



## Students' Perceptions on the Use of Ecological-Based Folktale Digital Learning Media to Strengthen Ecoliteracy

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### ABSTRACT

This study aims to describe high school students' perceptions of the use of ecologically based digital learning media for folklore to strengthen ecoliteracy. The study used a qualitative descriptive method with 53 students in grades X, XI, and XII at Muhammadiyah 3 Senior High School in Tangerang City as subjects. Data were collected using a questionnaire structured based on three main aspects, namely: 1) digital learning media, 2) ecologically based folklore digital learning media, and 3) students' understanding of ecoliteracy through ecologically based folklore digital learning media. Data analysis techniques included data reduction, data presentation, and descriptive conclusion drawing. The results showed that ecologically based digital learning media for folklore positively influenced the learning process; students demonstrated excellent understanding of the material, greater enthusiasm for participation, and improved learning outcomes. In addition, students were able to apply ecological knowledge and values in everyday life. In general, ecologically based digital learning media have proven effective in fostering environmental awareness, strengthening character, and shaping students' ecological behavior, making them relevant as supporting learning media for ecoliteracy at the secondary school level.

*Keywords: students' perceptions, ecological, folklore, digital learning media, strengthening ecoliteracy*

## Persepsi Siswa tentang Penggunaan Media Pembelajaran Digital Cerita Rakyat Berbasis Ekologis dalam Penguatan Ekoliterasi

### ABSTRAK

Penelitian ini bertujuan mendeskripsikan persepsi siswa SMA mengenai penggunaan media pembelajaran digital cerita rakyat berbasis ekologis untuk menguatkan ecoliterasi. Penelitian menggunakan metode deskriptif kualitatif dengan subjek 53 siswa kelas X, XI, dan XII di SMA Muhammadiyah 3 Kota Tangerang. Data dikumpulkan menggunakan kuesioner yang disusun berdasarkan tiga aspek utama, yaitu: 1) media pembelajaran digital, 2) media pembelajaran digital cerita rakyat berbasis ekologis, dan 3) pemahaman siswa mengenai ecoliterasi melalui media pembelajaran digital cerita rakyat berbasis ekologis. Teknik analisis data meliputi reduksi data, penyajian data, dan penarikan simpulan secara deskriptif. Hasil penelitian menunjukkan bahwa media pembelajaran digital cerita rakyat berbasis ekologis memberikan pengaruh positif terhadap proses belajar; siswa menunjukkan respons yang sangat baik dari aspek pemahaman materi, antusiasme mengikuti pembelajaran, dan peningkatan hasil belajar. Selain itu, siswa mampu menerapkan pengetahuan dan nilai-nilai ekologis dalam kehidupan sehari-hari. Secara umum, media pembelajaran digital cerita rakyat berbasis ekologis terbukti efektif dalam menumbuhkan kesadaran lingkungan, memperkuat karakter, dan membentuk perilaku ekologis siswa, sehingga relevan digunakan sebagai media pembelajaran pendukung ecoliterasi di tingkat sekolah menengah.

*Kata kunci: persepsi siswa, media pembelajaran digital, cerita rakyat, ekologis, ecoliterasi*

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## INTRODUCTION

Environmental issues in the modern era are showing increasingly alarming trends. Various studies have documented increasing air and water pollution, waste accumulation, ecosystem damage, and climate change, all of which have widespread impacts on public health and quality of life (Ramadhan & Surjanti, 2022; Karaarslan & Teksöz, 2016; Wilujeng et al., 2019). At the micro level, schools are also facing similar challenges. Frequent littering, the use of single-use plastics, and wasteful energy habits are still common, indicating a low level of ecological awareness among students (Maulana et al., 2021; Isnanda et al., 2022). This situation underscores the need to strengthen ecoliteracy, defined as the ability to understand the reciprocal relationship between humans and the environment and the willingness to act to maintain ecosystem sustainability (Hecht, 2020; Safitri et al., 2023).

All of these issues demand concrete action and cooperation from various parties to maintain environmental sustainability. This situation is an environmental issue that requires serious attention and handling from various parties. Environmental conservation efforts must be carried out in an integrated manner through collaboration between the government, industry players, and the community. Addressing this problem requires awareness of environmental management to ensure the availability of sustainable natural resources (Karaarslan & Teksöz, 2016; Wilujeng et al., 2019). Efforts to foster environmental awareness need to be instilled from an early age (Hudhana, Sumarlam, and Sumarwati, 2025). Furthermore, collaboration from various parties is needed to minimize increasingly complex environmental problems and ensure the sustainability of the ecosystem for current and future generations.

