

NAVIGATING PROBLEM-BASED LEARNING CHALLENGES IN PEKALONGAN SECONDARY EFL READING CLASSROOMS

Munazihah, Rahayu Puji Haryanti

Universitas Negeri Semarang (UNNES), Semarang, Indonesia

E-mail: oxygen2breath99@gmail.com

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Abstract

This study investigates the systemic and pedagogical challenges faced by English teachers in implementing Problem-Based Learning (PBL) under the *Kurikulum Merdeka*. Grounded in a qualitative design, data were collected from nine EFL teachers in Pekalongan Regency through interviews, observations, and pedagogical audits. The analysis employed Miles and Saldaña's (2018) interactive model and Fullan's (2015) theory of educational change. The findings reveal two interrelated barriers: chronic resource deprivation and a prevalent state of 'False Clarity.' This conceptual ambiguity occurs when teachers adopt the PBL label without its analytical substance. Consequently, these constraints compel teachers to revert from facilitators of inquiry to translators of content. This shift effectively pushes learners into a 'Zone of Frustration' where linguistic barriers stifle critical engagement. The study highlights the urgent need for contextually grounded teacher training and equitable infrastructure investment to foster sustainable educational reform.

Keywords: *critical thinking; educational change; EFL reading; Kurikulum Merdeka, problem-based Learning*

1. Introduction

In the Society 5.0 era, critical thinking is a vital component of global education curricula. To address recent PISA performance gaps, the *Kurikulum Merdeka* in Indonesia has adopted student-centered models, specifically Problem-Based Learning (OECD, 2023). In EFL reading classes, PBL interactions occur across all levels, from comprehension to evaluation. This makes critical reading a prerequisite skill. It is essential for navigating complex information in digital contexts. However, a gap remains between national policy and regional classroom realities. In Pekalongan Regency, teachers struggle with infrastructural constraints while implementing high-tech inquiry. Many teachers struggle with severe infrastructural constraints. Traditional mindsets and the "digital divide" further obstruct the integration of critical thinking skills (Mailizar et al., 2020; Nursyahidah et al., 2021). Furthermore, severe time constraints often force teachers to prioritize syllabus completion over deep inquiry (Rasmitadila et al., 2020).

These challenges are analyzed through Michael Fullan's (2015) theory of educational change. Fullan posits that successful innovation depends on two factors: resource input and conceptual clarity. Clarity refers to the teachers' understanding of an instructional model

and its local contextualization. Resources include the physical and digital infrastructure necessary for investigative work. In regions with unstable connectivity, educators often experience pedagogical frustration. They are frequently forced to deviate from orthodox PBL methods due to logistical complexities (Saputra et al., 2019).

Limited qualitative evidence currently describes how these PBL challenges manifest in regional EFL classrooms. Most research focuses on well-resourced urban contexts or higher education. Consequently, there is a lack of data regarding how junior high school teachers in regional Indonesia navigate structural and pedagogical constraints. This study fills this gap by investigating the obstacles experienced by practitioners in Pekalongan Regency. It aims to understand how systemic support influences the sustainability of critical thinking instruction.

2. Literature Review

The implementation of Problem-Based Learning (PBL) to foster critical thinking in regional EFL classrooms is a multi-layered process that requires a robust theoretical foundation. To understand the underlying resistance to this pedagogical transformation, an analysis must be conducted at the intersection of instructional models, cognitive standards, and systemic educational change. This review first traces the evolution of PBL from a medical education tool to a classroom practice, emphasizing the need for linguistic and cognitive scaffolding. It then conceptualizes critical reading through the lens of universal intellectual standards. Finally, the discussion employs Fullan's framework to analyze educational reform as a systemic reality, uncovering the hidden barriers that field practitioners confront. Together, these three theoretical strands—PBL pedagogy, critical literacy, and systemic change—offer a composite perspective for navigating the complexities of teaching critical literacy in diverse, resource-poor environments.

