

Fostering Critical Thinking in EFL Classrooms: A Lesson Study Approach in Indonesian High School

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Abstract—Using the Lesson Study approach, this study attempts to strengthen critical thinking skills in Indonesian high school EFL students. Utilizing a qualitative descriptive methodology, four instructional cycles were implemented with 100 students and four teachers at SMA Negeri 10 Ternate. Data were gathered through assessments of lesson plans and observations of classroom activities, utilizing Fisher's (2011) critical thinking markers. The results indicated a substantial enhancement in students' critical thinking skills, increasing from 37.5% to 92.5% across the cycles. This research introduces originality by illustrating the adaptation of Lesson Study within Indonesian EFL environments, where resource constraints and conventional practices frequently obstruct pedagogical creativity. Collaborative planning, multimedia technologies, and peer reflection were essential in promoting higher-order thinking skills. The research finds that Lesson Study is a successful and scalable method for fostering critical thinking in EFL classrooms, providing insights for future educational reforms in analogous worldwide contexts.

Index Term—critical thinking, EFL classrooms, lesson study approach, Indonesian high school

I. INTRODUCTION

Critical thinking is fundamental to academic achievement and intellectual growth, especially in language acquisition (Fajari, 2021; Su, 2020). The capacity to critically assess, analyze, and synthesize material is crucial for enhancing learners' language competency and enabling meaningful engagement with diverse subjects (Novitaningrum et al., 2020; Wardani, 2021). This skill is becoming increasingly vital in today's environment when swift global transformations and the extensive availability of information are needed so that individuals can process and respond judiciously to many issues (Yacob et al., 2022). Consequently, critical thinking has emerged as an essential element in the curriculum of global educational systems, including English as a Foreign Language (EFL) classrooms (Li & Jian, 2020; Yan, 2021).

In Indonesian high schools, English literacy is essential for students' academic success; nevertheless, the incorporation of critical thinking in English instruction is still insufficiently developed, particularly in secondary Education. English instruction frequently prioritizes grammatical understanding, vocabulary development, and hearing, speaking, reading, and writing proficiency (Kartini et al., 2022; Soraya et al., 2022). Although these factors are indisputably significant, there is an increasing acknowledgment that fostering students' critical thinking skills should be similarly emphasized (Bekele et al., 2022; Czerkowski & Berti, 2020). The 2013 curriculum, as stated by the Ministry of Education and Culture of the Republic of Indonesia (2013), seeks to prepare students with cognitive and knowledge-based skills, as well as the ability to think critically and solve problems in various contexts (Dewi & Wulandari, 2021; Solehah et al., 2021). The integration of critical thinking abilities into English language instruction is inadequately addressed in the classroom setting. Numerous EFL educators encounter difficulties in implementing effective ways to

foster critical thinking among their students (Lintangsari et al., 2022; Yan, 2021). Incorporating critical thinking into language training is a pressing issue for educators aiming to connect their teaching methods to develop well-rounded learners who can actively participate in a globalized society (Brahim, 2021; Liu, 2020).

Cultivating critical thinking in EFL classrooms is especially urgent in Indonesian high schools, where English is frequently taught as a foreign rather than a second language (Sari & Prasetyo, 2021; Sourav et al., 2021). Students generally acquire English via conventional techniques emphasizing rote memorization and mechanical exercises, allowing less opportunity for substantive, reflective interaction with the material (Rahmah, 2023; Sourav et al., 2021). Among the several pedagogical methods designed to enhance critical thinking, the lesson study approach is auspicious. Lesson study, a professional development framework that originated in Japan, entails teachers collaboratively organizing, instructing, monitoring, and assessing courses to enhance pedagogical practices (Anif et al., 2020; Hehl, 2019; Ramos-Rodríguez et al., 2021). This method has demonstrated considerable efficacy in improving both the subject matter expertise and instructional abilities of educators, especially in promoting higher-order thinking skills in students (Gerdes et al., 2023; Ginting & Linarsih, 2022).

