Journal of Language and Literature Education (JoLaLE)
Volume 3, No 1 – Maret 2026
e-ISSN : 3046-7373

ENHANCING ARGUMENTATIVE LITERACY THROUGH DEEP LEARNING-BASED INDONESIAN LANGUAGE INSTRUCTION AT SDN 3 KEMAWI

Erni Sulistiawati[1]*, Abdul Wachid Bambang Suharto[2]
[1,2]Pascasarjana UIN Prof. K. H. Saifuddin Zuhri Purwokerto, Indonesia
* Coresponding Author: 254120300004@mhs.uinsaizu.ac.id

Received: 28-01- 2026	Revised: 20-02-2026	Approved: 07-03-2026

ABSTRACT

This study was motivated by the low level of argumentative literacy among elementary school students, as indicated by their inability to construct claims, provide evidence, and develop logical reasoning. This study aimed to analyze the improvement of students' argumentative literacy through deep learning-based Indonesian language instruction at SDN 3 Kemawi. The study employed a quantitative approach using a quasi-experimental design with a one-group pretest–posttest model. Data were collected through tests, observations, and documentation, and were analyzed using a paired sample t-test and N-gain calculation. The results revealed a significant improvement in students' argumentative literacy skills, with the mean score increasing from 51.25 in the pretest to 75.75 in the posttest, and an N-gain value of 0.50, which falls into the moderate category. In addition, there was a noticeable change in students' learning behavior, as they became more active, critical, and collaborative during the learning process. These findings indicate that deep learning-based instruction is effective in developing higher-order thinking skills and students' argumentative literacy. This study implies that the implementation of student-centered learning with a meaningful learning approach can serve as a strategic alternative to improve the quality of Indonesian language instruction in elementary schools.

Keywords: Argumentative literacy, deep learning, Indonesian language instruction, elementary school, critical thinking

INTRODUCTION

The development of argumentative literacy among elementary school students has become increasingly crucial in the 21st century learning landscape. Argumentative literacy is not merely the ability to express opinions but also encompasses critical thinking, logical reasoning, and the ability to construct evidence-based arguments. In the context of Indonesian elementary education, including at SDN 3 Kemawi, students' ability to articulate structured arguments remains relatively low. Classroom practices often emphasize rote learning and the transfer of knowledge rather than engaging students in higher-order thinking processes. As a result, students have limited opportunities to develop reasoning skills and to express ideas in a coherent and argumentative manner.

To address this issue, the integration of deep learning approaches in education has gained significant attention. Deep learning refers to a meaningful learning process in which students actively construct knowledge, engage in critical inquiry, and connect learning materials with real-life contexts. This approach contrasts with surface learning, which tends to focus on memorization. Recent studies indicate that deep learning fosters essential competencies such as critical thinking, problem-solving, and communication skills, which are fundamental to argumentative literacy [1],[2]. In Bahasa Indonesia learning, deep learning-based instruction allows students to participate in dialogic interactions, analyze texts critically, and develop structured arguments through authentic learning experiences.

Empirical evidence from recent studies further supports the effectiveness of deep learning in enhancing students' argumentative abilities. Research shows that inquiry-based and collaborative learning models, which are closely aligned with deep learning principles, significantly improve students' critical thinking and argumentation skills [3],[4]. Additionally, international studies highlight that deep learning environments encourage deeper cognitive engagement and improve literacy outcomes by promoting active participation and reflective thinking [5],[6]. These findings suggest that the application of deep learning in language education has strong potential to enhance students' argumentative literacy.

However, despite its potential, the implementation of deep learning in elementary schools is often not optimal. Many teachers still face challenges in designing and facilitating learning experiences that align with deep learning principles, such as fostering inquiry, encouraging student autonomy, and integrating reflective practices. Consequently, the application of deep learning in classrooms may remain superficial, limiting its effectiveness in improving students' argumentative literacy skills.

Based on these conditions, this study focuses on examining how deep learning-based Bahasa Indonesia instruction can improve students' argumentative literacy at SDN 3 Kemawi. The study aims to explore the implementation process, analyze the extent of students' improvement in constructing arguments, and identify challenges encountered during the learning process. Through this research, it is expected that both theoretical and practical contributions can be achieved, particularly in enriching the discourse on deep learning and providing guidance for teachers in designing meaningful and effective language learning experiences.

RESEARCH METHODS

This study employed a quantitative approach using a quasi-experimental design to examine the effect of deep learning-based Bahasa Indonesia instruction on students' argumentative literacy. The research design utilized a one-group pretest–posttest format, allowing the researcher to measure students' argumentative literacy skills before and after the implementation of the treatment. This approach was chosen to identify the extent to which deep learning strategies contribute to improving students' ability to construct logical and evidence-based arguments.