In the context of education, ecoliteracy can be developed through a cross-disciplinary approach, including the study of Indonesian language and literature. Several studies have shown that ecologically nuanced literary texts have potential as

educational media. The poems of Sihar Ramses Simatupang, for example, have been used as an educational medium in Ecology courses to instill sensitivity to the relationship between humans and nature in students (Dinihari et al., 2025). The anthology "Collection of Literary Ecological Poetry" by biology education students also demonstrates how intrinsic elements of poetry can reflect an ecological perspective and strengthen environmental awareness (Dinihari et al., 2022). At the vocational high school level, an ecological approach is even being used to develop a generation of literate and environmentally aware leaders through integrated learning and community service activities (Dinihari et al., 2024).

These findings confirm that ecologically inspired literature—whether in the form of poetry or other texts—can be a strategic vehicle for instilling environmentally conscious values, attitudes, and behaviors. However, the integration of local wisdom and ecological values into Indonesian language learning in secondary schools remains suboptimal. Internalization of learning with local wisdom remains a challenge, including the use of folktales as a medium for strengthening character and environmental awareness (Arifah, Winarni, & Suhita, 2024). Previous research also shows that ecological literacy components in high school Indonesian language textbooks are still limited, thus opportunities to strengthen ecoliteracy through learning texts have not been optimally utilized (Suwandi et al., 2019).

The development of digital technology opens up new opportunities to package ecologically based folktales in more interactive and engaging learning media. Digital learning media is characterized by being open, interactive, motivating, and effective as both a source and a conveyor of learning messages, and is relatively flexible for use in various classroom contexts (Sukmanasa, Novita, & Maesya, 2020; Sekar, 2025). By incorporating ecological values into folktales and utilizing them in digital formats, teachers have the opportunity to strengthen ecoliteracy through contextual,



multimodal, and culturally relevant learning experiences. However, empirical studies specifically examining student perceptions of the use of ecologically based folktale digital learning media, particularly at the high school level, are still limited.

At Muhammadiyah 3 Senior High School in Tangerang City, teachers have begun introducing digital learning media and literacy activities that address environmental issues. However, the extent to which students perceive the use of ecologically based folktale digital learning media as a means of strengthening ecoliteracy has not been systematically studied. Understanding student perceptions is crucial to ensuring that the media developed is truly meaningful, relevant, and impactful in changing their ecological knowledge and behavior. Therefore, research that captures student perceptions regarding the use of ecologically-based digital folklore learning media is urgently needed as part of efforts to strengthen ecoliteracy in secondary schools.

The research problem is formulated as follows: First, what are students' perceptions regarding the use of digital learning media at Muhammadiyah 3 Senior High School, Tangerang City? Second, what are students' perceptions regarding the use of ecologically-based digital folklore learning media at Muhammadiyah 3 Senior High School, Tangerang City? Third, what is students' understanding of ecoliteracy after participating in learning using ecologically-based digital folklore learning media at Muhammadiyah 3 Senior High School, Tangerang City?

In line with these research problems, the objectives of this study are to describe students' perceptions regarding the use of digital learning media at Muhammadiyah 3 Senior High School, Tangerang City, and to describe students' understanding of ecoliteracy after participating in learning using ecologically-based digital folklore learning media at Muhammadiyah 3 Senior High School, Tangerang City. The objectives of this research have also been aligned with the objectives

stated in the abstract, so that the consistency of the research focus is maintained.

This research is expected to provide several benefits. Theoretically, the results can enrich studies on ecoliteracy in Indonesian language learning by adding perspectives on the use of digital learning media based on ecological folklore, while also complementing previous studies on ecological literature in the form of poetry as a medium for environmental education in universities and schools, as seen in the various works of Dinihari and his collaborators. Practically, this research can serve as a reference for Indonesian language teachers and other educators in designing and implementing digital learning media that integrate ecological values and local wisdom. For schools and educational policymakers, the research findings can be used to design more systematic environmental literacy programs based on student perception data, thus strengthening environmental awareness in a more targeted, measurable, and sustainable manner.

