

The Efficacy of Collaborative Learning Assisted with Lapbook Media in Enhancing EFL Learners' Reading Comprehension

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Abstract

Reading comprehension remains one of the major challenges faced by English as a Foreign Language (EFL) learners, particularly in junior high school contexts where students often demonstrate limited engagement and difficulty in understanding texts. This study aimed to investigate the effectiveness of collaborative learning assisted with lapbook media in improving EFL learners' reading comprehension and learning engagement. The research employed an explanatory sequential mixed-method design involving 34 eighth-grade EFL learners at a public junior high school. Quantitative data were collected through reading comprehension pre-test and post-test measurements, while qualitative data were obtained from structured classroom observations to explain the learning processes underlying students' improvement. The quantitative findings revealed a significant improvement in students' reading comprehension achievement, with the mean score increasing from 74.18 in the pre-test to 81.82 in the post-test. Statistical analysis indicated that collaborative learning assisted with lapbook media had a positive influence on learners' reading comprehension performance. Qualitative results further demonstrated that the learning model enhanced students' engagement, collaborative interaction, motivation, and strategic reading behaviors. The use of lapbook media enabled students to visually organize textual information, summarize ideas, and collaboratively construct meaning, thereby facilitating deeper comprehension and retention of reading materials. The integration of collaborative learning and lapbook media created an interactive and student-centered learning environment that supported both cognitive and social aspects of language learning. This study contributes pedagogical insight into the application of constructivist-based collaborative instruction combined with visual learning media in EFL reading classrooms. The findings suggest that lapbook-assisted collaborative learning can serve as an effective instructional strategy for improving reading comprehension among EFL learners.

Keywords: Collaborative learning; Lapbook media; Reading comprehension; Innovative English instruction

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INTRODUCTION

Reading comprehension constitutes one of the most essential yet challenging skills in English as a Foreign Language (EFL) learning because it requires learners to simultaneously process linguistic knowledge, cognitive resources, and strategic understanding. Unlike first-language reading, EFL learners must decode unfamiliar vocabulary, interpret grammatical structures, and construct meaning within limited linguistic proficiency and exposure to authentic English input. Previous research consistently identifies vocabulary knowledge, morphological awareness, syntactic competence, working memory, inference-making ability, and metacognitive strategy use as major predictors of successful reading comprehension (Vettori et al., 2023; Yang et al., 2023; Qiao et al., 2021; Taşçı & Turan, 2021). Vocabulary knowledge, in particular,

functions as a foundational gateway that enables learners to access textual meaning, while higher-order processes such as comprehension monitoring and inference construction facilitate deeper interpretation once lexical thresholds are achieved (Yang et al., 2023).

However, many EFL learners continue to struggle with identifying main ideas, integrating textual information, and maintaining comprehension across longer passages due to limited vocabulary depth, insufficient syntactic awareness, and constrained working memory capacity (Shin, 2020; Zhou, 2024). These difficulties are further intensified by affective factors such as anxiety, low motivation, and limited metacognitive awareness, which influence learners' engagement with reading tasks (Ai-ping et al., 2025; Amina, 2022). Consequently, reading comprehension in EFL contexts cannot be improved solely through traditional teacher-centered instruction; rather, it requires pedagogical approaches that simultaneously address linguistic development, cognitive engagement, and strategic learning behaviors within meaningful learning environments.

In response to these challenges, collaborative learning has emerged as a pedagogical approach grounded in constructivist and socio-constructivist perspectives, which conceptualize learning as an active and socially mediated process. Collaborative learning enables students to engage in dialogue, negotiate meaning, exchange interpretations, and co-construct knowledge through shared academic tasks. Empirical evidence from collaborative learning and computer-supported collaborative learning (CSCL) research demonstrates that group interaction, interdependence, and negotiated understanding significantly enhance engagement and knowledge construction compared with individual learning approaches (Zhang et al., 2023; Taggart & Wheeler, 2023; Ouyang & Xu, 2021). Within collaborative environments, learners clarify misunderstandings, expand vocabulary knowledge, and develop inferential reasoning through peer discussion, thereby strengthening comprehension processes. Constructivist scholars emphasize that knowledge emerges through interaction with others and with learning tools rather than through passive reception of information (Rzeźnicka-Krupa, 2020; Teixeira & Arriel, 2024; Стопчак, 2022).