2.1 Problem-Based Learning: From Theory to Classroom Practice

Problem-Based Learning (PBL) is a pedagogical approach that prioritizes the "problem" at the onset of learning rather than as a post-lecture exercise. Building on Barrows' (1996) early conceptualization of PBL in medical education, its adaptation to EFL contexts necessitates specific attention to linguistic and cognitive scaffolding (Hidayati et al., 2020). Anchored in contemporary student-centered paradigms, PBL challenges the traditional "banking" concept of education, where students passively receive linguistic rules. Instead, students engage with ill-structured, real-life dilemmas that require the target language as a tool for inquiry. As Arends (2012) noted, success in this model relies on a five-phase syntax ranging from problem orientation to the analysis of solving processes, which provides a structured yet elastic roadmap for cognitive exploration.

Translating this theory into daily classroom reality requires a profound shift in power dynamics, moving the teacher from an "expert" to a "cognitive coach." This role is deeply rooted in Vygotsky's (1978) Zone of Proximal Development (ZPD) and Scaffolding, where the facilitator provides verbal or digital support for the inquiry process rather than delivering direct answers. This balance ensures that the struggle of problem-solving remains with the student, which is essential for both linguistic acquisition and critical development. Furthermore, PBL thrives on collaborative intelligence; when learners encounter complex texts, they must negotiate meaning and synthesize findings collectively. This peer interaction

allows low-proficiency students to receive scaffolding from more advanced peers, creating a dynamic environment where linguistic and cognitive growth support one another.

However, the path between theory and practice is often obstructed in regional or resource-limited settings (Lukitasari et al., 2020). The high-tech, inquiry-based vision often clashes with the reality of time constraints and inadequate infrastructure. Anazifa and Abu (2017) argue that for PBL to be effective, it must be adapted as a flexible formula rather than a rigid set of rules. In summary, while PBL provides the procedural blueprint for inquiry, its success in the field depends on the teacher's ability to maintain its integrity while navigating the practical tensions of a crowded curriculum.

2.2 Critical Thinking in the Reading Process

Reading comprehension has evolved from passive decoding into a dynamic exchange between the reader and the text. Students are no longer merely asked "what" the text says, but are encouraged to investigate "why" and "how" the information is presented. According to Paul and Elder (2008), reading critically is an intellectually disciplined process where the reader intentionally applies universal intellectual standards. This requires students to go beyond a literal understanding to determine whether an author's claim is articulate, accurate, and logically valid. In this information age, the ability to clarify ambiguous terms or verify statements represents the "disciplined mind" necessary for navigating complex discourses (Anazifa & Abu, 2017).

In EFL contexts, integrating critical thinking is vital as linguistic barriers often overshadow cognitive ones. Too often, reading is reduced to a perfunctory exercise in translation. True critical literacy, however, entails recognizing bias, identifying assumptions, and assessing the strength of arguments. By using intellectual standards—such as Clarity, Accuracy, and Logic—students can deconstruct text structures and develop genuine ownership of the language (Hidayati et al., 2020). Within the PBL framework, the text is viewed as evidence to be analyzed rather than just a sequence of sentences. This "purposeful reading" drives students to seek logical connections and deep processing, which are the hallmarks of 21st-century critical literacy (Tyas et al., 2019; Nuryanti et al., 2018).

This critical engagement is fundamentally a social-cognitive process that requires careful scaffolding. Collaborative discourse helps bridge the gap between a student's current ability and their potential level of critical analysis. As Vygotsky (1978) posits, peer interaction within the ZPD allows learners to gain diverse insights and challenge assumptions. Ultimately, critical thinking in reading is not an isolated skill but a disciplined practice. By applying Paul and Elder's standards within a social-constructivist environment, students can transition from passive recipients of information to evaluative and skeptical readers.

