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Integrating Information Literacy into Project-Based Learning: An Ethnographic Study of Indonesian Language Teachers' Planning Challenges

Ermi Adriani Meikayanti[1], Yuni Pratiwi[2], Titik Harsiati[3]

Abstract

Integrating information literacy into Project-Based Learning (PjBL) has become an important educational agenda, yet its implementation remains challenging, particularly at the level of teachers' instructional planning. This study investigates how Indonesian language teachers conceptualize and plan the integration of information literacy within PjBL, and identifies the pedagogical challenges they encounter in classroom practice. Employing an ethnographic research design, the study was conducted in three junior high schools in Nganjuk, Indonesia. Data were collected through prolonged classroom observations, in-depth interviews with Indonesian language teachers, and analysis of lesson plans and instructional documents. The data were analyzed thematically to capture recurring patterns in teachers' planning practices and underlying pedagogical assumptions. The findings reveal that teachers tend to interpret information literacy in procedural terms, emphasizing information searching and project completion rather than critical evaluation, synthesis, and ethical use of information. Planning difficulties are further compounded by assessment constraints, limited instructional time, and the absence of explicit curricular guidelines for information literacy integration. As a result, PjBL is often implemented as a product-oriented activity, with limited scaffolding for students' information-processing and reflective practices. Nevertheless, the study also identifies emerging forms of teacher agency, as educators adapt PjBL through collaborative inquiry and informal reflective activities despite structural constraints. This study contributes to the literature by foregrounding teachers' lived planning experiences and highlighting the need for conceptually grounded frameworks, aligned assessment strategies, and sustained professional development to support meaningful integration of information literacy within PjBL in secondary education contexts.

Keywords: *Information Literacy, Project-Based Learning, Ethnographic Study, Teacher Planning.*

Introduction

The rapid development of information and communication technologies (ICT) has significantly influenced educational practices worldwide, shifting the focus of learning from teacher-centered content delivery to student-centered inquiry and knowledge creation. In the digital era, students are required to not only acquire subject knowledge but also navigate an overwhelming volume of information, demanding robust information literacy (IL) competencies such as identifying, locating, evaluating, and using information effectively (Baskoro, 2022;Chuppa-Cornell & Zimmerer, 2017;Suryani & Wiryadigda, 2022). These skills are essential for meaningful learning and lifelong engagement with information across academic and real-world contexts.

Project-Based Learning (PjBL) has emerged as an instructional approach that aligns with these contemporary educational goals, emphasizing authentic inquiry, collaboration, and the construction of knowledge through real-world tasks (Krajcik & Blumenfeld, 2006;Ministry of Education, Culture, Research and Technology, 2014;Xiu-juan, 2008). Through PjBL, students engage in complex problem solving, integrate diverse information sources, and produce meaningful artifacts, positioning the model as a promising framework for integrating IL into classroom practice (Abdullah & Zainab, 2008;Yee & Huey Shyh, 2024). Indeed, research has shown that when PjBL is implemented with attention to

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[1] Indonesian Language Education Doctoral Program of Malang State University, Indonesia, Email: ermi.adriani.2102119@students.um.ac.id, (Corresponding Author)
[2] Indonesian Language Education Doctoral Program of Malang State University, Indonesia.
[3] Indonesian Language Education Doctoral Program of Malang State University, Indonesia

information literacy, students develop higher-order thinking skills and deeper conceptual understanding (Maruanaya & Latief, 2019;Soegoto et al., 2024).

In the context of Indonesian education, the national curriculum mandates teaching approaches that foster critical thinking, creativity, and the ability to connect disciplinary knowledge to real life (Kemendikbudristek, 2013). Indonesian language education, in particular, inherently involves interaction with a range of texts and communicative practices, providing fertile ground for implementing PjBL integrated with information literacy competencies (Rachman et al., 2022;Fuadiah et al., 2022). By engaging students in authentic tasks that require sourcing, evaluating, and synthesizing information from print and digital media, teachers can support learners in becoming reflective and information-savvy users of language and text.