Integrating the lesson study approach inside Indonesian high schools presents an opportunity to redefine the cultivation of critical thinking in EFL classrooms (Astuti & Lammers, 2020; Laoli et al., 2022). Lesson study, by establishing a structured setting for teachers to interact and improve their educational methods, has the potential to augment teachers' ability to foster critical thinking in their students (Bayram & Bıkmaz, 2021; Madjdi et al., 2020). Nonetheless, the investigation of this educational paradigm within Indonesian EFL contexts is still comparatively few, especially regarding empirical research that evaluates its efficacy in enhancing students' critical thinking abilities. Although a significant amount of research on critical thinking and its significance in Education, the investigation of practical methods for incorporating critical thinking into EFL classrooms, particularly in the Indonesian context, is still insufficiently explored. Numerous studies have investigated the significance of critical thinking in language acquisition (Dewi et al., 2021; Saputri et al., 2022; Harris, 2008; Halpern, 2014), with some examining pedagogical methodologies such as task-based language instruction and inquiry-based learning as strategies to enhance critical thinking (Andania, 2021; Liang & Fung, 2020; S, 2021). Nevertheless, limited research has concentrated explicitly on the lesson study approach in promoting critical thinking inside EFL classrooms, especially in Indonesian high schools. Research within the Indonesian context frequently neglects the interplay between instructional methods, such as lesson study, and the enhancement of critical thinking, particularly in EFL environments.

A research vacuum exists about the impact of lesson study on promoting critical thinking among Indonesian high school students, especially in EFL courses. This gap underscores the necessity to investigate the adaptation of lesson study to local educational environments, characterized by constraints such as substantial class sizes, constrained resources, and diverse language proficiencies. This research investigates lesson study as a collaborative, action-oriented methodology that improves teaching practices and student outcomes, in contrast to traditional studies that emphasize theoretical components or isolated activities. The study elucidates how instructional innovation via lesson study can enhance higher-order cognitive engagement in language acquisition. The research addresses the following questions:

1. How can the lesson study approach be implemented in Indonesian senior high school EFL classrooms to foster critical thinking?
2. What are the challenges and benefits experienced by teachers when using the lesson study approach to foster critical thinking in EFL classrooms?
3. To what extent does the lesson study approach impact students' critical thinking abilities in Indonesian senior high school EFL classrooms?

II. LITERATURE REVIEW

A. Concept of Critical Thinking

Critical thinking is reasoning and independently assessing arguments, identifying biases, and forming reasoned judgments (Su, 2020; Thao, 2021). It is a multifaceted cognitive process that includes skills such as analysis, synthesis, evaluation, and reflection, which are crucial for making informed decisions and solving complex problems (James et al., 2023; Baroudi et al., 2023; Dumitru & Halpern, 2023). In the context of language education, critical thinking allows learners to engage meaningfully with texts and discussions, analyzing linguistic structures and questioning the underlying assumptions within both the content and the language itself (Bekele et al., 2022; Lintangsari et al., 2022). For English as a Foreign Language (EFL) students, it not only enhances language competency but also fosters the ability to critically analyze the material, the language, and its cultural context, improving students' proficiency in addressing real-world challenges through language (Shao & Kang, 2021; Yan, 2021).

B. Critical Thinking in EFL Education

While critical thinking is vital in all academic disciplines, its application in EFL education is particularly crucial as it links cognitive development with language skills. Developing critical thinking in language learners goes beyond enhancing linguistic competence, encompassing understanding how language is used to articulate, analyze, and evaluate ideas (Dong & Jing-jing, 2020; Li & Jian, 2020; Liu, 2020). However, despite its importance, research suggests that critical thinking is not sufficiently integrated into language instruction, especially in environments where standardized

assessments dominate, and language proficiency is prioritized over cognitive development (Dong & Jing-jing, 2020; Haerazi et al., 2021). Many EFL teachers, particularly in non-English-speaking countries like Indonesia, tend to follow traditional teaching methods that emphasize grammar, vocabulary, and rote memorization, neglecting the cultivation of students' critical thinking abilities (Alharbi & Saaty, 2022; Anggraeni & Rachmijati, 2020).

C. Pedagogical Approaches for Fostering Critical Thinking

To foster critical thinking in EFL students, research suggests moving away from conventional language teaching methods, advocating for the use of task-based language teaching (TBLT), problem-based learning (PBL), and inquiry-based learning (IBL). TBLT emphasizes real-world tasks that require students to engage in problem-solving, analysis, and evaluation—skills central to critical thinking (Haerazi et al., 2021; Zhang, 2020). Similarly, PBL involves providing complex, open-ended problems that require critical thinking, collaboration, and retrieval of knowledge (Yu, 2024; Yulianti, 2021). IBL promotes deep inquiry and reflection, encouraging active learning (Oktaviah et al., 2021; Wahab & Terasne, 2020). Despite the effectiveness of these methods, practical challenges arise, especially in resource-limited settings where teacher training and materials may be insufficient. One potential solution is using the lesson study method, a collaborative, reflective approach to teaching that enhances pedagogy through shared experience and feedback.

