



Collaborative Lesson Planning Practices and Instructional Competence of Pre-Service Teachers

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ABSTRACT

This study aims to determine the level of integration of collaborative lesson planning practices and instructional competence among elementary pre-service teachers and examine the relationship between the two variables. A quantitative correlational research design was used, both utilizing an adapted and validated survey instrument to collect data from a universal sample of 161 elementary pre-service teachers enrolled at a university in Davao City. As descriptive statistical tools, the mean and standard deviation were used to assess the levels of collaborative lesson planning and instructional competence. In addition, the Pearson's r correlation analysis was conducted to investigate the relationship between the two variables. Findings revealed a moderate positive correlation between collaborative lesson planning practices and instructional competence, indicating that engaging in structured and cooperative lesson design contributes meaningfully to enhancing teaching capabilities. The results highlight the significant role of collaboration in fostering professional development and pedagogical readiness among elementary pre-service teachers, emphasizing that well-facilitated lesson planning can support higher competence in instructional delivery.

Keywords: collaborative lesson planning, instructional competence, pre-service teachers, quantitative correlation design

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Introduction

Instructional competence is a significant element of effective teaching. It influences student learning outcomes, their performance, and the overall quality of education. As the learning environment changes, pre-service teachers should enhance their skills to meet the diverse needs of students. A study by Afalla and Fabelico (2020) emphasized that while pre-service teachers demonstrate a strong drive toward developing instructional competence, a gap remains in translating theoretical knowledge into practical teaching skills in real classroom settings. Despite their academic preparation, many elementary pre-service teachers struggle with applying what they've learned in a dynamic classroom environment. This disconnect between theory and practice is a key challenge that hinders the development of fully competent educators. This study investigates the correlation between collaborative lesson planning and instructional competence, an area that remains underexplored within a non-sectarian university in Davao City. By analyzing this relationship, the research aims to contribute to the existing body of knowledge regarding pedagogical practices and their impact on educational effectiveness in this particular academic setting.

The importance of instructional competence in providing high-quality education is a requirement recognized by worldwide educational standards for quality. The United States implements rigorous training programs for pre-service teachers that emphasize practical teaching skills and theoretical competence (Darling-Hammond, 2020). Many developing countries, such as the Philippines, require support to create effective teaching environments that prepare teachers for the complexities of managing classroom instruction. A study by the Philippine Institute for Development Studies (PIDS, 2023) highlights the need for a comprehensive strategy in developing practical skills, particularly in instructional competence. In the local setting, Ramirez's (2020) study reveals a disparity between the instructional competence teachers acquire during training in an education program and the real-world scenarios necessary for effective teaching. Learner-centered methods are believed to be challenging and a concern for student-teachers to put into practice.

Based on Vygotsky's Social Constructivist Theory (1978), this approach emphasizes the importance of social interaction in school learning. According to his study, learning is a process of social transmission in the environment; hence, group lesson planning might help suggest incorporating ideas and abilities. A cited article by Nickerson (2024) on Dewey's Theory of Experiential Learning (1938) emphasizes that effective learning occurs when students engage in a reflective manner based on their experiences. He highlighted the significance of interaction in teaching, emphasizing learners' engagement through shared experiences. In addition, Bandura's Social Learning Theory (1977) suggests that learning happens through group lesson planning strategies that involve observation, imitation, and modeling. Its foundations support the belief that group lesson preparation contributes more to the improvement of creating lesson plans, enhancing instructional quality.

Collaborative lesson planning occurs when teachers design instructional materials and lesson plans for teaching demonstrations. These involve sharing opinions and ideas, providing feedback on shared practices, and reflecting on trainings to enhance the teaching strategies of future educators. According to a study by Sally Gutierrez (2020), collaborative lesson planning creates a positive 'dissonance' compared to traditional individual lesson planning practices. This encourages teachers to reflect on their teaching and improve their training to become professionals, producing a continuous learning process that fosters student-teacher development. Therefore, as noted by Mendoza et al. (2022) in their study, which builds on Chong & Kong (2012), instructional competence improves through participation in collaborative lesson planning. Educational research highlights the significance of collaborative learning in helping teachers adapt to the growing learning demands of their students. Studies indicate that

collaborative lesson planning is linked to improvements in subject-specific teaching effectiveness (Chong & Kong, 2012) and the enhancement of instructional practices (Gutierrez, 2020).

Instructional competence is a teacher's ability to perform effective teaching, planning, designing, delivering, and assessing lessons, ensuring that the students meet the learning objectives of the subject. Several fundamental abilities include designing lessons, classroom management, creating instructional materials, and evaluating student performance, which support instruction competency. Strong competency has been demonstrated in studies to help teachers design lessons and instruction that cater to the diverse needs of students. These teaching strategies implement various assessments to evaluate student learning outcomes fairly (Gutierrez, 2020). Moreover, it has been shown that educators can enhance their effectiveness by developing comprehensive lesson plans through ongoing development and collaborative planning methods, ultimately improving the overall quality of instruction and student achievement (Muslimin, 2023).

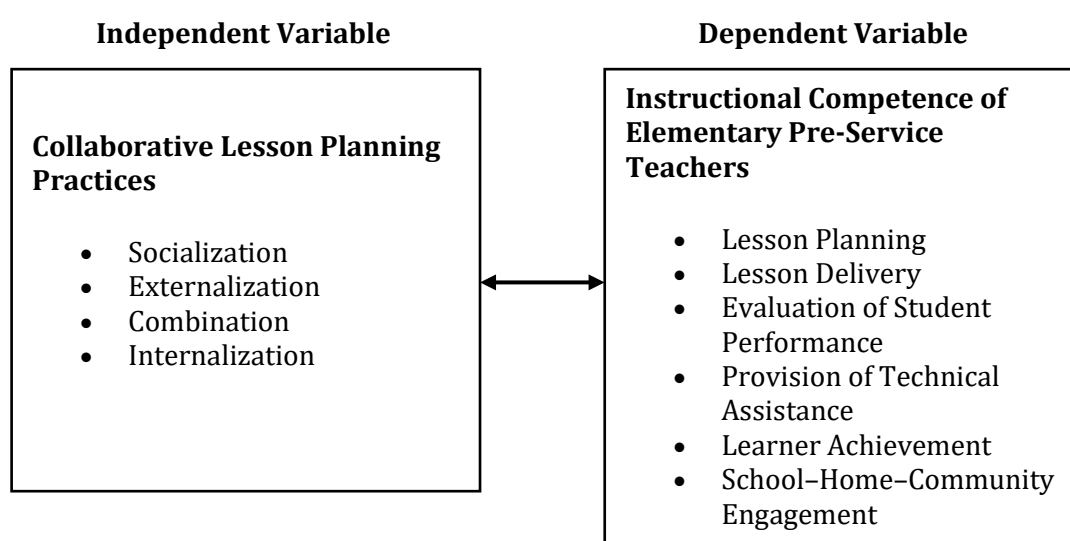


Figure 1: Conceptual Framework of the Study

The significance of this research aligns with the global demand for quality education, as articulated in the United Nations' Sustainable Development Goal 4 (2015), which underscores the importance of inclusive and quality education for all individuals (UNESCO, 2022). Proficiency in teaching is a fundamental component of providing high-quality education. Therefore, there is an opportunity for a worldwide dialogue focused on effectively training educators. By examining collaborative lesson planning as a strategy to enhance instructional competence, this research supports improving teacher preparation programs in the Philippines and worldwide. Strengthening the instructional skills of teachers can lead to improved educational outcomes for students, thereby addressing concerns regarding the quality of education. The following are the key research contributions of the study:

- provides empirical evidence on the effectiveness of collaborative lesson planning in improving instructional competence;
- contributes to the enhancement of teacher preparation and professional development practices in the Philippine context;
- offers insights that may inform curriculum design and faculty development in teacher education institutions; and
- supports global efforts to improve education quality by aligning teacher training practices with Sustainable Development Goal 4.

This study aims to explore the relationship between collaborative lesson planning and the instructional competence of elementary pre-service teachers. Specifically, it seeks to assess these teachers' collaborative lesson planning practices, emphasizing the dimensions of socialization, externalization, combination, and internalization. Additionally, the study intends to evaluate the level of instructional competence among elementary pre-service teachers across various areas, including lesson planning, delivery, evaluation of student performance, provision of technical assistance, learner achievement, and engagement with school, home, and community. Ultimately, the study aims to determine whether there is a significant relationship between collaborative lesson planning practices and the instructional competence of elementary pre-service teachers. Correspondingly, the null hypothesis posits no significant correlation between these practices and instructional competence within a private learning institution.

Methods

The total population of pre-service Elementary Education was 195. However, only first-year to third-year students were included, while fourth-year students were excluded due to their limited availability, as they were engaged in their fieldwork and internship requirements. Using Raosoft's sample size calculator, it initially suggested a sample size of 130 respondents. As cited by Rahman (2023) and Kline (2016), a renowned statistician in the field of structural equation modeling (SEM), suggests that a sample size ranging from 100 to 200 is considered small to medium but still acceptable for simple research models with normally distributed data.

The researchers employed purposive sampling to identify our participants. This method involves deliberately selecting individuals with specific characteristics or qualities pertinent to our research objectives. This study focused on elementary pre-service teachers engaged in collaborative lesson planning activities. As Palinkas et al. (2015) noted, purposive sampling is particularly suitable when researchers aim to include participants who can offer valuable insights about the investigated phenomenon. By concentrating on these individuals, the study seeks to achieve a deeper and more comprehensive understanding of how collaborative lesson planning practices can enhance the instructional competence of future elementary educators.

The collaborative lesson planning questionnaire utilized in this study was previously validated through rigorous analysis involving 540 primary and secondary school teachers from the private sector, demonstrating strong psychometric properties. This study's adapted version of the instrument, focusing on collaborative lesson planning practices, was further refined through expert validation using a standardized evaluation form. Two field experts assessed the tool, yielding an average score of 4.9, indicating that the instrument was perfect and suitable for pilot testing. After obtaining permission from the College of Teacher Education (CTE) Dean's office, a pilot test was conducted with 30 secondary pre-service teachers not included in the final study. The collected responses were meticulously encoded and sent to a statistician to assess the instrument's reliability. The results indicated a Cronbach's alpha of 0.876 for the Collaborative Lesson Planning Practices questionnaire, reflecting a high level of internal consistency. This score surpasses the accepted threshold of 0.70 for preliminary research, as Nunnally and Bernstein (1994) suggested, thereby confirming the tool's dependability and suitability for full-scale data collection. With this outcome, the instrument can be regarded as reliable in measuring the intended areas of the study, which is crucial for ensuring the accuracy and credibility of the findings.

The Instructional Competence questionnaire was adapted from an existing tool designed to assess various domains of teaching competence. It consists of 22 items categorized into six domains: lesson planning, delivery, evaluation of student performance, technical assistance, learner achievement, and school, home, and community involvement. The instrument underwent a thorough expert validation process, with two field experts assessing its content and structure. This evaluation yielded an average validation score of 4.9, indicating that the tool was appropriate for pilot testing. Additionally, a pilot test was conducted with 30 pre-service teachers not part of the main study sample. The responses were analyzed for internal consistency, resulting in a Cronbach's alpha of 0.865 for the Instructional Competence questionnaire.

The study employed a quantitative correlational research design to measure and generalize the relationship between collaborative lesson planning practices and instructional competence among elementary pre-service teachers. This quantitative approach facilitated the systematic collection and analysis of data to quantify values and test our study's hypotheses. Grounded in positivist and empiricist paradigms, the research followed structured procedures and methodologies for data collection and statistical analysis (Bryman, 2012; Creswell, 2023). We utilized correlation analysis as the statistical technique, which allowed us to assess the strength of the relationship between the two identified variables: collaborative lesson planning practices and instructional competence. This correlational design is effective for examining relationships without manipulating the variables under study, akin to the approach used in causal-comparative research (Cohen, 2007).

Descriptive statistics, including the mean and standard deviation, were employed to identify the general trends in the responses. Furthermore, Pearson's r was utilized to assess the strength and direction of the relationship between collaborative lesson planning practices and instructional competence, with correlation coefficients interpreted on a scale from -1.00 to +1.00. Throughout the research process, stringent ethical protocols were upheld to ensure the confidentiality and anonymity of the participants.

