

Critical Literacy Training to Enhance Teachers' Skills in Designing Deep Learning Activities

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Abstract: *Critical literacy is the ability to actively analyze, question, and evaluate texts, media, and other forms of communication to understand the deeper meanings, power relations, and perspectives behind them. It goes beyond simply reading or comprehending information since it involves thinking about who created the message, why it was created, and whose voices are represented or missing. Ultimately, critical literacy empowers individuals to become thoughtful, informed, and active participants in society, capable of questioning injustice, promoting equality, and making independent, ethical judgments. This community engagement project was conducted in SDN Kenongorejo 02, Madiun in collaboration of Universitas PGRI Madiun dan National Dong Hwa University. This critical literacy is working together with Critical Literacy Platform (CLP). The priority problems are: (1) the low level of teacher and student involvement and participation in efforts to improve literacy quality; (2) the socialization of the program is not carried out optimally for both teachers and students; (3) the lack of understanding of critical literacy among teachers and students; (4) the lack of innovation in learning related to critical literacy. There are two solutions which have been conducted: (1) critical literacy training by international experts as a means of enhancing critical literacy; (2) designing learning activities through the critical literacy platform.*

Keywords: *critical literacy, critical literacy platform (CLP), deep learning, teachers' movements*

Abstrak: *Literasi kritis adalah kemampuan untuk secara aktif menganalisis, mempertanyakan, dan mengevaluasi teks, media, dan bentuk komunikasi lainnya untuk memahami makna yang lebih dalam, hubungan kekuasaan, dan perspektif di baliknya. Literasi kritis melampaui sekadar membaca atau memahami informasi karena hal ini melibatkan pemikiran tentang siapa yang membuat pesan tersebut, mengapa pesan itu dibuat, dan suara siapa yang diwakili atau yang hilang. Pada akhirnya, literasi kritis memberdayakan individu untuk menjadi peserta masyarakat yang cerdas, terinformasi, dan aktif—mampu mempertanyakan ketidakadilan, mempromosikan kesetaraan, dan membuat penilaian independen yang etis. Kegiatan pengabdian kepada masyarakat ini dilakukan di SDN Kenongorejo 02, Madiun, bekerja sama dengan Universitas PGRI Madiun dan National Dong Hwa University. Literasi kritis ini dilakukan bersama dengan Critical Literacy Platform (CLP). Masalah prioritas yang dihadapi adalah: (1) Rendahnya tingkat keterlibatan dan partisipasi guru dan siswa dalam upaya peningkatan kualitas literasi; (2) Sosialisasi program belum dilaksanakan secara optimal bagi guru maupun siswa; (3) Kurangnya pemahaman tentang literasi kritis di kalangan guru dan siswa; (4) Kurangnya inovasi dalam pembelajaran terkait literasi kritis. Terdapat dua solusi yang telah dilakukan: (1) Pelatihan literasi kritis oleh pakar internasional sebagai sarana peningkatan literasi kritis; (2) Mendesain kegiatan pembelajaran melalui Critical Literacy Platform.*

Kata kunci: *critical literacy platform (CLP), deep learning, gerakan guru, literasi kritis*

1. Introduction

SDN Kenongorejo 2 is located in Kenongorejo Village, Pilang Kenceng Subdistrict, Madiun Regency. This area directly borders Ngawi and Bojonegoro Regencies. As one of the largest rice-producing areas in Pilangkenceng Village, Madiun Regency, it is certain that the majority of the population in this area work as farmers. Out of a total population of 3,678 people in Pilangkenceng Village, there are 152 students enrolled at SDN Kenongorejo 02, Pilangkenceng. SDN Kenongorejo 02 is led by Mr. Surono, S.Pd., SD. This school is a regional government school that has been established since September 27, 1976. Demographically, SDN Kenongorejo 02 has 7 teachers and 4 educational staff as of March 6, 2025. As a form of full support for government programs, this school also implements the Merdeka Curriculum, which will soon be adapted into the Deep Learning Curriculum. Deep learning itself is the latest curriculum design adapted from a part of machine learning that works with artificial neural networks, algorithms designed to mimic the way humans think and learn (Apriandi *et al.*, 2024; Collins & Laski, 2019). In this thinking process, students are asked accurately to be able to identify complex patterns in images, texts, and other data to be integrated absolutely into a unified, more holistic, and tangible insight.

