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Empowering Language Literacy in Junior High Schools through Deep Learning Training

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Abstract

Prioritizing a deep learning approach in the implementation of the national curriculum is crucial for language subjects. In practice, teachers often lack a complete understanding of how language learning works and the fundamentals of deep learning. This community service initiative is designed to enhance partners' abilities to integrate language skills for students by emphasizing deep learning principles, ultimately fostering the development of students' language literacy. This community service initiative consists of five phases: social engagement, training, mentoring, technology application, and a motivation program. During the socialization phase, the community service partners gained a clear understanding of the training goals, achieving a 62.5% comprehension rate, along with a 87.5% level of enthusiasm. The training involved delivering presentations on deep learning and the integration of language skills, with over 50% of partners responding positively throughout the sessions. Mentoring involved supporting partners as they applied deep learning techniques, enabling learning partners to integrate these approaches into classroom education. Throughout the learning process, partners effectively utilized technology on digital devices to present materials and demonstrate practice questions. To support the program's sustainability, the team responded positively to a request from policymakers to suggest ways to incorporate deep learning and skills integration in language education.

Keywords: deep learning, literacy, language skills, integrated skills

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Introduction

Enhancing language literacy skills is essential for meeting educational objectives, especially in junior high school (SMP). Language literacy includes more than just the fundamental skills of reading and writing; it also requires the ability to understand, interpret, analyze, assess, and communicate information effectively across different forms of language, such as listening and speaking, reading and viewing, and writing and presenting, as well as various types of texts like descriptive, narrative, and procedural formats [1]. Language literacy includes four fundamental skills: reading

(understanding the content and significance of texts), writing (expressing ideas in a clear and structured way), speaking (articulating thoughts verbally with suitable language), and listening (critically processing information from spoken communication) [2], [3]. These skills are essential not only for acquiring language but also constitute a crucial foundation for excelling in other subjects and managing students' everyday social interactions.

In an educational environment, language literacy is becoming more essential because it allows individuals to convey meaning appropriately in both formal and informal situations. As a result, instruction in language literacy should emphasize the enhancement of Higher-Order Thinking Skills (HOTS), strong communication abilities, and a thoughtful approach to both the information encountered and shared [4], [5]. Nevertheless, the actual process of learning languages in numerous Islamic junior high schools (SMP) continues to encounter several obstacles.

Observations at SMP Islam Pecangaan show that the language learning process is primarily centered on texts, involves repetition, and focuses on linguistic components like spelling, punctuation, and grammar [6]. The instructional approaches used are still traditional and focused on the teacher, prioritizing memorization and repetition of information rather than fostering a comprehensive grasp of its significance [7]. Additionally, student involvement in activities like critical reading, discussing the meaning of texts, writing reflections, and comparing various text types is still minimal. This obstructs students from enhancing their writing and speaking abilities. Furthermore, language evaluations at partner schools are often traditional and do not promote the growth of Higher-Order Thinking Skills (HOTS). Some teachers still do not have a strong grasp of instructional strategies that promote active engagement in meaning-making, such as project-based learning (PjBL), reflective discussions, problem-based learning (PBL), or creative writing tasks connected to students' real-life experiences. As a result, the learning outcomes for students are not satisfactory, which is reflected in mid-semester and final assessment scores that are below the average mastery level (KKTP) of 75.

At the same time, deep learning (DL) is being adopted in numerous schools governed by the Ministry of Basic and Secondary Education to improve the quality of education and its results. Deep learning is regarded as a valuable approach that prioritizes fostering an environment conducive to learning, characterized by conscious, meaningful, and enjoyable experiences that engage not only the mind but also the heart, emotions, and physical activity in a comprehensive and integrated way [8]. This approach emphasizes the significance of grasping concepts, fostering critical thinking skills, encouraging reflective learning, and linking knowledge to practical real-world scenarios [9]. Using deep learning techniques, students must not only grasp the content of a text but also comprehend, analyze, and assess it, while being able to generate new insights from it.

In reality, the application of deep learning at the Islamic junior high school, which acts as the community service partner, has not been carried out effectively. So far, the partner school has not implemented a learning method that promotes significant learning by taking advantage of the numerous available resources.