2.3 The Reality of Educational Change: A Systemic Perspective

Implementing an innovative model like PBL is not a solitary act but a complex process involving the entire school community. Meaningful change requires a shift across three dimensions: the use of new materials, the adoption of new teaching approaches, and a transformation in pedagogical beliefs. In Indonesian regional schools, this often creates "friction" between the idealistic mandates of the *Kurikulum Merdeka* and entrenched traditional habits. While PBL emphasizes inquiry and problem-solving, Fullan's (2015) theory of change explains why implementation often falters in resource-poor settings, and

Vygotsky's ZPD provides a cognitive mechanism for understanding how learners can be supported within these conditions.

Fullan identifies two central pillars for successful implementation: Resources and Clarity. In regional districts like Pekalongan, the "digital divide" is a tangible barrier; without stable infrastructure, the inquiry phase of PBL suffers, throwing teachers into an "implementation dip" (Mailizar et al., 2020; Junaidi & Syahrani, 2023). Equally crucial is Clarity, or the depth of understanding teachers have regarding the innovation. A situation of "false clarity" may arise where teachers believe they are implementing PBL simply because they have grouped students, yet the cognitive engagement remains superficial (Yana et al., 2022). This ambiguity is the primary enemy of sustainable change, often leading to a gap between teacher intent and actual classroom outcomes.

Finally, the success of educational reform depends on "local capacity." Practitioners must internalize change within their specific context, balancing national syllabus pressures with the time-consuming requirements of critical inquiry. In conclusion, analyzing PBL through a systemic lens reveals that implementation is a navigation of complex realities. By acknowledging these structural and conceptual barriers, we can bridge the gap between rhetorical innovation and authentic classroom practice, ensuring that the "PBL label" translates into meaningful cognitive development for students.

3. Research Method

3.1 Participants

Participants were selected through purposive sampling, comprising nine English teachers from diverse junior high schools in Pekalongan Regency. The participants were divided into three distinct categories based on their school's geographical and socioeconomic contexts: three teachers from well-resourced urban schools, three from developing suburban schools, and three from under-resourced rural schools. The inclusion criteria required participants to have at least 5 years of teaching experience and at least 2 years of experience implementing the *Kurikulum Merdeka*. This categorization was intentional to provide a representative balance and to understand how infrastructural disparities influence the systemic implementation of PBL.

3.2 Instruments and Data Collection Procedures

To ensure a multidimensional and credible dataset, this study employed three primary instruments: a semi-structured interview guide, an observation checklist for field notes, and a document analysis rubric. Data collection followed a sequential chronological order. First, a pedagogical audit was conducted through document analysis of teachers' lesson plans (RPP) to examine their conceptualization of PBL. This was followed by classroom observations, where the researcher recorded field notes to capture "unspoken" realities, such as technical hitches and student engagement levels. Finally, in-depth interviews were conducted to allow teachers to reflect on their pedagogical struggles, ensuring that their lived experiences remained central to the analysis.

3.3 Data Analysis Procedures

The analytical process followed the interactive model of data condensation, data display, and conclusion drawing/verification as proposed by Miles, Huberman, and Saldaña (2018). To enhance the depth of the analysis, this qualitative framework was integrated with

Michael Fullan's (2015) educational change theory. This combination was chosen to link micro-level teacher narratives with macro-level systemic analysis, providing a transparent reasoning for how individual classroom struggles reflect broader structural barriers. Furthermore, Paul and Elder's (2008) Universal Intellectual Standards were used to evaluate the quality of critical thinking developed during the sessions. These theories were synthesized into a single analytical framework, as summarized in Table 1.