The research was conducted at SDN 3 Kemawi, involving elementary school students as the primary subjects of the study. The participants were selected using a purposive sampling technique, considering their level of learning readiness and relevance to the research objectives. The scope of this study focused on Bahasa Indonesia learning activities that integrate deep learning principles, particularly in developing students' skills in expressing arguments both orally and in written form.

The primary data of this study consisted of students' argumentative literacy scores obtained through pretest and posttest assessments. Supporting data were gathered from classroom observations and documentation to capture the implementation process of deep learning in the classroom. The research instruments included a structured test designed to measure argumentative literacy, an observation sheet to record students' engagement and learning activities, and documentation in the form of lesson plans and students' work. The test instrument was developed based on indicators of argumentative literacy, such as the ability to state claims, provide supporting evidence, present logical reasoning, and draw conclusions.

Data collection was carried out through several techniques, including testing,

observation, and documentation. The pretest was administered before the implementation of deep learning-based instruction to determine students' initial abilities, while the posttest was conducted after the treatment to assess improvement. Observations were conducted during the learning process to ensure that the implementation of deep learning principles—such as active engagement, critical inquiry, and meaningful interaction—was carried out effectively.

Operationally, argumentative literacy in this study is defined as students' ability to construct structured arguments, which include presenting clear claims, supporting them with relevant evidence, and organizing ideas logically. Meanwhile, deep learning is defined as a learning approach that emphasizes active student participation, critical thinking, problem-solving, and the connection of knowledge with real-life contexts.

The data analysis technique used in this study involved both descriptive and inferential statistics. Descriptive analysis was used to present the mean, percentage, and distribution of students' scores, while inferential analysis was conducted using a paired sample t-test to determine whether there was a significant difference between pretest and posttest results. In addition, the normalized gain (N-gain) score was calculated to measure the effectiveness of the treatment in improving students' argumentative literacy. The results of the analysis were then interpreted to draw conclusions regarding the impact of deep learning-based instruction on students' learning outcomes.

RESULTS AND DISCUSSION

The results of this study describe the overall improvement of students' argumentative literacy following the implementation of deep learning-based Bahasa Indonesia instruction. Based on the pretest data, students' initial abilities in argumentative literacy were relatively low, with an average score of 51.25. This condition indicates that most students had not yet developed the skills required to construct well-structured arguments. Specifically, students experienced difficulties in providing relevant evidence and developing logical reasoning, as reflected in lower mean scores on these indicators compared to others. Their arguments tended to be descriptive rather than analytical, and many students were unable to clearly connect claims with supporting evidence.

After the implementation of deep learning-based instruction, a significant improvement was observed in students' argumentative literacy. The posttest results showed an increase in the average score to 75.75, indicating a substantial enhancement in students' ability to construct arguments. Improvements were evident across all indicators, including the ability to state clear claims, provide appropriate evidence, organize logical reasoning, and draw coherent conclusions. Students demonstrated greater confidence in expressing their ideas and were more capable of structuring their arguments systematically. This suggests that the learning process successfully facilitated the development of higher-order thinking skills.

The effectiveness of the intervention was further supported by the N-gain analysis, which yielded an average score of 0.50, categorized as moderate improvement. This result indicates that the deep learning-based approach was sufficiently effective in enhancing students' argumentative literacy within the duration of the study. In addition to quantitative data, observational findings also revealed meaningful changes in classroom dynamics. Students became more actively involved in discussions, showed

increased curiosity, and engaged more critically with the learning materials. They were not only responding to teacher questions but also initiating arguments, questioning their peers, and providing feedback during collaborative activities.

Overall, the results demonstrate a consistent pattern of improvement, both in terms of measurable learning outcomes and observed learning behaviors. The increase in scores from pretest to posttest, supported by the N-gain results and observational data, indicates that deep learning-based instruction has a positive impact on students' argumentative literacy. The findings highlight that when students are given opportunities to engage in meaningful, interactive, and inquiry-based learning, their ability to construct logical and evidence-based arguments can develop significantly.

DISCUSSION

The findings of this study confirm that deep learning-based Bahasa Indonesia instruction significantly enhances students' argumentative literacy, both in terms of measurable achievement and the quality of cognitive engagement. The observed improvement is not merely reflected in higher posttest scores but also in the transformation of students' ability to construct, justify, and communicate arguments in a more structured and analytical manner. This indicates that the learning process has successfully facilitated the development of higher-order thinking skills, which are essential in argumentative literacy.