The school uses traditional language teaching methods, including discussions, games, and task-based learning, but does not incorporate deep learning principles. Numerous teachers do not have the essential skills to create lessons that emphasize comprehensive understanding. As a result, the educational approach does not motivate students to reach advanced levels of literacy that include cognitive, emotional, and reflective aspects. The collaborating institution is an Islamic junior high school situated in Pecangaan, within Jepara Regency. It is managed by the Athfal Islam Foundation and has received an 'A' accreditation from the Ministry of Education, Culture, Research, and Technology.

The subsequent information details the partner's present circumstances: The partner encounters two main obstacles. Initially, students demonstrate limited language literacy abilities in language classes. Secondly, teachers do not possess the skills needed to create and execute deep learning strategies. The primary concern is the students' inadequate language proficiency in Indonesian, English, and Javanese. Observations show that numerous students continue to face challenges with their language skills, whether in speaking or writing. Additionally, they struggle with critical reading, find it challenging to create logical and coherent paragraphs, and have difficulty systematically articulating their thoughts in both writing and speech. Writing tasks frequently involve merely copying texts or responding to yes-or-no questions, which does not encourage creative thinking. Likewise, reading exercises often emphasize answering questions at face value, rather than promoting a deeper understanding or recognizing the relationships between the meanings of different paragraphs.

This problem is worsened by the lack of integrated language skill teaching, which leads students to learn language elements separately. As a result, they find it difficult to express their thoughts and concepts clearly, whether speaking or writing. Consequently, they gain just a fundamental grasp and do not link their language skills to practical experiences. This is demonstrated by persistently low scores in language subjects during both mid-semester and final assessments, with averages falling below the set mastery criterion (KKTP) of 75. This occurs because students concentrate on individual language elements instead of relating them to their actual contexts.

Another concern involves the teacher's role as a facilitator in the learning process. In partner schools, numerous language instructors do not have a strong grasp of the concepts and techniques associated with deep learning. Instead, they often depend on traditional, teacher-led approaches like lectures, repetitive exercises, and memorizing grammatical rules. Instructional design tends to emphasize basic cognitive skills, particularly remembering (C1) and understanding (C2), instead of fostering higher-level skills such as analyzing (C4), evaluating (C5), and creating (C6). Teachers' inadequate understanding is evident in various areas, including their teaching methods, the development of supportive learning environments, the implementation of digital technology, the formation of collaborative learning relationships, the incorporation of real-world contexts into the curriculum, and the employment of instructional models that promote meaningful interactions among students. Additionally,

teachers do not have a sufficient grasp of deep learning, critical thinking, and holistic development. This impairs their capacity to properly assist students in comprehending, utilizing, and reflecting on their learning. Evidence indicates that more than 25% of teachers at partner schools have not yet effectively integrated deep learning methodologies. Furthermore, the deep learning landscape—especially through the use of digital technology—faces a challenge, as almost 40% of teachers at partner institutions continue to depend on paper-based learning materials. This undoubtedly creates a unique obstacle for effectively applying deep learning. The objective of this community service project is to offer extensive training in deep learning to teachers, with the goal of enhancing and promoting language literacy among junior high school students.

Method

This community service initiative included ten language teachers teaching English, Indonesian, and Javanese from SMP Islam Pecangaan, as collaborators of this program. This community service program is carried out in multiple phases: outreach and dissemination, training, application of technology, mentoring and evaluation, and ensuring the sustainability of the program. The outreach phase includes collaborating with the partner on the activities planned by the service team and clarifying the goals and anticipated results for the partner. The whole team works together with the partner during this stage. The training program comprises two primary phases: one focusing on integrating language literacy, and the other on deep learning (DL), both of which include training and mentoring. Every language instructor at the partner school takes part in these training sessions. The technological solution offered to the partner emphasizes the combination of language literacy and deep learning. In deep learning, technology is incorporated into teaching to enhance interactive, collaborative, and context-rich learning experiences, ultimately promoting significant educational outcomes for students. Mentoring takes place over two sessions: the first emphasizes integrating language literacy during simulations and real lessons, while the second centers on applying deep learning techniques in language subjects. Program evaluation involves using a Likert-scale questionnaire (ranging from 1 to 5) to assess the objectives of each activity in relation to specific achievement benchmarks.