D. The Lesson Study Approach

Lesson study, a professional development model originating in Japan, involves teachers working together to design, teach, observe, and evaluate lessons collaboratively. This method facilitates reflection and improvement in teaching practices through peer feedback (Anif et al., 2020; Ramos-Rodríguez et al., 2021). In EFL education, lesson study has shown promise in improving teaching performance and student outcomes by fostering a collaborative environment where educators exchange pedagogical strategies that promote critical thinking (Bayram & Bıkmaz, 2021; Qin, 2024). Although lesson study has been widely used in Japan, its application in other contexts, such as Indonesian senior high schools, remains under-researched. Challenges in implementing lesson study in Indonesia include large class sizes, limited resources, and varying student proficiency levels (Hidayati, 2022; Sourav et al., 2021). Nonetheless, the collaborative nature of lesson study offers potential solutions by encouraging peer support and resource sharing, which can mitigate these barriers and improve student-centered teaching practices.

E. The Context of Indonesia's EFL Education

In Indonesia, where English is taught as a foreign language, the education system faces significant challenges in balancing the need for language proficiency with the promotion of critical thinking skills (Kaharuddin et al., 2022). Despite the Ministry of Education and Culture's emphasis on fostering 21st-century skills, such as critical thinking and problem-solving, the actual implementation of these goals remains inconsistent (2013 Curriculum). Research highlights that many Indonesian EFL teachers struggle to integrate critical thinking into their lessons, citing inadequate training and a lack of institutional support for innovative teaching methods (Ginting & Kuswandono, 2020; Hidayati, 2022; Pravita, 2021). The lesson study approach presents a promising solution for bridging this gap. It offers a collaborative platform for EFL teachers to share best practices, incorporate critical thinking into their teaching, and address challenges such as large class sizes and resource constraints. By fostering a supportive educational community, lesson study can enhance the overall quality of EFL instruction in Indonesia.

III. RESEARCH METHOD

A. Research Design

This study adopts a qualitative approach based on a descriptive research design. A descriptive study aims to identify and record the fundamental reasons for a particular phenomenon. Data collecting entails utilizing numerical data to evaluate hypotheses or address inquiries pertinent to the present circumstances of the study individuals (Gay et al., 2009). Typical forms of descriptive research involve analyzing a particular group's behaviors, attitudes, concerns, or interests. This study employed lesson study activities to improve the critical thinking skills of EFL students, incorporating five critical thinking indicators derived from Fisher (2011). The study was executed in SMA Negeri 10 Ternate City, Indonesia, referring to the three steps of the lesson study structure: preparation, implementation, and reflection. The lesson study activities were conducted throughout four cycles in partnership with four English teachers.

B. Research Subject

The study was conducted at SMA Negeri 10 Ternate City, East Indonesia, and included 100 EFL students. The program involved four disciplines and three years of intensive learning of English. Outstanding schools were recognized by evaluating prior knowledge levels, participation in advanced courses, access to technological resources, and the educational skills of teachers (Mills & Gay, 2016). The table below delineates the attributes of the research subjects:

TABLE 1
CHARACTERISTICS OF THE RESEARCH SUBJECT

Class Name	Major	Learning Experiences	Subject	Number
IPA-1	Science	Three years	EFL	25
IPA-2	Science	Three years	EFL	25
IPS-1	Social	Three years	EFL	25
IPS-2	Social	Three years	EFL	25

C. The Procedure for Collecting Data

The study utilized two primary data-gathering methods: analyzing teachers' documents and classroom observation through lesson study activities. Data was collected across three phases of the lesson study cycle—planning, implementation, and reflection—over four instructional cycles. During the first Cycle, teachers established learning goals, curated instructional materials, outlined teaching procedures, and created detailed lesson plans. Following this, the primary teacher (AM) conducted the inaugural lesson in a third-grade science class, observed by additional teachers and researchers. A reflection session followed, during which the participants identified shortcomings in the lesson. Recommendations were made and incorporated into the second Cycle. In the second Cycle, teachers revised the lesson plan, improving learning objectives, resources, and teaching methods. The second teacher (SN) implemented the modified plan in another third-grade science session, again observed by peers and researchers. A reflection discussion followed, contributing insights for adjustments in the third Cycle. For the third Cycle, the lesson plan was refined with minor adjustments to the teaching goals, materials, and procedures. The third teacher (FS) taught the revised lesson in a third-grade social studies class, which other educators and researchers observed. A reflection session followed, providing valuable feedback for the final Cycle's planning. The lesson plan was finalized in the fourth Cycle based on feedback from previous cycles. The fourth teacher (SRF) delivered the revised lesson in a different third-grade social studies class. All lesson plans developed throughout the four cycles underwent qualitative analysis to assess the overall impact and improvements made during the lesson study process.