Historically, deep learning began to develop rapidly in the early 1989, introduced by Geoffrey Hinton, Yann LeCun, and Ronald Williams, with the aim of implementing many models and approaches to suit adaptive processes in learning (Ekundayo & Ezugwu, 2025). Furthermore, deep learning is defined as a process where an individual becomes capable of taking what has been learned in one situation and applying it to a new situation (McPhail, 2021).

Literally, deep learning is closely related to the process of understanding socio-cognitive perspectives that emphasize the role of social interaction and tools in strengthening cognition and guiding the construction of knowledge (Miller & Krajcik, 2019). Knowledge construction in students can begin from the practice of understanding discourse analysis holistically and involves social and cultural skills used by individuals to create “connections between language, embodied experience, and actions as well as interactions in the world.” The entire process becomes essential in relation to the implementation of literacy activities (Murtafiah *et al.*, 2023).

Broadly speaking, the literacy process is closely related to literacy skills or the ability to read and/or write based on understanding. Looking at the current condition of Indonesia's ranking internationally in literacy, according to the 2022 Program for International Student

Assessment (PISA) results quoted directly from the OECD website, Indonesia remains stuck in the bottom 10 ranks. Indonesia ranked 70th out of 80 countries participating in the OECD, with a reading literacy score of 359.

In this community service, the author does not only focus on literacy in the literal sense but connects the literacy process with the understanding that literacy is not just the ability to read and write. Literacy also means being technologically and politically literate, as well as thinking critically and being sensitive to the surrounding environment. The author attempts to adopt the literacy learning process applied in Taiwan. Quoting directly from the Organisation for Economic Co-operation and Development (OECD) results: “The mean score in reading performance is one of the highest among PISA-participating countries and economies (515 PISA Score, rank 4/80, 2022)”. More specifically, the reading literacy score of Taiwanese students reached 515, ranking 4th out of 80 participating countries. Students in Taiwan have the ability and awareness to read for long durations, as illustrated in Figure 1. A significant comparison with Indonesia’s ranking can be seen in Figure 2.

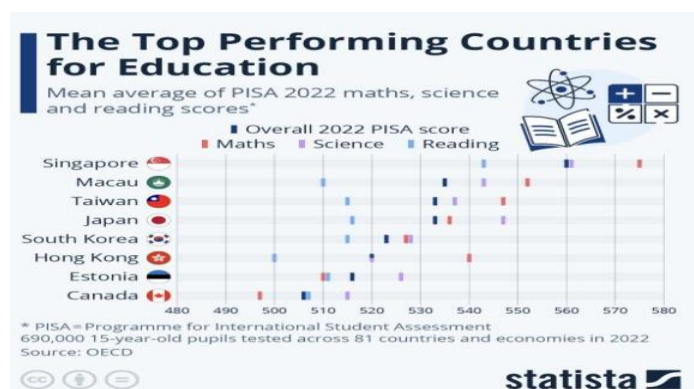


Figure 1. Top Performing Countries for Education



Figure 2. Indonesian position at PISA Rank 2022 (Prasastisiwi, 2024)

From Figure 2, it can be explained that in the 2022 PISA scores, there is a significant difference between the scores obtained by Indonesia and Taiwan. From this information, it can be understood that the level of literacy comprehension in Taiwan is much higher than that of Indonesia. The service team has been studying research-based critical literacy education in Taiwan for the past three years. However, considering the current conditions in Indonesia, the team still requires continued support from critical literacy experts. Based on the explanation above, the team is focusing on collaborating by inviting and involving critical literacy experts from Taiwan as speakers for the training program.