Table 1
Summary of Theoretical Analytical Framework

Framework	The Expert	Function in this Research
PBL Syntax	Arends (2012)	To evaluate the chronological consistency of the teaching steps implemented by the teachers.
Intellectual Standards	Paul & Elder (2008)	To analyze the quality of students' Clarity, Accuracy, and Logic during the reading process.
Educational Change	Fullan (2015)	To identify structural and pedagogical barriers through the lenses of Resources and Clarity.
ZPD & Scaffolding	Vygotsky (1978)	To examine how teachers provide assistance when students face linguistic or cognitive hurdles.
Qualitative Analysis	Miles et al. (2018)	To provide a systematic method for condensing and transforming raw field data into meaningful themes.

3.4 Trustworthiness

To ensure the trustworthiness of the findings, methodological triangulation was achieved through multiple data sources. Furthermore, member checking was implemented by returning transcribed data and initial thematic findings to the nine participants for their perusal and validation. This process ensured that the findings accurately represented the teachers' actual experiences and minimized researcher bias.

3.5 Research Ethics

This study adhered to the ethical research standards of Universitas Negeri Semarang. All participants provided written informed consent prior to their involvement. To protect the participants' privacy and maintain confidentiality, pseudonyms were used throughout the manuscript, and all institutional identifiers were anonymized. Participants were also informed of their right to withdraw from the study at any stage without any negative consequences.

4. Results and Discussion

4.1 Results

4.1.1 The Fragility of Technological Infrastructure

The first finding highlights a significant gap between the digital ambitions of the *Kurikulum Merdeka* and the material reality in Pekalongan Regency. Hardware failures and unstable connectivity frequently disrupt the initial "Orientation" phase of PBL. Teacher A, practicing in a rural school, illustrated this struggle:

"I have prepared viral news videos from YouTube to get the kids interested in analyzing real-life issues. However, once I get to class, the internet signal

is sometimes spotty, and the school projector is broken. In the end, I can only tell the story verbally. The kids become less enthusiastic because they cannot see direct visual evidence of the issues we are discussing." (Teacher A)

This technical breakdown forces a pedagogical regression, reducing a multisensory inquiry to a traditional oral narrative and diminishing student engagement from the outset.

4.1.2 Time Constraint and Rush Syntax

PBL's complexity requires extensive exploration time, yet rigid school schedules often truncate the process. Observations showed that group discussions were frequently interrupted to "catch up" with the next period. Teacher D noted:

"PBL requires a lot of discussion time, but English class time is minimal. Often, before we even get to the group discussion stage, the bell rings. As a result, I often rush the presentation and evaluation stages or even skip them altogether. So, the students do not have time to reflect on their thinking processes properly." (Teacher D)

4.1.3 Linguistic and Pedagogical Tension in PBL Facilitation

This study identified a critical intersection between students' limited English proficiency and teachers' ability to facilitate PBL. While PBL requires deep text analysis, students' limited vocabulary often confines them to literal translation, forcing teachers to shift from "cognitive coaches" to "content translators." Field notes indicate that the deconstruction process often halts because students cannot comprehend basic instructions in the target language. Teacher G explained this dilemma.

"Sometimes I feel overwhelmed. On the one hand, I really want to implement PBL to help students become critical thinkers, but on the other hand, the kids do not even know the meaning of basic words. It is like we have a lot of homework to do, running around, but limited facilities tie down our feet, and the students' abilities and willingness are still very low." (Teacher G)

The deconstruction process often halts because students cannot comprehend basic instructions in the target language. Teacher G explained this dilemma. These instructional limitations prevent the independent investigation phase from taking place. Students remain heavily dependent on the teacher for basic linguistic decoding rather than for critical inquiry.

4.1.4 Professional Readiness and Systemic Fragility

Administrative burdens often overshadow the readiness to implement PBL. While some teachers expressed confidence, many relied on generic modules provided by the Subject Teachers' Consultation (MGMP) rather than designing context-specific lesson plans. Field observations revealed conceptual confusion between PBL and Project-Based Learning (PjBL), suggesting that internal readiness remains at a surface level, hindered by a lack of autonomous reflection.