Studies on collaborative strategic reading further confirm that structured collaboration improves reading comprehension, metacognitive awareness, and motivation by encouraging previewing, summarizing, questioning, and monitoring comprehension collectively (Sarshogh et al., 2024; Herda et al., 2023). Nevertheless, collaboration alone does not automatically guarantee effective learning outcomes. Research highlights that collaborative success depends heavily on instructional scaffolding, task design, and the availability of mediating learning tools capable of supporting shared meaning-making processes (Ouyang & Xu, 2021; Martínez-Maldonado et al., 2021).

Instructional media therefore play a critical mediating role in transforming collaborative interaction into meaningful cognitive engagement. Among various constructivist learning media, lapbook media represent a promising yet underexplored instructional tool. Lapbooks are interactive, foldable learning organizers containing diagrams, summaries, illustrations, vocabulary notes, and conceptual representations that allow learners to visually structure information derived from learning materials. Although empirical investigations specifically focusing on lapbooks remain limited, their pedagogical characteristics strongly align with established constructivist principles emphasizing active knowledge construction, externalization of cognition, and multimodal representation (Perkowska-Klejman & Górka-Strzałkowska, 2023; Laskar & Bhattacharjee, 2022; Kayii & Akpomi, 2022). Visual organizers such as concept maps and structured representations have been shown to enhance comprehension by facilitating encoding, retrieval, and integration of textual information (Ta & Razali, 2023; Pinandito et al., 2021).

By enabling learners to manipulate and reorganize ideas physically and visually, lapbooks encourage deeper processing and reflection, allowing students to connect vocabulary, main ideas, and supporting details more effectively. Furthermore, constructivist media-supported learning promotes learner autonomy and ownership because students actively construct artifacts representing their understanding rather than reproducing teacher-provided explanations (Muraveva, 2025; Rai, 2025). However, existing literature largely examines digital or concept-mapping tools, leaving a research gap regarding how lapbook-based collaborative activities function specifically in EFL reading instruction.

Integrating collaborative learning with lapbook media offers a theoretically coherent solution to EFL learners' reading comprehension difficulties by combining social interaction with visual-cognitive scaffolding. Collaborative dialogue distributes cognitive load among learners, enabling them to overcome vocabulary gaps and comprehension barriers through peer support (Al-Mutrafi, 2020). Simultaneously, lapbook construction requires students to summarize texts, identify key information, analyze structure, and synthesize meaning—processes closely associated with higher-order comprehension skills. Research on student-generated organizational tools indicates that collaboratively constructed outlines or concept maps produce stronger comprehension outcomes than individually completed or teacher-generated materials because learners actively reconstruct knowledge during the process (Abdelshaheed, 2023; Li et al., 2022).

Collaborative strategic reading studies further demonstrate that structured group interaction enhances metacognitive regulation, motivation, and reading performance (Sarshogh et al., 2024; ÇİFTÇİ & Kömür, 2023). When lapbook media are incorporated into collaborative reading activities, they function not merely as instructional aids but as shared cognitive artifacts that support discussion, reflection, and negotiated interpretation. This integration aligns with findings that media-supported collaboration increases engagement, critical thinking, and retention when instructional scaffolds guide participation effectively (Bilenko, 2025; Azis et al., 2025; Xia et al., 2025). Despite these promising theoretical connections, empirical evidence examining the combined effect of collaborative learning assisted by lapbook media on EFL reading comprehension remains scarce, particularly in classroom-based foreign language contexts.

Based on these considerations, the present study investigates the efficacy of collaborative learning assisted with lapbook media in improving EFL learners' reading comprehension. This research is important because it addresses persistent comprehension challenges experienced by EFL learners while responding to the growing demand for learner-centered, interactive, and media-supported instructional practices. The study aims to examine how collaborative interaction supported by lapbook media facilitates engagement, knowledge construction, and comprehension development among EFL learners. Specifically, the objectives of this research are: (1) to analyze the effectiveness of collaborative learning assisted with lapbook media in promoting active learning engagement, and (2) to determine its impact on improving students' reading comprehension achievement. To achieve these objectives, the study addresses the following research questions: *How does collaborative learning assisted with lapbook media influence EFL learners' reading comprehension? And How does collaborative learning assisted with lapbook media improve EFL learners' reading comprehension?*

The novelty of this study lies in integrating collaborative learning principles with lapbook-based visual learning media within EFL reading instruction—an area that has received limited empirical attention. While prior studies have examined collaborative learning, graphic organizers, or digital scaffolding independently, this research proposes lapbook-assisted collaboration as a concrete, low-cost, and constructivist-oriented instructional innovation that simultaneously supports social interaction, cognitive

organization, and strategic reading development. By empirically examining this integration, the study contributes new pedagogical insights into how collaborative and multimodal learning environments can effectively address EFL reading comprehension challenges in contemporary language classrooms.