Results

Figure 2 presents the level of collaborative lesson planning practices based on four key domains. The overall level was interpreted as high, with a mean score of 3.83 and a standard deviation of 0.41, indicating it is often demonstrated among elementary pre-service teachers. Among the four domains, the combination resulted in the highest level, with a mean of 3.95 and a standard deviation of 0.54, indicating a high level, which is often demonstrated. In contrast, externalization and internalization marked the lowest levels, with each having a mean of 3.78 and standard deviations of 0.55 for externalization and 0.54 for internalization, both of which are interpreted as high. The findings indicate that elementary pre-service teachers typically exhibit a collaborative disposition; however, they often struggle to articulate their teaching ideas and to internalize the understandings gained from their peers.

Figure 2

Level of Collaborative Lesson Planning Practices

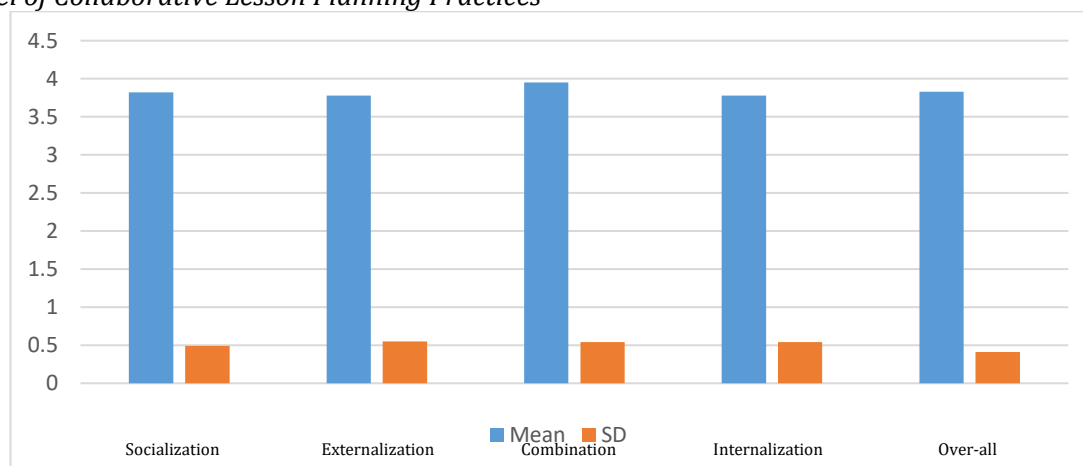


Figure 3 presents the level of instructional competence among elementary pre-service teachers across the six domains. The overall revealed a high level, with a mean score of 3.83 and a standard deviation of 0.41, indicating that instructional competence was often demonstrated throughout their demo teaching training. Lesson planning showed the highest level among the six domains, with a mean of 4.04 and a standard deviation of 0.57. This suggests that elementary pre-service teachers often confidently set clear objectives and prepare well-structured lessons. In contrast, the school, home, and community involvement domain recorded the lowest level, with

a mean of 3.70 and a standard deviation of 0.60. While this still falls within the high interpretation range, it indicates that engagement with external stakeholders is demonstrated only on an often basis.

Figure 3
Level of Instructional Competence

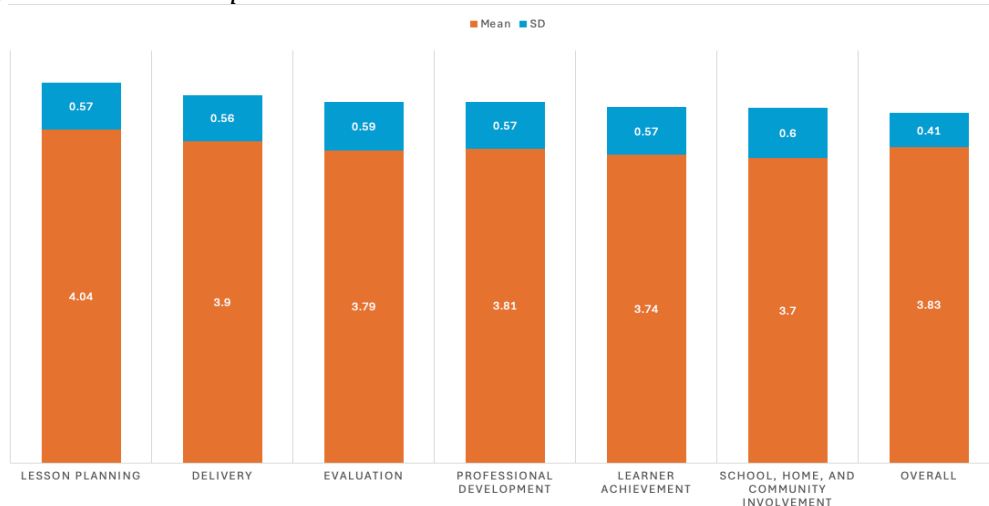


Table 3 presents the correlation results between collaborative lesson planning practices and instructional competence among elementary pre-service teachers. The findings revealed a very strong positive correlation between overall collaborative lesson planning practices and overall instructional competence, with a correlation coefficient of 0.649, which is highly significant at the 0.01 level. This suggests that greater involvement in collaborative lesson planning is strongly linked to higher instructional competence. Among the individual collaborative lesson planning practices domains, internalization exhibited the strongest relationship with overall instructional competence, with a correlation of 0.553, followed by combination at 0.525, and externalization at 0.497, all indicating moderate to strong positive correlations. Socialization, while still statistically significant, posted the lowest correlation, with a value of 0.441, suggesting that while collaborative interaction is important, its effect on instructional competence is less pronounced compared to internal application and strategic synthesis of ideas.

Table 1
Significant Relationship of Collaborative Lesson Planning Practices and Instructional Competence

	Lesson Planning	Lesson Delivery	Evaluation of Pupil's Performance	Professional Development	Learner Achievement	School, Home and Community Involvement	Overall Instructional Competence
Socialization	.368*	.379*	.339*	.262*	.280*	.276*	.441*
	.000	.000	.000	.000	.000	.000	.000
Externalization	.440*	.472*	.461*	.326*	.245*	.204*	.497
	.000	.000	.000	.000	.001	.004	.000
Combination	.477*	.476*	.460*	.343*	.321*	.193*	.525*
	.000	.000	.000	.000	.000	.007	.000
Internalization	.381*	.414*	.427*	.451*	.412*	.304*	.553*
	.000	.000	.000	.000	.000	.000	.000
Overall CLPP	.537*	.581*	.544*	.446*	.405*	.312*	.649*
	.000	.000	.000	.000	.000	.000	.000

p<0.01

Discussion

Collaborative Lesson Planning Practices

The lower levels among the domains are externalization and internalization. Despite being high, it initially implies that some elementary pre-service teachers face challenges in expressing their pedagogical thinking and applying collaborative inputs to their teaching practice. Responses like *I find it challenging to turn my initial teaching ideas into clear and structured viewpoints*, and *I sometimes struggle to connect and apply new teaching knowledge from my team's discussions*, revealing areas where confidence and clarity in expression may be needed to improve further. Nonetheless, the presence of positive responses, such as *implementing lessons after collaborative lesson planning, helps me internalize new teaching concepts*, suggesting that meaningful learning still occurs, particularly when collaborative insights are put into practice.

Vygotsky's work substantiates the findings presented here, particularly his Social Constructivist Theory (1978), which emphasizes the importance of learning through social interaction and collaborative meaning-making within the socialization domain. This strong engagement corresponds to Dewey's Experiential Learning Theory (1938) principles. Nickerson (2024) noted that effective learning is fostered through active reflection and practical application. Moreover, the challenges identified within the externalization domain align with Bandura's Social Learning Theory (1977), which argues that modeling, observation, and articulation are fundamental components of the learning process.

Afalla and Fabelico (2020) highlighted the challenges many pre-service teachers encounter when translating theoretical knowledge into practical application. Collaborative lesson planning addresses this issue by creating opportunities for peer dialogue and constructive feedback. In the national context, Ramirez (2020) and the Philippine Institute for Development Studies (2019) emphasized the necessity for more context-responsive teaching preparation, particularly in subject training. The current findings support this need, especially regarding the lower levels of engagement in internalization and articulation. Furthermore, this study resonates with Gutierrez (2020) and Mendoza et al. (2022), who underscored the importance of collaboration in enhancing instructional strategies and fostering reflective practices, ultimately advancing teacher readiness prior to demonstrations. Overall, the data contribute valuable insights into how collaborative practices meet the pedagogical development needs of future elementary educators. A study by Kirmizi and Mutlu (2025) reported increased collaboration, improved communication, integration of feedback and deeper understanding of instructional planning.

Instructional Competence

The high performance in lesson planning underscores the respondents' preparedness in designing instruction aligned with curriculum goals. Items such as *I clearly define and align my lesson objectives with learning outcomes* and *I carefully select lesson content and prepare appropriate instructional materials or teaching aids* highlight their ability to plan instruction with intentionality and coherence. This reflects thoughtful preparation rooted in curriculum alignment. However, agreement with *I often struggle to choose the most effective teaching strategies for my lessons* points to a need for enhanced exposure to differentiated instruction and adaptive planning. The delivery domain resulted high indicates competence in communicating ideas clearly and engaging students during instruction. Responses such as *I communicate ideas clearly and ensure that my students understand the lesson* demonstrate instructional clarity, although occasional difficulty in fostering higher-order thinking was noted, as seen in the item *I use questions that encourage students to think critically*.

Despite its high classification, School, Home, and Community Involvement emerged as a developmental area. Elementary pre-service teachers admitted to limited participation in activities beyond the classroom, with items like *I am not involved in school activities such as events, committees, or parent-teacher associations* and *I rarely engage with parents or the community in my students' learning process*. This suggests a need to enrich the field-based experiences of elementary pre-service teachers, particularly in building educational partnerships and promoting community engagement. As Leko and Brownell (2009) recommend, embedding collaboration with families and communities into teacher training supports inclusive practices. In 2014, Organization for Economic Co-operation and Development (OECD) also emphasizes that strong school-community collaboration enhances instructional quality and professional satisfaction. These findings indicate that while elementary pre-service teachers are competent in classroom planning and delivery, more emphasis should be placed on preparing them for the broader responsibilities of teaching within a community-oriented framework.

The high standards observed in lesson planning and delivery embodies Dewey's experiential learning theory, which emphasizes that learning is grounded in active engagement and reflection. The respondents' effectiveness in implementing structured lesson plans and engaging students aligns well with this principle. Additionally, Bandura's Social Learning Theory is evident in the areas of delivery and professional development, where pre-service teachers learn through observation, modeling, and feedback during their practicum and training experiences. Moreover, Vygotsky's Social Constructivism underscores the social dimension of teaching practice, highlighting how peer collaboration and shared dialogue contribute significantly to professional growth.

Afalla and Fabelico (2020) identified ongoing challenges in translating theoretical knowledge into practical classroom applications, a process known as demonstration teaching practice. This challenge is particularly evident in the areas of evaluation and school-community involvement, which received relatively lower scores. Similarly, Ramirez (2020) and the Philippine Institute for Development Studies (2019) highlight the importance of academic preparation that incorporates real-world applications. These findings suggest that while elementary pre-service teachers display strong foundational skills in lesson planning and instruction, there is a need for additional efforts to develop inclusive evaluation strategies and to cultivate sustainable connections with families and communities. Strengthening these areas will enhance their overall instructional readiness and support the delivery of responsive, learner-centered education.

Correlation between Collaborative Lesson Planning Practices and Instructional Competence

The findings of this study indicate that the depth of engagement in collaborative planning—particularly the capacity to absorb, reflect upon, and apply shared instructional insights—exerts a substantial influence on the pedagogical competence of elementary pre-service teachers. For instance, the significant correlation between internalization and instructional competence is corroborated by affirmative responses to statements such as *collaborative lesson planning assists me in integrating new teaching concepts into my lesson delivery* and *I contemplate how collaborative discussions shape my actual classroom practices*. These observations underscore the necessity of transcending mere participation and actively embracing the practical application of collaboratively generated ideas.

These responses highlight the importance of going beyond participation and embracing the practical application of shared ideas. In contrast, item statements from the socialization domain like *I regularly interact with my peers in planning sessions* and *We share similar goals*

during planning show consistent peer engagement but may reflect surface-level collaboration unless supported by further instructional action. This implies that teacher education programs should not only encourage group work but also strengthen activities that develop reflective practice, application, and ownership of collaboratively planned strategies.