To synthesize the preceding qualitative findings into a structured overview, Table 2. provides a pedagogical audit that contrasts the theoretical phases of PBL syntax with the empirical realities and implementation gaps observed across the sampled schools in Pekalongan Regency

Table 2

Pedagogical Audit: Theoretical Expectations vs. Empirical Reality

PBL Syntax Phase	Expected Outcome (Arends, 2012)	Empirical Reality in Pekalongan	Identified Implementation Gap
Phase 1: Orientation to the Problem	Presenting authentic, clear problems to trigger inquiry.	Problems are narrated orally due to digital divide (broken projectors/unstable signal).	Conceptual Blurriness: Inquiry is reduced to traditional storytelling.
Phase 2: Organizing Students	Defining learning tasks and collaborative roles.	Grouping is formal but lacks structured roles; dominance of bright students remains.	Collaborative Stagnation: Physical grouping without cognitive synergy.
Phase 3: Assisting Investigation	Encouraging students to gather info and seek solutions.	Teachers act as translators due to students' low vocabulary mastery.	Linguistic Blockade: 8.30% score gap highlights failure in independent inquiry.
Phase 4: Developing Artifacts	Producing reports, models, or presentations of solutions.	Process is often rushed or skipped due to 78% documentation absence (no RPP).	Structural Rush: Time constraints lead to a ceremonial presentation.
Phase 5: Evaluating the Process	Reflecting on inquiry and critical thinking skills.	Minimal reflection; learning stops once the answer is found.	"False Clarity": Absence of deep metacognitive evaluation.

As summarized in Table 2, the implementation of PBL in Pekalongan displays a systemic misalignment across all phases, primarily driven by linguistic barriers and a lack of structural documentation

4.2 Discussion

4.2.1 The "Implementation Dip" and Systemic Fragility

The significant "implementation gap" identified in Pekalongan Regency reflects what Fullan (2015) describes as the "implementation dip"—a sharp decline in performance and confidence when practitioners encounter an unsupportive environment while adopting new models. This study finds that constraints on resources, such as broken projectors and unstable internet, are not merely technical inconveniences but systemic barriers that collapse the "Problem Orientation" phase of PBL. When Teacher A is forced to narrate a video she cannot play, the essence of authentic inquiry is lost, as students are deprived of the visual evidence needed to trigger critical curiosity. As noted by Almanthari et al. (2020),

without adequate resource support, pedagogical change remains an empty narrative inside a lesson plan, creating a wide gap between what is planned and what is physically feasible (Junaidi & Syahrani, 2023).

Furthermore, this systemic fragility demonstrates that the success of educational innovation cannot be achieved through top-down mandates alone. In the regional context of Pekalongan, the "digital divide" serves as a physical anchor that holds back teachers' innovative spirit. The findings suggest that when the systemic infrastructure fails to respond positively to the curriculum's demands, teachers are pushed into a state of professional exhaustion. This aligns with Mailizar et al. (2020), who argue that forcing a high-level inquiry model into resource-poor environments without a contextualized support ecosystem leads to an educationally ceremonial implementation. Ultimately, this analysis emphasizes that the success of PBL in developing students' critical thinking skills should not be heaped solely on teachers but must be acknowledged as a systemic responsibility to provide a functional platform for innovation (Yana et al., 2022).

4.2.2 Conceptual Ambiguity as the Driver of "False Clarity"

Beyond its practical limitations, this study highlights a severe lack of conceptual clarity, leading to what Fullan (2015) calls "false clarity." This phenomenon refers to teachers believing they have implemented innovation by fulfilling formal requirements, such as student group work, when in reality, student cognitive engagement is superficial. The primary cause of this lack of clarity is the 78% document gap—meaning most participants lacked documented "responsible problem-solving plans" (RPPs). Due to the lack of structured "guidance" (Arends, 2012), teachers lacked the necessary direction to guide students through complex problem-solving phases. Consequently, classroom activities recorded in field notes often lacked the research depth required by the Merdeka curriculum and replaced genuine cognitive challenges with traditional group activities (Yana et al., 2022).

