perception that learning geometry at the elementary school level is often considered monotonous and less interesting, due to the lack of varied teaching methods and the lack of material connection with students' daily lives.

Purpose – To increase students' interest in learning, creativity, and understanding, this research integrates the traditional Mountain Tread game with the concept of Fibonacci.

Method/Approach – This study used a qualitative approach to examine the integration of the Mountain Tread traditional game and the Fibonacci concept in geometry learning. Data were collected through observation, interviews, and documentation. Observation focused on students' participation and creativity, interviews explored students' experiences, and documentation supported the learning data.

Findings – The findings showed that the use of this learning media was able to improve students' understanding of geometric shapes and patterns. Students became more actively involved in identifying, forming, and exploring various geometric patterns through activities inspired by the traditional Mountain Tread game and the Fibonacci concept. In addition, the learning process stimulated students' creativity, especially in arranging geometric forms, recognizing pattern relationships, and expressing mathematical ideas in a more visual and concrete way. The integration of cultural elements also made the learning experience more familiar, enjoyable, and meaningful for students.

Conclusions – In conclusion, combining traditional games and the Fibonacci concept is an effective strategy in developing creativity and understanding of geometry at the elementary school level, with the advantage of keeping up with the times while preserving local culture.

Novelty/Originality/Value – The novelty of this study lies in its innovative integration of local wisdom, traditional game-based learning, and mathematical concepts in elementary geometry instruction. Specifically, this study combines the Mountain Tread traditional game with the Fibonacci concept to create a learning experience that is both culturally relevant and mathematically meaningful. This approach offers added value because it not only supports students' understanding of geometry and creativity, but also strengthens appreciation for local culture in the learning process.

Keywords: Character Education, Local Wisdom, Pop-Up Book Learning Media

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INTRODUCTION

Character education has become fundamental in contemporary educational systems, as it shapes students' moral values, attitudes, and personal identity in an era of globalization and rapid technological advancement (Tolla, 2024). Therefore, character education must be systematically integrated into classroom learning. In Indonesia, the strengthening of character education has been emphasized through various educational policies and curriculum reforms. Civic Education and Arts and Culture are strategic subjects for character formation because they explicitly incorporate moral, civic, cultural, and social values (Kementerian Pendidikan, Kebudayaan, Riset, 2022). However, the implementation of character education in these subjects often encounters challenges, particularly the limited availability of innovative and contextual learning media.

Learning media plays an important role in supporting effective teaching and learning processes. Well-designed instructional media can facilitate meaningful learning experiences by making abstract concepts more concrete and engaging for students (Bulkani et al., 2022). In the context of character education, learning media serves not only as tools for content delivery but also as means for internalizing values through active and experiential learning.

One innovative learning medium that has gained attention in recent years is the Pop-Up Book. Pop-Up Books are three-dimensional printed media that combine visual elements, movement, and interactivity, thereby enhancing students' engagement and motivation in learning (Yanto et al., 2023; Zaniyati, 2024). Recent developments in educational technology have demonstrated that interactive learning media, particularly Pop-Up Books, significantly enhance students' motivation and engagement in the learning process. Pop-Up Books provide multisensory experiences that combine visual, tactile, and kinesthetic elements, making them particularly effective for elementary and secondary school students (Nisrina & Prasetyaningtyas, 2025). Studies have shown that Pop-Up Books not only improve learning outcomes but also foster creativity, imagination, and sustained attention among learners (Ganiansyah, 2024). The integration of augmented reality technology with Pop-Up Books further amplifies their educational potential by creating immersive learning experiences. Recent studies have indicated that Pop-Up Books are effective in improving students' understanding and participation in the learning process (Nasution et al., 2025).

The effectiveness of Pop-Up Book learning media can be further enhanced by integrating local wisdom. Local wisdom represents cultural heritage that embodies values, norms, and life principles passed down through generations, which are highly relevant to character development (Anggita et al., 2024). The integration of local wisdom into educational practices has gained considerable scholarly attention as an effective approach to character development. Local wisdom encompasses traditional values, cultural practices, and indigenous knowledge systems that are contextually relevant to students' lives (Arjaya et al., 2024; Muhammad et al., 2022). Research indicates that culture-based character education promotes deeper value internalization compared to decontextualized approaches because students can connect abstract moral concepts with their lived experiences and cultural identity. Moreover, local wisdom-based learning supports the development of cultural awareness, respect for diversity, and preservation of cultural heritage (Yasir et al., 2024). Incorporating local wisdom into learning media helps students connect learning content with their real-life experiences and cultural environment.