Furthermore, classroom observations were performed for each session utilizing an observation guide. This guide included five indicators from Fisher (2011): (1) Students' proficiency in demonstrating comprehension through accurate responses and articulation of their perspectives, (2) Students' aptitude for critically analyzing inquiries from their peers and teachers while delivering suitable replies, (3) Students' capability to express ideas and convictions coherently and validly, (4) Students' skill in sequentially presenting explanations of tasks or materials utilizing a chronological, logical, or cause-and-effect framework, and (5) Students' precise classification of concepts or opinions pertinent to the learning material.

D. Data Analysis

The study employed qualitative data analysis techniques on lesson plans, emphasizing the interrelation of instructional activities and enhancing critical thinking abilities. The analysis comprised three stages modified from Gay et al. (2009): Reading and comprehension, Acquainting oneself with the facts and discerning patterns or themes, Comprehensive analysis. It offers comprehensive elucidations of the setting, actors, and actions executed, together with data categorization and classification of individual elements into themes by classification and coding. Classroom observation data were evaluated on a Likert scale across five characteristics of critical thinking skills. The indicators were assessed on a scale ranging from level 5 (consistently observed) to level 1 (not noticed). The students' critical thinking skills were assessed for each learning phase, and the results were synthesized.

IV. RESULTS

A. Lesson Plan Cycle I and II Results

TABLE 2
LESSON PLAN CYCLE I AND II

Lesson Plan Components	Cycle I Description	Cycle II Description
Lesson Plan Identities	School, subject, class, and semester	School, subject, class, and semester
Main Material	Job application letter	Job application letter
Time Allocation	2 hours	2 hours
Learning Objectives	To mention the social functions of a job application letter. To explain the parts of a job application letter. To compare job application letters in Indonesian and English.	To mention the social functions of a job application letter. To explain the parts of a job application letter. To compare job application letters in Indonesian and English.
Teaching Media/Method	Video, PowerPoint Presentation, student worksheet, Assessment sheet. Genre Based Approach	Video, PowerPoint Presentation, student worksheet, Assessment sheet. Genre Based Approach
Opening Activities	Greeting, Praying. Checking attendance. Giving motivation. Presenting an overview of the material. Explaining the objectives and assessment methods.	Greeting, Praying. The teacher checks attendance. Watching the video 'Application Letter Guide'. Explaining competencies, objectives, activities, and assessment methods.
Main Activities	Dividing students into six groups. Presenting material through video, group observations, answering questions, and explaining parts of a job application letter. Comparing formats in Indonesian and English.	Reading a job application letter and answering questions. Restating parts of the cover letter in groups. Discussing results.
Closing Activities	Summarizing learning, evaluating written tests, reflecting, informing about the next lesson, and praying.	Summarizing learning, conducting evaluation, reflecting, informing about the next meeting, and praying.
Assessment	Attitude: Observation and Journal. Knowledge: Written-test. Skills: Portfolio.	Attitude: Observation and Journal. Knowledge: Written Test: Description. Skills: Portfolio.

The data analysis of the lesson plans for cycles I and II reveals an organized process for instructing the social functions, components, and comparisons of job application letters in Indonesian and English. In both cycles, the fundamental content remains unchanged, concentrating on the same subject—job application letters—along with a uniform learning objective: comprehending the letters' elements and analyzing their structures in both languages. Cycle I is a lesson plan with an interesting introductory exercise comprising a motivating session and an overview of the class objectives. This Cycle mainly involves collaborative exercises, wherein students examine job application letters and contrast formats in both languages. Utilizing multimedia, including video and PowerPoint presentations, enhances the reinforcement of the subject. The concluding exercises encompass synthesizing essential insights, assessing written examinations, and preparing for the subsequent session.