METHOD

Research Design

This study employed a mixed-method research approach using an explanatory sequential research design. In this design, quantitative data were collected and analyzed in the first phase, followed by qualitative data collection and analysis to explain and interpret the quantitative findings more comprehensively. The explanatory sequential design was selected because the primary objective of this research was not only to measure the effectiveness of collaborative learning assisted with lapbook media in improving EFL learners' reading comprehension but also to understand how the learning process contributed to such improvement in classroom practice.

The quantitative phase focused on examining students' reading comprehension achievement through pre-test and post-test scores, enabling the researcher to determine measurable learning gains after the implementation of collaborative learning assisted with lapbook media. Subsequently, the qualitative phase was conducted through classroom observation to explore students' engagement, interaction patterns, collaborative behaviors, and learning processes that supported comprehension improvement. This sequential integration allowed statistical outcomes to be clarified through real classroom evidence, thereby strengthening interpretation and instructional implications.

The chosen design is particularly suitable for addressing the research objectives because reading comprehension improvement involves both measurable performance outcomes and complex social-cognitive learning processes. Quantitative data alone may indicate improvement but cannot sufficiently explain how collaborative interaction and lapbook construction influence comprehension development. Conversely, qualitative observation without measurable achievement data may lack empirical rigor. Therefore, combining both approaches provides methodological complementarity and enhances the validity of findings. Despite its strengths, the explanatory sequential design presents several limitations. First, the relatively small sample size may limit generalizability of findings beyond the studied context. Second, researcher involvement during observation may introduce observer bias. Third, time constraints associated with sequential data collection may affect instructional consistency. To mitigate these limitations, standardized testing procedures were applied, observation guidelines were structured using predefined indicators, and triangulation between quantitative and qualitative data was conducted to ensure credibility and reduce subjective interpretation.

Participants

The participants involved in this study were 34 junior high school students learning English as a Foreign Language (EFL) who actively participated in regular English classroom instruction at a public junior high school. These learners were intentionally selected through purposive sampling to ensure that the participants reflected an authentic classroom context in which reading comprehension challenges commonly occur. The selected class had previously shown difficulties in understanding English reading texts, particularly in identifying main ideas, interpreting vocabulary in context, and comprehending overall textual meaning. Such characteristics made the group suitable for examining the effectiveness of collaborative learning assisted with lapbook media as an instructional intervention aimed at improving reading comprehension skills.

All participants were enrolled in Grade VIII and had received foundational English instruction as part of the national curriculum, including exposure to basic reading

materials such as descriptive and narrative texts. Although students possessed prior experience in English learning, their proficiency levels varied, ranging from beginner to lower-intermediate levels. This variation provided an appropriate setting for collaborative learning implementation, as students with different abilities could interact, exchange ideas, and support one another during group activities. The participants were between 13 and 14 years old, an age group characterized by developing cognitive and social abilities that are conducive to cooperative and interactive learning approaches.

The class consisted of both male and female students who shared relatively similar socio-educational backgrounds. English exposure among participants primarily occurred within formal classroom environments, as opportunities to use English for daily communication outside school were limited. Consequently, reading activities often became the main source of language input for these learners. The sample size of 34 students was considered adequate for classroom-based research because it enabled manageable implementation of collaborative tasks while allowing the researcher to closely observe student interaction, engagement, and participation during lapbook-assisted learning activities. This setting supported in-depth examination of both learning outcomes and collaborative processes throughout the study.

Instruments

The primary quantitative instrument employed in this study was a reading comprehension test administered in the form of a pre-test and post-test to evaluate students' reading achievement before and after the implementation of collaborative learning assisted with lapbook media. The purpose of administering both tests was to identify measurable changes in students' comprehension ability resulting from the instructional intervention. The reading test was designed to assess essential components of reading comprehension, including students' ability to identify main ideas, recognize supporting details, understand vocabulary within textual contexts, draw logical inferences, and interpret organizational structures of reading passages. These aspects were selected because they represent core competencies required in junior high school English learning and reflect both literal and higher-order comprehension skills.