These results imply that the depth of engagement in collaborative planning, particularly in terms of the ability to absorb, reflect on, and apply shared instructional insights, has a meaningful impact on the teaching competence of elementary pre-service teachers. For instance, the high correlation between internalization and instructional competence is consistent with positive responses to item statements such as *collaborative lesson planning helps me apply new teaching concepts into my own lesson delivery* and *I reflect on how collaborative discussions influence my actual classroom practices*.

The correlation findings are supported by several educational theories. Vygotsky's Social Constructivist Theory (1978) explains the foundational value of social interaction in learning, which aligns with the significance of socialization; however, the results suggest that its effect is limited without personal integration. Bandura's Social Learning Theory (1977) supports the strong link between modeling, observation, and practice, reinforcing the relevance of internalization. Furthermore, the strong correlation in internalization aligns with Dewey's Experiential Learning Theory (1938). This was emphasized by Nickerson (2024), which talks about how true learning is developed through reflection and active use.

Moreover, Gutierrez (2020) highlights that collaborative lesson planning is rooted in reflective practices whereby instructor feedback may enhance instructional quality through reflection. This notion is corroborated by Mendoza (2022) and Chong and Kong (2012), who discovered that shared lesson planning contributes to improved instructional strategies and enhances learner outcomes. The vital role of collaboration in elementary pre-service training is further reinforced by Reimers and Schleicher (2020), who emphasize the significance of adaptive, practice-based learning, and by Guerriero (2017), who posits that collaborative preparation cultivates effective and resilient educators equipped to meet the evolving demands of contemporary classrooms. Moreover, Guo et.al. (2025) state that collaborative lesson planning offers a promising approach for teacher education by fostering a collaborative learning environment and promoting regulatory behaviors.

Conclusions

The results revealed that elementary pre-service teachers consistently showed a high level of engagement in collaboration during lesson planning activities. Among the four domains of the variable collaboration lesson planning practices, the combination appeared to be the most practiced. It reflects their active participation in applying instructional strategies and also incorporates shared ideas in designing the lesson plan. In contrast, the domains of externalization and internalization showed that they were practiced less frequently. This suggests that while elementary pre-service teachers are active in collaboration, they may still face challenges and difficulties in articulating their own teaching insights or fully applying team-based contributions into individual classroom practices.

Instructional competence, including lesson planning, was the strongest area registered at a high level across all domains. However, school, home, and community involvement received the lowest score, indicating a need for greater exposure to inclusive, community-centered teaching strategies. Most importantly, these results revealed a strong positive correlation between collaborative lesson planning and instructional competence, affirming that when elementary pre-service teachers work together in designing of the lessons, they are more likely to develop vital teaching skills that may deliver more effective instruction.

The results of this study affirm the theoretical underpinnings that guided the research, particularly Vygotsky's Social Constructivism Theory (1978), Dewey's Experiential Learning Theory (1938), and Bandura's Social Learning Theory (1977). Vygotsky emphasized that learning occurs through meaningful social interactions, which is evident in the elementary pre-service teachers' frequent participation in collaborative lesson planning, especially in synthesizing and applying group ideas. Dewey's theory supports the idea that learning becomes effective when it is reflective and experiential, as reflected in how elementary pre-service teachers often engaged in combining peer feedback with instructional strategies. Bandura's theory, which emphasizes observation and modeling as essential learning tools, aligns with the role of collaboration in their teaching growth. However, the relatively lower scores in externalization make *it challenging for me to turn my initial teaching ideas into clear and structured viewpoints. In internalization, I sometimes struggle to connect and apply new teaching knowledge from my team's discussions to areas where these theories are not fully realized.* This implies a need for more structured opportunities in teacher training programs that facilitate reflective articulation, modeled teaching, and peer feedback, thereby reinforcing the application of shared knowledge into practice.

Similarly, the low rating in instructional competence regarding school, home, and community involvement, where *I rarely collaborate with parents or guardians regarding students' academic needs,* calls for stronger community integration in fieldwork. Schools and teacher education institutions are encouraged to organize localized immersion programs, conduct family engagement workshops, and facilitate inter-agency collaborations that would allow elementary pre-service teachers to develop confidence and competence in engaging stakeholders beyond the classroom. These enhancements would ensure that collaborative and inclusive practices are not only discussed in theory but effectively demonstrated in practice.

Declarations

1.1 Study Limitations

None

1.2 Acknowledgements

All contributors are listed above.

1.3 Funding source

None.

1.4 Competing Interests

None.

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A Stylistic Analysis of Time and Memory in Joji's "Past Won't Leave My Bed"

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ABSTRACT

This study explores the linguistic construction of insomnia and hallucination in Joji's "Past Won't Leave My Bed," diverging from traditional stylistic analyses that focus solely on melancholy. The research aims to address two primary questions: (1) how phonological patterns specifically rhyme and assonance contribute to the linguistic representation of temporal stagnation, and (2) how semantic deviation constructs indeterminacy to linguistically mirror the cognitive confusion of the hypnagogic state. Adopting a qualitative descriptive method grounded in Leech's theory of Linguistic Deviation, the study analyses specific lexical and grammatical choices in the lyrics. The findings reveal that Joji utilizes monotonous rhyme schemes and assonance to acoustically mirror an endless temporal loop. Furthermore, the analysis identifies a distinct "Hypnagogic Style" characterized by semantic paradoxes (e.g., "vision to the blind") and indeterminate verbs that blur the boundary between memory and reality. The study concludes that the song does not merely describe heartbreak but uses specific stylistic devices to linguistically represent the disorientation of the sleep-wake border.

Keywords: hypnagogic state, insomnia, Joji, semantic deviation, stylistics

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Introduction

Stylistics serves as a crucial interdisciplinary bridge between linguistics and literature, operating on the premise that a comprehensive understanding of a literary text such as a song lyric requires rigorous language analysis (Leech, 1990). Building on this foundation, this paper attempts to study the literary work 'Past Won't Leave My Bed' by Joji from a linguistic perspective, specifically focusing on how it constructs the hypnagogic state.

This study emphasizes the area of stylistics which is usually defined as the systematic and scientific way to see further on the literary works. Stylistics is one of the major areas of linguistics. Stylistic has become the disciplinary field within linguistics because of the rapid progress and data research which is flooding the data. The stylistic analysis includes subfields such as literary stylistics, pragmatic stylistics, cognitive stylistic, corpus stylistics, and critical stylistics. Stylistic analysis thus serves not only aesthetic appreciation but also deeper comprehension of literary works, particularly in explaining how linguistic form interacts with cognition and mental experience (Stockwell, 2020). Many of the literary texts have been analysed and are being analysed by the literary stylistic researchers in the light of the rules and models provided by the experts of this field. Researchers intend to analyse the song "Past Won't Leave My Bed" by Joji from a stylistic perspective. As stylistic deals with styles therefore it is better to know what style of the literary works itself.

Moreover, by applying this perspective, one can see that a songwriter's choice of words, sounds, and structures is not accidental but designed to create a specific aesthetic effect. Therefore, to fully grasp the emotional weight of a song, one must look beyond the surface meaning and investigate the linguistic mechanics at play. This type of analytical work comes under the area of stylistics, which is usually defined as the systematic and scientific study of styles. According to Widdowson (2014), it is the field of study in which literary discourse is analysed from a linguistic point of view. Short (1996) further emphasizes that stylistics analyses literature by implying linguistic tools of analysis. It is useful not only for showing aesthetic characteristics but also for helping the reader to have a better understanding of the work.

In terms of methodology, stylistic analysis often involves observing the deviation and distortion from normal usage to discover aesthetic purposes. This involves dissecting the text through different levels, such as the phonological level, figurative level, and thematic level. As Wellek and Warren (1956) suggest, this includes studying the linguistic system and interpreting its features. By looking at how a writer or singer deviates from standard language through rhyme schemes, metaphors, or syntactical choices researchers can uncover the artistic principles underlying the writer's choice of language.

Stylistics has been widely adopted by researchers as a critical framework for analysing song lyrics, bridging the gap between linguistics and literary appreciation. Previous studies have demonstrated how stylistic devices ranging from phonological patterns to figurative language are essential in constructing the thematic depth of musical compositions across different eras and genres.

In the realm of contemporary pop anthems, a stylistic analysis of Katy Perry's "Roar" illustrates how linguistic choices contribute to themes of self-empowerment (Asgher et al., 2016). The study highlights that the song relies heavily on phonological devices such as rhyme,

alliteration, and onomatopoeia to create a catchy and resonant auditory experience. Furthermore, the analysis reveals that figurative devices, specifically similes and metaphors (e.g., comparing the singer to a "champion" or a "tiger"), are pivotal in conveying the transformation from silence to vocal confidence. The researcher concludes that these stylistic elements work cohesively to communicate a narrative of overcoming challenges and asserting one's voice.

Expanding the analysis to non-English discourses, a study on Tulus's "Manusia Kuat" demonstrates the universality of stylistic frameworks (Fadlilah et al., 2021). This research identifies a dominance of affirmation and contradiction styles, specifically utilizing hyperbole, antithesis, repetition, and climax. The study concludes that these devices are strategically employed to construct a narrative of resilience and strength.

Lastly, Simanjuntak et al. (2023) performed a cognitive stylistic analysis of Lewis Capaldi's "Someone You Loved". This study goes beyond surface-level features to examine how the lyrics interact with human cognition and mental processes. The researchers found a strong coherence among the figures of speech used, which work together to build a consistent emotional narrative. By analysing the "text-worlds" created by the lyrics, the study illustrates how Capaldi uses specific stylistic choices to trigger cognitive responses related to grief and longing in the listener.

Collectively, these studies confirm that stylistic analysis provides a robust method for deconstructing song lyrics. However, they predominantly focus on how phonological and figurative devices construct clear, conscious emotional landscapes, such as the empowerment in Katy Perry's anthems or the articulated resilience in Tulus's melodies. By largely confining stylistic application to coherent emotional narratives, the existing literature leaves a critical gap regarding how language represents disordered, liminal mental states. To address this, this study extends these established stylistic frameworks to Joji's 'Past Won't Leave My Bed,' moving beyond a simple summary of lyrical grief to critically examine how linguistic indeterminacy and sound patterning actively simulate the cognitive disorientation of the hypnagogic state.

While previous stylistic studies on pop ballads primarily focus on the linguistics of conscious emotions like grief and heartbreak, Joji's work presents a unique theoretical challenge. Although recent cognitive stylistic analyses have explored schema activation in lyrical interpretation, this study extends that framework to examine the representation of liminal, semi-conscious experiences. The lyrics do not merely describe the sadness of insomnia and hallucination; rather, they use specific phonological and semantic patterns to linguistically mirror the cognitive disorientation of hypnagogia, the transitional state between wakefulness and sleep. Therefore, this research investigates how Joji employs semantic indeterminacy and paradox to construct a "dream logic" where the boundaries between memory and reality are blurred. By deconstructing these complex linguistic features, this study aligns with the goals of stylistics-informed pedagogy and language awareness, demonstrating how analysing contemporary pop culture texts provides a framework for decoding semantic ambiguity in modern English discourse.

This study seeks to investigate how linguistic style functions in Joji's "*Past Won't Leave My Bed*" by addressing two central research questions. This study seeks to investigate how linguistic style functions in Joji's "*Past Won't Leave My Bed*" by addressing two central research questions. First, how do phonological patterns specifically rhyme, and assonance contribute to the linguistic

representation of temporal stagnation in the song's lyrics? Second, how does semantic deviation construct indeterminacy to linguistically mirror the cognitive confusion of the hypnagogic state?

Thus, the current research work is an attempt to analyse the song "Past Won't Leave My Bed" by Joji from this linguistic perspective. Much like the analysis of other pop culture texts, the researchers intend to analyse this song from a stylistic perspective to understand how Joji constructs themes of isolation and memory. This paper will examine the distinctive linguistic choices and patterns in the lyrics, specifically focusing on phonological devices like rhyme and assonance, as well as figurative devices like personification, to reveal how the song effectively communicates its melancholic message.

Phonological Features

In order to analyse the acoustic architecture of the song, this research relies on specific phonological concepts defined in stylistic theory. The first feature is assonance, which Wales (2001) defines as the repetition of identical or similar vowel sounds in neighbouring words. In this study, assonance is analysed to demonstrate how prolonged vowel sounds contribute to a sense of lethargy. The second feature is consonance, specifically sibilance. Short (1996) describes sibilance as a specific form of alliteration that relies on the repetition of 's', 'z', or 'sh' sounds to create a hushing effect. This concept is essential for interpreting how the lyrics mimic the quiet, intimate atmosphere of the bedroom. Finally, the study examines rhyme, defined by Leech (1969) as the correspondence of terminal sounds between poetic lines. This feature is analysed to show how a static rhyme scheme reflects the persona's psychological stagnation.