In Cycle II, the activities adhere to a comparable structure, albeit with minor modifications, including introducing the video 'Application Letter Guide' at the outset and utilizing varied techniques for elucidating objectives. The primary activities focus on reading comprehension and group discussions, improving students' capacity for critical engagement with the topic. Both cycles encompass written examinations, journal observations, and portfolio evaluations to assess students' learning advancement. This method promotes critical thinking by prompting students to analyze and compare forms, engage in debates, and reflect on their learning outcomes.

B. Lesson Plan Cycle III and IV Results

TABLE 3
LESSON PLAN CYCLES III AND IV

Lesson Plan Components	Cycle III Description	Cycle IV Description
Lesson Plan Identities	School, subject, class, and semester	School, subject, class, and semester
Main Material	Job application letter	Job application letter
Time Allocation	2 hours	2 hours
Learning Objectives	To mention the social functions of a job application letter. To explain the parts of a job application letter. To compare job application letters in Indonesian and English.	To mention the social functions of a job application letter. To explain the parts of a job application letter. To compare job application letters in Indonesian and English.
Teaching Media/Method	Genre Based Approach	Genre Based Approach
Opening Activities	Greeting, Praying. The teacher checks attendance. Apperception. Explaining learning objectives, activities, and assessment techniques.	Greeting, Praying. The teacher checks attendance. Games (Vocabulary Building). Explaining competencies, learning objectives, activities, and assessment techniques.
Main Activities	Listening to video presentations, identifying job application letters, group work with jumbled text, answering questions, and discussing work results.	Identifying parts of a job application letter. Listening to a video, restating parts in groups, presenting group work, and discussing results.
Closing Activities	Summarizing learning, conducting an evaluation, reflecting, informing about the next meeting, and praying.	Summarizing learning, conducting evaluation, reflecting, informing about the next meeting, and praying.
Assessment	Attitude: Observation and Journal. Knowledge: Written-test. Skills: Portfolio.	Attitude: Observation and Journal. Knowledge: Written Test: Description. Skills: Portfolio.

Cycles III and IV illustrate a progression and refinement of the instructional approach, sustaining emphasis on job application letters while incorporating minor modifications to classroom activities to augment student engagement and comprehension. In Cycle III, the lesson plan adopts a more concentrated strategy in the introductory activities through apperception, linking existing knowledge to the lesson and emphasizing the topic's connection to students' experiences. Cycle III mainly involves listening to video presentations and collaborative group work, during which students interact with disordered texts and respond to understanding inquiries. These exercises foster collaborative learning and necessitate that students actively analyze and understand the structure of job application letters. The concluding activities focus on reflection, assessment, and establishing expectations for subsequent lessons. Cycle IV introduces a dynamic component by including a vocabulary-building game in the first exercises, engaging students enjoyably and interactively while reinforcing the lesson's essential vocabulary. The primary activities focus on group discussions and presentations, enabling students to demonstrate their comprehension and enhance their ability to explain their job application letter interpretation. This Cycle fosters autonomous and collaborative work, augmenting critical thinking by promoting analysis, synthesis, and concept presentation.

Both cycles include systematic evaluations—attitude observation, written examinations, and portfolios—that monitor students' advancement in comprehending the lesson's material. These cycles enhance critical thinking by cultivating an environment where students interact, apply information, and engage in profound inquiry. The lesson study methodology in both lesson plan cycles promotes critical thinking in students by facilitating active involvement, collaborative learning, and reflective thought. Each Cycle incrementally enhances students' capacity to analyze and compare job application letters, necessitating a critical assessment of language and structure. The opening activities integrate incentive components, games, and apperception to enhance students' cognitive abilities. The primary activities, encompassing group work and debates, promote collaboration and enhance the capacity for critical engagement with textual content. Through introspection regarding their learning, students gain self-awareness and the capacity to assess their advancement, augmenting their problem-solving abilities. Implementing several pedagogical strategies, such as multimedia, collaborative activities, and evaluations, enables students to engage with the material from multiple perspectives, fostering a more profound comprehension of the subject matter. The systematic method guarantees that students assimilate factual material and participate in the advanced cognitive processes necessary to evaluate and analyze job application letters. This lesson plan framework fosters critical thinking by prioritizing analysis, assessment, and collaboration, vital skills for students' academic and professional development.