Despite these theoretical advantages and policy supports, practical challenges remain pervasive. Prior studies indicate that teachers often experience difficulty in designing and executing PjBL due to limited understanding of the model, insufficient pedagogical training, and challenges in aligning projects with curriculum standards (Shpeizer, 2019;Latifaj & Xhaferi, 2023). Similarly, the integration of IL within instructional models is frequently hindered by teachers' lack of familiarity with information literacy concepts and inadequate instructional resources (Zhao et al., 2025;Chuppa-Cornell & Zimmerer, 2017).

In junior high school settings, these challenges are compounded by the complex demands of language teaching, diverse student readiness levels, and constrained school resources—factors that may limit the effective integration of information literacy into project-based activities (Sukma et al., 2023;Istihapsari et al., 2019). Although Indonesian language teachers are increasingly encouraged to adopt PjBL and promote information literacy, there remains a research gap in understanding how teachers *plan* for the integration of IL into their project designs and what specific challenges they encounter during this process.

Addressing this gap is critical for improving instructional practice and enhancing student outcomes. Therefore, this study employs classroom ethnography to investigate the planning challenges Indonesian language teachers face when integrating information literacy into project-based learning in junior high schools. By examining teachers' experiences in authentic educational settings, this research aims to uncover contextualized insights that can inform professional development, curriculum support, and pedagogical frameworks for effective integration of IL within PjBL environments.

Literature Review

Project-Based Learning in Language Education

Project-Based Learning (PjBL) is widely recognized as a learner-centered instructional approach that emphasizes inquiry, collaboration, and the production of meaningful artifacts through engagement with authentic problems. In language education, PjBL facilitates the integration of language skills with cognitive, social, and affective development by situating learning within real-world communicative contexts (Krajcik & Blumenfeld, 2006; Xiu-juan, 2008). Rather than focusing solely on linguistic forms, PjBL encourages learners to use language as a tool for investigation, negotiation, and knowledge construction, which aligns with constructivist learning theories.

Numerous studies have demonstrated the effectiveness of PjBL in enhancing students' language proficiency, particularly in reading, writing, and speaking skills. Through project work, learners are required to process multiple texts, synthesize information, and present ideas coherently, thereby strengthening both receptive and productive language abilities (Maruanaya & Latief, 2019; Soegoto et al., 2024). In Indonesian language education, PjBL supports text-based learning by engaging students in analyzing genres, producing authentic texts, and responding critically to information encountered during project activities (Sukma et al., 2023).

PjBL also promotes higher-order thinking skills, such as critical thinking, creativity, and problem-solving, which are essential competencies in 21st-century education. By confronting open-ended problems and designing solutions collaboratively, students develop analytical and reflective thinking processes (Dalyanto et al., 2024; Prasetyo et al., 2021). These outcomes are particularly relevant for language classrooms, where students must interpret meaning, evaluate arguments, and construct persuasive discourse based on evidence.

Despite its pedagogical advantages, the implementation of PjBL in language education presents considerable challenges for teachers. Research indicates that teachers often struggle with aligning projects to curriculum standards, managing time effectively, and designing meaningful assessments for

project outcomes (Shpeizer, 2019; Latifaj & Xhaferi, 2023). In addition, limited professional training and lack of structured guidance hinder teachers' ability to implement PjBL consistently and effectively, especially in secondary school contexts (Istihapsari et al., 2019).

Information Literacy in Project-Based Learning

Information literacy (IL) refers to the ability to identify information needs, locate relevant sources, critically evaluate information, and use it ethically and effectively (Baskoro, 2022; Suryani & Wiryadigda, 2022). In the digital era, IL has become a foundational competence, as learners are exposed to vast quantities of information of varying credibility. Without adequate information literacy skills, students are vulnerable to misinformation, superficial understanding, and uncritical knowledge consumption (Yee & Huey Shyh, 2024).

Project-Based Learning provides a natural and effective framework for developing information literacy skills. Within PjBL, students are required to search for information independently, assess the credibility of sources, synthesize findings, and apply information to solve authentic problems (Chuppa-Cornell & Zimmerer, 2017; Abdullah & Zainab, 2008). These processes mirror the core components of information literacy, making PjBL an ideal pedagogical approach for embedding IL instruction within subject learning.