Table 1. Activities for Training and Mentoring and Goals for Achievement

No	Activities	Target achievements
1	Conceptual workshop on the integration of language literacy	85% of language teachers understand the concept of integrating language literacy into learning
2	Training on instructional design integrating language literacy	80% of language teachers are able to design lessons that integrate language literacy.
3	Simulation of language literacy integration in learning	80% of teachers are able to implement instruction that integrates language literacy.
4	Guidance on developing teaching modules for integrated language literacy learning.	90% of teachers are able to develop lesson designs that integrate language literacy.

5	Conceptual workshop on deep learning	85% of Language teachers understand the concept of deep learning
6	Training on Deep Learning-Based Language Instructional Design	80% of language teachers are able to design deep learning experiences
7	Optimizing the role of teachers in deep learning	90% of teachers are able to optimize their role.

Result and Discussion

In the dissemination phase, the community service team worked alongside the school principal to present the service program aimed at language teachers. Furthermore, the team provided details about government regulations concerning deep learning. In a later meeting, the principal permitted the team to present the program's goals to the teachers. The purpose of this step was to make sure that the training activities would be easily accessible to and positively received by teachers of Indonesian, English, and Javanese. The presentation included showing materials that highlighted the training goals, ensuring that all teachers were well-informed.

Teachers engaged actively in this session by paying close attention to the explanations and asking questions to better understand the training phases. The active participation was evident in the results of the post-session questionnaire: the program goals achieved an 87.5% rating in the highest two categories (options 4 and 3), with partner enthusiasm also receiving an 87.5% rating in those same categories. This excitement was also evident in the partners' dedication to fully engaging in the training and mentoring activities until the end. The outcomes of the dissemination session are shown in the table below.

Table 2. Outcomes of the Community Service Program Distribution

No	Aspect	Percentage			
		4	3	2	1
1	The partners clearly understood the objectives of the community service activity	62.5	25	12.5	-
2	The partners were enthusiastic about participating in the outreach session.	55	32.5	7.5	5

The findings from the dissemination phase, presented in Table 2, are consistent with the broader outcomes of community service, emphasizing the vital importance of dissemination in communicating the program and its goals to partners [10]. As a result of these dissemination activities, partners obtained a comprehensive understanding of the service implementation, while teachers were provided with insights into the particular emphasis of the initiative [11].

The training stage included a conceptual workshop focused on incorporating language skill literacy. The service team highlighted the characteristics of language teaching, focusing on language skills and their combination. After the presentation, attendees received training on how to develop lesson plans that emphasized the incorporation of language skills throughout the planning, execution, and assessment phases. Afterward, the participants took part in hands-on activities to create lesson plans that included these integrated language skills and shared their

proposals for feedback from both the service team and their peers.

Participants also engaged in brief teaching simulations to implement the integration of language skills within their specific subject areas. In these simulations, teachers executed their pre-prepared lesson plans (teaching modules) and carried out assessments, emphasizing the incorporation of language skill literacy. At the end of the simulations, participants received feedback from both their peers and the service team, highlighting areas such as instructional phases, teaching abilities, and the incorporation of language skills. Moreover, the training stage featured a workshop focused on the concepts of deep learning. The workshop commenced with a discussion of policies, frameworks, and approaches for implementing deep learning. After the presentation, attendees received training on how to create language lesson plans grounded in deep learning principles, particularly by designing teaching modules. The training aimed to integrate essential aspects of deep learning into language teaching by ensuring that the experience is enjoyable, significant, and reflective. The partners have effectively developed activities for every phase of the deep learning method.

Afterward, the training participants were instructed to engage in a language learning simulation using this deep learning method. The simulation included particular activities aligned with the mindful, meaningful, and joyful phases. In the simulation, the mindful stage was incorporated at the beginning of the lesson by assessing students' preparedness to participate in the learning experience. The meaningful stage was implemented in the core phase by relating the lesson content to students' everyday experiences and encouraging collaboration among students. The enthusiastic phase was carried out in the main part of the program using activities that encouraged students to collaborate in small teams. At the end of the simulation session, attendees were given feedback from both the community service team and their fellow participants.