Theoretically, this research is based on several key interrelated concepts. First, ecoliteracy is understood as the ability to understand the basic principles of ecological systems, recognize the impact of human activities on the environment, and demonstrate a commitment to environmentally friendly behavior in everyday life (Hecht, 2020; Safitri et al., 2023; Rachmawati & Minsih, 2021). Second, ecologically based folktales are positioned as literary texts that contain representations of human-nature relationships, local wisdom values, and moral messages about the importance of preserving the environment. Various studies on ecological poetry, both in the context of ecology courses, the development of ecological poetry anthologies, and the development of literate generations with an ecological approach, show that literary works can be an effective vehicle for instilling environmental awareness (Dinihari et al., 2025). Third, digital learning media is defined as technology-based tools and applications designed to facilitate the learning process, characterized by

interactive, multimodal, and flexible nature, and capable of increasing student motivation and understanding (Sukmanasa et al., 2020; Sekar, 2025). The three concepts of ecoliteracy, ecologically based folklore, and digital learning media are the basis of analysis in interpreting students' perceptions of the use of ecologically based folklore digital learning media in strengthening ecoliteracy at SMA Muhammadiyah 3 Kota Tangerang.

## METHOD

This study employed a qualitative approach with descriptive methods. This combination of approaches and methods is commonly used in various educational studies (Darussalam & Hussin, 2016; Fraenkel et al., Mahsun, 2014). Through this approach and method, the research data is described by presenting it without focusing on numerical data.

The population of this study was students in grades 10, 11, and 12 of Muhammadiyah 3 Senior High School, Tangerang City, who participated in learning using ecologically based digital folklore learning media. There were 61 students, divided into 32 from grade 10, 29 from grade 11, and 29 from grade 12.

The research sample was determined at 53 students. Each sample member was selected using simple random sampling from each population group. This number was determined based on Slavin's formula (Razak, 2015; Santoso, 2023; Amin et al., 2023). Each sample group was randomly selected from the population group proportionally: 19 from grade 10, 16 from grade 11, and 16 from grade 12.

Data collection was conducted over a single academic period at the school. A questionnaire served as the primary tool. This instrument was structured around three aspects: (1) digital learning media, (2) digital learning media for ecologically-based folklore, and (3) students' understanding of ecoliteracy through these media. Each statement was scored using a four-point Likert scale: 4

(strongly agree), 3 (agree), 2 (neither agree nor disagree), and 1 (disagree).

The research procedure included: (1) preparation (instrument development and coordination with the school), (2) implementation (learning using digital media for ecologically-based folklore and students completing the questionnaire), and (3) final stage (data collection and processing).

Data were analyzed descriptively by calculating the frequency and percentage of questionnaire responses, then interpreted narratively. Qualitative data were summarized through data reduction, brief presentation, and drawing conclusions.

## RESULTS

The results of this study concretely demonstrate that the use of digital learning media for ecologically-based folklore can strengthen students' ecoliteracy. This research is based on the need to foster and strengthen environmental awareness. Ecologically based digital learning media for folktales is a good alternative for strengthening ecological knowledge. This research examines three main aspects: 1) digital learning media, 2) ecologically based digital learning media for folklore, and 3) students' understanding of ecoliteracy through ecologically based digital learning media for folktales.

### 1. Student Perceptions of the Use of Digital Learning Media

Student perceptions of the use of digital learning media at SMA Muhammadiyah 3 Kota Tangerang can be seen in Table 1. The table presents the percentage of student responses regarding the frequency of digital media use by teachers, ease of understanding of the material, enthusiasm for learning, and the impact of digital media use on student learning outcomes.



Table 1  
 Student Perceptions of the Use of Digital Learning Media

Statement	Responses (%)			
	Very Agree	Agree	Disagree	Very Disagree
Teachers use digital learning media	42,80	20,70	21,00	15,50
Digital learning media makes it easier for me to understand learning	36,70	41,00	14,00	8,30
I am very enthusiastic when teachers use digital learning media	49,50	28,40	8,00	2,00
My learning results are better when using digital learning media	31,40	47,20	10,20	11,20

Based on the data in Table 1, it can be seen that teachers use digital learning media quite frequently. This is reflected in the 42.8% of students who strongly agreed and 20.7% who agreed that teachers use digital learning media in their lessons. 63.5% of respondents considered digital media to be used in class, although 36.5% of students still felt that its use was not optimal.

Furthermore, the majority of students believed that digital learning media facilitated understanding of the material. A total of 36.7% of students strongly agreed and 41% agreed (a total of 77.7%) that digital media helped them understand the subject matter, while only 22.3% neither agreed nor disagreed. These findings indicate that digital learn-

ing media is considered effective in helping students grasp the concepts taught.