This conceptual ambiguity directly impacts students' cognitive levels. According to Paul and Elder (2008), critical thinking is based on the application of universal standards such as clarity, accuracy, and logic. However, the 10.33% difference among students in this study regarding the "clarity standard" suggests that teachers' conceptual ambiguity can lead to deficiencies in students' cognitive orientation. For example, if teachers cannot clearly define the "reasons" and "methods" of problem-based learning (PBL) problems, students are unable to provide nuanced or logically rigorous interpretations of the text. The resulting 8.30% performance gap provides empirical evidence of this lack of teaching integrity. To achieve true clarity, a professional culture of continuing education needs to be further developed, such as through clinical supervision within the MGMP framework, combining idealized theory with the realities of local teaching.

4.2.3 Linguistic Scaffolding and the Zone of Proximal Development

The linguistic barriers identified in this study demonstrate that the success of PBL in an EFL context is inseparable from students' linguistic readiness. Drawing on Vygotsky's (1978) Zone of Proximal Development (ZPD), effective learning occurs when tasks are set at a level slightly above students' independent level but achievable with support. However, the findings reveal a significant mismatch where many students in Pekalongan are pushed into a "Zone of Frustration." Being asked to analyze complex textual problems without mastery of

basic vocabulary places the cognitive demands of PBL beyond their reach. In this scenario, the PBL model—meant to stimulate critical thinking—instead risks demotivating students unless accompanied by intensive, language-aware support strategies.

This mismatch forces a pedagogical regression, in which the teacher's role shifts from a "cognitive coach" to a "linguistic translator." As Teacher G explained, "the teacher must be the language bridge", implying that without direct translation help, the investigation phase of PBL would fail to occur entirely. This confirms the argument by Fitriani et al. (2020) that in EFL contexts, linguistic scaffolding is not a supplementary aid but an absolute necessity. Without systematic support—such as visual glossaries or translanguaging strategies—PBL inquiry becomes mere guesswork. Therefore, classroom interactions often remain one-way, with students' dependence on teachers remaining high, hindering the "self-directed learning" goal of the Kurikulum Merdeka. By integrating verbal and structural scaffolding, educators can ensure that language barriers do not stifle students' intellectual development in regional areas.

This linguistic "blockade" means that, in many Pekalongan classrooms, critical thinking is not absent; rather, it is "locked" behind a language barrier. When students provide short, superficial answers, it is often misread as a lack of analytical skill, when in fact, it is a lack of expressive tools. By forcing students to stay within the "Zone of Frustration," we are effectively asking them to run a marathon while they are still learning to walk. As this study suggests, true critical literacy in EFL reading requires a "bilingual bridge" in which students are allowed to conceptualize in their first language before articulating in English, preserving their cognitive integrity as they build their linguistic competence.

4.2.4 Socio-Technical Challenges and the Shadow of Ceremonial Reform

The socio-technical challenges in Pekalongan create a "double workload" for teachers, who must act as both pedagogical innovators and improvisers amid failing infrastructure. Fullan (2015) expresses concern that top-down reforms often fail to consider local capacity to absorb change. In the field, teachers face immense social pressure to demonstrate digital innovation for administrative audits, even when basic tools like electricity or internet access are unreliable. This inconsistency leads to professional burnout, in which teachers prioritize the "appearance" of modernity over the "substance" of deep thought. This situation suggests that educational reform in Indonesia often focuses on ceremonial aspects, where adopting a new model is valued more than the actual cognitive gains achieved in the classroom (Saputra et al., 2019).