Semantic and Figurative Features

In addition, deconstruct the illogical, dream-like quality of the lyrics, the study utilizes the framework of semantic deviation. Leech (1969) defines semantic deviation as a linguistic irregularity in which meaning is absurd or paradoxical, often used to create psychological emphasis or "foregrounding." Within this framework, the research identifies oxymoron (or paradox). Cuddon (2013) explains that an oxymoron is a figure of speech that combines contradictory terms, such as "vision" and "blind," to create a complex new meaning. Additionally, the analysis incorporates personification, which Wales (2001) defines as the attribution of human qualities or feelings to inanimate objects or abstract concepts

Grammatical and Syntactical Features

The analysis of time and agency is grounded in grammatical stylistics. Specifically, the study examines the use of continuous verb forms, primarily present participles ending in *-ing*. According to Leech and Short (1981), these continuous forms mark an action as ongoing, temporary, or incomplete, as opposed to the finite permanence of the simple past tense, this grammatical distinction is crucial for establishing the theme of a temporal loop.

Furthermore, the research employs transitivity analysis, a framework derived from Systemic Functional Linguistics. In systemic functional linguistics, grammar is understood as a resource for construing human experience, where clauses encode processes, participants, and circumstances that reflect how reality is perceived and organized (Halliday & Matthiessen, 2014). As outlined by Simpson (2004), transitivity analysis examines the grammatical structure of 'who

does what to whom' by distinguishing between the Actor (the doer) and the Goal (the entity affected). This framework is utilized to demonstrate the singer's loss of agency, highlighting his position as a passive observer rather than an active participant in his own environment.

Methods

This study utilizes a qualitative descriptive method, grounded in stylistic analysis, to investigate how linguistic features in Joji's 'Past Won't Leave My Bed' linguistically represent the hypnagogic state. To ensure methodological rigor and avoid impressionistic reading, the analytical procedure was strictly guided by Leech's framework of linguistic deviation. The procedure was conducted in explicit stages. First, the text was subjected to a close reading to manually identify and isolate lexical and phonological choices that deviate from standard usage. Second, rather than allowing analytical categories to emerge subjectively, these isolated features were mapped onto two pre-determined linguistic levels aligned with the research questions: the phonological level (focusing on patterns like assonance and rhyme) and the semantic level (focusing on figurative deviations like paradox and indeterminacy). Finally, the interpretation of meaning was constrained by the theoretical framework; rather than deducing general emotional themes from the lyrics, the analysis specifically evaluated how these categorized structural deviations function mechanically to mirror the cognitive disorientation of the sleep-wake boundary.

The research applies a deductive approach, where theoretical concepts guide analysis rather than patterns emerging solely from the data. In deductive research, pre-established frameworks are used to investigate specific textual features and interpret their functions (Creswell, 2014). In this study, stylistic categories such as phonological patterning, figurative language, semantic deviation, unlike analyses that foreground figurative language alone (Nur Fadilla, Ariani, & Dewi Max, 2023), this study extends stylistic attention to phonological and semantic devices as constructions of cognitive states. Therefore, foregrounding are drawn from foundational works in linguistics and stylistics.

This research is designed as a single-text interpretive case study, utilizing the complete lyrics of Joji's 'Past Won't Leave My Bed' as its primary data source. This specific track was purposively selected because it provides a highly concentrated, unique linguistic representation of the hypnagogic state, serving as an ideal bounded case to explore stylistic deviations that differ from standard pop narratives of grief. A close reading method is employed, which enables detailed identification of linguistic patterns and their interpretive function, a practice done by Sirait et al. (2024) consistent with research in song lyric linguistics. Close reading allows for rigorous interpretation of how language choices in lyrics operate at multiple linguistic levels. The text was retrieved from Genius.com and subsequently verified by listening to the official audio release to ensure the accuracy of the transcription, particularly regarding line breaks and enjambment which affect the rhythmic analysis. However, as an interpretive case study, this research acknowledges its inherent limitations: the findings offer a deep, granular exploration of how linguistic indeterminacy functions within this specific song, rather than attempting to establish generalized stylistic patterns across Joji's wider discography or the broader pop genre.

Analysis is structured at two linguistic levels. First, the phonological level, focusing on sound patterns, and the figurative (semantic) level, focusing on non-literal language. These levels

are chosen because they capture both formal and conceptual elements of song lyrics, in line with research showing that phonological and figurative devices play central roles in meaning construction.

The data analysis was conducted systematically in three operational stages:

Firstly, the lyrics were subjected to a close reading to isolate specific linguistic choices that deviate from standard English norms. To ensure transparency, these features were strictly operationalized: 'semantic deviation' and 'paradox' were identified as phrases containing logical contradictions (e.g., oxymorons or indeterminate verbs), while 'passivity' was identified through grammatical transitivity, specifically isolating clauses where the persona functions as a passive observer rather than an active agent.

Secondly, the isolated features were then grouped into two primary frameworks of linguistic representation: phonological patterns (focusing on how sound repetition creates auditory stagnation) and semantic/grammatical deviations (focusing on how syntax and word choice blur logical meaning).

Finally, the analysis evaluated the interpretive function of these categorized deviations. Rather than attempting to prove a clinical psychological condition, this stage systematically mapped how the combined phonological and semantic features linguistically represent the 'hypnagogic' effect, demonstrating how the text mirrors the cognitive disorientation of the sleep-wake border.

Subsequently, phonological level, the analysis focuses on sound-based patterns such as rhyme, assonance, consonance, and repetition. Phonological analysis is a key component of this research, providing insight into how sound contributes to cohesion, emphasis, and emotional expression in poetic and lyrical texts (Wales, 2001). Studies of contemporary song lyrics emphasize that patterned sound functions as a stylistic mechanism that enhances mood and aligns formal features with thematic content.

In this study, phonological features are interpreted as devices that mirror cognitive effects like looping thought and unresolved memory, characteristic of hypnagogic experience. These patterns are considered stylistic simulations of mental processes where repetition and auditory resonance reflect psychological states.

Moreover, the figurative level examines figures of speech such as metaphor, simile, personification, and hyperbole. Figurative language is understood as a form of semantic deviation that allows text to generate meaning beyond literal interpretation, shaping the conceptualization of emotional and cognitive experience (Gibbs, 1994). Research Sirait et al. (2024) on song lyrics shows that figurative devices play a significant role in conveying emotional depth, conceptual complexity, and interpretive ambiguity

Metaphor and other tropes are analysed through a cognitive and stylistic lens. Metaphor, for example, can be modelled as a conceptual mapping that enables abstract phenomena like memory intrusion and emotional paradox to be linguistically rendered (Lakoff & Johnson, 1980). Similes and personification reveal how abstract psychological states are grounded in more concrete experience, thereby generating layers of semantic indeterminacy.

Results

Based on the analysis of Joji's song "Past Won't Leave My Bed," the findings reveal three dominant stylistic features: **phonological patterns**, **semantic deviation**, and **grammatical structures**. These features are systematically identified from the lyrical data and classified according to their linguistic characteristics.

Table 1: Song Lyrics

Past Won't Leave My Bed By Joji
This room could be haunted, a vision to the blind Wishing sleep held me in her arms forever Shadows dance around, perfectly blurring up the lines Hallucinations start to intertwine
I open my eyes Her face lingers on the walls She's stuck on rewind in my mind I try to move on, but the past won't leave my bed
I hear it all the time like the wind between the chimes Holding on to what we had together A single note of my persistent hopeless lullabies I know that I can't sleep forever
I open my eyes Her face lingers on the walls She's stuck on rewind in my mind I try to move on, but the past won't leave my bed
I open my eyes Her face lingers on the walls She's stuck on rewind in my mind I try to move on, but the past won't leave my bed

Phonological Patterns

The analysis of the lyrics demonstrates the presence of several phonological devices, including **assonance**, **consonance (sibilance)**, and **end rhyme**, which contribute to the overall sound structure of the text.

First, **assonance** is evident in the line:

"She's stuck on rewind in my mind"

This line contains repetition of the diphthong /aɪ/ in "rewind" and "mind," forming an internal rhyme pattern.

Second, the lyrics exhibit a consistent **end-rhyme scheme**, particularly in the following lines:

*“This room could be haunted, a vision to the blind”
“Shadows dance around, perfectly blurring up the lines”
“Hallucinations start to intertwine”*

The repetition of the /am/ sound in “*blind*,” “*lines*,” and “*intertwine*” creates a cohesive phonological pattern across the stanza.

Third, instances of **consonance**, specifically **sibilance**, are found in several parts of the lyrics. For example:

“Wishing sleep held me in her arms forever”

This line contains repeated /s/, /z/, and /ʃ/ sounds, particularly in “*wishing*,” “*sleep*,” and “*arms*.” These repeated consonant sounds form a noticeable phonological pattern.

In addition, similar sibilant sounds appear in other lines such as:

“Shadows dance around”

The repetition of the /ʃ/ sound in “*shadows*” further contributes to the overall sound pattern of the lyrics.

According to the methodological procedure outlined previously, the lyrical data from Joji's 'Past Won't Leave My Bed' are classified into two primary analytical categories: phonological patterns and semantic deviation. Previous stylistic analyses have demonstrated that devices such as paradox and metaphor intensify meaning and expand imaginative engagement, supporting the claim that linguistic deviations actively structure emotional experience within a text (Anggraeni et al., 2022). Building on this premise, the following section details how these specific sound patterns and semantic irregularities function together to linguistically represent the cognitive disorientation of the hypnagogic state.

Semantic Deviation

The analysis also identifies several forms of **semantic deviation**, including paradox, personification, and the use of indeterminate lexical items.

First, the phrase:

“a vision to the blind” represents a **paradox (oxymoron)**, as it combines two logically contradictory concepts: *vision* and *blindness*.

Second, the lyrics frequently employ **personification**, as seen in:

*“the past won't leave my bed”
“shadows dance around”*

In these examples, abstract and inanimate entities (*the past*, *shadows*) are assigned human-like actions, such as *leaving* and *dancing*.

Third, the use of verbs such as:

“blurring” and *“intertwine”*

indicates **indeterminate or unstable processes**, suggesting a lack of clear boundaries or fixed states.

Grammatical Patterns

The grammatical analysis reveals several recurring structural features in the lyrics.

First, there is a frequent use of present participles (-ing forms), as illustrated in:

“perfectly blurring up the lines”

“hallucinations start to intertwine”

These forms indicate ongoing processes rather than completed actions.

Second, the lyrics predominantly employ the simple present tense, as seen in:

“shadows dance around”

“the past won’t leave my bed”

This tense suggests that the actions are occurring in the present time frame.

Third, the analysis identifies the use of mental process verbs, such as:

“I hear it”

“I know”

“wishing sleep held me”

These verbs represent internal cognitive and perceptual processes rather than physical actions. Finally, the transitivity structure shows that abstract entities (e.g., the past, shadows) function as grammatical Actors, while the persona primarily occupies the role of a Senser, engaging in mental processes.

Table 1.2: *Word Category and Stylistic Device*

No.	Lyric Excerpt	Stylistic Device	Category
1.	"She's stuck on rewind in my mind"	Assonance (/aɪ/)	Phonological
2.	Vision to the blind, blurring up the lines, ... intertwine"	End Rhyme (/an/)	Phonological
3.	"Wishing sleep held me in her arms forever"	Consonance (Sibilance /s/, /z/)	Phonological
4.	"But the past won't leave my bed"	Personification	Figurative
5.	"A vision to the blind"	Oxymoron / Paradox	Semantic Deviation
6.	"Shadows dance around"	Personification	Figurative
7.	"Blurring up the lines / Hallucinations... intertwine"	Indeterminate Verbs	Semantic Deviation

Discussions

The findings demonstrate that stylistic features in the song function not merely as aesthetic devices but as linguistic mechanisms that construct psychological experience. This supports the view in stylistics that language plays a central role in shaping meaning and representing mental states (Leech & Short, 1981; Stockwell, 2020).