Empirical studies have shown that integrating IL into PjBL significantly enhances students' research skills, critical evaluation abilities, and reflective learning practices. Collaborative digital libraries, inquiry-based tasks, and guided research activities have been found to strengthen students' information literacy competencies across disciplines (Zhao et al., 2025; Rachman et al., 2022). In language education, IL integration supports students' ability to engage critically with texts, construct evidence-based arguments, and communicate information responsibly (Fuadiah et al., 2022).

However, integrating information literacy into PjBL is not without challenges. Teachers often face difficulties in selecting appropriate information sources, designing IL-focused learning activities, and assessing students' information literacy skills (Chuppa-Cornell & Zimmerer, 2017; Yee & Huey Shyh, 2024). These challenges are exacerbated by limited access to learning resources, insufficient collaboration with libraries, and teachers' limited understanding of IL frameworks, highlighting the need for systematic support and professional development.

Teachers' Challenges in Planning PjBL Integrated with Information Literacy

Planning is a critical stage in the successful implementation of Project-Based Learning integrated with information literacy. Effective planning requires teachers to align learning objectives, project themes, instructional activities, and assessment strategies while simultaneously embedding information literacy skills (Majid, 2008; Ministry of Education and Culture, 2014). In practice, this alignment poses substantial challenges, particularly in language education contexts where curriculum demands are extensive and time allocation is limited.

Research indicates that teachers frequently encounter difficulties in selecting project themes that are relevant, meaningful, and aligned with curriculum standards while also accommodating students' abilities and interests (Sukma et al., 2023; Latifaj & Xhaferi, 2023). In Indonesian language classrooms, teachers must also ensure that projects support linguistic objectives, such as text comprehension and production, while integrating information literacy elements—a task that requires careful instructional design (Rachman et al., 2022).

Another major challenge lies in the development of learning materials and resources. Teachers often struggle to identify credible and accessible information sources that students can effectively use, particularly in schools with limited infrastructure (Suryani & Wiryadigda, 2022; Istihapsari et al., 2019). Additionally, variations in students' digital and information literacy skills complicate the planning process, as teachers must anticipate diverse levels of readiness and provide appropriate scaffolding (Baskoro, 2022).

Assessment planning represents a further challenge in integrating PjBL and information literacy. Designing assessment instruments that capture cognitive, affective, psychomotor, and information literacy outcomes requires significant expertise and time (Shpeizer, 2019; Chuppa-Cornell & Zimmerer, 2017). Many teachers report uncertainty in developing valid rubrics and evaluating students' information literacy performance, indicating a persistent gap between theoretical expectations and classroom realities. This gap underscores the importance of empirical studies that explore teachers' lived experiences and contextual challenges in planning PjBL integrated with information literacy.

Method

Research Design

This study employed a qualitative research design using a classroom ethnography approach to explore Indonesian language teachers' planning challenges in integrating information literacy into Project-Based Learning (PjBL). Classroom ethnography was chosen because it enables in-depth investigation of teaching practices, beliefs, interactions, and contextual factors within authentic educational settings. This approach emphasizes understanding participants' perspectives and everyday practices as they naturally occur in classrooms and school environments (Watson-Gegeo, 1997).

Ethnographic research is particularly suitable for examining instructional planning processes, as these processes are shaped by curriculum demands, institutional culture, teachers' pedagogical knowledge, and students' characteristics. Rather than measuring outcomes quantitatively, this study sought to capture teachers' lived experiences and the complexities they face when designing PjBL integrated with information literacy.

Research Context and Participants

The participants of this study were Indonesian language teachers from public Junior High Schools (SMP Negeri) in Nganjuk Regency, East Java, Indonesia. Participants were selected using purposive sampling to ensure they possessed relevant experience in designing and implementing Project-Based Learning (PjBL) and were directly involved in instructional planning processes.

The selection criteria included actively teaching Indonesian language at the Junior High School level, having experience implementing PjBL in classroom instruction, and being responsible for preparing teaching devices such as lesson plans, teaching materials, and assessment instruments. A total of 8 teachers participated in the study. The participants varied in terms of teaching experience, school context, and exposure to professional development related to PjBL and information literacy. This variation enabled a richer understanding of planning challenges across different instructional settings.