In terms of learning motivation, the data also shows that digital learning media increases students' enthusiasm for learning. A total of 49.5% of students strongly agreed and 28.4% agreed (a total of 77.9%) felt more enthusiastic when teachers used digital media in their lessons, while only a small proportion neither agreed nor disagreed. This indicates that digital media can attract students' attention and make the learning process more engaging.

Furthermore, students also perceived that the use of digital learning media was positively correlated with their learning outcomes. A total of 31.4% of students strongly agreed and 47.2% agreed (a total of 78.6%) stated that their learning outcomes improved when using digital learning media, while 21.4% did not feel this way. This finding reinforces the perception that digital media is not only engaging and motivating, but also has a positive impact on student learning outcomes.

## 2. Student Perceptions of Ecologically Based Folklore Digital Learning Media

Student perceptions of the use of folktales digital learning media, particularly ecologically based ones, can be seen in Table 2. The table presents student responses regarding the frequency of use of digital folklore in literacy activities and the use of ecologically based folklore in digital format in classroom learning.

Based on the data in Table 2, it appears that digital learning media in the form of folklore has been used in literacy activities. A total of 41% of students stated that they strongly agreed and 51.7% agreed (a total of 92.7%) that teachers had used digital learning media in the form of folklore in literacy activities. Only 7.3% of students neither agreed nor disagreed, thus it can be concluded that the use of folklore in digital format is quite familiar and experienced by the majority of students at the school.

Table 2  
 Student Perceptions of Ecologically Based  
 Folktale Digital Learning Media

Statement	Responses (%)			
	Very Agree	Agree	Disagree	Very Disagree
Teachers have used digital learning media in the form of folklores in literacy activities	41,00	51,70	4,30	3,00
Teachers have used digital learning media in the form of ecology-based folklores	35,10	52,80	7,50	4,60

Furthermore, the findings also indicate that ecologically-based folktales in digital format are beginning to be integrated into learning. Regarding the use of digital learning media in the form of ecologically-based folklore, 35.1% of students strongly agreed and 52.8% agreed (a total of 87.9%), while 7.5% disagreed and 4.6% disagreed. This indicates that, although not as widely used as digital folklore in general, folklore containing ecological messages have been implemented and received a positive response from the majority of students.

Overall, ecologically-based digital folktales are perceived as relevant to environmental literacy and issues. The high percentage of agreement on both statements indicates that students are not only familiar with folklore in digital format but also view them as meaningful when linked to the ecological issues raised in learning. Thus, ecologically-based digital folklore have strong potential to support literacy activities while instilling environmental awareness.

### 3. Students' Understanding of Ecoliteracy through Ecologically Based Folklore Digital Learning Media

Students' understanding of ecoliteracy after participating in learning using ecologically based folklore digital learning media is shown in Table 4.3. This table contains the percentage of student responses regarding their understanding of the ecological moral messages in the stories and the application of ecological knowledge in everyday life.

Table 3  
 Students' Understanding of Ecoliteracy through  
 Ecologically Based Folklore Digital Learning  
 Media

Statement	Responses (%)			
	Very Agree	Agree	Disagree	Very Disagree
I understand the moral messages in ecology-based folklores through digital learning media	56,30	32,80	7,70	3,10
I apply the ecological knowledge and experience I have gained through ecoliteracy activities in my daily life	37,00	50,40	10,00	2,60

Based on Table 4.3, it can be seen that students understand the ecological moral messages conveyed through digital folklores. Fifty-six percent of students strongly agreed and 32.8% agreed (a total of 89.2%) reported understanding the moral messages in ecological-based folklores pre-



sented through digital media, while only 10.8% neither agreed nor disagreed. These findings indicate that the majority of students were able to grasp the ecological values, messages, and calls to action contained in the stories.

Furthermore, the study also showed that ecoliteracy learning through digital media encourages the adoption of environmentally friendly behaviors. Thirty-seven percent of students strongly agreed and 50.4% agreed (a total of 87.4%) stated that they apply the ecological knowledge and experience gained through ecoliteracy activities in their daily lives, while 12.6% had not fully implemented it. This means that digital learning media for ecological-based folktales not only functions cognitively but also contributes to changes in students' attitudes and behaviors toward environmental protection.

When viewed holistically, the combination of students' high levels of understanding and application of ecological values indicates that ecologically-based folklore digital learning media is effective in strengthening students' ecoliteracy. Students viewed the media as relevant, easy to understand, and helped them connect the messages in the stories with concrete actions to preserve the environment. Therefore, this media can be positioned as a strategic alternative in developing ecoliteracy at the secondary education level.