Recent studies have demonstrated that learning media based on local wisdom positively influences students' attitudes, cultural awareness, and character development. Contextual and culture-based learning has been shown to be more effective in fostering positive character traits compared to decontextualized instructional approaches. In Civic Education, local wisdom serves as a valuable source for cultivating civic values such as nationalism, responsibility, and democratic attitudes. Civic Education

plays a strategic role in fostering civic values and responsible citizenship among students. Contemporary approaches to Civic Education emphasize the development of civic disposition through culturally grounded learning experiences (Novitasari et al., 2025; Pramita et al., 2025). Studies have demonstrated that integrating local cultural values into Civic Education enhances students' civic responsibility, democratic attitudes, and national identity. Furthermore, character education within Civic Education must adopt transformative pedagogies that move beyond mere knowledge transmission to enable students to practice moral values in authentic contexts (Sartika et al., 2024). Meanwhile, in Arts and Culture education, local wisdom contributes to the development of creativity, aesthetic appreciation, and respect for cultural diversity (Hidayati & Waluyo, 2020; Layli et al., 2023). Therefore, integrating these subjects through innovative learning media offers a holistic approach to character education.

SMA Kristen Satya Wacana Salatiga, as a secondary educational institution that emphasizes character formation and cultural values, requires creative and contextual learning media to support its instructional practices. Preliminary observations indicate that learning activities in Civic Education and Arts and Culture are still largely dominated by textbooks and lecture-based methods, which may limit students' active engagement and character development. The development of local wisdom-based Pop-Up Book learning media is expected to address these challenges by providing an interactive and meaningful learning experience. Pop-Up Books offer multisensory experiences that not only capture students' interest but also encourage active participation, imaginative thinking, and deeper contextual understanding of concepts (Ganiansyah, 2024). Furthermore, such media present learning materials visually and attractively while embedding character values relevant to students' daily lives, making abstract concepts more accessible and memorable (Nasution et al., 2025). Consequently, students are more likely to internalize these values through active participation.

Based on the above considerations, this study aims to develop a local wisdom-based Pop-Up Book learning media and to examine its feasibility and effectiveness in fostering students' character development in Civic Education and Arts and Culture subjects at SMA Kristen Satya Wacana Salatiga. The findings of this study are expected to contribute both theoretically and practically to the development of innovative learning media that support character education in secondary schools. Contemporary character education frameworks emphasize the holistic development of moral persons through the integration of cognitive, affective, and behavioral dimensions. Research has validated the three-component model of character development comprising moral knowing, moral feeling, and moral action as effective in assessing and fostering students' moral growth (Purwati et al., 2024).

The aforementioned framework resonates with integrated perspectives on character education that emphasize the centrality of emotional abilities, the capacity for empathetic understanding, and meaningful hands-on learning experiences in fostering well-grounded moral conduct. In an era marked by swift social evolution and widespread technological advancement, character education is compelled to address newly emerging societal demands while preserving its commitment to fundamental ethical standards (Munawarsyah & Fakhurridha, 2024). This investigation advances the ongoing scholarly conversation by proposing a pop-up book as an inventive instructional tool purposefully developed to reinforce moral values in early childhood education settings. In contrast to traditional learning materials, this medium combines physical interactive engagement with story-driven ethical content, thus filling a considerable void in existing scholarship regarding age-appropriate, media-integrated approaches to character formation in young learners. The outcomes of this study are expected to make meaningful contributions to both the conceptual underpinnings and applied dimensions of character education in early childhood, particularly within learning environments navigating accelerated digital and pedagogical change

METHODS

This study employed a Research and Development (R&D) methodology, aimed at producing and validating a locally rooted Pop-Up Book instructional medium to reinforce character education within the domains of Civic Education and Arts and Culture. The developmental framework adopted was the ADDIE model, encompassing five sequential phases: Analysis, Design, Development, Implementation, and Evaluation (Moses Adeleke Adeoye et al., 2024; Senadheera et al., 2024; Spatioti et al., 2022). The investigation was carried out at SMA Kristen Satya Wacana Salatiga, with participants comprising senior high school students alongside teachers responsible for Civic Education and Arts and Culture instruction. A small-scale field trial was subsequently conducted to assess the feasibility and practicality of the resulting instructional product.