Table 1. Profile of Research Participants

Code	School Type	Teaching Experience (Years)	Grade Taught	Experience Using PjBL	Training in PjBL / Information Literacy
T1	Public JHS	5–10	Grade 7	Occasionally	None
T2	Public JHS	11–15	Grade 8	Frequently	PjBL Workshop
T3	Public JHS	5–10	Grade 9	Occasionally	None
T4	Public JHS	>15	Grade 8	Frequently	PjBL & Literacy Training
T5	Public JHS	11–15	Grade 7	Occasionally	None
T6	Public JHS	>15	Grade 9	Frequently	PjBL Workshop
T7	Public JHS	5–10	Grade 8	Occasionally	None
T8	Public JHS	11–15	Grade 7	Frequently	Limited (School-based Training)

Data Sources and Data Collection Techniques

Data were collected through semi-structured interviews and document analysis, enabling triangulation and increasing the credibility of the findings. Semi-structured interviews were conducted to explore teachers' perceptions, experiences, and difficulties in planning PjBL integrated with information literacy. Interview questions focused on themes such as project theme selection, formulation of learning objectives, development of learning materials, time allocation, learning steps, selection of information sources, assessment strategies, and understanding of information literacy concepts. Interviews were conducted in Indonesian, audio-recorded with participants' consent, and transcribed verbatim for analysis. Document analysis was used to examine teachers' instructional planning documents, including lesson plans (RPP), teaching modules, student worksheets, project

guidelines, and assessment rubrics. These documents were analyzed to identify how PjBL and information literacy were represented in planning practices and to verify the consistency between interview data and written teaching devices.

Data Analysis

Data analysis followed an interactive model of qualitative analysis, consisting of data reduction, data display, and conclusion drawing (Miles, Huberman, & Saldaña, 2014). First, interview transcripts and documents were carefully read and coded to identify recurring themes related to teachers' planning challenges. Codes were then grouped into broader categories, such as learning objectives, materials, time management, learning steps, resources, assessment, information literacy integration, and creativity. Next, the categorized data were displayed in matrices and tables to facilitate comparison across participants and data sources. This process enabled the researcher to identify patterns, similarities, and differences in teachers' experiences. Finally, conclusions were drawn by interpreting the findings within the theoretical frameworks of Project-Based Learning and information literacy.

Trustworthiness of the Study

To ensure the trustworthiness of the research, several strategies were employed. Data triangulation was achieved by combining interview data with document analysis. Member checking was conducted by sharing interview summaries with participants to confirm the accuracy of interpretations. In addition, peer debriefing with fellow researchers was used to enhance analytical rigor and reduce researcher bias. Thick descriptions of the research context, participants, and findings were provided to support transferability. An audit trail documenting data collection and analysis procedures was maintained to ensure dependability and confirmability.

Ethical Considerations

Ethical principles were carefully observed throughout the study. Participants were informed about the purpose of the research, data collection procedures, and their right to withdraw at any time. Informed consent was obtained prior to data collection. Participants' identities and school affiliations were anonymized to protect confidentiality, and all data were used solely for research purposes.

Result

This section presents the findings of the ethnographic analysis concerning Indonesian language teachers' challenges in integrating information literacy into Project-Based Learning (PjBL). The results are organized into four major themes that emerged from classroom observations, lesson plan analyses, and in-depth interviews.

Conceptual Ambiguity in Integrating Information Literacy into PjBL Planning

One of the most prominent findings was teachers' conceptual uncertainty regarding the integration of information literacy within PjBL lesson planning. While teachers demonstrated familiarity with the procedural steps of PjBL, information literacy was often interpreted narrowly as *information searching* rather than as a comprehensive set of competencies involving evaluation, synthesis, and ethical use of information.

Several teachers perceived information literacy as an "additional component" rather than an integral element of project design. This perception resulted in fragmented planning practices in which literacy-related activities were not explicitly embedded in learning objectives or assessment criteria.

"I understand the steps of Project-Based Learning, but honestly, I still see information literacy mainly as searching for materials. I have not yet fully integrated how students should evaluate or process information" (T1, 5–10 years, Grade 7).

"In my lesson plans, I usually write that students 'search for information on the internet,' but I do not specify how they should select credible sources" (T3, 5–10 years, Grade 9).