Based on the interview with the Principal of SDN Kenongorejo 02, the partner's main issues focus on low literacy skills and a lack of critical thinking. Several literacy-related activities have been implemented, such as activating the "Reading Corner" and organizing "Library Visits." However, student interest in participating in these activities remains very low. The interview also revealed several points regarding the teachers' limited understanding of critical literacy itself. In addition, the integration of technology in the learning process is still very limited and tends to remain conventional, indicating the need to incorporate more up-to-date innovations. The goals of this program are to improve teachers' understanding so that they can effectively teach critical literacy in classroom activities and to enhance the application of critical literacy in real-life situations through an innovative critical literacy learning platform. The program also offers several benefits, including the establishment of continuous cooperation and collaboration between the home institution, Universitas PGRI Madiun, and National Dong Hwa University, as well as enabling teachers to consciously apply their understanding of critical literacy in everyday contexts through innovative learning methods. Furthermore, the program delivers several impacts, such as strengthening sustainable collaboration between Universitas PGRI Madiun and National Dong Hwa University, improving critical literacy understanding in partner schools, promoting technology-based learning innovation, and increasing student participation in literacy-integrated learning activities.

Many teachers do not yet have an adequate understanding of the concept of critical literacy, which is why this approach is still rarely applied in teaching. This lack of understanding is caused by the absence of continuous training programs that could help teachers improve their competencies in teaching critical literacy at the elementary school level. Additionally, limited educational resources also pose a challenge, as teachers do not have sufficient access to teaching materials or guides that could support the understanding and implementation of

critical literacy methods in the classroom. As a result, the learning process remains conventional and fails to adequately foster critical thinking skills in students.

The teaching methods used in elementary schools are still conventional, lack interactivity, and are not technology-based. This makes the learning process less engaging and less effective in enhancing students' critical thinking skills. Moreover, there is no dedicated learning platform designed to support the development of critical literacy for both students and teachers, which limits the efforts to promote critical literacy. In addition, the absence of evaluation instruments that can measure the effectiveness of critical literacy-based teaching methods is also an obstacle in assessing the success of implementing this approach in the classroom. As a result, it is difficult to determine whether the methods used are truly capable of optimally enhancing students' understanding and critical thinking skills.

The research conducted by the proposing team has strong relevance to the community service activities, which focus on training elementary school teachers in designing deep learning activities based on critical literacy. Research on Critical Literacy Pedagogy demonstrates how critical literacy can help students think critically about texts and diverse perspectives, aligning with the goals of teacher training in the community service program (Pradana *et al.*, 2020). In addition, research on e-modules highlights problem-based learning (PBL) approaches to improve students' numeracy literacy, which can be adapted in teacher training to design more interactive deep learning activities (Rosita, D.R., 2023; Rudyanto *et al.*, 2023). Meanwhile, research on Digital Environment Learning (DEL) emphasizes the importance of digital-based learning in fostering creativity, supporting teacher training in utilizing technology for critical literacy (Sinha *et al.*, 2016). Research on Virtual Mathematics Kits (VMK) is also relevant, as it explores how digital media can enhance students' mathematical literacy, aligning with the Abdimas objective of integrating technology into learning (Smith & Colby, 2007). Overall, the team already possesses a strong theoretical and practical foundation to support teachers in improving their skills in designing deep learning instruction based on critical literacy.

2. Methods

2.1 The Implementation Stages of Community Services

In the preparation stage, the service team developed the concept of the platform. After that, the team prepared materials for the platform, which included content and facilities for learning critical literacy. During the preparation stage, the team also created the instruments

needed for the service activities. These instruments include survey instruments, performance assessment instruments, and critical literacy test instruments.