These challenges impact teachers' professional autonomy and their ability to adapt the curriculum. These severe systemic and pedagogical constraints prevent teachers from moving from traditional instruction to the challenging terrain of critical pedagogy. To achieve sustainable change, the education reform in suburban and rural areas must include a support-based ecosystem that goes beyond teacher training. This includes ensuring stable infrastructure and providing adaptive teaching materials that respect local constraints. Only when teachers feel empowered and supported can the PBL model move from being an administrative burden to a genuine tool for intellectual transformation (Fullan, 2015; Nursyahidah et al., 2021).

Ultimately, the "Freedom to Learn" remains an ironic slogan for teachers who feel "tied" by administrative rigidities and technical failures. The socio-technical divide in

Pekalongan creates a class of "pedagogical improvisers" who constantly fight persistent logistical issues rather than facilitate critical inquiry. If the government continues to value the "facade" of innovation over the "integrity" of implementation, regional schools will continue to produce "False Clarity" rather than critical thinkers. True reform requires a shift in gaze from the national dashboard to the rural classroom floor, where the actual battle for critical literacy is being fought every day.

5. Conclusion

In summary, the findings demonstrate that the regional implementation of Problem-Based Learning (PBL) within the *Kurikulum Merdeka* framework does not automatically foster critical thinking; instead, it often results in a profound "systemic mismatch" between pedagogical ideals and classroom realities. Through Michael Fullan's lens of educational change, this study highlights that innovation cannot thrive without the critical intersection of Resources and Clarity. The chronic deprivation of resources—ranging from broken projectors to unstable internet—acts as a primary catalyst for the "implementation dip," forcing teachers to abandon high-level inquiry in favor of traditional, survival-based instruction. This study extends Fullan's (2015) theory of educational change by illustrating how linguistic proficiency and resource scarcity serve as mediating factors that widen the implementation gap in resource-limited EFL contexts, transforming a progressive model into a ceremonial administrative exercise.

The research also uncovers significant internal barriers related to "False Clarity" and teacher readiness. The 78% documentation gap in lesson planning suggests that for many practitioners, the reform remains at a superficial level, where structural compliance masks a lack of conceptual depth. Furthermore, the linguistic barriers identified among students create a "cognitive bottleneck" that prevents the attainment of higher-order standards, such as Clarity, Accuracy, and Logic (Paul & Elder, 2008). In these settings, teachers are forced to relinquish their roles as cognitive coaches to become linguistic bridges, ensuring basic comprehension at the expense of critical deconstruction. By bridging micro-level teacher narratives with macro-level systemic analysis, this research contributes to the literature by demonstrating that student cognitive growth is tightly linked to instructional integrity—a link often overlooked in top-down curriculum mandates.

These findings carry significant pedagogical and policy implications. To move beyond "ceremonial" change, the government must prioritize equitable infrastructure investment in suburban and rural areas to ensure that digital-based inquiry is not an urban privilege but a universal standard. Additionally, teacher professional development should shift from abstract theoretical dissemination toward contextualized clinical coaching. This approach should empower teachers with specific strategies to integrate linguistic scaffolding (Vygotsky, 1978) within the PBL framework, ensuring that language limitations do not become a dead end for critical thinking. Ultimately, this study advocates for a "balanced change" approach that grants teachers professional autonomy to adapt PBL syntax to their classroom's socio-technical realities without the fear of administrative sanction.

This study has several limitations. These include its limited geographical scope in Pekalongan Regency and its reliance on pedagogical audits rather than long-term video data. These boundaries suggest that while the findings are contextual, they provide a mirror for similar regional settings in Indonesia. Therefore, future research should employ longitudinal or mixed-methods designs. Such studies could examine how continuous scaffolding and

policy reforms influence teachers' expertise in resource-limited contexts. Establishing critical literacy in Indonesian classrooms requires more than instructional manuals. It necessitates a synergy between ambitious policy goals and tangible, systemic support.