"Information literacy has not yet become an explicit learning objective. It is often included implicitly, which makes it easy to overlook during planning" (T5, 11–15 years, Grade 7).

Teachers who had participated in professional development activities demonstrated stronger conceptual awareness, yet they still struggled to translate theory into concrete instructional designs.

"Conceptually, I know that information literacy is broad, but when designing a project, it is difficult to formulate clear and assessable indicators" (T4, >15 years, Grade 8).

Challenges in Designing Learning Objectives and Assessment Indicators

The second theme highlights teachers' difficulties in formulating operational learning objectives and assessment indicators that explicitly represent information literacy competencies within PjBL. Most teachers prioritized project outcomes over learning processes. Consequently, assessment practices focused on the quality of final products and presentations rather than on students' abilities to evaluate sources, synthesize information, and apply ethical information practices.

"My assessment still emphasizes the final product. The process of searching for and processing information is rarely assessed explicitly" (T2, 11–15 years, Grade 8).

"When I try to include information literacy indicators, I become confused about how to distribute them into a clear assessment rubric" (T7, 5–10 years, Grade 8).

"Sometimes I worry that having too many indicators will burden both the students and myself during the assessment process" (T6, >15 years, Grade 9).

This situation resulted in lesson plans where information literacy competencies remained implicit and underrepresented in formal assessment instruments.

Table 2. Teachers' Approaches to Learning Objectives and Assessment

Aspect	Common Practice	Observed Limitation
Learning objectives	Focus on project completion	Information literacy not explicitly stated
Assessment	Product-oriented rubrics	Information-processing skills not assessed
Indicators	General and broad	Difficult to operationalize

Institutional and Contextual Constraints in Lesson Planning

Beyond conceptual and pedagogical issues, teachers encountered institutional and contextual constraints that significantly influenced their planning practices. Limited instructional time, curriculum demands, and unequal access to learning resources were frequently mentioned as barriers to integrating information literacy more comprehensively. Teachers reported that curriculum pressure often compelled them to simplify project designs, reducing opportunities for guided information literacy instruction.

"The instructional time is limited. If all aspects of information literacy are included, I am concerned that the lessons will not align with the academic calendar" (T8, 11–15 years, Grade 7).

"Internet access at school is not always reliable, so I hesitate to design projects that rely heavily on online information searching" (T3, 5–10 years, Grade 9).

"Not all students own personal devices, and this affects how I design projects that involve information literacy" (T1, 5–10 years, Grade 7).

Senior teachers also emphasized the absence of institutional guidelines.

"There is no specific school policy or guideline on integrating information literacy into PjBL, so each teacher interprets it differently" (T6, >15 years, Grade 9).

Adaptive Strategies and Emerging Practices

Despite these challenges, teachers demonstrated adaptive and context-sensitive strategies in integrating information literacy into their planning. These strategies included simplifying literacy components, utilizing printed materials, and promoting collaborative information-seeking activities. Some teachers began incorporating reflective practices, such as source comparison discussions and guided group evaluations, even when these activities were not formally documented in lesson plans.

"I have started asking students to compare two different sources, even though this is not yet clearly written in my lesson plans" (T2, 11–15 years, Grade 8).

"When information literacy feels too demanding, I divide students into small groups so they can learn from one another" (T4, >15 years, Grade 8).

"I adjust the project design to students' conditions. What matters is that they learn to filter information, even in a simple way" (T7, 5–10 years, Grade 8).

Table 3. Teachers' Adaptive Strategies in Integrating Information Literacy

Strategy	Description	Frequency
Simplification	Reducing the number of literacy indicators	High
Collaboration	Group-based information searching	Moderate
Scaffolding	Guided source comparison activities	Limited but emerging

Discussion

The findings of this study demonstrate that integrating information literacy into Project-Based Learning (PjBL) remains a pedagogical challenge that goes beyond technical lesson design. Teachers' planning difficulties reflect a deeper conceptual tension between traditional content-oriented instruction and contemporary demands for critical, reflective, and inquiry-driven literacy practices. Information literacy is frequently reduced to surface-level activities such as searching and compiling sources, while its epistemic dimensions—evaluation, synthesis, and ethical use of information—are underemphasized. This tendency echoes international concerns that literacy initiatives often become procedural rather than transformative when they are not grounded in a coherent pedagogical framework (ACRL, 2016; Lloyd, 2017). In the Indonesian context, Harsiati and Wulandari (2017) have argued that literacy must be embedded structurally within learning objectives and instructional planning, rather than treated as an add-on activity. The persistence of fragmented literacy integration in this study suggests that this pedagogical reorientation has not yet been fully realized at the classroom planning level. Consequently, PjBL risks functioning as a project-oriented activity without fulfilling its potential as a literacy-rich learning model.