In the implementation stage, socialization about the critical literacy platform was conducted for 7 teachers and 4 educational staff. On the following day, training was carried out four times. In the first training session, participants received training on understanding critical literacy from an international expert. The second training focused on practicing the critical literacy approach. The third training covered the principles of integrating deep learning. The fourth training involved implementing the critical literacy platform. After the training was completed, the next step was to implement the critical literacy-based learning innovation for students at SDN Kenongorejo 02, Pilangkenceng District, Madiun Regency. In the monitoring and evaluation stage, guidance and performance evaluation of teachers in implementing learning through the critical literacy platform were carried out. Based on the evaluation results, follow-up actions were taken, including updates or improvements to the critical literacy platform.

2.2 Community Partner Participation in the Community Service Program

SDN 2 Kenongorejo, Pilangkenceng District, Madiun Regency, served as the target partner. Each participant/teacher was required to use a laptop or computer to attend the training and practice designing learning through the critical literacy platform. Evaluation was conducted in the form of monitoring and evaluation (monev) by the Research and Community Service Institute (LPPM) of Universitas PGRI Madiun, in accordance with the academic calendar of Universitas PGRI Madiun. The sustainability of the program will be ensured by incorporating the target partner as one of the IDUKA (Industry/Workplace Partners) to support the achievement of the Key Performance Indicators (IKU) of Universitas PGRI Madiun. The follow-up actions include:

1. Signing a Memorandum of Agreement (MoA) between the Dean of FKIP Universitas PGRI Madiun and SDN 2 Kenongorejo, Pilangkenceng District, Madiun Regency, focusing on research and community service activities.
2. Designating SDN 2 Kenongorejo, Pilangkenceng District, Madiun Regency as a student internship site for Universitas PGRI Madiun students.
3. Allowing SDN 2 Kenongorejo, Pilangkenceng District, Madiun Regency to utilize research results from lecturers and students.

2.3 Using of Critical Literacy Platform (CLP)

The Critical Literacy Platform (CLP) is a learning technology designed for elementary school students. This platform was developed by the community service team to assist teachers and students in enhancing critical literacy through various interactive features. At the top, there are three main menus: Learning Materials, Teaching Modules, and Learning Assessment, which serve as the primary sources of learning. In the center, there is the Student Worksheet (LKPD), which offers two options: Live Worksheet for online activities and Offline Worksheet for offline tasks. Additionally, the platform provides a Google Sheet feature to manage student grades, a Student Attendance feature for recording attendance, and teacher & student profiles that display relevant user information. At the bottom, there is a Learning Video Gallery, allowing students to access educational videos as supplementary learning resources.

With its intuitive design and diverse features, CLP is an innovative solution to support digital teaching and learning processes. The application of Science, Technology, and Arts in elementary schools begins with teacher training, starting with understanding the concept of critical literacy. Teachers are given practical approaches such as multimodal text analysis, identifying information bias, and developing teaching materials based on critical literacy. Next, deep learning is applied through collaboration, communication, and complex problem-solving, aiming to enhance students' critical thinking skills. The use of digital technology is also an essential part of this process, including e-learning platforms, simulations, and data-based case analysis to improve learning effectiveness.

After gaining foundational understanding, teachers' competencies are further developed to facilitate interactive learning, create a challenging learning environment, and prepare students to face educational challenges. Teaching practices are then transformed to develop higher-order thinking skills and foster better student character. Through this approach, elementary school learning becomes more innovative, interactive, and ICT-based, providing maximum benefits for both students' academic development and character formation.

The implementation methodology adopted in the community service activity is presented schematically in Figure 3.