Data collection was carried out through multiple complementary procedures across the different phases of development. During the Analysis phase, a comprehensive needs assessment was undertaken via direct classroom observation, structured interviews with subject teachers, and systematic examination of curriculum documents, with the purpose of identifying learning objectives, learner characteristics, and prevailing instructional challenges. In the Implementation phase, data pertaining to classroom application were gathered through direct observation of learning activities involving the Pop-Up Book medium. Additionally, student responses and evaluative feedback were collected during the Evaluation phase to assess the overall reception and impact of the developed media.

Several instruments were employed to support systematic data collection throughout the research process. Expert validation sheets were utilized to obtain evaluative input from both material specialists and media specialists regarding the content accuracy and design quality of the Pop-Up Book. Student response questionnaires were administered to capture learners' perceptions of the medium's usability and appeal. Observation sheets were used to document classroom interactions and pedagogical processes during implementation. Furthermore, character assessment instruments were developed and applied to measure the extent to which targeted character values were demonstrated by students throughout the learning activities.

To ensure the credibility and trustworthiness of the research findings, a triangulation approach was employed by converging data from multiple sources, including expert judgments, teacher perspectives, and student responses. The validation process involved systematic review by subject matter experts and media design specialists, whose assessments were used iteratively to refine and improve the product. The consistency of findings across diverse data sources and collection methods served to strengthen the internal validity of the study.

The data obtained in this study were analysed through an integrated descriptive approach combining both qualitative and quantitative techniques. Qualitative data derived from interviews, observations, and open-ended feedback were examined thematically to identify recurring patterns and meaningful insights relevant to the development process. Quantitative data gathered from validation sheets and questionnaires were subjected to percentage analysis to determine the levels of validity, practicality, and effectiveness of the developed instructional media. The resulting scores were subsequently interpreted against established feasibility criteria to draw conclusions regarding the overall quality and readiness of the Pop-Up Book for broader educational implementation.

RESULTS AND DISCUSSION

Findings from this investigation document the development and classroom application of a Pop-Up Book instructional medium grounded in local cultural wisdom, specifically constructed to nurture character formation among learners enrolled in Civic Education (PPKn) and Arts and Culture

courses at SMA Kristen Satya Wacana Salatiga. Four analytical dimension's structure the presentation of results: needs assessment, expert validation, practicality evaluation, and effectiveness measurement. Initial needs assessment procedures uncovered that classroom teachers faced substantial obstacles in transmitting character education content through conventionally available instructional resources. Dominant pedagogical practices leaned heavily on printed textbooks, with interactive media rarely incorporated into daily learning routines.

Learner motivation registered at moderate levels, and meaningful encounters with character values within instructional settings remained infrequent. Such conditions established a compelling rationale for developing instructional media capable of simultaneously delivering subject content and cultivating moral and affective competencies — a concern of particular weight at the secondary school level, where character formation assumes critical developmental significance (Hertina et al., 2024).

The product development phase produced a Pop-Up Book synthesizing instructional content from PPKn and Arts and Culture with locally embedded cultural knowledge. Structural features of the medium encompassed three-dimensional visual elements, interactive learning components, brief narrative passages, and guided reflective exercises, each purposefully constructed to reinforce target character values: nationalism, cooperative spirit, personal responsibility, tolerance, mutual respect, and creative expression. This multidimensional design reflects an integrative pedagogical philosophy wherein instructional media transcends cognitive transmission to serve as a vehicle for affective engagement and moral cultivation.

Evaluation by material specialists confirmed that the Pop-Up Book demonstrated strong congruence with prescribed curriculum standards and subject-specific learning indicators across both disciplines. Content accuracy, contextual appropriateness, and conceptual thoroughness received consistently high assessments, with particular commendation directed toward the coherent embedding of character values alongside local cultural references. Concurrent evaluation by media specialists established that the product satisfied established criteria for effective instructional media, with components encompassing visual composition, spatial layout, chromatic balance, typographic clarity, structural resilience, and interactive functionality all attaining high feasibility ratings. These validation outcomes reinforce the scholarly consensus that instructional media must concurrently meet pedagogical demands and learner developmental needs to yield meaningful educational outcomes (Febriyanti & Sulistyawati, 2024; Hertina et al., 2024). Refinements guided by specialist recommendations produced measurable improvements in visual intelligibility, instructional directives, and the logical progression of learning sequences, collectively strengthening the product's functional quality ahead of formal classroom deployment.