## DISCUSSION

The discussion of the results of this study indicates that students' very positive perceptions of digital learning media align with the interactive, multimodal, and flexible characteristics of digital media, which facilitate material understanding and increase learning motivation (Sukmanasa et al., 2020; Sekar, 2025). The majority of students in this study stated that they understood the material more easily, were more enthusiastic, and assessed their learning outcomes as improved when teachers used digital media. This finding is consistent with various studies showing that digital media can improve motivation and learning outcomes at various levels of education (Afifa, 2024; Bintoro et

al., 2024; Setiawan, 2025; Wahyudi, 2023; Fitrah & Laili, 2023). From a first perspective, these results confirm that learning technology can function as a catalyst for improving the quality of the learning process if it is pedagogically designed, not simply transferred from print media to the screen. From a second perspective, several studies warn that the use of technology that is not directed can actually make students passive, dependent on visual displays, and less engaged in higher-order thinking activities, so that the function of meaningful learning is not optimally achieved (McBride et al., 2013; Salimi & Yusa, 2025). Therefore, the positive perceptions of students in this study need to be read both as an opportunity and a warning for schools to continue strengthening teachers' digital literacy, including the ability to design activities that require analysis, reflection, and collaboration by utilizing digital learning media creatively and critically.

The finding that students have positive perceptions of ecologically based digital folklore learning media indicates that the integration of literature, technology, and environmental issues has special appeal and significance for learners in the 21st century (Arifah, 2024; Suwandi, 2019). Folklore packaged in digital format allows the text to remain rooted in local wisdom while aligning with the literacy culture of the current generation, and this is in line with studies showing that digital storytelling about the environment can increase emotional closeness, language literacy, and ecological awareness in students (Putri & Pavlov, 2020; Rusda, 2023; Juanda, 2024; Liu et al., 2020). On the one hand, the results of this study support the view that folklore can be utilized to develop 21st-century skills such as critical thinking, creativity, collaboration, and communication when processed through challenging and meaningful tasks (Angela et al., 2025; Modi, 2024; Perdana, 2025). On the other hand, several studies of innovative literacy teaching materials based on gamification and modern pedagogy confirm that literary texts are truly powerful when connected to problem-solving, decision-making, and creative production. Therefore,

using digital stories simply read aloud without follow-up requiring student performance risks becoming mere entertainment (Barrett, 2006; Dinihari et al., 2025). Therefore, the positive perceptions of students toward the ecologically-based digital folktale learning media in this study need to be followed by the design of follow-up activities, such as rewriting the stories from an ecological perspective, creating simple games, or digital storytelling projects, so that the potential for developing the 4Cs and ecological sensitivity can be optimally realized in the classroom.

From an ecoliteracy perspective, research findings showing that the majority of students understand ecological moral messages and admit to applying this knowledge in their daily lives indicate a strengthening of knowledge, attitudes, and behavioral tendencies (Hecht, 2020; Safitri et al., 2023; Rachmawati & Minsih, 2021). This condition is in line with various studies that found that the integration of ecological content in language and literacy learning can shape environmentally conscious character when connected to students' daily contexts and their local culture (Ramadhan & Surjanti, 2022; Maulana et al., 2021; Isnanda et al., 2022; Salimi et al., 2023; Fatmawati et al., 2025). From a theoretical perspective, ecoliteracy is understood not only as an understanding of environmental concepts, but also as a readiness to act to maintain the sustainability of ecosystems, and narrative or storytelling has proven to be an effective medium for bridging the cognitive and affective domains in environmental education (McBride et al., 2013; Rosyid, 2019; Rosyid & Sari, 2020). However, several studies also note that increasing ecological knowledge and attitudes through teaching materials or interactive media is not always accompanied by real behavioral changes without the support of school culture, policies, and opportunities for sustainable environmental action (Wilujeng et al., 2019; Kazazoglu, 2025). Considering these two perspectives, the positive findings of this study should be followed up through environmental action programs in schools such as green class projects, waste audits,

or environmental literacy campaigns so that the ecological messages in digital folklore do not stop as insights, but are truly realized in the habits and lifestyles of students at SMA Muhammadiyah 3 Kota Tangerang.