The test materials were adapted from reading texts aligned with the junior high school English curriculum to ensure consistency with students' learning objectives and proficiency levels. Careful adaptation was undertaken to maintain appropriate linguistic difficulty while ensuring that the passages remained authentic and meaningful for learners. To establish content validity, the test items were evaluated by two English education lecturers and an experienced English teacher who examined the suitability, clarity, and cognitive demand of each question. Their feedback contributed to refining ambiguous wording, adjusting difficulty levels, and ensuring alignment between assessment indicators and instructional goals. Reliability was further ensured through a pilot testing process conducted with students from a comparable class outside the research sample. The results of the pilot test demonstrated acceptable internal consistency, and several items were revised to improve clarity and discrimination prior to formal administration.

In addition to quantitative measurement, qualitative data were collected through a structured classroom observation sheet designed to capture how collaborative learning assisted with lapbook media facilitated reading comprehension development. The observation focused on students' engagement, participation in collaborative discussions, exchange of ideas, problem-solving behaviors, and the ways in which lapbook media supported organization and interpretation of reading information. The instrument was developed based on constructivist learning principles emphasizing interaction, active participation, and shared knowledge construction. Observations were conducted systematically throughout the learning sessions using clearly defined criteria to reduce

subjective bias. Complementary field notes were also documented to record classroom dynamics, interaction patterns, and contextual learning behaviors that could not be fully represented through checklist indicators alone, thereby strengthening the credibility and richness of qualitative findings.

Data Analysis

Quantitative data obtained from the reading comprehension tests were analyzed using statistical procedures to determine the extent of students' learning improvement following the implementation of collaborative learning assisted with lapbook media. The analysis began with calculating students' pre-test and post-test scores to identify overall performance changes before and after the instructional treatment. The comparison of mean scores provided an initial overview of students' progress, allowing the researcher to observe whether improvement occurred at the group level. Score gains were further examined to determine the magnitude of learning development achieved during the intervention period. Descriptive statistical measures, including mean, percentage, and standard deviation, were used to present students' achievement distribution and variation in performance, thereby offering a clear representation of learning outcomes across participants.

To examine whether the observed improvement was statistically meaningful rather than occurring by chance, inferential statistical analysis was conducted through a paired-sample comparison between pre-test and post-test results. This analysis enabled the researcher to evaluate the effectiveness of collaborative learning assisted with lapbook media in enhancing students' reading comprehension achievement. The quantitative findings provided objective evidence regarding the impact of the instructional model on learners' comprehension abilities.

Qualitative data derived from classroom observations were analyzed using thematic analysis to explain how the learning process contributed to the improvement identified in quantitative results. Observation data were first organized and refined by selecting information directly related to collaborative interaction, student engagement, and reading comprehension activities. Relevant classroom behaviors were then grouped into meaningful themes reflecting participation, cooperation, strategy use, and students' utilization of lapbook media in organizing textual information. These themes were interpreted to understand how collaborative discussion, shared problem-solving, and visual organization supported comprehension development during learning activities. The qualitative interpretation was subsequently connected with quantitative outcomes to provide deeper explanatory insight. By integrating statistical evidence with classroom interaction data, the analysis clarified not only whether improvement occurred but also how collaborative lapbook-based learning facilitated students' engagement, comprehension strategies, and meaningful understanding of reading texts within the explanatory sequential mixed-method framework.

RESULTS AND DISCUSSION

Results

How does collaborative learning assisted with lapbook media influence EFL learners' engagement during reading instruction?

The findings of this study indicate that collaborative learning assisted with lapbook media positively influenced EFL learners' engagement during reading instruction. Classroom observation data revealed noticeable changes in students' participation patterns throughout the implementation phase. Prior to the intervention, reading activities were generally dominated by individual work, and many students demonstrated passive learning behaviors such as limited questioning, minimal discussion, and dependence on teacher explanation. However, during lapbook-assisted collaborative learning sessions,

students became more actively involved in group discussions, shared interpretations of texts, and jointly organized reading information using lapbook components.

The collaborative structure encouraged learners to exchange vocabulary meanings, clarify misunderstandings, and negotiate textual interpretation with peers. The use of lapbook media further strengthened engagement by allowing students to visually construct their understanding through diagrams, summaries, and foldable sections. Observation records showed increased interaction, equitable participation among group members, and sustained attention during reading tasks. Students demonstrated greater enthusiasm when completing lapbook sections because learning activities combined creativity with comprehension processes.