References

- Almanthari, A., Maulina, S., & Mailizar, M. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers of the COVID-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7), em1860. <https://doi.org/10.29333/ejmste/8240>
- Anazifa, R. D., & Abu, N. (2017). Project-based learning and problem-based learning: Are they effective to improve student's thinking skills? *Jurnal Pendidikan IPA Indonesia*, 6(2), 346–355. <https://doi.org/10.15294/jpii.v6i2.11103>
- Arends, R. I. (2012). *Learning to teach* (9th ed.). McGraw-Hill.
- Barrows, H. S. (1996). Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning*, 1996(68), 3-12.
- Fitriani, A., Zubaidah, S., Susilo, H., & Al Muhdhar, M. H. I. (2020). PBLPOE: A learning model to enhance students' critical thinking skills and scientific attitudes. *International Journal of Instruction*, 13(2), 89-106. <https://doi.org/10.29333/iji.2020.1327a>
- Fullan, M. (2015). *The new meaning of educational change* (5th ed.). Teachers College Press.
- Hidayati, N., Zubaidah, S., Suarsini, E., & Praherdhiono, H. (2020). Critical thinking skills of low-ability students through remedial teaching based on problem-based learning with digital scaffolding. *Journal of Technology and Science Education*, 10(2), 209–225. <https://doi.org/10.3926/jotse.736>
- Junaidi, J., & Syahrani, S. (2023). Challenges of implementing the Merdeka Curriculum in schools: A systematic literature review. *Journal of Education and Culture*, 3(1), 15–24. <https://doi.org/10.51178/jec.v3i1.1118>
- Lukitasari, M., Handhika, J., & Murtafiah, W. (2020). Critical thinking skills: A study of Indonesian students' abilities and their difficulties. *Journal of Physics: Conference Series*, 1539(1), 012093. <https://doi.org/10.1088/1742-6596/1539/1/012093>
- Mailizar, M., Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers during the COVID-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics*. <https://doi.org/10.29333/ejmste/8240>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2018). *Qualitative data analysis: A methods sourcebook* (4rd ed.). SAGE Publications.
- Nursyahidah, F., Saputro, B. A., & Albab, I. U. (2021). Indonesian teachers' perceptions of the implementation of the new curriculum: Challenges and opportunities. *Journal of Physics: Conference Series*, 1806(1), 012011. <https://doi.org/10.1088/1742-6596/1806/1/012011>
- Nuryanti, L., Zubaidah, S., & Diantoro, M. (2018). Analisis kemampuan berpikir kritis siswa SMP. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 3(2), 155–158. <http://dx.doi.org/10.17977/jptpp.v3i2.10445>
- OECD. (2023). *PISA 2022 results (volume I): The State of learning and equity in education*. OECD Publishing. <https://doi.org/10.1787/53f23881-en>

- Paul, R., & Elder, L. (2008). *The miniature guide to critical thinking concepts and tools*. Foundation for Critical Thinking Press.
- Rasmitadila, R., Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The challenges of primary school teachers in implementing distance learning during the COVID-19 pandemic: CASE study in Indonesia. *Journal of Ethnic and Cultural Studies*, 7(2), 108–132. <https://doi.org/10.29333/ejecs/388>
- Saputra, M. D., Joyoatmojo, S., Wardani, D. K., & Sangka, K. B. (2019). Developing critical-thinking skills through the collaboration of jigsaw model with problem-based learning model. *International Journal of Instruction*, 12(1), 1077-1094. <https://doi.org/10.29333/iji.2019.12169a>
- Tyas, M. A., Nurkamto, J., Marmanto, S., & Laksani, H. (2019). Developing higher order thinking skills (HOTS) – Based questions: Indonesian EFL teachers' challenges. *International Conference on Future of Education*, 52-63. <https://doi.org/10.17501/26307413.2019.2106>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>
- Yana, D., Atmazaki, A., & Abdurahman, A. (2022). The effect of problem-based learning model on critical thinking skills in terms of students' reading interest. *Journal of Education Research*, 3(4), 189–194. <https://doi.org/10.37985/jer.v3i4.108>