C. Classroom Observations Cycles I & II Results

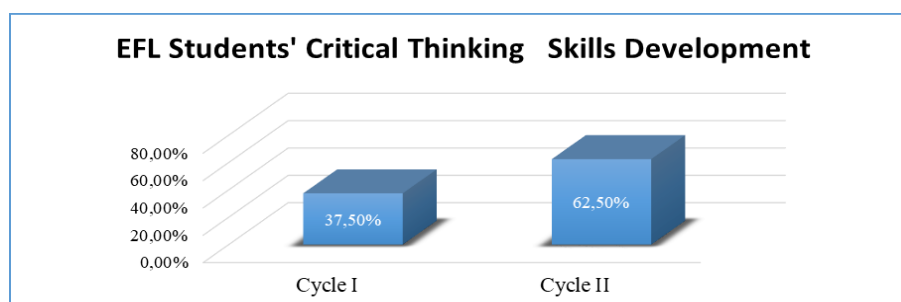


Figure 1. EFL Students' Critical Thinking Skills Progress Cycle I and II

The results from Cycles I and II demonstrate substantial enhancement in the critical thinking abilities of EFL students. At the outset of Cycle I, students' critical thinking skills were evaluated at 37.5%, reflecting minimal engagement and cognitive advancement in aspects such as understanding, analysis, and articulation. In Cycle II, the average rose to 66.88%, indicating a significant improvement in these competencies. The enhancement is ascribed to adopting the Lesson Study approach in Cycle II, which cultivated a more participatory learning atmosphere via collaborative activities, peer discussions, and organized exercises. The statistics indicate a significant improvement in students' capacity to assess inquiries from educators and peers in Cycle II critically.

Furthermore, pupils' capacity to articulate concepts coherently and structure their thoughts rationally enhanced. The dynamic, student-centered methodology of Cycle II, emphasizing group discussions and critical participation, seems to have significantly contributed to these gains. The results demonstrate that the Lesson Study technique effectively enhances critical thinking by fostering a more engaging and participative learning environment that motivates students to apply their knowledge actively. The shift to this method markedly improved pupils' cognitive functions and critical thinking skills.

D. Classroom Observations Cycles III & IV Results

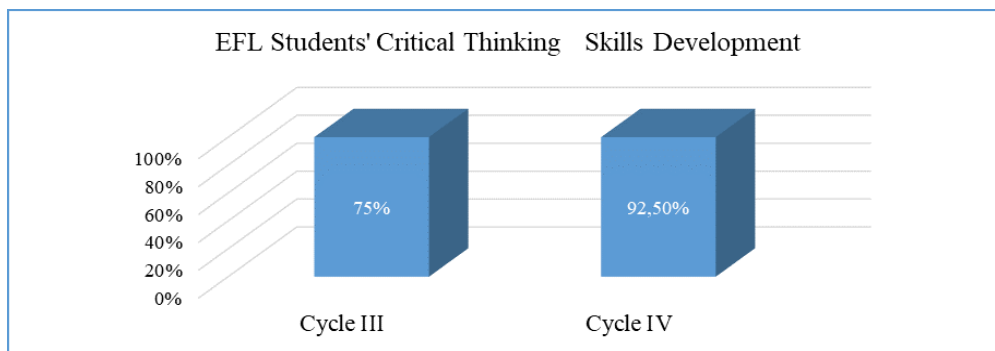


Figure 2. EFL Students' Critical Thinking Progress in Cycles III and IV

Cycles III and IV findings indicate a significant enhancement in students' critical thinking abilities. During Cycle III, the advancement rate exceeded 75%, indicating substantial development relative to Cycles I and II. This enhancement can be ascribed to the ongoing use of the Lesson Study technique, which was modified in Cycle III with an increased emphasis on critical analysis, conceptual structure, and articulation. By Cycle IV, students' critical thinking skills increased to 92.50%, reflecting high proficiency in thought categorization and analysis. This enhancement underscores the efficacy of the iterative Lesson Study methodology, which facilitated profound introspection and concept consolidation. The data from Cycles III and IV, recorded in classrooms instructed by teachers SN and SRF, further demonstrate improved cognitive abilities. Cycle IV significantly prioritized collaborative efforts, peer engagement, and immediate feedback, enhancing students' capacity to express and present ideas systematically. The capacity for critical question analysis was robust, with Cycle IV students exhibiting exceptional replies. Moreover, the capacity to categorize concepts showed considerable enhancement, signifying students' improved proficiency in linking and using their information adeptly. These data affirm that the Lesson Study approach significantly enhances students' critical thinking skills, particularly as the cycles advance.