Practicality assessments generated favorable responses across both educator and student populations. Teachers characterized the Pop-Up Book as operationally accessible, conducive to interactive instructional exchanges, and effective in rendering abstract character concepts tangible and comprehensible, thereby reducing instructional over-reliance on teacher-directed delivery. Among students, pronounced enthusiasm was observed, directed particularly toward the tactile and three-dimensional properties of the medium. Observational records from classroom implementation sessions documented elevated learner participation, with students demonstrating noticeably greater engagement in peer discussions, collaborative group tasks, and structured reflective exercises relative to prior sessions conducted through conventional pedagogical methods. These patterns correspond with the foundational premises of experiential learning theory, which maintains that meaningful learning emerges from direct engagement, investigative exploration, and deliberate reflection rather than passive information absorption (Ferdianto, 2026).

Character assessment data revealed identifiable progress in students' behavioral expressions of moral values. Observable gains included more consistent cooperative conduct within group settings, stronger personal accountability in fulfilling academic obligations, greater receptivity

toward differing peer perspectives, and heightened appreciation for local cultural knowledge presented through the instructional content. These behavioral trajectories correspond with prevailing character education scholarship, which conceptualizes moral development across three mutually reinforcing dimensions: intellectual comprehension of ethical principles (moral knowing), emotional alignment with those principles (moral feeling), and their tangible enactment within everyday behavior (moral action) (Purwati et al., 2024; Sartika et al., 2024). The Pop-Up Book addressed each dimension in a structured manner — cultivating moral knowing through culturally situated subject content, moral feeling through affectively resonant narrative sequences, and moral action through participatory learning tasks demanding the practical demonstration of prosocial conduct.

The deliberate incorporation of local wisdom yielded a discernible strengthening of value internalization processes. Situating character values within culturally recognizable frameworks enabled learners to establish meaningful connections between instructional content and their own experiential realities, accelerating the internalization of values including cooperation, responsibility, tolerance, and respect. This contextually anchored pedagogical orientation reframes character education — shifting it away from prescriptive moral instruction toward a process characterized by reflective self-examination and self-determined ethical growth (Sartika et al., 2024). Whereas preceding studies have predominantly examined Pop-Up Books as instruments for advancing cognitive learning targets, the current investigation broadens the scholarly conversation by substantiating the medium's utility in supporting effective and moral dimensions of student development, affirming that well-designed instructional media can concurrently serve cognitive and character-building functions.

The cross-disciplinary deployment of the Pop-Up Book across both Civic Education and Arts and Culture further corroborates the argument that character education achieves superior outcomes when deliberately embedded across multiple subject domains, permitting the sustained reinforcement of shared values through varied instructional lenses. Interpreted through social learning theory, the collaborative tasks embedded within the medium generated structured opportunities for learners to observe, internalize, and rehearse constructive social behaviors, consolidating character growth through peer-mediated interaction and collective learning experiences (Suparjan et al., 2024). The incorporation of artistic and cultural dimensions additionally stimulated creative expression, cultural sensitivity, and appreciation for diversity — qualities that collectively enrich the architecture of well-rounded moral character. From an applied perspective, the present findings indicate that locally grounded Pop-Up Books hold meaningful potential as supplementary or alternative instructional resources for character education, amenable to integration within lesson planning frameworks that prioritize active learning and reduce dependence on conventional lecture-based delivery. At the institutional level, schools are well-positioned to encourage collaborative teacher-led development of culturally situated instructional media that resonates with local value systems and institutional character.