A more detailed comparison of students' performance across indicators is presented in Table 1.

Table 1. Comparison of Argumentative Literacy Indicators

Indicator	Pretest	Posttest	Gain
Stating claims	55	78	23
Providing evidence	50	75	25
Logical reasoning	48	73	25
Drawing conclusions	52	77	25

The data demonstrate that the most substantial gains occurred in the aspects of providing evidence and logical reasoning. This pattern suggests that deep learning does not only improve surface-level understanding but also strengthens students' analytical and evaluative capacities. In this context, learning shifts from simply expressing opinions to constructing well-supported arguments. Such findings resonate with the perspective that meaningful learning environments can significantly influence students' cognitive development, particularly in reasoning-based tasks[2]. Research in contemporary pedagogy also emphasizes that instructional approaches centered on active thinking processes tend to produce stronger learning outcomes than traditional methods [1].

Beyond cognitive achievement, the implementation of deep learning also brought notable changes in students' learning behavior, as illustrated in Table 2.

Table 2. Changes in Students' Learning Behavior

Aspect of Behavior	Before Implementation	After Implementation
Participation	Passive	Active and engaged
Argument expression	Descriptive	Analytical and structured
Peer interaction	Limited	Collaborative and dialogic
Critical questioning	Rare	Frequent and reflective

The transformation from passive to active participation indicates that deep learning creates a more engaging and student-centered learning environment. Students became more confident in expressing ideas, more willing to challenge perspectives, and more capable of defending their arguments. This shift aligns with the notion that learning is most effective when students are actively involved in knowledge construction rather than acting as passive recipients[7]. Furthermore, collaborative interaction appears to play a crucial role in shaping argumentative skills, as dialogue allows students to negotiate meaning and refine their reasoning processes [8].

The effectiveness of the intervention is further supported by the N-gain result presented in Table 3.

Table 3. Interpretation of N-Gain Score

N-Gain Score	Category	Interpretation
0.50	Moderate	Effective improvement

Although categorized as moderate, this result indicates a meaningful improvement within the limited timeframe of the study. It suggests that deep learning has strong potential to yield even greater outcomes if implemented consistently and over a longer duration. Previous empirical studies have shown that sustained exposure to inquiry-based and student-centered learning significantly enhances critical thinking and literacy skills over time [3], [9].

From a theoretical standpoint, the effectiveness of deep learning in this study can be understood through its core components. Inquiry-based learning encourages students to explore problems and develop independent reasoning, which is essential for argument construction. This is consistent with findings that inquiry-oriented instruction promotes deeper cognitive engagement and improves students' analytical abilities [10]. In addition, collaborative learning environments enable students to exchange ideas and receive feedback, which strengthens their ability to construct logical arguments. Studies in language education have consistently shown that peer interaction enhances both reasoning quality and communication skills [4], [5].

Another contributing factor is the use of contextual learning, which connects academic content with real-life situations. This approach helps students understand the relevance of their arguments and apply knowledge more meaningfully. Research indicates that contextualized learning environments increase student motivation and facilitate deeper understanding of concepts [11]. Moreover, reflective activities embedded in deep learning allow students to evaluate their own thinking processes, which further supports the development of argumentative literacy [12].

The findings of this study also align with recent international research emphasizing the importance of deep learning in primary education. Studies have highlighted that deep learning strategies promote not only academic achievement but also essential competencies such as critical thinking, communication, and problem-solving . In literacy education, these competencies are closely related to the ability to construct and evaluate arguments effectively [13].

Compared to previous research, this study offers a distinctive contribution by focusing specifically on argumentative literacy within Bahasa Indonesia learning at the elementary level. While many studies examine general literacy or critical thinking, this research provides a more targeted analysis of how deep learning influences argumentation skills. In addition, the integration of inquiry, collaboration, and contextual learning within a single instructional design represents a more holistic approach compared to studies that treat these components separately [14].

However, the findings also reveal important limitations and challenges. The moderate N-gain score suggests that the effectiveness of deep learning is influenced by several factors, including the duration of implementation, students' readiness, and teachers' pedagogical competence. Some students required time to adapt to active learning environments, especially those accustomed to teacher-centered instruction. This observation is supported by research indicating that the transition to student-centered learning requires gradual adjustment and consistent scaffolding[15]. Furthermore, teacher readiness plays a critical role in ensuring the successful implementation of deep learning, as teachers must be able to design meaningful learning experiences and facilitate productive classroom interaction.

Overall, the discussion highlights that deep learning-based instruction is a powerful approach for improving students' argumentative literacy. It not only enhances cognitive outcomes but also transforms the learning process into a more interactive, reflective, and meaningful experience. These findings reinforce existing theories while also providing practical insights for educators seeking to implement student-centered learning in elementary classrooms.