From a theoretical perspective, PjBL is widely recognized as an instructional approach capable of fostering higher-order thinking and authentic learning experiences. Its emphasis on inquiry, collaboration, and problem-solving aligns closely with the core principles of information literacy (Krajcik & Blumenfeld, 2006; Bell, 2010). However, the findings indicate that teachers tend to prioritize tangible project outputs over the invisible cognitive processes students engage in while working with information. This imbalance reflects what Harsiati (2018) identified in her analysis of PISA reading literacy, namely that literacy competence requires students to interpret, evaluate, and reflect on texts rather than merely extract information. When teachers' planning focuses primarily on products, opportunities to scaffold these critical processes are diminished. Similar patterns have been observed in other educational contexts where PjBL is implemented without sufficient attention to epistemic guidance (Condliffe et al., 2017). As a result, students' engagement with information remains largely instrumental rather than critical.

Assessment practices emerge as a central constraint in the integration of information literacy within PjBL. Teachers in this study reported difficulties in formulating assessment criteria that capture students' information-processing skills, leading to an overreliance on product-based evaluation. This finding aligns with Harsiati's (2013) assertion that assessment in language education must attend to cognitive and metacognitive dimensions of learning, not merely observable outcomes. International scholarship similarly highlights assessment as one of the weakest links in PjBL implementation, particularly when learning goals involve complex competencies such as literacy and critical thinking (Oakleaf, 2009; Thomas, 2000). In contexts where accountability and grading pressures dominate, teachers may feel compelled to prioritize assessable products over nuanced learning processes. This dynamic reinforces what Biesta (2015) describes as the tension between educational meaning and measurement. Without robust assessment frameworks, information literacy remains pedagogically marginalized.

The ethnographic findings further reveal that teachers' planning practices are shaped by contextual and institutional constraints. Limited instructional time, uneven access to digital resources, and the absence of explicit curricular guidelines for information literacy significantly influence how teachers design PjBL activities. These constraints support Lloyd's (2010) view of information literacy as a socially situated practice that is deeply embedded in specific institutional and material conditions. In such contexts, teachers' planning decisions should be understood as adaptive responses rather than individual shortcomings. Similar challenges have been documented in curriculum reform initiatives, where ambitious literacy goals are often not matched by systemic professional development and infrastructural support (Voogt et al., 2013; Rizvi & Lingard, 2010). Consequently, teachers are left to negotiate literacy integration largely through personal initiative. This reliance on individual agency risks creating uneven literacy practices across classrooms.

Despite these constraints, the study highlights important forms of teacher agency and pedagogical creativity. Teachers demonstrated adaptive strategies by incorporating collaborative information searching, group discussions, and informal reflection activities within project work. These practices resonate with findings by Marni and Harsiati (2019), who emphasize the role of instructional scaffolding in developing students' critical thinking and argumentation skills. Although such strategies were often not explicitly articulated in lesson plans, they indicate an emerging awareness of literacy as a process rather than a product. Similar adaptive practices have been observed in contexts where teachers experiment with reflective and dialogic approaches to compensate for limited formal guidance (Ramadhanti et al., 2020). These findings suggest that teachers possess latent pedagogical resources that can be further developed through targeted professional learning. Recognizing and strengthening this agency is crucial for sustainable literacy integration.

The relevance of information literacy is further amplified by the growing presence of digital and artificial intelligence (AI) technologies in learning environments. Malik et al. (2023) demonstrate that students' engagement with AI in academic writing raises critical questions about source evaluation, authorship, and ethical information use. Although this study focuses on junior high school teachers, similar concerns are implicitly present in teachers' planning challenges, particularly regarding students' digital information practices. Without explicit guidance, students may rely uncritically on digital tools, reinforcing superficial engagement with information. This underscores the need for information literacy instruction that explicitly addresses digital epistemologies. Integrating such perspectives into PjBL planning can help teachers move beyond traditional literacy models. In this sense, information literacy becomes a foundational competence for navigating contemporary knowledge environments.