Quantitative learning outcomes also indirectly reflected improved engagement. The mean reading score increased from 74.18 in the pre-test to 81.82 in the post-test, suggesting that higher classroom involvement contributed to improved comprehension performance. Active participation, collaborative dialogue, and hands-on media use reduced students' anxiety toward reading tasks and promoted meaningful engagement with texts. These findings confirm that collaborative lapbook-based instruction creates an interactive learning environment in which engagement becomes a driving factor supporting comprehension development. The reading scores can be presented in Figure 1.

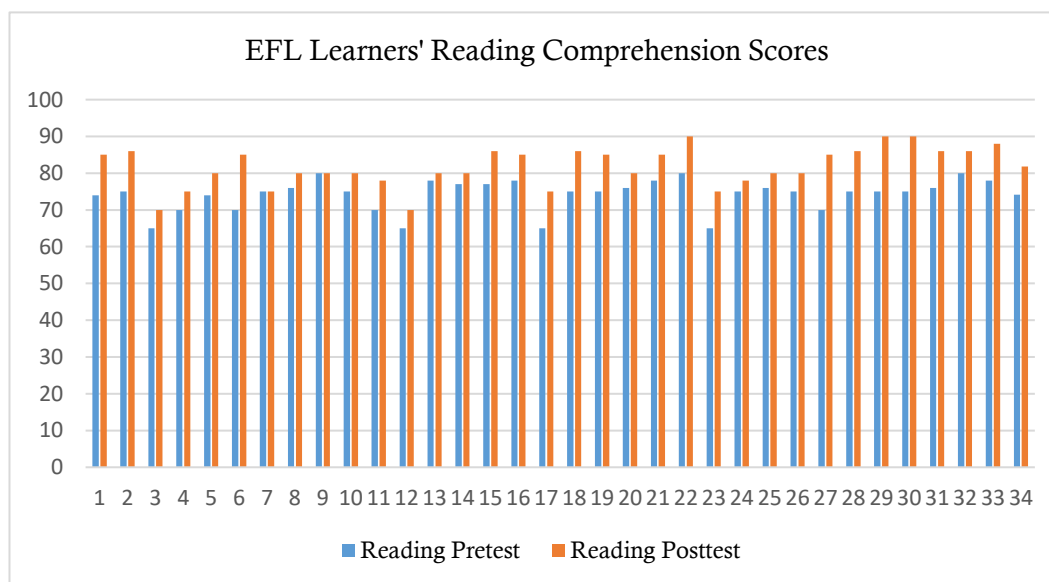


Figure 1. EFL Learners' Reading Comprehension Scores

The quantitative analysis demonstrated that collaborative learning assisted with lapbook media substantially improved EFL learners' reading comprehension achievement. Comparison between pre-test and post-test results showed consistent score improvement among most participants. The average score increased from 74.18 before treatment to 81.82 after the implementation, producing a mean gain of 7.64 points. This improvement indicates that students experienced meaningful progress in identifying main ideas, understanding supporting details, interpreting vocabulary in context, and making textual inferences.

A paired-sample t-test analysis was conducted to examine the statistical significance of this improvement. The results showed that the t-table value was higher than the calculated t-test value, indicating that collaborative learning assisted with lapbook media influenced EFL learners' reading comprehension development during the instructional process. Although statistical comparison focused on score differences, qualitative classroom observations provided explanatory evidence showing how improvement

occurred. Students demonstrated better comprehension strategies such as summarizing information, questioning text meaning, and collaboratively interpreting passages while constructing lapbooks.

The integration of collaborative interaction with visual organization enabled learners to process reading materials more deeply. Lapbook construction functioned as cognitive scaffolding that helped students connect ideas, retain vocabulary, and synthesize textual information. Consequently, the improvement was not limited to score enhancement but also reflected development in strategic reading behavior and collaborative learning competence. The findings therefore suggest that lapbook-assisted collaborative learning contributes to both measurable achievement gains and meaningful comprehension improvement among EFL learners.