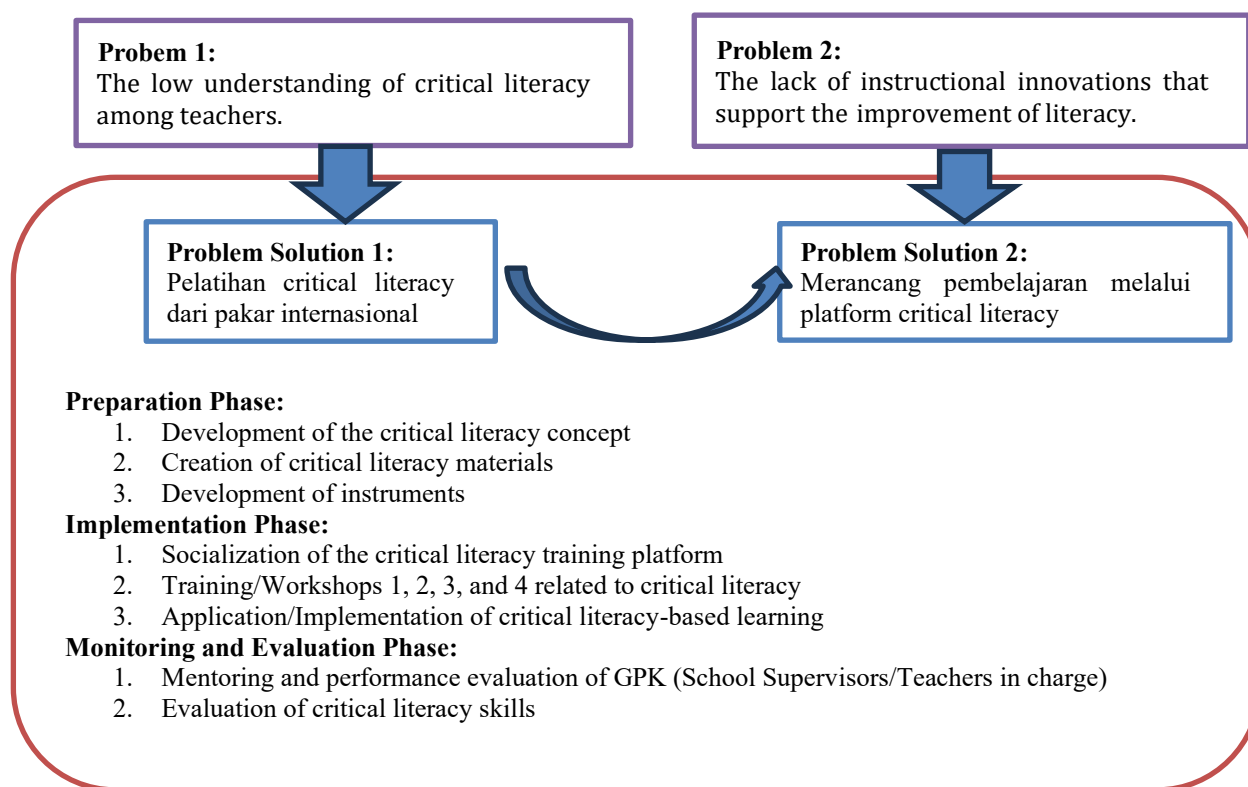


Figure 3. Implementation methodology adopted in the community service activity

3. Results and Discussions

To address the problems mentioned, two main solutions are implemented in this community service program, namely:

Problem Solution 1: Critical Literacy Training by International Experts as a Means of Enhancing Critical Literacy.

This program aims to improve teachers' understanding of the concept of critical literacy so that it can be effectively applied in the learning process. The critical literacy training program is carried out through three main stages: preparation, implementation, and monitoring and evaluation. In the preparation stage, the activities include developing a critical literacy concept tailored to the needs of teachers and students, creating a critical literacy-based training platform, and designing training instruments that meet educational standards. In the implementation stage, the training platform is introduced to teachers through socialization activities, followed by a series of intensive training sessions (1, 2, 3, and 4) covering progressive materials related to critical literacy. After completing the training, teachers begin to apply critical literacy-based learning in their classrooms. To ensure program effectiveness, the monitoring and evaluation stage is carried out by providing mentoring and evaluating

teachers' implementation of critical literacy in class. Teachers' competencies in understanding and teaching critical literacy are also periodically assessed. As a final step, follow-up activities are conducted to ensure the sustainability of the training program and to improve the effectiveness of critical literacy-based learning in elementary schools.