Phonological Patterns and Temporal Stagnation

The repetition of vowel sounds, and the consistent rhyme scheme contribute to a sense of **cyclicity and temporal stagnation**. The recurring /aɪ/ sound creates a looping auditory effect, which mirrors the repetitive nature of intrusive thoughts associated with insomnia. This finding aligns with Simpson (2004), who argues that sound patterning in literary texts contributes to thematic reinforcement and emotional engagement. Similarly, Attridge (2014) highlights that phonological repetition can shape readers’ perception of rhythm and temporality.

The use of sibilance further enhances the **auditory atmosphere** of the song. The soft, whisper-like quality of /s/ and /ʃ/ sounds evokes calmness and intimacy, which contrasts with the underlying psychological tension. Such sound symbolism supports Leech’s (1983) argument that phonological features carry affective meaning beyond their structural function.

Semantic Deviation and Cognitive Disorientation

The presence of paradox and personification illustrates how **semantic deviation** disrupts logical expectations and foregrounds meaning. The phrase “*a vision to the blind*” challenges conventional understanding, prompting the listener to interpret the experience as internal rather than physical. This supports Leech’s (1969) notion that deviation is a key stylistic device used to create emphasis and interpretative depth.

From a cognitive stylistic perspective, these deviations simulate **liminal mental states**, such as hypnagogia, where boundaries between reality and imagination become blurred. Stockwell (2020) argues that such linguistic patterns guide readers in constructing mental representations of experience. Similarly, the personification of “*the past*” as an active entity externalises internal memory, making psychological distress appear tangible.

Grammatical Structure and Lack of Agency

The dominance of present participles and simple present tense reflects an **ongoing and unresolved condition**, reinforcing the theme of insomnia. Continuous forms suggest that actions are incomplete and repetitive, which aligns with Leech and Short’s (1981) view that grammatical choices influence narrative temporality.

Using Halliday’s transitivity framework, the lyrics position abstract entities such as “*the past*” and “*shadows*” as **Actors**, while the persona is limited to **mental processes**. This grammatical pattern indicates a lack of agency, as the persona is unable to perform physical actions. Halliday and Matthiessen (2014) argue that such transitivity patterns reveal underlying power relations within a text. In this case, the linguistic structure constructs a sense of helplessness, reflecting psychological entrapment.

Spatial Limitation and Textual Confinement

The repeated references to “this room” and “my bed” create a restricted spatial setting, contributing to a sense of claustrophobia. According to Text World Theory, limited spatial environments intensify reader immersion and emotional engagement (Gavins, 2007). The confined setting reinforces the idea that the persona is trapped not only physically but also mentally.

Stylistic Contrast and Thematic Implications

In contrast to songs that employ assertive syntax and empowering metaphors, Joji’s lyrics are characterised by **passivity and indeterminacy**. The use of paradox, personification, and ambiguous verbs creates a sense of disorientation rather than clarity. This stylistic approach demonstrates how linguistic choices can shape thematic representation, transforming the song into a depiction of psychological instability rather than a conventional narrative of emotional expression.

Conclusions

The stylistic analysis of Joji's *'Past Won't Leave My Bed'* reveals that the song functions as more than a standard narrative of heartbreak; it serves as a complex linguistic representation of the hypnagogic state, the disorienting threshold between wakefulness and sleep. By applying Leech's theory of deviation, this research successfully bridges the gap between linguistic form and psychological content, illustrating how language can be manipulated to stylistically construct the experience of insomnia.

First, the phonological analysis demonstrates that Joji utilizes a monotonous rhyme scheme and the assonance of long vowels (e.g., the /aɪ/ in *rewind/mind*) to create a sonic environment of stagnation. These repetitive sound patterns do not merely create rhythm, but rather acoustically mirror the sensation of a temporal loop, stylistically trapping the listener in the same static moment as the persona.

Second, the semantic and grammatical analyses support the presence of a 'Hypnagogic Style' characterized by indeterminacy and passivity. Through semantic paradoxes (e.g., *'vision to the blind'*) and indeterminate verbs (e.g., *'blurring,' 'intertwine'*), the lyrics blur the boundary between reality and hallucination. Furthermore, the reliance on continuous verb forms and the profound loss of agentive power in the sentence structure where 'The Past' functions as the active Actor and the singer is merely a passive Senser linguistically reinforces the thematic reading of sleep paralysis. The grammatical structure positions the singer as a captive of his own subconscious, unable to act or escape.

In conclusion, this study offers a novel perspective in the field of stylistics by distinguishing the linguistic markers of 'insomniac melancholy' from standard grief. Unlike the clear, hyperbolic expressions of sadness found in traditional pop ballads, Joji's lyrics employ linguistic obscurity and syntactical surrender to map the architecture of a disoriented mind. However, as an interpretive case study focused on a single song, this research acknowledges its limitations; while these specific findings cannot be broadly generalized across the entire pop genre, they provide a deep, localized understanding of stylistic deviation. Ultimately, this research implies that stylistic analysis is a vital tool not only for interpreting literary themes but for mapping how complex mental states are represented within the grammar of pop culture texts. Furthermore, this approach holds significant pedagogical value for classroom-oriented language analysis, demonstrating how deconstructing contemporary lyrics can provide educators with engaging frameworks to teach semantic ambiguity, grammar, and the non-literal capacities of modern English discourse.

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Educational Leadership for Sustainability: A Qualitative Literature Review on Environmental Conservation in Higher Education

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ABSTRACT

This qualitative literature review examines the role of educational leadership in advancing sustainability and environmental conservation within higher education institutions (HEIs), with particular emphasis on the Indonesian context. Universities are increasingly recognized as key agents of societal transformation, yet their ability to embed sustainability into curricula, operations, and community engagement largely depends on leadership capacity. Drawing on 65 selected studies published between 2010 and 2025, this review identifies leadership as a transformative force that mobilizes resources, fosters participatory governance, and cultivates sustainability-oriented cultures. The findings underscore that visionary and adaptive leadership approaches are essential for integrating sustainability into institutional missions and addressing contextual challenges such as resource constraints, bureaucratic rigidity, and cultural diversity. In Indonesia, green campus initiatives demonstrate progress but remain uneven across institutions, with leadership effectiveness emerging as a decisive factor. The review also highlights research gaps, particularly the lack of empirical studies capturing the lived experiences of leaders and the leadership styles most conducive to sustainability in resource-constrained settings. Overall, the study concludes that sustainability in higher education is less a technical challenge than a leadership endeavor, requiring adaptive, transformative, and collaborative practices to achieve long-term ecological stewardship. Recommendations include enhancing leadership training, strengthening governance frameworks, and advancing mixed-methods research to better capture the multifaceted impact of leadership on sustainability outcomes.

Keywords: *Educational leadership, environmental conservation, green campus, higher education, sustainability*

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Introduction

The global shift toward sustainability has positioned higher education institutions (HEIs) as key actors in environmental conservation. Universities are not only centers of teaching and research but also influential institutions capable of driving societal transformation. As hubs of knowledge production and innovation, they are expected to model sustainable practices, inform public policy, and encourage communities to adopt environmentally responsible behaviors (Purcell et al., 2019; Tilbury, 2011). This role has become increasingly important as climate change, resource depletion, and environmental degradation intensify, demanding coordinated action across sectors, including education (UNESCO Global Independent Expert Group, 2022; Wamsler et al., 2021).

In this regard, universities play a pivotal role in shaping societal values and behaviors by embedding sustainability into curricula, campus operations, and community engagement. Through environmental education and practical initiatives, HEIs can cultivate environmentally conscious graduates who act as agents of change in their communities and professions (Sterling, 2001; Ryan et al., 2010). Moreover, by functioning as living laboratories for sustainable practices, such as energy efficiency, waste reduction, renewable energy use, and green campus initiatives, universities demonstrate tangible solutions that can be adapted by governments, industries, and local communities (Brinkhurst et al., 2011; Fissi et al., 2021). These efforts highlight the transformative capacity of higher education to generate knowledge, model sustainability practices, and disseminate ecological responsibility across society (Purcell et al., 2019; Ramos et al., 2015).

The integration of sustainability into higher education also requires strong institutional leadership and governance frameworks. Transformative leadership enables universities to embed sustainability into their vision, policies, and strategic planning, ensuring that sustainability is not treated as an isolated initiative but as a core institutional value (Budihardjo et al., 2021; Lozano et al., 2013). Leadership commitment further facilitates collaboration with governments, industries, and local communities, creating multi-stakeholder partnerships that amplify the impact of sustainability initiatives (Ramos et al., 2015). Without such leadership and governance, sustainability efforts risk becoming fragmented, symbolic, and unsustainable in the long term (Leal Filho et al., 2020; Wamsler et al., 2021).

However, while policies and frameworks exist, the success of these initiatives largely depends on leadership commitment, vision, and adaptability. Leaders act as change agents who guide institutions through organizational transformation toward sustainability. Their ability to foster participatory decision-making, encourage innovation, and build partnerships is crucial in overcoming institutional inertia and resistance to change (Leal Filho et al., 2020; Lozano, 2006). Leadership in this sense is not only about implementing rules but also about cultivating cultural and behavioral changes within academic communities, changes that encourage sustainable lifestyles, shared accountability, and long-term ecological stewardship.

Despite the growing recognition of sustainability in higher education, there remain significant research gaps. Much of the existing literature has focused on policy frameworks, infrastructure development, and technical solutions, with less attention given to the leadership dimensions that drive these transformations. International scholarship has emphasized leadership for sustainability in Western and developed contexts, yet studies exploring how leadership operates within Indonesian higher education institutions are still limited. Moreover, empirical findings on how educational leaders navigate contextual challenges such as resource constraints, cultural diversity, and institutional resistance are relatively scarce. Addressing these gaps is crucial to ensure that sustainability efforts in higher education are not only aspirational but also actionable and contextually relevant.

Therefore, this study conducts a qualitative literature review to examine how leadership in higher education contributes to environmental conservation and sustainable campus development. By synthesizing both international and Indonesian scholarship, it highlights the strategies, challenges, and outcomes of leadership in advancing sustainability. This approach

provides a holistic understanding of the ways in which leadership practices influence institutional capacity to respond to environmental challenges, and how these practices can be strengthened to support the global sustainability agenda while addressing local educational needs.

Literature Review

This section reviews the key theoretical and empirical studies that inform the present research. It begins by examining the concept of educational leadership and sustainability in higher education, with particular attention to how institutions respond to global challenges through inclusive, adaptive, and future-oriented practices. It then considers perspectives on intercultural competence, experiential learning, and professional identity development, which are central to understanding pre-service teachers' experiences in international teaching contexts. While these strands of literature have been widely examined, they are often treated as separate domains. By synthesizing these perspectives, this review establishes an integrated theoretical framework to examine how cross-cultural internship experiences simultaneously shape pedagogical growth, intercultural adaptation, and professional transformation.

Educational Leadership and Sustainability in Higher Education

Leadership in higher education has been widely recognized as a critical driver of the successful implementation of sustainability initiatives and the advancement of environmental conservation efforts (Leal Filho et al., 2020; Tilbury, 2011; Wamsler et al., 2021). University leaders play a strategic role in shaping institutional vision and long-term priorities by embedding sustainability principles into strategic plans, policies, and governance frameworks (Lozano et al., 2013; Purcell et al., 2019). Beyond setting direction, leaders are responsible for allocating financial, human, and infrastructural resources in ways that support sustainable campus operations, environmentally responsible research agendas, and sustainability-oriented curricula (Aleixo et al., 2018; Fissi et al., 2021). They also actively engage internal and external stakeholders, including faculty members, administrative staff, students, government agencies, and surrounding communities, to foster shared commitment and collective action toward ecological responsibility (Brinkhurst et al., 2011; Ramos et al., 2015). Unlike managerial roles that primarily emphasize routine administration and compliance, educational leadership highlights transformational qualities such as visionary thinking, participatory governance, ethical decision-making, and the capacity to integrate sustainability into the university's core functions of teaching, research, and community service (Bush & Glover, 2014; Leal Filho et al., 2020). Through these leadership practices, higher education leaders influence institutional policies and operational behaviors while also shaping students' environmental values, attitudes, and competencies, thereby contributing to broader societal awareness and long-term sustainability outcomes (Sterling, 2001; Tilbury, 2011).