Professional learning communities and teacher development initiatives may productively incorporate competency-building components addressing the design and pedagogical deployment of innovative, culture-responsive instructional resources. At the policy level, study outcomes lend substantive support to the broader incorporation of locally grounded instructional media within national and institutional curricula, consonant with the guiding principles of Kurikulum Merdeka which foregrounds contextual learning, learner agency, and the progressive cultivation of the Pancasila Student Profile (Profil Pelajar Pancasila). Education authorities are encouraged to explore mechanisms for institutional resourcing — encompassing financial allocation and technical capacity support — to facilitate equitable access to high-quality, culturally responsive instructional materials across diverse school contexts. Taken as a whole, the findings affirm that productive alignment between instructional practice and education policy constitutes a foundational condition for

advancing character education at scale, and that the purposeful integration of innovative media, local cultural wisdom, and interdisciplinary learning orientations substantially strengthens educational systems' capacity to develop learners who are academically proficient, ethically principled, and culturally rooted.

CONCLUSION

Findings of this study confirm that a Pop-Up Book medium rooted in local cultural wisdom, constructed systematically through the ADDIE developmental framework, exhibited valid characteristics, operational practicality, and demonstrable effectiveness in cultivating moral character among senior high school students across Civic Education (PPKn) and Arts and Culture disciplines at SMA Kristen Satya Wacana Salatiga, with measurable progress recorded in the domains of cooperation, responsibility, respect, tolerance, creativity, and cultural appreciation. Extending beyond its direct instructional outcomes, this investigation offers a notable academic contribution by establishing that culturally situated, three-dimensional learning media possesses the capacity to advance both cognitive and affective dimensions of student development within a cross-disciplinary educational framework — an intersection that prior scholarly works have insufficiently examined — thus presenting a theoretical enrichment to the field of media-based character education alongside a transferable applied model for subsequent instructional media development endeavors. Acknowledgement is gratefully directed toward the Directorate of Research and Community Service (DRPM), Universitas Kristen Satya Wacana (UKSW), for the financial resourcing and institutional backing rendered through grant No. 087/SPK-RDBMS/RIK/07/2025, with further appreciation conveyed to the school principal, teaching personnel, and student participants of SMA Kristen Satya Wacana Salatiga for their wholehearted engagement and cooperation across all phases of the research undertaking.

REFERENCES

- Anggita, S., Endraswara, S., & Rohman, A. (2024). Heliyon Revitalizing local wisdom within character education through ethnopedagogy approach : A case study on a preschool in Yogyakarta. *Heliyon*, 10(10), e31370. <https://doi.org/10.1016/j.heliyon.2024.e31370>
- Arjaya, I. B. A., Suastra, I. W., Redhana, I. W., & Sudiatmika, A. A. I. A. R. (2024). Global Trends in Local Wisdom Integration in Education: A Comprehensive Bibliometric Mapping Analysis from 2020 to 2024. *International Journal of Learning, Teaching and Educational Research*, 23(7), 120–140. <https://doi.org/10.26803/ijlter.23.7.7>
- Bulkani, Fatchurahman, M., Adella, H., & Andi Setiawan, M. (2022). Development of animation learning media based on local wisdom to improve student learning outcomes in elementary schools. *International Journal of Instruction*, 15(1), 55–72. <https://doi.org/10.29333/iji.2022.1514a>
- Febriyanti, R. A., & Sulistyawati, I. (2024). Penerapan Media Pop Up Book Digital pada Pembelajaran Pendidikan Pancasila Materi Bhinneka Tunggal Ika untuk Siswa Kelas IV Sekolah Dasar. *Jurnal Pendidikan Guru Sekolah Dasar*, 1(3), 10. <https://doi.org/10.47134/pgsd.v1i3.325>
- Ferdianto, A. (2026). *Trends in Pop-Up Book Media Development for Elementary Science Education : A Systematic Review (2020-2025)*. 5(1), 1176–1188.
- Ganiansyah, A. P. (2024). *Smart Society : Community Service and Empowerment Journal Design and Evaluation of a 3D Pop-Up Textbook with Finger Puppets for Thematic Learning in 10-11 Year Olds*. 4(2), 81–89.
- Hertina, D., Nainggolan, A., & Priskusanti, R. D. (2024). *PEMBELAJARAN INOVATIF ERA DIGITAL*.
- Hidayati, N. A., & Waluyo, H. J. (2020). *Exploring the Implementation of Local Wisdom-Based Character Education among Indonesian Higher Education Students*. 13(2), 179–198.
- Kementerian Pendidikan, Kebudayaan, Riset, dan T. R. I. (2022). *Menteri pendidikan, kebudayaan, riset, dan teknologi*.