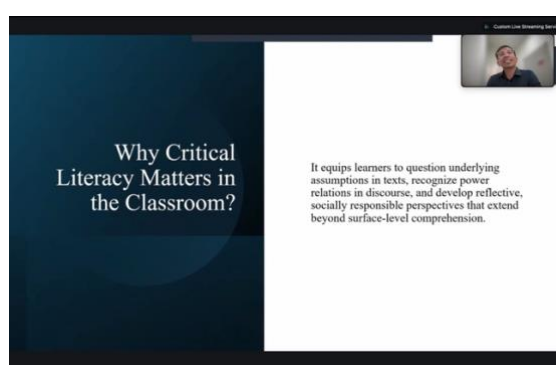
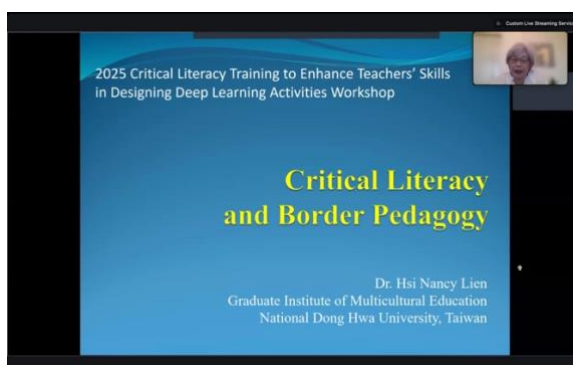


Figure 4. Hybrid activities of critical literacy training

The above activities were conducted in hybrid mode of training at SDN Kenongorejo 02, Madiun in on-site trainings and Zoom meeting for the online trainings as shown in Figure 4. This training successfully reached the practical implementation of critical literacy in the school area. This training involving some academic speakers from both partner-university. Universitas PGRI Madiun sent Dwi Rosita Sari, M.Pd., Ph.D., Dr. Wasilatul Murtafiah, M.Pd., and Dr. Lingga Nico Pradana, M.Pd. in the on-site activities and trainings. While, National Dong Hwa University sent Assoc. Prof. Lien, Hsi-Nancy and Dr. Abdul Halim, M.Ed. as the keynote speakers of critical literacy in online trainings. The detail activities were covering some topics as listed in Table 1.

Table 1. The Detail Training Topics and Keynote Speakers

Training No.	Types of Training	Facilitators	Notes
1	Critical Literacy and Border Pedagogy Understanding	Assoc. Prof. Lien, Hsi-Nancy, Ph.D.	Online: Zoom Meeting (NDHU)
2	Why Critical Literacy Matters in the Classroom?	Dr. Abdul Halim, M.Ed.	Online: Zoom Meeting (NDHU)
3	Practical Approaches of Critical Literacy	Dwi Rosita Sari, M.Pd., Ph.D.	On-site (SDN Kenongorejo 02, Madiun)
4	Integrated Deep Learning Principles	Dr. Wasilatul Murtafiah, M.Pd.	On-site (SDN Kenongorejo 02, Madiun)
5	Utilizing Digital Technology	Dr. Lingga Nico Pradana, M.Pd.	On-site (SDN Kenongorejo 02, Madiun)

Problem Solution 2: Designing Learning Activities through the Critical Literacy Platform

This solution focuses on developing innovative learning models that support the enhancement of critical literacy through the use of digital technology. The implementation consists of three main stages: preparation, implementation, and monitoring and evaluation. In the preparation stage, activities include designing and developing a digital platform based on critical literacy, as well as creating interactive modules to support technology-based learning. In the implementation stage, critical literacy-based learning is carried out through the digital platform, supported by innovative methods such as interactive discussions, critical text analysis, and data-driven evaluations. To ensure program effectiveness, the monitoring and evaluation stage involves assisting teachers and students in using the platform, assessing the effectiveness of digital critical literacy-based learning, and further developing the platform's features to maximize its benefits for the teaching and learning process.