E. Overall Classroom Observations Results

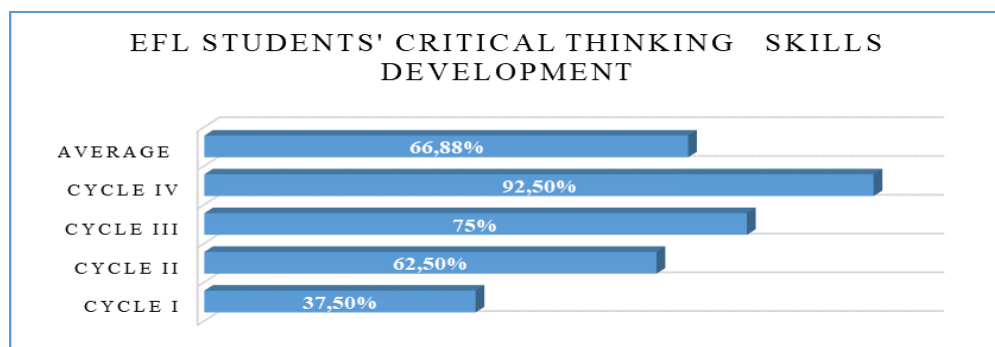


Figure 3. Overall Progress of EFL Students' Critical Thinking Skills

Figure 3 demonstrates the considerable gain in EFL students' critical thinking abilities across four cycles, with a notable rise from 37.5% in Cycle I to 92.50% in Cycle IV, or a 55% improvement. This increasing trend demonstrates the efficacy of the Lesson Study methodology in promoting critical thinking. The disparity between Cycle I and Cycle IV signifies substantial advancement in students' capacities to evaluate, organize, and express their views more clearly.

At first, students found it challenging to engage critically with the content; nevertheless, by Cycle IV, they demonstrated the ability to examine information and articulate their opinions systematically. The study indicates enhancement across five principal indicators: comprehension, critical analysis, expression, structure of ideas, and classification of concepts. During Cycle I, students encountered difficulties comprehending and classifying topics, probably due to the conventional, teacher-centered methodology. By Cycle IV, the students exhibited significantly enhanced capabilities in rigorous analysis and effective communication, attributed to the participatory and student-centered activities of Cycles III and IV. These cycles integrated peer collaboration, prompt feedback, and more dynamic pedagogical tactics, enhancing critical thinking. This study highlights the significance of iterative teaching strategies, such as Lesson Study, in cultivating higher-order thinking skills among EFL students.

V. DISCUSSION

A. How Can the Lesson Study Approach Be Implemented in Indonesian Senior High School EFL Classrooms to Foster Critical Thinking?

The lesson study approach prioritizes teacher cooperation and reflective practice and has demonstrated its efficacy in promoting critical thinking within Indonesian senior high school EFL classrooms. The methodology was executed via four instructional cycles, during which educators collaborated to design, deliver, and evaluate classes, employing multimedia and cooperative activities. The transition from a conventional teacher-centered paradigm to a student-centered approach enhanced higher-order thinking skills as students engaged more actively in discussions, problem-solving activities, and peer assessments. This corresponds with the findings of Nasruddin and Nurrachman (2016), who discovered that teacher collaboration improved instructional techniques and favorably influenced students' cognitive growth. The present study's focus on collaboration and reflective practice aligns with Rahmawati et al. (2023), who identified teacher cooperation as essential for enhancing educational results. This study's development of instructional methods and a student-centered approach led to increased student engagement and enhanced critical thinking. Integrating interactive learning environments—featuring collaborative group activities and multimedia resources—established a context where students could apply their critical thinking abilities. This aligns with research indicating that collaborative teaching practices, such as lesson study, effectively enhance critical thinking by fostering deeper cognitive engagement and more dynamic learning settings.

B. What Are the Challenges and Benefits Experienced by Teachers When Using the Lesson Study Approach to Foster Critical Thinking in EFL Classrooms?

Despite the early opposition from conventional pedagogical practices, the lesson study methodology has advantages over time. The reflective practice integrated inside the Cycle enabled educators to evaluate their instructional techniques, exchange strategies, and gain insights from one another, thus enhancing their pedagogical competencies. Educators acquired strategies to more effectively stimulate students' higher-order thinking via collaborative lesson planning and evaluation, thus improving their instructional methods and students' critical thinking skills. This discovery aligns with the research of Goh and Fang (2017), who highlighted that lesson study promotes professional development through collaboration and reflection. The iterative lesson study cycles documented in this research enabled educators to refine their methodologies based on immediate feedback, consistent with the conclusions of Mahmud et al. (2023). The authors emphasized that lesson study enhances teaching quality by prompting teachers to reflect on their methodologies, fostering the development of students' critical thinking skills. While encountering obstacles, including the resistance of conventional teaching practices and initial student disinterest, the lesson study methodology progressively enhanced teacher collaboration and pedagogical efficacy. This aligns with Hixon (2021), who contended that ongoing cooperation via lesson study enhances teaching practices and student involvement.