Additionally, training participants can showcase their teaching roles in the implementation of deep learning in several ways: 1) as a guide, shown through their guidance during learning and discussion activities; 2) as a facilitator, evidenced by encouraging student engagement in both the learning process and content delivery; 3) as a manager, illustrated by structuring classroom activities in a systematic way; 4) as an evaluator, reflected in their ability to assess student performance and share results; and 5) as a feedback provider, highlighted by the feedback they give to students during the learning journey.



Figure 1. Elaboration of materials

Table 3. Training Results

No	Aspects	Achievements

		Very good	Good
1	Understanding the concept of language skill integration	80	20
2	Language skills are taught in an integrated manner, not separately	90	10
3	Planning language learning activities by integrating skills	85	15
4	Understanding the benefits of integrating language skills to enhance student literacy	80	20
5	The integration of language skills can strengthen students' critical thinking abilities	85	15
6	Learning stages	80	20
7	Teaching skills	85	15
8	Understanding the concept of deep learning	90	10
9	Deep understanding is translated into learning that is mindful, meaningful, and enjoyable	90	10
10	Deep learning can be realized by connecting learning with the context of everyday life	80	20
11	Language learning using deep learning can enhance students' language literacy	85	15
12	Integrating language skills through deep learning can foster collaboration, creativity, and critical thinking among students	85	15
13	Variations in the teacher's role in instruction	85	15

According to Table 3, the workshop and training offered to participants received a very positive reaction, particularly reflected in aspects 1 and 8. Additionally, the participants showcased a solid grasp of the importance of a cohesive approach to language skills, acknowledging that profound learning can occur through engaging, enjoyable, and thoughtful teaching—concepts highlighted in points 2 and 9. The post-training simulations were met with very positive responses, as more than 80% of participants reported feeling capable of creating language lessons that incorporate skills and promote collaboration, creativity, and critical thinking through deep learning (aspects 3, 4, 10, and 11). This is consistent with research that shows deep learning promotes collaboration among students and enhances their critical thinking abilities [12]. The deep learning method can be utilized for teaching languages [13] and is compatible with classroom technology [14].

The implementation of technology in this community service program included incorporating language literacy by developing theoretical, pedagogical, and practical ideas related to the six language components, listening paired with speaking, reading combined with viewing, and writing alongside presenting, in order to foster a comprehensive understanding. Furthermore, the three domains of learning, cognitive, emotional, and skills-based, were combined. Language teachers who took part were introduced to a range of educational apps designed to enhance language teaching, including Quizizz and Kahoot. In the realm of deep learning, technology functioned not only as a means for presentations or delivering content but also as a collaborative environment—employing workspace and e-learning platforms—to encourage exploration and innovation among participants. Additionally, in the context of classroom mentoring, teachers were encouraged to effectively utilize technology-driven

instructional tools, including LCD projectors and smart board TVs, for delivering lesson content. Utilizing these technological tools can engage students and motivate them to concentrate on the content being shared by the teacher. This discovery is consistent with studies suggesting that e-learning instruction can enhance engagement [15] and participation [16].



Figure 2. Simulation of Deep Learning Practice

The community service team offers ongoing assistance after the training sessions have ended. This assistance is provided using two approaches: observing in classrooms and offering mentorship. Classroom observation entails the team observing the language teaching methods employed by the instructor to guarantee the effective implementation of "deep learning" principles, focusing on making the learning experience meaningful, enjoyable, and reflective. Mentoring occurs following the observation and is carried out through discussions in the teachers' lounge. These sessions are designed to pinpoint the teacher's strengths and weaknesses in applying deep learning techniques in language teaching. The findings from this assessment provide the teacher with a foundation to assess and enhance upcoming lessons.

To guarantee the program's ongoing success, the community service team made a visit to the school. The purpose of the visit was to inspire language teachers to regularly incorporate deep learning-focused language teaching practices. Moreover, the team urged the school principal to implement a policy mandating that language lessons—encompassing Indonesian, English, and Javanese—be taught using an integrated skills approach that emphasizes deep learning principles.