Adaptive leadership theory has frequently been applied in the higher education context to explain how institutions navigate complex environmental challenges and respond to sustainability transitions characterized by uncertainty, interdependence, and continuous change (Heifetz, 1994; Heifetz et al., 2009; Leal Filho et al., 2020). In contrast to traditional leadership approaches that focus primarily on technical solutions and formal authority, adaptive leadership emphasizes leaders' capacity to diagnose systemic problems, question entrenched assumptions, and facilitate continuous organizational learning (Northouse, 2022; Uhl-Bien & Arena, 2018). Within the context of sustainability, higher education leaders are required to manage competing priorities, balance academic autonomy with institutional accountability, and align long-term environmental commitments with short-term operational demands (Leal Filho et al., 2020; Wamsler et al., 2021). Leaders who adopt adaptive approaches are therefore better positioned to address the dynamic and multifaceted nature of sustainability challenges, reconcile global sustainability frameworks, such as the Sustainable Development Goals (SDGs), with local socio-cultural and institutional contexts, and mobilize collective action among diverse stakeholders,

including academic staff, students, administrators, and external partners (Lozano et al., 2013; Sterling, 2001). This perspective suggests that sustainability in higher education is not merely a technical or managerial concern, but fundamentally a leadership challenge that requires vision, flexibility, shared responsibility, and collaborative governance to foster enduring institutional transformation (Bolden et al., 2009; Ryan et al., 2010).

Integration of Sustainability into Institutional Missions

Research has highlighted the growing trend of universities embedding sustainability into their missions, curricula, and governance structures (Lozano et al., 2013, 2019; Purcell et al., 2019; Tilbury, 2011). Leaders play a crucial role in operationalizing sustainability by promoting curriculum innovation, encouraging interdisciplinary research, and fostering partnerships with communities and industries. For instance, embedding environmental literacy across academic programs equips students with knowledge and competencies to address ecological challenges, while campus operations, such as renewable energy adoption, waste reduction, and green building development, serve as living laboratories of sustainability (Aleixo et al., 2018; Brinkhurst et al., 2011; Fissi et al., 2021).

Moreover, higher education leaders often face the challenge of balancing top-down policy implementation with bottom-up engagement from faculty, students, and staff. Studies suggest that sustainability efforts are most effective when leadership ensures participatory decision-making and empowers stakeholders to take ownership of initiatives (Brinkhurst et al., 2011; Ramos et al., 2015). In this sense, leadership functions as a mediator between structural requirements and cultural transformation.

Leadership in the Indonesian Higher Education Context

In Indonesia, sustainability initiatives have gained momentum through the implementation of green campus programs, supported by government policies and global sustainability rankings such as UI Green Metric (Budihardjo et al., 2021; Ragazzi & Ghidini, 2017; Sari et al., 2023). These initiatives include eco-friendly infrastructure, renewable energy projects, waste and water management, and curriculum reform aimed at enhancing environmental literacy (Rachmadian et al., 2025). However, the literature indicates that leadership effectiveness is uneven across institutions, with some universities excelling in sustainability integration while others struggle due to limited resources, competing priorities, and lack of stakeholder engagement (Masyhuri et al., 2025).

Cultural and socio-economic contexts also influence how sustainability is perceived and implemented in Indonesian universities. Leadership must navigate diverse cultural values, varying levels of ecological awareness, and institutional hierarchies that may resist change. The capacity of leaders to harmonize global sustainability frameworks with local realities is therefore pivotal (Budihardjo et al., 2021; Ryan et al., 2010). This highlights the need for leadership that is contextually grounded, culturally sensitive, and innovative in mobilizing resources.

Challenges and Gaps in Existing Scholarship

Despite growing attention, scholarship on sustainability in higher education remains heavily focused on policy frameworks, infrastructure, and technical interventions, with comparatively limited focus on leadership dimensions (Sanchez-Carrillo et al., 2021; UNESCO Global Independent Expert Group, 2022). While Western literature emphasizes transformational leadership for sustainability (Sanchez-Carrillo et al., 2021), empirical research from developing contexts, particularly Indonesia, remains scarce. Little is known about how Indonesian higher education leaders negotiate contextual constraints such as limited budgets, bureaucratic rigidity, and competing demands of academic excellence versus ecological responsibility (Masyhuri et al., 2025; Sari et al., 2023).

Furthermore, studies rarely capture the lived experiences of leaders in driving institutional change or the ways in which leadership styles influence the success of sustainability programs. This gap underscores the importance of qualitative inquiry to uncover how leadership practices shape organizational culture, stakeholder engagement, and long-term ecological outcomes.

Synthesis

Taken together, the literature affirms that educational leadership is a decisive factor in promoting sustainability within higher education. Leaders act as visionaries, change agents, and facilitators who mobilize institutions toward ecological stewardship (Sanchez-Carrillo et al., 2021; Masyhuri et al., 2025). While global scholarship provides valuable insights, Indonesian higher education presents unique contextual challenges and opportunities that require deeper exploration (Budihardjo et al., 2021; Sari et al., 2023). Understanding leadership strategies and barriers within this setting is essential for advancing not only institutional sustainability but also national and global environmental goals.

Methods

Research Design

This study adopts a Qualitative Literature Review (QLR) approach to enable a systematic yet interpretive examination of scholarly works related to educational leadership and sustainability in higher education. The QLR approach is particularly appropriate because it goes beyond merely aggregating existing findings; instead, it emphasizes critical interpretation and synthesis of the literature to develop deeper conceptual understanding and to identify theoretical, methodological, and empirical gaps within the field (Snyder, 2019). Through this approach, the study is able to explore how leadership is discussed, conceptualized, and operationalized in relation to sustainability across various academic contexts.

Unlike systematic reviews that are predominantly quantitative and focus on statistical aggregation or effect size measurement, QLR offers greater analytical flexibility in engaging with a wide range of sources. These include empirical research, conceptual and theoretical papers, as well as policy-oriented documents that shape sustainability practices in higher education institutions. This research design is therefore well suited to the objectives of the study, as it allows for a comprehensive and nuanced understanding of leadership as a multidimensional construct that influences sustainability outcomes in diverse institutional, cultural, and geographical contexts.

Data Sources

To ensure comprehensive and systematic coverage of relevant scholarship, this review employed a multi-source search strategy encompassing both international academic databases and nationally significant institutional repositories. Major international databases including Scopus, Web of Science, Google Scholar, ERIC (Education Resources Information Center), and ProQuest Education Journals were systematically consulted to identify peer-reviewed journal articles, scholarly books, book chapters, and conference proceedings relevant to educational leadership and sustainability in higher education. These databases were selected due to their broad disciplinary coverage, rigorous indexing standards, and established credibility in disseminating high-quality academic research.

In addition to international sources, this review deliberately incorporated context-specific materials to reflect the dynamics of sustainability practices within the Indonesian higher education system. Locally relevant sources, such as UI GreenMetric World University Rankings reports, official publications and policy documents issued by the Indonesian Ministry of Education, and nationally accredited academic journals, were examined to capture empirical evidence, policy orientations, and institutional initiatives that may not be fully represented in

global databases. The core review period focused on scholarship published between 2010 and 2025 in order to capture recent developments in sustainability leadership and climate-related challenges in higher education. Seminal theoretical and methodological works published before 2010 were retained only when they provided essential foundations for interpreting leadership, adaptive change, or qualitative analysis. This temporal scope allows the review to trace conceptual developments, methodological trends, and emerging research gaps within an evolving global and national context.

Search Strategy

The literature search was carried out using a systematic keyword strategy. Boolean operators (AND, OR) were employed to refine the search and capture a wide range of relevant works. The key terms included “*educational leadership*” AND “*sustainability*”, “*higher education leadership*” AND “*environmental conservation*”, “*green campus*” AND “*leadership practices*”, and “*Indonesia*” AND “*sustainability in universities*.” Filters were applied to restrict results to English- and Indonesian-language publications, while irrelevant results were removed based on relevance to higher education and leadership. This strategy ensured that the review not only covered global scholarship but also incorporated perspectives from the Indonesian context, which is often underrepresented in international discussions of sustainability leadership.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the selected literature, this review applied clearly defined inclusion and exclusion criteria. Studies were included if they: (1) were published between 2010 and 2025, with the exception of seminal theoretical or methodological works that directly informed the review framework; (2) were peer-reviewed journal articles, scholarly books, book chapters, conference proceedings, or authoritative policy documents; (3) were written in English or Indonesian; and (4) explicitly addressed educational leadership in relation to sustainability, environmental conservation, or green campus initiatives within higher education contexts. Both international and Indonesian-focused studies were considered to allow for comparative and contextual analysis.

Studies were excluded if they: (1) focused on sustainability without addressing leadership dimensions; (2) examined leadership in non-educational or non-higher education settings; (3) were non-scholarly sources such as opinion pieces, blogs, or unpublished manuscripts; or (4) lacked sufficient relevance to the research objectives based on title and abstract screening. This process ensured that the final selection of studies was aligned with the aims of the review and contributed meaningfully to the analysis of leadership in sustainability within higher education.

Selection Process

The initial search across all databases generated more than 350 records. A two-step screening process was then employed. First, titles and abstracts were reviewed to assess relevance to the topic, resulting in the retention of 120 articles. Second, a full-text review was conducted using the inclusion and exclusion criteria, which narrowed the final corpus to 65 articles. These selected sources represented a balanced mix of international studies and Indonesian-specific literature, enabling a comprehensive comparative analysis. To ensure transparency and replicability, the selection process was documented following the logic of the PRISMA framework (Page et al., 2021), although adapted to the qualitative review approach.

Data Analysis

The analysis of the selected literature was conducted using thematic analysis as outlined by Braun and Clarke (2006). The process began with familiarization, where each article was carefully read multiple times to capture both explicit findings and implicit conceptual insights. From this stage, initial codes were generated by identifying key concepts, arguments, and

patterns relevant to leadership and sustainability. The coding was conducted inductively, allowing categories to emerge naturally from the literature rather than being imposed a priori. These codes were then clustered into broader themes, such as visionary leadership, stakeholder engagement, curriculum integration, contextual challenges, and adaptive strategies. The themes were compared across international and Indonesian contexts to highlight similarities, differences, and unique contextual factors shaping sustainability practices in higher education. The synthesis provided a nuanced understanding of how educational leadership contributes to institutional sustainability strategies and cultural transformation.

Trustworthiness and Rigor

Ensuring the credibility and reliability of the review was achieved through several strategies. Triangulation was applied by consulting multiple databases and integrating both global and local literature, which minimized bias and enhanced comprehensiveness. Transparency was maintained by documenting the search process, inclusion and exclusion decisions, and analytical procedures in detail. In addition, reflexivity was acknowledged throughout the review, recognizing that the researcher's interpretive lens inevitably influences theme identification and synthesis. This reflexive stance helped maintain awareness of potential biases and strengthened the overall rigor of the study.

Ethical Considerations

As this study relied exclusively on secondary data, no direct human participation was involved. However, ethical integrity was carefully maintained through accurate citation, acknowledgment of intellectual contributions, and avoidance of plagiarism. In synthesizing the findings, the study ensured that authors' original ideas were represented faithfully and that interpretations were grounded in evidence from the reviewed texts.

Results

The qualitative synthesis of the selected studies revealed several interrelated themes regarding the role of educational leadership in promoting environmental conservation within higher education. These themes highlight how leadership practices shape institutional strategies, influence stakeholder engagement, and navigate contextual challenges, both in global and Indonesian settings.

First, the review found that visionary and adaptive leadership emerged as the cornerstone of sustainability initiatives in higher education. Leaders who articulated a clear and long-term vision for environmental responsibility were able to mobilize resources, integrate sustainability into institutional missions, and inspire stakeholders to engage actively. Adaptive leadership practices were particularly important in contexts where sustainability required navigating uncertainties, reconciling global frameworks with local realities, and overcoming institutional inertia. This aligns with international scholarship that emphasizes leadership as a critical factor in enabling cultural and organizational transformation rather than simply enforcing compliance with external policies.

Second, the literature underscored the importance of stakeholder engagement and participatory governance. Studies demonstrated that when leaders fostered inclusive decision-making and empowered faculty, students, and administrative staff, sustainability initiatives achieved broader acceptance and long-term viability. For instance, embedding sustainability into curricula and research agendas was most effective when supported by collaborative structures that encouraged interdisciplinary innovation. Beyond academic functions, leaders also facilitated partnerships with external communities and industries, extending the impact of higher education institutions beyond campus boundaries and reinforcing their role as agents of societal change.