The Critical Literacy Platform was depicted in Figure 5 and The Relatedness of Critical Literacy, Deep Learning, and Critical Literacy Platform was summarized in Table 2. Based on Table 2, the implementation of the Critical Literacy Training has a significant positive impact on teachers' skills in designing deep learning activities. Before the training, teachers primarily focused on content delivery and exhibited limited ability to analyze texts critically, identify bias, or facilitate reflective discussions. After completing the training, teachers demonstrate a notable improvement in critical literacy competence, applying strategies to foster students' analytical and reflective thinking.

Lesson design also improves substantially. Teachers begin integrating higher-order thinking skills—such as collaboration, communication, creativity, and problem-solving—into their learning activities, aligning with the principles of deep learning. The use of digital technology becomes more effective, with teachers utilizing the Critical Literacy Platform

(CLP), interactive worksheets, and multimedia resources to enhance learning engagement and monitor student progress efficiently.

Observations indicate that students became more active participants, engaging meaningfully in discussions, collaborating on complex tasks, and demonstrating increased critical thinking skills. Additionally, teachers report adopting more reflective teaching practices, regularly evaluating instructional strategies and student outcomes, which contribute to ongoing professional development.

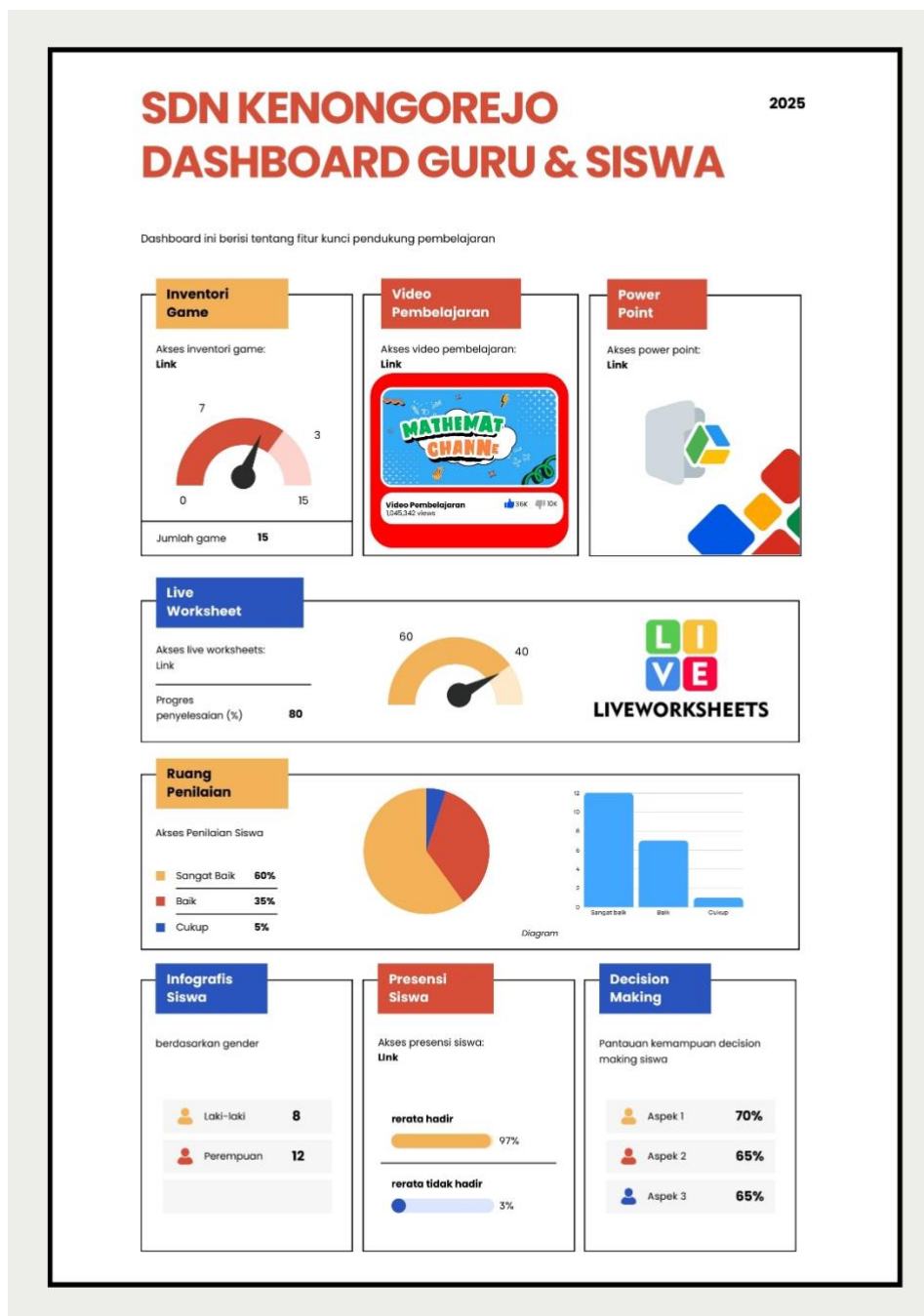


Figure 5. Critical Literacy Platform

Table 2. The Relatedness of Critical Literacy, Deep Learning, and Critical Literacy Platform

Aspect Evaluated	Pre-Training Observation	Post-Training Observation	Notes / Impact
Teachers' Critical Literacy Competence	Limited ability to identify bias or analyze multimodal texts; low confidence in guiding discussions	Improved ability to identify bias, analyze texts, and apply critical literacy strategies	Teachers can design lessons fostering students' analytical and reflective thinking
Deep Learning Activity Design	Focus on content delivery; minimal higher-order thinking tasks	Lessons incorporate collaboration, problem-solving, communication, and creativity	Students engage in more complex learning tasks
Use of Technology in Learning	Minimal digital tool use	Effective use of CLP, interactive worksheets, videos, and e-learning	Increased engagement and easier progress tracking
Student Engagement	Passive participation	Active participation, collaboration, critical analysis	Enhanced critical thinking and interaction skills