Insights from Yuni Pratiwi's work further enrich the discussion on literacy integration. Pratiwi's research on multimodal texts and creative literacy emphasizes that literacy learning is inherently cultural, value-laden, and context-sensitive (Pratiwi, 2016; Pratiwi, 2023). Her studies on character education and moral values in Indonesian textbooks highlight the importance of embedding literacy practices within meaningful cultural and ethical contexts. This perspective aligns with the findings of this study, where teachers struggled to contextualize information literacy within students' lived experiences. PjBL offers a strategic space for such contextualization, yet it requires deliberate planning to align projects with students' cultural and informational realities. Without this alignment, literacy activities risk becoming abstract and disconnected. Pratiwi's work suggests that integrating values, local wisdom, and multimodal resources can strengthen literacy engagement.

Moreover, Pratiwi's scholarship on writing pedagogy and learning materials development underscores the importance of instructional design in shaping literacy outcomes. Studies on writing modules and reflective learning approaches demonstrate that literacy development is closely tied to how learning tasks are structured and sequenced (Andayani et al., 2017; Pratiwi & Siswiyanti, 2014). These insights resonate with the planning challenges identified in this study, particularly teachers' difficulties in sequencing literacy-related activities within PjBL. When projects lack clear stages for inquiry, evaluation, and reflection, information literacy remains implicit. This finding reinforces the need for design-oriented professional development that supports teachers in translating literacy concepts into concrete planning strategies. Such support can bridge the gap between theory and classroom practice. Ultimately, instructional design functions as the mediating space where literacy intentions are realized.

At a broader level, this study contributes to ongoing debates about the role of teachers in mediating curriculum reforms and literacy agendas. The findings illustrate that teachers' planning practices are a critical but often overlooked site of literacy integration. By foregrounding teachers' lived experiences, this study extends PjBL research beyond student outcomes to include the complexities of pedagogical decision-making. This shift aligns with ethnographic approaches that emphasize meaning-making and practice over prescription (Hammersley & Atkinson, 2007). It also echoes calls for teacher-centered perspectives in literacy research, particularly in non-Western educational contexts. Understanding these dynamics is essential for developing contextually responsive literacy frameworks. Without such understanding, policy initiatives risk remaining disconnected from classroom realities.

In conclusion, the integration of information literacy into PjBL should be understood as a pedagogical, cultural, and institutional endeavor rather than a purely technical task. The findings suggest that meaningful integration requires conceptual clarity, robust assessment frameworks, and sustained professional support. Teachers' adaptive practices demonstrate the potential for growth, but this potential must be supported through systemic guidance and collaborative learning opportunities. Drawing on the works of Harsiati and Pratiwi, this study underscores that literacy is not merely a skill but a reflective practice embedded in values, culture, and critical inquiry. Strengthening information

literacy within PjBL thus demands a reorientation of planning, assessment, and professional development. Such efforts are essential for preparing students to navigate complex information landscapes in contemporary society.

Conclusion

This study concludes that integrating information literacy into Project-Based Learning (PjBL) in Indonesian language classrooms remains a significant pedagogical challenge, particularly at the level of lesson planning. Teachers tend to conceptualize information literacy in procedural terms, focusing on information searching and product completion, while critical processes such as evaluation, synthesis, and ethical information use receive limited attention. As a result, PjBL often operates as a project-oriented activity rather than as a literacy-enriched learning model. The findings further indicate that assessment constraints and institutional conditions strongly influence teachers' planning decisions. Limited assessment frameworks, time constraints, and insufficient curricular guidance restrict teachers' capacity to embed information literacy systematically within PjBL. Nevertheless, teachers demonstrate emerging agency through adaptive practices that suggest potential for deeper literacy integration. Overall, this study underscores the need for clearer pedagogical frameworks, aligned assessment strategies, and sustained professional support to ensure that PjBL functions as an effective vehicle for developing students' information literacy.

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