The findings of this study also open up discussions about the relationship between digital literacy, ecoliteracy, and shifts in literacy practices in the era of increasingly widespread artificial intelligence, as ecologically based folklore digital learning media sits squarely at the intersection of these three domains. On the one hand, the use of digital media in this study demonstrates that technology can be leveraged to expand students' access to meaningful texts while fostering environmental awareness in ways that are close to their world (Sukmanasa et al., 2020; Sekar, 2025; Afifa, 2024). On the other hand, studies on AI literacy in language education warn that without strengthening critical literacy, students have the potential to become passive consumers of ecological digital content and rely on technological assistance without the ability to select, evaluate, and produce their own discourse (Hamzah, 2025; de Almeida Prado, 2024; Olsen & Gonen, 2025; Xu et al., 2025). Thus, the integration of ecologically based folklore digital learning media should ideally be accompanied by assignments that require argumentation, reflection, mini-research, and creative work, so that students practice positioning themselves as readers and producers of responsible environmental discourse (Putri & Pavlov, 2020; Rusda, 2023; Juanda, 2024; Perdana, 2025). If this is coupled with strengthening teacher competencies and supporting school policies that encourage cross-subject collaboration, ecologically based folklore digital learning media has the potential to become an instrument for transforming students' ecological literacy and behavior, not simply a temporary technical innovation. The discussion also includes the strengths and limitations of the research. Strengths of the research should be presented from a specific perspective, for example, regarding data analysis specifications or sample size, in relevant articles. List at least one weakness of the article in

terms of analytical rigor, sample size, or number of variables.

## CONCLUSION

Based on the data analysis, it can be concluded that, first, students of SMA Muhammadiyah 3 Tangerang City have a positive perception of the use of digital learning media; they believe that digital media helps them understand the material, increases enthusiasm, and supports learning outcomes. Second, students also perceived the ecologically-based folklore digital learning media positively; teachers were assessed as using it quite frequently in literacy and learning activities, and the media was seen as relevant to local culture as well as environmental issues. Third, students understood the moral messages and ecological values conveyed through the ecologically-based folklore digital learning media and admitted to applying them in their daily lives, thus indicating the strengthening of ecoliteracy in the realms of knowledge, attitudes, and behavioral tendencies. Overall, this study concluded that the ecologically-based folklore digital learning media played an important role in strengthening students' ecoliteracy at SMA Muhammadiyah 3 Kota Tangerang by increasing understanding, motivation, and attitudes of environmental concern. Thus, the media can be recommended as an alternative learning media in developing ecoliteracy in Indonesian language learning at the secondary school level.

## REFERENCES

- Amin, N. F., Garancang, S., & Abunawas, K. (2023). Konsep Umum Populasi dan Sampel dalam Penelitian. *Pilar: Jurnal Kajian Islam Kontemporer. Volume 14, No. 1, Juni 2023, 15-31.*
- Angela, N., Dinihari, Y., & Sumitro, D. S. (2025). Representation of 21st Century Literacy (4C) in the Folklore Ular N'Daung by Dian Kristiani. *Jurnal Pembelajaran Bahasa dan Sastra, 4(6)*, 1423–1432.
- Barrett, H. (2006). Researching and Evaluating Digital Storytelling as a Deep Learning Tool. *Proceedings of the Society for Information Technology & Teacher Education International Conference*, 647–654.
- Darusalam, G. & Hussin, S. (2016). *Metodologi Penyelidikan dalam Pendidikan: Amalan dan Analisis Kajian. 2nd Edition.* Kuala Lumpur: University of Malaya.
- Dinihari, Y., Sulistyaniningsih, E., Putri, L. N., & Ayuardini, M. (2025). Improving teacher Digital Literacy through Wordwall Training in the Tegalwaru District Teacher Working Group Forum Community. *Jurnal Pembelajaran Bahasa dan Sastra, 4(5)*, 1187–1200.
- Dinihari, Y., Rafli, Z., & Boeriswati, E. (2025). *Inovasi bahan ajar literasi: Pendekatan gamifikasi dan pedagogi modern.* EDUPEDIA Publisher.
- Dinihari, Y., Alamsyah, M., & Sari, T. A. (2022). Collection of Literary Ecological Poetry “Works of biology Education Students”: Overview of Physical Intrinsic Elements. *Hortatori: Jurnal Pendidikan Bahasa dan Sastra Indonesia, 6(2)*, 135–144.
- Dinihari, Y., Alamsyah, M., Siburian, M. F., Marhento, G., Pratama, R., & Musringudin, M. (2024). Membangun Generasi Pemimpin yang Literat untuk Masa Depan dengan Menerapkan Pendekatan Ekologi di SMK Mahadika 2. *Jurnal Pengabdian Masyarakat Biologi dan Sains, 3(2)*, 1–13. <https://doi.org/10.30998/jpmbio-sains.v3i2.2875>
- Dinihari, Y., Siburian, M. F., Alamsyah, M., Marhento, G., & Pratama, R. (2025). Puisi karya Sihar Ramses Simatupang sebagai Media edukasi Mata Kuliah Ekologi. *Prosiding Konferensi Berbahasa Indonesia Universitas Indraprasta PGRI, 46–54.* <https://doi.org/10.30998/kibar.28-10-2025>