Table 1. The Independent Samples T-Test Analysis

Variable	Group	N	Mean	SD	t-value	df	Sig. (p)
Academic Performance	Male	34	78.45	6.21	-2.45	58	0.017*
	Female	34	82.13	5.87			
Motivation Score	Male	34	70.32	7.10	-2.63	58	0.011*
	Female	34	74.89	6.54			

The independent samples t-test analysis was conducted to examine whether there were significant differences between male and female students in terms of academic performance and motivation score. The results revealed that female students obtained a higher mean score in academic performance ($M = 82.13$, $SD = 5.87$) compared to male students ($M = 78.45$, $SD = 6.21$). The difference between the two groups was statistically significant, $t(58) = -2.45$, $p = 0.017$, indicating that gender had a significant effect on academic performance.

Similarly, the analysis of motivation scores showed that female students ($M = 74.89$, $SD = 6.54$) demonstrated higher motivation levels than male students ($M = 70.32$, $SD = 7.10$). The t-test results indicated a statistically significant difference between the groups, $t(58) = -2.63$, $p = 0.011$. This finding suggests that female students exhibited significantly greater learning motivation compared to their male counterparts. The findings indicate that significant differences exist between male and female students in both academic performance and motivation levels, with female students showing comparatively higher outcomes in the measured variables. These results imply that gender may play an important role in influencing students' academic achievement and motivational engagement.

How does collaborative learning assisted with lapbook media improve EFL learners' reading comprehension?

The qualitative data obtained from classroom observations and students' learning activities revealed that collaborative learning assisted with lapbook media significantly improved EFL learners' reading comprehension through several interconnected learning processes. First, the implementation of collaborative learning encouraged active participation and peer interaction during reading instruction. Students worked in small groups to discuss the content of reading texts, identify main ideas, and summarize information using lapbook components such as mini-flaps, vocabulary pockets, and concept maps. Observation results indicated that learners who previously tended to remain passive became more engaged in discussing unfamiliar vocabulary and clarifying text meanings with their peers. This interaction helped students construct meaning collectively rather than relying solely on teacher explanations.

Second, lapbook media facilitated visual and contextual understanding of reading materials. Students organized important information from texts into visual

representations, including story sequences, character descriptions, and key information charts. The process of cutting, arranging, and labeling information enabled learners to reconnect ideas within the text, which strengthened comprehension and memory retention. Observational notes showed that students were better able to retell and explain reading passages after completing their lapbooks.

Third, collaborative lapbook activities promoted higher-order thinking skills. Learners analyzed text structures, compared information, and drew conclusions while designing their lapbooks. Group discussions required students to justify their interpretations, which improved inferential comprehension rather than mere literal understanding. Students demonstrated increased confidence when answering comprehension questions and explaining textual meanings. Furthermore, the learning model enhanced learning motivation and responsibility. Each group member was assigned specific roles such as reader, summarizer, designer, or presenter. This role distribution fostered accountability and cooperation, ensuring that all students contributed to the comprehension task. Observation data showed improved classroom atmosphere characterized by enthusiasm, cooperation, and sustained attention during reading activities. Finally, the teacher's observation indicated noticeable improvement in students' ability to identify main ideas, interpret vocabulary in context, and summarize texts accurately across instructional meetings. Students expressed that lapbook media made reading activities more enjoyable and easier to understand because information was presented visually and collaboratively.

Discussion

The findings of this study demonstrate that collaborative learning assisted with lapbook media significantly enhanced EFL learners' engagement and reading comprehension achievement. The results obtained from both quantitative and qualitative data provide strong evidence supporting the effectiveness of integrating collaborative learning principles with visual and interactive instructional media. Within the explanatory sequential mixed-method framework, quantitative improvements in reading scores were further clarified through qualitative classroom observations, allowing a comprehensive interpretation of how and why learning improvement occurred.

The first major finding reveals that collaborative learning assisted with lapbook media positively influenced students' engagement during reading instruction. Prior to the intervention, classroom learning tended to be teacher-centered, where students relied heavily on teacher explanations and showed limited participation. After the implementation, observation data indicated increased interaction, active discussion, and shared responsibility among learners. Students became more willing to ask questions, negotiate meaning, and exchange ideas while interpreting texts collaboratively. This finding aligns with constructivist learning theory, which emphasizes that knowledge is actively constructed through social interaction and shared experiences (Azis et al., 2025; Erawati & Adnyana, 2024). Collaborative environments encourage learners to become active participants rather than passive recipients of information, thereby promoting deeper cognitive engagement.