CONCLUSION

This study concludes that the implementation of deep learning-based Bahasa Indonesia instruction is effective in improving students' argumentative literacy at the elementary school level. The findings demonstrate a significant increase in students' ability to construct arguments, particularly in stating claims, providing evidence, developing logical reasoning, and drawing conclusions. This improvement indicates that deep learning not only enhances students' cognitive achievement but also supports the development of higher-order thinking skills essential for meaningful learning. In addition to quantitative gains, the study reveals important qualitative changes in students' learning behavior. Students became more active, engaged, and confident in expressing their ideas, as well as more capable of participating in dialogic and collaborative learning processes. These changes highlight the role of deep learning in transforming classroom practices from teacher-centered to student-centered environments that promote critical thinking and meaningful interaction.

The study also confirms that the integration of inquiry, collaboration, and contextual learning within a deep learning framework contributes significantly to the development of argumentative literacy. However, the findings indicate that the effectiveness of this approach is influenced by factors such as teacher readiness, students' adaptability, and the duration of implementation. Therefore, successful application requires careful instructional design, adequate teacher preparation, and continuous support. Overall, this research contributes to the growing body of knowledge on deep learning by providing empirical evidence of its effectiveness in primary education, particularly in the context of Bahasa Indonesia learning. It also offers practical implications for educators to design learning experiences that foster argumentative skills and critical thinking. Future research is recommended to explore long-term implementation and broader contexts to further strengthen the impact of deep learning on students' literacy development.

DAFTAR PUSTAKA

[1] M. Fullan, J. Quinn, and J. McEachen, *Deep Learning: Engage the World Change the World*. Thousand Oaks, CA: Corwin, 2021.
[2] J. Hattie, *Visible Learning: The Sequel*. London: Routledge, 2022. doi:

10.4324/9781003260298.

[3] D. Yuliana and A. Suryadi, "Inquiry-based learning in social studies to improve critical thinking skills," *Journal of Education Research*, vol. 15, no. 2, pp. 120–130, 2022.

[4] R. Pratiwi, S. Rahmawati, and N. Hidayat, "Collaborative learning in Bahasa Indonesia classrooms: Enhancing students' argumentation skills," *Indonesian Journal of Language Education*, vol. 8, no. 1, pp. 45–55, 2023.

[5] M. Garcia and L. Torres, "Deep learning approaches and student engagement in primary education," *Educ. Stud.*, vol. 47, no. 3, pp. 345–360, 2021, doi: 10.1080/03055698.2020.1740975.

[6] J. Lee and H. Kim, "Promoting critical literacy through deep learning strategies in elementary classrooms," *Int. J. Educ. Res.*, vol. 120, p. 102199, 2024, doi: 10.1016/j.ijer.2023.102199.

[7] D. Perkins, "Future wise education," *Educational Leadership*, vol. 78, no. 4, pp. 14–19, 2021.

[8] R. Wegerif, *Dialogic Education and Technology*. Springer, 2022. doi: 10.1007/978-3-030-99088-0.

[9] C. E. Hmelo-Silver, "Problem-based learning: What and how do students learn?," *Educ. Psychol. Rev.*, vol. 33, no. 3, pp. 1–23, 2021, doi: 10.1007/s10648-021-09586-6.

[10] A. W. Lazonder and R. Harmsen, "Meta-analysis of inquiry-based learning: Effects of guidance," *Rev. Educ. Res.*, vol. 91, no. 5, pp. 1–38, 2021, doi: 10.3102/00346543211019118.

[11] N. Mercer, *Classroom Dialogue and the Development of Children's Thinking*. Routledge, 2021. doi: 10.4324/9780429468318.

[12] D. Boud and E. Molloy, *Feedback in Higher and Professional Education: Understanding It and Doing It Well*. Routledge, 2022. doi: 10.4324/9781003015225.

[13] D. Kuhn, "Argumentation in education: Theory and practice," *Educ. Psychol.*, vol. 55, no. 1, pp. 1–12, 2020, doi: 10.1080/00461520.2019.1705011.

[14] L. Darling-Hammond, L. Flook, C. Cook-Harvey, B. Barron, and D. Osher, "Implications for educational practice of the science of learning and development," *Appl. Dev. Sci.*, vol. 24, no. 2, pp. 97–140, 2020, doi: 10.1080/10888691.2018.1537791.

[15] S. Rahman, "Teacher readiness in implementing student-centered learning," *Journal of Educational Practice*, vol. 14, no. 1, pp. 55–63, 2023.