- Fraenkel, J. R., Wallen, E. W., & Hyun, H. H. (2012). *How to Design and Evaluate Research in Education*. New York: McGraw-Hill.
- Hecht, T. (2020). *Strategie*. XIX(02), 67–68. [https://doi.org/10.1007/978-3-658-30459-1\\_5](https://doi.org/10.1007/978-3-658-30459-1_5)
- Hudhana, W. D., Sumarlam, & Sumarwati. (2025). Digital Comics of Folktales as Learning Media to Strengthen Elementary School Students' Ecoliteracy. *Theory and Practice in Language Studies*, 15 (2) 443-45. DOI: <https://doi.org/10.17507/tpls.1502.14>
- Ivanka, W., & Cahaya, N. D. (2025). The effect of Digital Media on Elementary School Students' Ecoliteracy Development. *EduStream: Jurnal Pendidikan Dasar*, 9(1), 105–112. <https://doi.org/10.26740/eds.v9n1.p105-112>
- Isnanda, R., Gusnetti, G., Sayuti, M., Syofiani, S., Rinaldi, R., & Marsis, M. (2022). Pembelajaran Bahasa Indonesia Berwawasan Ekoliterasi sebagai Media Pembentukan Karakter Peduli Lingkungan bagi Siswa Sekolah Dasar. *Jurnal Cerdas Proklamator*, 10(2), 185–194. <https://doi.org/10.37301/cerdas.v10i2.166>
- Juanda, J., Atmojo, I. R. W., & others. (2024). Ecoliteracy and Environmental Attitudes through Digital Short Stories among Students in Indonesia. *Journal of Turkish Science Education*, 21(4).
- Kadarisman, I., & Pursitasari, I. D. (2023). Eco-Literacy in Science Learning: A review and Bibliometric Analysis. *Jurnal Pendidikan Indonesia Gemilang*, 3(2).
- Karaarslan, G., & Teksöz, G. (2016). Integrating Sustainable Development Concept into Science Education Program is not enough; We Need Competent Science Teachers for Education for Sustainable Development Turkish Experience. *International Journal of Environmental & Science Education*, 11(15), 8403–8424.
- Lubis, H., & Suwilo, S. (2023). Development of Digital Learning Media to Improve Student Learning Outcomes. *Mudarrisa: Jurnal Pendidikan dan Kajian Islam*, 15(1), 1-24
- Mahsun, M. S. (2014). *Metode Penelitian Bahasa Metode Penelitian Bahasa: Tahapan Strategi Metode dan Tekniknya*. Jakarta: Raja Grafindo Persada.
- Maulana, M. A., Kanzunudin, M., & Masfuah, S. (2021). Analisis Ekoliterasi Aiswa pada sekolah adiwiyata di Sekolah Dasar. *Jurnal Basicedu*, 5(4), 2601–2610. <https://doi.org/10.31004/basicedu.v5i4.1263>
- McBride, B. B., Brewer, C. A., Berkowitz, A. R., & Borrie, W. T. (2013). Environmental Literacy, Ecological Literacy, Ecoliteracy: What do We Mean and How did We Get Here? *Ecosphere*, 4(5), 1–20.
- Modi, M., Konopasky, A., Leung, C., Welch, A., & Kelley, A. (2024). Digital Storytelling as a Tool for Global Citizenship and Sustainability: Enhancing Cross-Cultural Understanding in Education. *Journal of Interdisciplinary Studies in Education*, 13(S1), 65–104.
- Pang, S., Nol, E., & Heng, K. (2025). Artificial Intelligence (AI) Literacy: A Necessity in Modern Language Education. *Journal of English Learner Education*, 17(1).
- Pérez-Paredes, P., Curry, N., & Ordoñana-Guillamón, C. (2025). Critical AI literacy for Applied Linguistics and Language Education Students. *Journal of China Computer-Assisted Language Learning*. <https://doi.org/10.1515/jccall-2025-0005>
- Pribadi, R., Dinihari, Y., Rosdiana, R., & Wardhani, A. D. W. (2025). Artificial Intelligence-based Research Trends and Literacy Shifts in Linguistics and Literature Journals: A Systematic Literature Review. *Jurnal Pembelajaran Bahasa dan Sastra*, 4(5), 1223–1238.