Reflective Teaching Practices	Rare evaluation of strategies	Regular evaluation of strategies and learning outcomes	Encourages continuous professional growth
Implementation Challenges	Time constraints, varied student readiness, limited tech access	Challenges remain but partially mitigated by training	Ongoing mentoring and platform support needed
Recommendations for Sustainability	-	Refresher training, peer mentoring, expanded CLP modules, monitoring	Ensures long-term integration of critical literacy

Despite these positive outcomes, several implementation challenges remain, including time constraints, differences in student readiness, and limited access to technology. To sustain the program's benefits, recommendations include periodic refresher trainings, peer mentoring, expanded CLP features, and systematic monitoring of both teacher and student performance. Overall, the training effectively enhances teachers' ability to design deep learning activities, fosters more interactive and critical learning environments, and promotes the long-term integration of critical literacy into elementary education.

4. Conclusion

The Critical Literacy training program proved to be highly effective in enhancing teachers' skills in designing deep learning activities. Teachers who participated in the program demonstrated a significant improvement in their understanding of critical literacy concepts, which enabled them to create more meaningful, student-centered, and reflective learning experiences. The structured approach of the training—which included preparation, intensive sessions, practical implementation, and continuous monitoring and evaluation—ensured that teachers were able to apply critical literacy principles effectively in their classrooms.

Moreover, the program encouraged innovation in teaching methods, including the integration of digital technologies, interactive discussions, and critical text analysis. Teachers reported increased confidence in using these strategies to foster higher-order thinking and analytical skills among students. The combination of theoretical knowledge, practical exercises, and ongoing mentoring contributed to the sustainability of the program, ensuring that critical literacy principles were consistently embedded in lesson planning and classroom practice. Overall, this study demonstrates that targeted professional development in critical literacy not only enhances teachers' instructional competencies but also promotes deep learning and critical thinking among students, laying a strong foundation for continuous improvement in educational quality.

Acknowledgement

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