Third, the findings revealed that institutional and contextual factors significantly mediated the effectiveness of leadership in promoting sustainability. In Indonesian universities,

the adoption of green campus initiatives such as renewable energy use, eco-friendly infrastructure, and waste management was closely tied to leadership commitment. However, challenges such as limited financial resources, hierarchical organizational cultures, and varying levels of ecological awareness posed significant barriers. Leadership that was culturally sensitive and contextually grounded proved more effective in harmonizing global sustainability agendas with local socio-economic and cultural realities. This contrasted with studies from Western contexts, where resource availability and institutional autonomy allowed for more ambitious sustainability transformations.

Fourth, the review highlighted curriculum integration and cultural transformation as crucial outcomes of strong educational leadership. Leaders who prioritized environmental literacy and sustainability competencies within curricula created ripple effects that extended into student values and behaviors. This educational dimension positioned universities not only as knowledge producers but also as training grounds for future leaders with ecological mindsets. At the same time, leadership efforts were shown to shape campus culture by fostering sustainable lifestyles, shared accountability, and ecological consciousness within academic communities.

Finally, the analysis revealed several gaps in existing scholarship. While significant attention has been given to policy frameworks and technical solutions for sustainability, relatively fewer studies examined the lived experiences of leaders or the leadership styles that drive effective change in diverse cultural and institutional contexts. Particularly in Indonesia, empirical research remains limited, with most studies focusing on the technical implementation of green campus programs rather than the leadership dimensions underpinning their success. This highlights the need for more contextually grounded studies that explore how leaders negotiate challenges, build coalitions, and cultivate sustainability cultures within universities.

Discussion

The findings of this Qualitative Literature Review (QLR) reaffirm that leadership plays a central role in advancing sustainability within higher education institutions (HEIs). More importantly, this study positions leadership not merely as an administrative or supportive function, but as a transformative mechanism that shapes how institutions respond to environmental, social, and organizational challenges. The prominence of adaptive and transformative leadership models across the reviewed literature suggests that sustainability in higher education is fundamentally a leadership-driven process rather than a purely technical or policy-oriented endeavor.

This study contributes to the literature by reframing sustainability as a collective and systemic responsibility that requires leadership approaches extending beyond top-down governance. The findings indicate that sustainability initiatives are more effectively institutionalized when leaders promote participatory decision-making, stakeholder engagement, and cross-sector collaboration. In this sense, leadership operates as a facilitator of shared ownership, enabling faculty members, students, administrators, and external partners to contribute actively to sustainability goals. This extends existing scholarship by highlighting that the success of sustainability efforts depends not only on strategic planning but also on leaders' ability to cultivate inclusive institutional cultures.

Furthermore, this study extends adaptive leadership theory by demonstrating its relevance in higher education sustainability contexts, particularly in non-Western and resource-constrained environments such as Indonesia. While adaptive leadership has traditionally been associated with managing complexity and uncertainty, the findings suggest that it also plays a critical role in reconciling global sustainability frameworks with local socio-cultural realities. Leadership, therefore, is not only about responding to change but also about actively shaping institutional capacity to navigate competing priorities, limited resources, and diverse stakeholder expectations.

At the same time, the findings challenge the assumption that sustainability initiatives can be effectively implemented through top-down policy directives alone. The synthesis reveals that

institutional and contextual constraints, such as limited financial resources, hierarchical governance structures, and fragmented policy environments, significantly influence the effectiveness of leadership practices. In the Indonesian context, these challenges are particularly pronounced, requiring leaders to adopt context-sensitive and flexible approaches. This suggests that leadership effectiveness lies less in formal authority and more in the capacity to mediate, negotiate, and mobilize collective action within complex institutional systems.

From a practical perspective, this study highlights several implications for higher education leaders and policymakers. University leaders are encouraged to adopt adaptive and participatory leadership approaches that prioritize stakeholder engagement and align sustainability initiatives with local institutional realities. Strengthening collaboration across internal and external stakeholders can enhance the relevance and long-term impact of sustainability programs. In addition, institutional support in the form of funding, capacity-building initiatives, and flexible governance frameworks is essential to enable leaders to implement sustainability strategies effectively. Without such support, sustainability efforts risk remaining fragmented or symbolic rather than transformative.

Finally, this review identifies a significant methodological gap in the existing literature. While qualitative studies have provided valuable insights into leadership practices and institutional dynamics, there remains a lack of large-scale quantitative and longitudinal research that can measure the impact of leadership on sustainability outcomes more systematically. Future research should therefore integrate mixed-methods and longitudinal designs to capture both the complexity and measurable effects of leadership in sustainability initiatives. Such approaches would contribute to a more comprehensive and empirically grounded understanding of how leadership influences sustainability trajectories in higher education.

Conclusions

This study demonstrates that leadership is a critical driver of sustainability in higher education, functioning not merely as an administrative role but as a transformative force that shapes institutional direction and capacity for change. The findings highlight that adaptive and collaborative leadership approaches are particularly effective in embedding sustainability within institutional missions, fostering stakeholder engagement, and aligning university practices with broader global sustainability agendas. In this sense, sustainability is not simply a technical or policy issue, but a leadership-driven process that requires vision, flexibility, and the ability to mobilize collective action.

Importantly, the study underscores that sustainability in higher education is inherently context-dependent. While global frameworks provide general direction, their successful implementation relies on leadership that is responsive to local socio-cultural, economic, and institutional conditions. This finding emphasizes the need to move beyond universal models and toward leadership practices that are sensitive to diverse institutional realities, particularly in resource-constrained and culturally complex environments.

From a practical perspective, higher education leaders are encouraged to adopt adaptive, participatory, and context-sensitive approaches to sustainability. Institutional efforts should prioritize inclusive governance, curriculum integration, and sustained stakeholder engagement to ensure long-term impact. At the same time, adequate investment in resources and capacity-building initiatives is essential to address structural barriers that often limit the effectiveness of sustainability programs. At the policy level, supportive regulatory frameworks and institutional incentives are necessary to create enabling conditions for universities to embed sustainability across teaching, research, and community engagement. Strengthening collaboration among universities, industries, and communities can further enhance the societal relevance and impact of sustainability initiatives.

This study also highlights important directions for future research. More empirical studies, particularly those employing mixed-methods and longitudinal designs, are needed to examine the measurable impact of leadership on sustainability outcomes. In addition,

comparative research across different institutional and regional contexts would provide valuable insights into how leadership practices can be adapted to diverse settings while maintaining effectiveness.

Overall, this study contributes to the growing discourse on sustainability in higher education by emphasizing that meaningful and sustained transformation depends on leadership that is visionary, collaborative, and contextually adaptive. Strengthening such leadership practices is essential for universities to respond effectively to the complex sustainability challenges of the present and future.

Declarations

1.1 Study Limitations

None.

1.2 Acknowledgements

None.

1.3 Funding source

None.

1.4 Competing Interests

The author declares no competing interests.

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Implementation of Differentiated Learning in Stimulating Cognitive Intelligence of Early Childhood Learners: A Case Study at PAUD Attaqwa Bojonegoro in the Merdeka Curriculum Framework

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ABSTRACT

This study explores the implementation of differentiated learning to stimulate cognitive intelligence in early childhood learners within the Merdeka Curriculum at PAUD Attaqwa, Bojonegoro, East Java. Cognitive intelligence during the golden age (0–6 years) includes logical thinking, problem-solving, classification, and working memory. Differentiated learning adjusts content, process, and product to children's readiness, interests, and learning profiles. Using a single-site qualitative case study over four months (October 2025 – January 2026), the study involved five educators and 38 children aged 4–6 years. Data were collected through participatory observation, semi-structured interviews, and document analysis, then analyzed using Miles, Huberman, and Saldaña's interactive model. Findings show that content differentiation through tiered materials, process differentiation via learning stations and flexible grouping, and product differentiation by allowing diverse expression collectively enhanced children's problem-solving, spatial logic, and self-efficacy. The synergy between differentiated learning, Vygotskian scaffolding, and the Merdeka Curriculum proved effective in optimizing cognitive development.

Keywords: cognitive intelligence, differentiated learning, early childhood, early childhood education, Merdeka Curriculum

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Introduction

Early childhood is widely recognised as the most critical period in human development. During the first six years of life, the brain undergoes rapid growth, forming neural connections at a pace that never recurs. It is during this window that foundational cognitive abilities such as logical reasoning, problem-solving, classification, and working memory begin to take shape. In Indonesia, the importance of early childhood education (ECE) is formally acknowledged in Law No. 20 of 2003 on the National Education System, which defines ECE as a holistic effort to nurture children's physical and spiritual growth from birth to age six. More than just a place for play, ECE is the primary investment in the nation's future human capital.

Yet, despite this recognition, ECE classrooms are characterised by high heterogeneity. In a single group, a teacher may find a child who can count to twenty while other struggles to recognise the number five; one child learns best through movement, another through listening. The Bojonegoro District Education Office (2023) reported that around 68 percent of ECE institutions in the region still apply uniform, one-size-fits-all teaching methods. This conventional approach not only ignores individual differences but also risks widening developmental gaps: fast learners become bored and disengaged, while slower learners fall behind and lose confidence (Handiyani & Muhtar, 2022).

Differentiated learning has emerged as a powerful, evidence-based response to this challenge. According to Tomlinson (2017), differentiated instruction is a teacher's proactive effort to modify three key elements content (what is taught), process (how children learn), and product (how they demonstrate understanding) based on students' readiness, interests, and learning profiles. In early childhood, differentiation is not merely about offering varied activities; it is about creating an inclusive environment where every child can learn at their own pace and in their own way. Research has shown that differentiation can increase motivation, engagement, and self-efficacy (Niswah & Zulfahmi, 2024; Schunk & DiBenedetto, 2021).

The Merdeka Curriculum (*Indonesian: Kurikulum Merdeka*), introduced through Permendikbudristek No. 12 of 2024 (and supported by earlier regulations No. 5 and No. 7 of 2022), provides a policy framework that aligns perfectly with differentiated learning. It emphasises child-centred, project-based learning and gives teachers the autonomy to design learning experiences that fit local contexts and individual children's potentials (Maryani & Sayekti, 2023; Munawar, 2022). However, while international studies have documented the benefits of differentiation in primary and secondary schools (Bondie et al., 2019; Karimi & Nazari, 2021; Kotas et al., 2023), research specifically focusing on its implementation in Indonesian ECE under the Merdeka Curriculum is still limited (Ngaisah, 2023; Sa'ida, 2023). This gap motivated the present study.

Three research questions guided this inquiry: (1) How is differentiated learning implemented at *PAUD Attaqwa* to stimulate children's cognitive intelligence? (2) Which aspect of differentiation content, process, or product has the most significant influence on cognitive development? (3) How does the synergy between differentiated learning and the Merdeka Curriculum help reduce cognitive developmental gaps among children?

Methods

This study employed a single-site qualitative case study design (Yin, 2018) because it allows for an in-depth, contextualised understanding of a contemporary phenomenon within its real-life setting. The researcher is the head of *PAUD Attaqwa Bojonegoro*, a dual role that provides deep insider access but also carries a risk of bias. To mitigate this, the researcher employed multiple strategies. First, source and method triangulation was conducted by comparing data from observations, interviews, and documents. Second, member checking was performed: each educator reviewed the preliminary findings to confirm interpretive accuracy. Third, peer debriefing was conducted with two external supervisors from another university who reviewed raw data (interview transcripts and observation notes) to ensure interpretative neutrality. Fourth, a reflective journal was maintained throughout the study to document personal assumptions and decisions. These measures align with trustworthiness criteria discussed by Creswell and Poth (2018).

The research site was *PAUD Attaqwa*, selected purposively based on three criteria: it had adopted the Merdeka Curriculum consistently since the 2022–2023 academic year; the institutional leadership demonstrated strong commitment to pedagogical innovation; and its semi-urban demographic profile is representative of many ECE institutions in East Java, enhancing analytical transferability. Participants included five educators (all female, teaching experience ranging from 3 to 12 years) and 38 children divided into Group A (15 children, aged 4–5 years) and Group B (23 children, aged 5–6 years). All educators were directly involved in planning and implementing differentiated learning.