C. To What Extent Does the Lesson Study Approach Impact Students' Critical Thinking Abilities in Indonesian Senior High School EFL Classrooms?

The lesson research approach significantly enhanced students' critical thinking skills, demonstrating improvement over four cycles—from 37.5% in Cycle I to 92.5% in Cycle IV. This significant rise underscores the efficacy of lesson study in promoting critical thinking, particularly within interactive and collaborative learning contexts, where group discussions, multimedia resources, and peer feedback are crucial. These results correspond with the findings of Zahedi et al. (2023), who highlighted the beneficial effect of collaborative learning environments on students' critical thinking skills. The lesson study methodology, especially incorporating collaborative work and peer conversations, enhanced students' capacity to analyze, assess, and express their ideas more proficiently. Furthermore, Mahmud et al. (2023) discovered that using digital literacy resources, such as videos and PowerPoint presentations, markedly enhanced student engagement and cognitive development. This aligns with the present study, in which multimedia materials were incorporated into classes to foster a dynamic and engaging learning environment that encouraged higher-order thinking.

The development of critical thinking skills across the cycles aligns with findings from other research, including studies by Suleman et al. (2022) and Zahedi et al. (2023), which indicated that collaborative teaching strategies, such as lesson study, enhance critical thinking by fostering active participation, critical analysis, and profound engagement with educational content. Conversely, the study revealed that the initial Cycle (Cycle I) faced significant obstacles regarding

student involvement and critical thinking, which differed somewhat from the more prompt improvements noted in prior research. Schleicher (2012) contended that collaborative learning methodologies frequently result in the swift enhancement of teacher practices and student engagement. The sluggish commencement in Cycle I may be ascribed to the transitional phase of implementing a novel pedagogical approach, as shown by Terenzini et al. (1995), who noted expedited engagement with collaborative learning techniques in specific circumstances. The study's limited emphasis on particular critical thinking indicators—comprehension, critical analysis, articulation, organization, and categorization—may have neglected other significant dimensions of critical thinking, including creativity, problem-solving, and decision-making, as examined in research by Cui and Teo (2023) and Dewi et al. (2022). The restricted assessment scope implies that future research can explore wider aspects of critical thinking to obtain a more holistic understanding of its evolution in EFL classes.

VI. CONCLUSION

The results of this research highlight the effectiveness of the lesson study method in improving critical thinking skills among Indonesian senior high school EFL students. The repetitive cycles of educator collaboration, introspection, and the incorporation of multimedia resources fostered a student-centered learning atmosphere that markedly enhanced critical thinking skills, as demonstrated by the considerable rise in student performance from Cycle I to Cycle IV. This research enhances the existing knowledge regarding the impact of collaborative teaching practices on the development of higher-order thinking skills, specifically within EFL education. This study significantly contributes by illustrating the adaptability of the lesson study approach in Indonesian EFL classrooms to enhance critical thinking, student engagement, and active involvement. Integrating digital literacy tools, including multimedia resources, enhanced student cognitive skills development and underscored the significance of incorporating technology in contemporary educational practices.

Despite the favorable results, the study identified numerous problems, especially during the early implementation phase, where student involvement and critical thinking skills were notably diminished. This indicates the necessity for additional investigation into the primary obstacles to implementing lesson study in conventional educational environments and how these difficulties might be alleviated. Future studies should broaden the range of critical thinking indicators to include aspects beyond comprehension, articulation, and arrangement of ideas. Subsequent research should incorporate creativity, problem-solving, and decision-making assessments to offer a comprehensive perspective on developing critical thinking in EFL students. Furthermore, investigating the long-term effects of lesson study on student learning results and teacher professional development may provide significant insights into the enduring advantages of collaborative teaching methodologies in language education. Moreover, investigating the efficacy of lesson study in various educational settings in Indonesia and globally would yield a more thorough comprehension of its relevance across distinct cultural and educational contexts.

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