- Layli, F., Shidiq, G. A., & Qomariah, N. (2023). Local Wisdom-Based Character Education for Facing Globalization Strategic Issues in The Digital Era in Primary School Student. *IJCAR: Indonesian Journal of Classroom Action Research*, 1(1), 12–17. <https://doi.org/10.53866/ijcar.v1i1.357>
- Moses Adeleke Adeoye, Kadek Adrian Surya Indra Wirawan, Made Shania Satya Pradnyani, & Nyoman Intan Septiarini. (2024). Revolutionizing Education: Unleashing the Power of the ADDIE Model for Effective Teaching and Learning. *JPI (Jurnal Pendidikan Indonesia)*, 13(1), 202–209. <https://doi.org/10.23887/jpiundiksha.v13i1.68624>
- Muhammad, U. A., Fuad, M., Ariyani, F., & Suyanto, E. (2022). Bibliometric analysis of local wisdom-based learning: Direction for future history education research. *International Journal of Evaluation and Research in Education*, 11(4), 2209–2222. <https://doi.org/10.11591/ijere.v11i4.23547>
- Munawarsyah, M., & Fakhurridha, H. (2024). *Character Education for Teenagers in the Era of Society 5.0 Thomas Lickona's Perspective*. 5, 127–138. <https://doi.org/10.62775/edukasia.v5i2.984>
- Nasution, M., Padya, A. D., Sitepu, M. S., & Wanda, K. (2025). *Pop-Up Books as a Learning Innovation: Their Influence on Elementary School Students' Motivation to Learn*. 8, 436–443.
- Nisrina, M. S., & Prasetyaningtyas, F. D. (2025). *Development of Pop Up Book Media to Improve Motivation and Learning Outcomes of Natural and Social Sciences for Grade IV Elementary School*. 11(4), 113–122. <https://doi.org/10.29303/jppipa.v11i4.10836>
- Novitasari, U., Untidar, I. A. I. M. N. (IAIMNU) M. L., & Wahid, A. (2025). *Civics Education Learning Based on Local Cultural Values to Strengthen Students' Civic Disposition*. 10(3).
- Purwati, Qomariyah, L., & Tentama, F. (2024). *Moral knowing, moral feeling, and moral action in reflecting moral development of students in junior high school*. 13(3), 1602–1609. <https://doi.org/10.11591/ijere.v13i3.25499>
- Sartika, R., Indonesia, U. P., Maftuh, B., Nurdin, E. S., Budimansyah, D., & Indonesia, U. P. (2024). *Strengthening Students' Responsible Character through Civic Education Learning: An Action Research in Indonesia*. 23(3), 428–447.
- Senadheera, V. V., Ediriweera, D. S., & Rupasinghe, T. P. (2024). Instructional Design Models for Digital Learning in Higher Education — A Scoping Review. *Journal of Learning for Development*, 11(1), 15–26. <https://doi.org/10.56059/jl4d.v11i1.973>
- Spatioti, A. G., Kazanidis, I., & Pange, J. (2022). A Comparative Study of the ADDIE Instructional Design Model in Distance Education. *Information (Switzerland)*, 13(9), 1–20. <https://doi.org/10.3390/info13090402>
- Suparjan, S., Tawakkal, T., Humairah, A. E., Harpina, H., Madjid, T., Ismiyani, N., & Syarif, I. (2024). Integrating Indigenous Traditions into Character Education: Insights from Primary School Teachers. *Ta'dib*, 27(2), 321. <https://doi.org/10.31958/jt.v27i2.11967>
- Tolla, I. (2024). *Education Character in the Era of Globalization: Facing the Challenges of the Modern World*. 4(4), 230–236.
- Yanto, N., GH, M., & Zubair, S. (2023). The Effect of Pop Up Book Media in Science Learning: A Literature Review. *EduLine: Journal of Education and Learning Innovation*, 3(2), 214–220. <https://doi.org/10.35877/454ri.eduline1772>
- Yasir, M., Hartiningsih, T., & Auliya, A. (2024). *The influence of local wisdom-based science learning on the cultural heritage conservation character*.
- Zaniyati. (2024). *Analysis of the Effectiveness of Pop-Up Book Media on Science Learning in Elementary Schools*. 5(4), 919–934.