- Rachmawati, A., & Minsih. (2021). Belajar Bersama Alam sebagai Bentuk Penerapan Ekoliterasi pada Sekolah Alam. *Cendekiawan*, 3(2), 79–91. <https://doi.org/10.35438/cendekiawan.v3i2.216>
- Ramadhan, A. F., & Surjanti, J. (2022). Pengaruh Ekoliterasi dan Pendekatan ESD terhadap sikap Peduli lingkungan Peserta Didik. *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan*, 10(3), 129–134.
- Razak, A. (2015). *Statistika: Pengolahan Data Sosial Sistem Manual*. Pekanbaru: Autografika.
- Rosyid, N. U., Budiaman, B., & Hasanah, U. (2019). Improving Coastal Children Eco-Literacy in Environmental Learning through Mangroves Storytelling. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, 9(3), 285–296.
- Rusda, F. S., Weda, S., & Noni, N. (2023). Indonesian Young EFL Learners' Experiences with Digital Storytelling for Environmental Literacy. *Pedagogy: Journal of English Language Teaching*, 11(1), 59–74.
- Safitri, I. Y. B., Asip, M., Rakhmawati, Y., & Elitasari, H. T. (2023). Ecoliteration Ability of Students in Elementary Schools: Systematic Literature Review. *Al-Aulad: Journal of Islamic Primary Education*, 6(1), 1–11. <https://doi.org/10.15575/al-aulad.v6i1.23817>
- Santoso, A. (2023). Rumus Slovin: Panacea Masalah Ukuran Sampel? *SUKSMA: Jurnal Psikologi Universitas Sanata Dharma*. Volume 4, Nomor 2, 24-43. DOI: <https://doi.org/10.24071/suksma.v4i2.6434>
- Sekar, V. S. A., & Mulya, R. (2025). Pengembangan Media Wordwall AI untuk Meningkatkan Hasil Belajar Peserta Didik pada Tema 7 Subtema 2 Pembelajaran 4 Kelas IV SD Negeri 1 Adiwerna. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 6(1), 1152–1165. <https://doi.org/10.37985/murhum.v6i1.622>
- Setiawan, H. R., & Audia, R. I. (2025). The Influence of Digital Learning Media on the Learning Motivation of Students at Bumrungsuksa Islamic Boarding School, Thailand. *Educate: Jurnal Ilmu Pendidikan dan Pengajaran*, 4(1), 44–54.
- Sukmanasa, E., Novita, D., & Maesya, A. (2020). Pendampingan Pembuatan Media Pembelajaran Powtoon bagi Guru Sekolah Dasar Gugus 1 Kota Bogor. *Transformasi: Jurnal Pengabdian Masyarakat*, 16(1), 95–105. <https://doi.org/10.20414/transformasi.v16i1.1903>
- Suwandi, S., Yunus, A., & Rahmawati, L. E. (2016). Kecerdasan Ekologis dalam Buku Sekolah Elektronik Mata Pelajaran Bahasa Indonesia SMP. *LITERA*, 15(1), 178–192. <https://doi.org/10.21831/ltr.v15i1.9763>
- Suwandi, S. (2019). *Pendidikan Literasi: Membangun Budaya Belajar, Profesionalisme Pendidik, dan Budaya Kewirausahaan untuk Mewujudkan Marwah Bangsa*. Bandung: Remaja Rosdakarya.
- Syah, N., Hasnah, H., & Syahreni, S. (2022). Examining the Effects of Ecoliteracy on Knowledge, Attitudes, and Behavior through Adiwiyata Environmental Education for Indonesian Students. *Journal of Social Studies Education Research*, 13(3), 1–26.
- Tacelosky, K., Sue Kasun, G., Shapiro, B. R., Liao, Y. C., & Harris, K. (2025). Exploring Critical AI Literacy in Language Education: A Case study. *Foreign Language Annals*.



Wilujeng, I., Dwandaru, W. S. B., & Rauf, R. A. B. A. (2019). The Affectiveness of Education for Environmental Sustainable Development to Enhance Environmental Literacy in Science Education: A case Study of Hydropower. *Jurnal Pendidikan IPA Indonesia*, 8(4), 521–528. <https://doi.org/10.15294/jpii.v8i4.19948>