Discussion

Teaching that emphasizes the core principles of deep learning, specifically meaningful, joyful, and mindful approaches, enhances language literacy [12]. This language proficiency includes all aspects of language: listening, speaking, reading, and writing. Student literacy shows considerable enhancement when language skills are taught in a cohesive way. Information gained from listening can be understood and expressed through speaking, while written content that students read can be processed and shared through their writing abilities. This integration of language skills can strengthen students literacy while promoting meaningful learning by enabling them to construct knowledge, make connections between new and prior knowledge, and apply their understanding in authentic contexts [17].

The process of providing instructional support in the classroom revealed that significant learning, in line with the deep learning framework, can be attained by situating language learning materials in context.

This is due to the fact that instructors can more effectively involve students in learning tasks when the material connects to their personal experiences [18]. Students encounter fewer challenges since the material, vocabulary, and content are connected to their everyday experiences. Additionally, teachers promote the concept of joyful learning by utilizing a range of activities, including games, targeted teaching methods, and other interactive exercises [19]. These activities effectively engage students and promote active involvement. Students must engage in communication and interaction with their groups about the subjects being discussed or the games being played. In addition to grabbing attention, these activities act as ice-breakers that are closely connected to the content taught by the instructor. Additionally, the teacher applies the concept of mindful learning by using project-based learning, where students are tasked with developing a dialogue on a particular subject and then presenting it in front of their classmates. Every group watches the presentations of the other groups and offers feedback. Utilizing this mindfulness principle in education can encourage students to engage actively and develop their critical thinking abilities [20].

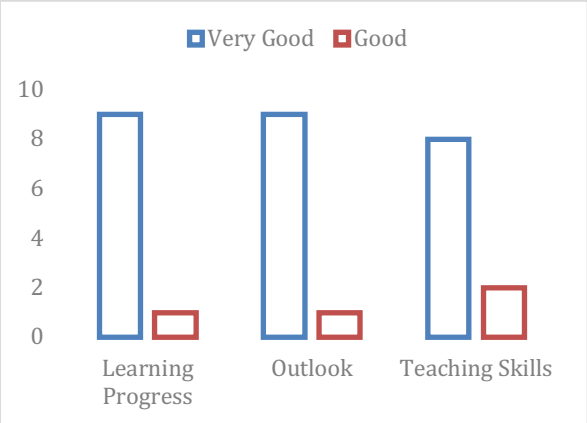


Figure 3. Partners Response

Figure 3 shows that the community service efforts carried out by the team effectively helped teachers at the partnering institution enhance the quality of language teaching within the classroom. These activities also generated new insights, particularly concerning the incorporation of language skills via deep learning, with 90% of participants expressing strong approval of the team's initiatives. Additionally, the teachers enhanced their instructional abilities, with 80% indicating that the activities offered useful insights for improving their teaching of language subjects in the classroom. Overall, these findings indicate that integrating principles of meaningful, enjoyable, and mindful learning creates a more connected learning experience, wherein students not only engage in language activities but are also encouraged to think critically, communicate ideas, and apply their learning in meaningful contexts.

Conclusion

The deep learning training provided by the team was extremely advantageous for the partners, especially for teachers teaching language subjects like English, Indonesian, and Javanese. The partners showed great enthusiasm and actively engaged at every stage of the program, from initial outreach and training sessions to classroom mentoring and technology implementation. The outreach phase aimed to ensure a shared understanding of the program's goals and to generate excitement among partners. The training aimed to develop a comprehensive grasp of how to combine language skills with deep learning concepts. Classroom mentoring produced beneficial outcomes, allowing teachers to incorporate language skills into a profound

learning framework defined by mindful, meaningful, and joyful methods. The integration of technology included employing digital tools and media to enhance the learning experience. It was noted that student engagement rose when instructors used technology to present course content during mentoring sessions. This training improved teachers' skills in combining language abilities and implementing deep learning strategies to boost students' reading proficiency, ensuring that content is delivered in a cohesive way that emphasizes thoughtful, significant, and enjoyable learning experiences. School principals are urged to develop policies that promote the delivery of language lessons through an integrated approach focused on deep learning principles.

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