Data collection was conducted over four months (October 2025 – January 2026), covering two complete thematic units: "My Self-Identity" and "Basic Needs". Three main instruments were used. First, participatory observation for 12 weeks, during which the researcher actively engaged in classroom activities and recorded teacher–child interactions using a structured observation guide. This guide was developed based on the cognitive indicators of the Merdeka Curriculum for ECE, which include: (a) ability to sort objects by one or two attributes (classification), (b) ability to complete puzzles with increasing piece counts (problem-solving), (c) ability to recognize and extend simple patterns (AB, ABC) (pattern reasoning), and (d) ability to verbally explain a simple process or creation (working memory and logical reasoning). Second, semi-structured interviews (2–3 sessions per educator, 45–60 minutes each) explored teachers' reasoning, perceptions of children's cognitive progress, challenges, and institutional support. All interviews were audio-recorded and transcribed verbatim. Third, document analysis of Daily Lesson Plans (RPPH), children's worksheets, anecdotal records, quarterly developmental reports, and portfolios of children's work.

Data analysis followed the interactive model of Miles, Huberman, and Saldaña (2020), consisting of four iterative stages: data condensation (open coding using NVivo software, followed by axial coding to group codes into themes), data display (thematic matrices and conceptual networks), conclusion drawing (inductively constructed), and verification (member checking). Ethical approval was obtained from the institutional review board. All adult participants signed informed consent forms; for children, parental consent was obtained, and children were given age-appropriate explanations and the right to decline participation. Pseudonyms are used in all reported data to protect confidentiality.

Results

The analysis produced three main themes corresponding to the three dimensions of differentiated learning: content, process, and product. These themes are not isolated but interact synergistically. Based on observational data, interview transcripts, and document analysis over four months, the following patterns emerged.

Content differentiation at PAUD Attaqwa was implemented by providing multiple levels of the same learning material, calibrated to each child's current readiness. Before each thematic unit, teachers conducted informal diagnostic assessments through observation and simple questioning. Based on this, they prepared two to three tiers of tasks for each cognitive activity. Table 1 summarises the strategies used for four core cognitive areas.

Table 1. Content Differentiation Strategies for Cognitive Intelligence Stimulation at PAUD Attaqwa

Cognitive Aspect	Teacher Strategy	Example of Tiered Materials
Mathematical logic	Tiered complexity of number and symbol materials	Number boards: advanced children sequence 1–20; beginners focus on recognising symbols 1–10
Classification and categorisation	Variation of object attributes (colour, size, shape)	Sorting baskets: some children sort by one attribute (colour), others by two attributes (colour and size)
Problem-solving	Differentiation of puzzle complexity	Puzzles: 4–6 pieces for beginners; 12–20 pieces for children with higher spatial ability
Pattern reasoning	Variation in pattern complexity (AB, ABC, AABB)	Beading: simple alternating colours for some; three-element repeating patterns for others

One Group B teacher explained in an interview: "I cannot give all children the same task. If I force uniformity, the slower ones become frustrated and the faster ones get bored. I have to know where each child is and give them a challenge that is just a little above that." This statement reflects the principle of Vygotsky's Zone of Proximal Development (Smolucha & Smolucha, 2021). Document analysis of RPPH confirmed that every lesson plan included at least two levels of scaffolding, often with specific notes such as "for Alya: use number cards 1–10; for Rizki: use number cards 1–20 with missing numbers." Observational field notes documented many instances of responsive teaching: when a child unexpectedly completed a higher-level puzzle, the teacher quickly provided a more complex one without disrupting the rest of the class, indicating a high level of pedagogical competence (Puspitasari, 2024).

Process differentiation was the most dynamic and frequently observed dimension. The physical classroom was organised into several learning stations: a numeracy corner, a literacy corner, a construction corner, a sensory play area, and an art station. Children could move freely among stations, choosing activities that matched their preferred learning modality (visual, auditory, or kinesthetic). Table 2 provides examples of how teachers tailored process differentiation to different learning styles.

Table 2. *Process Differentiation Based on Children's Learning Modalities*

Learning Modality	Activity Example	Cognitive Stimulation Target
Visual	Using colourful number charts and picture cards	Number recognition, pattern matching
Auditory	Singing counting songs, teacher read-aloud with questions	Sequential memory, listening comprehension
Kinesthetic	Beading, puzzle manipulation, construction with blocks	Fine motor coordination, spatial reasoning, problem-solving

Grouping was flexible and changed according to instructional goals: homogeneous grouping by ability level for activities requiring intensive guidance, and heterogeneous grouping for collaborative projects to encourage peer learning. Group compositions were rotated every two weeks based on updated developmental mapping from daily anecdotal records. Beading activities emerged as a clear favourite among children and as the most effective medium for process differentiation. One teacher noted: "Children who usually cannot sit still for five minutes will focus on beading for 15–20 minutes if the beads are colourful and the pattern is just right for them." During these activities, teachers used scaffolded questions rather than giving direct answers, for example asking "What colour came before? Look at the pattern again from the beginning." This approach encourages children to internalise problem-solving strategies (Smolucha & Smolucha, 2021). Peer scaffolding occurred naturally in heterogeneous groups: a more advanced child might show a peer how to thread beads in an AB pattern, benefiting both the helper (reinforcing understanding) and the recipient (receiving less intimidating support) (Yuliantina & Boki, 2023).

Product differentiation gave children meaningful choices in how they showed what they had learned. Instead of requiring all children to produce identical worksheets, teachers offered multiple expressive modes: drawing, three-dimensional construction, storytelling, or dramatic play. This aligns with the Merdeka Curriculum's emphasis on authentic assessment (Maryani & Sayekti, 2023). One of the most cognitively rich product-differentiation activities was creating picture frames from ice cream sticks and recycled cardboard, inviting children to explore concepts of structure, symmetry, spatial proportion, and stability all components of visual-spatial intelligence (Yuliani et al., 2024).

Portfolio analysis revealed a wide range of creations: some children built simple two-sided frames with geometric precision, others constructed ambitious three-dimensional frames, and some focused on elaborate decoration. Over the four-month period, three indicators of cognitive progression were identified from portfolios and anecdotal records: increasing complexity and ambition of products over time; growing accuracy and richness in children's verbal descriptions when asked to explain their work; and increasing initiative in choosing expressive media appropriate to the concept being communicated an early metacognitive sign. Table 3 summarises the observed progress across the participant group.

Table 3. Summary of Children's Cognitive Progress Indicators

Indicator	Number of Children Showing Progress
Increasing product complexity	30 of 38 children
Richer verbal explanations	28 of 38 children
Initiative in media selection	25 of 38 children
Progress on at least two indicators	33 of 38 children
Progress on all three indicators	28 of 38 children

Anecdotal records captured many "breakthrough" moments that occurred disproportionately during product-differentiated activities. For example, one child who had struggled with one-to-one correspondence suddenly showed clear understanding while arranging buttons on a frame, explaining: "This button is for the top corner, this one for the bottom, so they match." Such moments support the idea that freedom of expression enhances deep cognitive engagement (Komariah, 2023).

Children who showed slower progress. Of the 38 children, five (approximately 13 percent) did not demonstrate clear progress on at least two indicators. Further examination of their records revealed that three of these five had irregular attendance (less than 60 percent of days during the research period), one had a previously unidentified developmental delay (language-related), and one was in the process of transitioning from a different PAUD with a very different pedagogical approach. Teachers developed individual learning plans for these children, including more frequent one-on-one scaffolding sessions and simplified task tiers. However, the four-month period was insufficient to observe significant change. This finding underscores that while differentiated learning is powerful, it is not a magic solution; children with chronic absenteeism or specific developmental conditions require additional, sustained interventions beyond what a regular classroom differentiation model can provide.

Discussion

The findings of this study indicate that differentiated learning, when implemented holistically, can effectively stimulate cognitive intelligence in early childhood learners within the *Merdeka Curriculum* framework. The integration of content, process, and product differentiation at *PAUD Attaqwa* was not a mechanical checklist but a coherent pedagogical philosophy exactly as Tomlinson (2017) envisioned. This approach respects each child's unique learning style and developmental trajectory, which is the very essence of the *Merdeka Curriculum* (Munawar, 2022).

Four theoretical lenses help explain why differentiation appeared to work well in this setting. First, Piaget's theory of cognitive development (as discussed by Oogarah-Pratap et al., 2020) reminds us that children in the preoperational stage (ages 2–7) learn best through concrete, hands-on experiences. Content differentiation at *PAUD Attaqwa* consistently used manipulatives number boards, beads, puzzles, and construction sticks allowing children to physically interact with mathematical and spatial concepts. Second, Vygotsky's Zone of Proximal Development (Smolucha & Smolucha, 2021) provides a precise mechanism: by calibrating tasks to each child's ZPD boundary challenging but not overwhelming teachers maximised cognitive growth. The observed practice of "fading" (gradually reducing assistance as competence increased) is crucial for internalising cognitive strategies and fostering independence. Third, self-efficacy theory (Schunk & DiBenedetto, 2021) explains the motivational impact. When children

repeatedly experience success on appropriately challenging tasks, they develop a belief in their own ability, creating a self-reinforcing cycle. The *PAUD Attaqwa* teachers consciously designed tasks to ensure that every child could experience mastery, building a foundation for lifelong learning orientation (Handiyani & Muhtar, 2022). Fourth, the cultural-historical perspective highlights the role of learning media as cognitive tools. Numeral cards, beads, and recycled materials are not just props; they are mediators of thinking, and their careful selection to match each child's developmental level is a form of differentiation that often goes unnoticed but has significant instructional power (Komariah, 2023).

Comparison with prior studies strengthens the validity of these findings. Bondie et al. (2019) found that teachers' understanding of differentiation deepens through reflective practice exactly what happened at *PAUD Attaqwa*, where weekly team meetings provided space for sharing successes and difficulties. Pozas et al. (2021) emphasised the necessity of continuous diagnostic assessment; *PAUD Attaqwa* teachers had woven informal assessment seamlessly into daily routines.

Kotas et al. (2023) highlighted the value of teacher collaboration, which was evident in co-planning and resource sharing.

Real-world challenges were also identified: increased teacher workload due to planning three tiers of activities; material resource limitations in a semi-urban setting, which teachers compensated for by using locally available materials (recycled cardboard, bottle caps, ice cream sticks); and the need for sustained professional development, not just one-off training (Wijaya et al., 2025). Despite these challenges, the overall implementation proved feasible and beneficial.

Practical implications are clear. For educators, the first step is to develop the habit of continuous diagnostic assessment. For school principals, the priority is to build a school culture that values experimentation and collaboration, for example by scheduling weekly joint planning sessions. For policymakers, incorporating indicators of instructional responsiveness to child diversity into ECE accreditation standards would provide a strong incentive for wider adoption of differentiation across Indonesia.

Conclusions

This study concludes that differentiated learning, implemented systematically through content, process, and product differentiation, shows promise as an effective strategy for stimulating cognitive intelligence in early childhood learners at *PAUD Attaqwa Bojonegoro*. The approach appeared to reduce the negative effects of heterogeneity that often plague conventional ECE classrooms, enabling children of varying readiness levels to make meaningful cognitive progress. Improvements were observed in independent problem-solving, logical and pattern reasoning, spatial creativity, and self-efficacy. Theoretically, this study provides qualitative empirical evidence from an Indonesian semi-urban ECE context, integrating Tomlinson's differentiation model, Vygotskian scaffolding, and self-efficacy theory within the Merdeka Curriculum framework. Practically, it offers actionable recommendations: educators should prioritise diagnostic assessment; principals should foster collaborative planning cultures; and policymakers should embed responsiveness to diversity in accreditation standards. Future research should employ multi-site designs comparing urban PAUD (with abundant resources)

and rural PAUD (with limited resources) to identify contextual adaptation strategies. Mixed-methods studies with pre- and post-intervention cognitive measures, as well as longitudinal designs tracking children into primary school, would further illuminate the sustained impact of early differentiated learning experiences.

Declarations

1.1 Study Limitations

This study has several limitations. First, the single-site case study design limits statistical generalisation; the findings are analytically transferable rather than statistically representative. Second, the four-month data collection period, while sufficient to capture implementation patterns, could not assess long-term effects on children's readiness for primary school. Third, the absence of standardised cognitive assessment instruments precludes direct comparison with other quantitative studies. Fourth, the researcher's dual role as head of the institution, although mitigated through triangulation, external review of raw data, and member checking, may still have introduced subtle bias in interpreting certain classroom interactions. These limitations are openly recognised as part of the study's honest self-appraisal.

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1.3 Funding source

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1.4 Competing Interests

The author declares no financial or non-financial conflicts of interest. The dual role of the researcher as head of *PAUD Attaqwa* was mitigated through the rigorous reflexivity strategies described in the Methods section, including independent review of raw data by external researchers.

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