The increased engagement observed in this study also supports previous research emphasizing the role of collaboration in improving learning participation. Taggart and Wheeler (2023) argue that collaborative learning fosters meaningful academic interaction by allowing students to co-construct understanding through dialogue and negotiation. Similarly, Martínez-Maldonado et al. (2021) highlight that collaborative learning environments enhance participation patterns and learning accountability among group members. In the present study, lapbook activities strengthened this collaborative process because students were required to organize textual information visually, discuss

interpretations, and collectively complete learning tasks. The hands-on nature of lapbook construction transformed reading from a purely linguistic activity into an interactive and creative learning experience.

The quantitative findings further confirm that collaborative lapbook-assisted learning improved reading comprehension achievement. The mean score increased from 74.18 in the pre-test to 81.82 in the post-test, indicating meaningful learning gains. Statistical analysis through paired-sample comparison demonstrated significant differences between students' performance before and after the intervention. These results are consistent with studies reporting that collaborative reading strategies substantially improve comprehension outcomes. For instance, Sarshogh et al. (2024) found that collaborative strategic reading enhances learners' comprehension performance, motivation, and metacognitive awareness. Likewise, Herda et al. (2023) reported that collaborative reading activities promote better understanding of main ideas, supporting details, and inference-making skills among EFL learners.

The improvement in reading comprehension can be explained through the cognitive scaffolding provided by lapbook media. During lapbook construction, students summarized texts, categorized information, and visually mapped relationships between ideas. Such activities support comprehension monitoring and information retention, which are essential processes in successful reading comprehension (Vettori et al., 2023). Visual organization helps learners reduce cognitive overload by structuring textual information into manageable segments. This finding corresponds with research by Li et al. (2022), which shows that structured visual learning tools function as scaffolding mechanisms that assist learners in processing complex reading materials.

Qualitative observation data further revealed that collaborative lapbook learning promoted the development of comprehension strategies such as summarizing, questioning, predicting, and interpreting textual meaning. Students demonstrated increased confidence in explaining ideas and answering comprehension questions, suggesting improvement not only in performance but also in strategic reading behavior. This supports Amina (2022), who emphasizes that metacognitive strategy awareness plays a crucial role in improving reading comprehension outcomes. When learners actively reflect on text meaning through discussion and collaborative reasoning, comprehension becomes more meaningful and sustainable.

Another important finding concerns the reduction of learners' anxiety and increased motivation toward reading activities. Many EFL learners experience difficulty in reading due to linguistic limitations and fear of making mistakes (Ai-ping et al., 2025; Chan et al., 2024). The collaborative nature of lapbook-assisted learning created a supportive learning atmosphere where students could rely on peer assistance. Shared responsibility within groups minimized individual pressure and encouraged risk-taking in language use. This result is consistent with Al-Mutrafi (2020), who found that peer-collaborative dialogue significantly improves reading comprehension by lowering anxiety and promoting cooperative problem-solving. Furthermore, assigning specific group roles such as reader, summarizer, designer, and presenter enhanced accountability and participation equality. Each learner contributed to the comprehension process, preventing dominance by high-achieving students and encouraging inclusive participation. This finding extends previous studies on collaborative learning, which emphasize structured cooperation as a key factor influencing learning success (Zhang et al., 2023). The structured collaboration implemented in this study ensured that engagement translated into measurable comprehension improvement.

The integration of collaborative learning and lapbook media also reflects multimodal learning principles. Combining textual reading with visual, kinesthetic, and social interaction supports diverse learning preferences and strengthens meaning construction.

Wang and Lee (2021) argue that multimodal instructional approaches enhance vocabulary learning and comprehension by presenting information through multiple cognitive channels. In the present study, lapbooks enabled learners to connect vocabulary, ideas, and textual structures visually, thereby facilitating deeper comprehension processes. Importantly, the mixed-method explanatory sequential design strengthened the validity of these findings. Quantitative data demonstrated measurable improvement, while qualitative evidence explained the mechanisms underlying learning success. Observation results showed that improvement occurred through active interaction, collaborative reasoning, and visual knowledge organization rather than mere repetition or memorization. This integration confirms Ouyang and Xu's (2021) assertion that collaborative learning effectiveness becomes clearer when behavioral classroom processes are examined alongside achievement data.

Despite these positive outcomes, several limitations should be acknowledged. The relatively small sample size and classroom-based implementation limit the generalizability of findings to broader educational contexts. Additionally, students' enthusiasm toward new instructional media may have temporarily influenced engagement levels. However, consistent behavioral improvement across multiple meetings suggests that learning gains were pedagogically meaningful rather than novelty-driven. Future research involving larger samples and longer intervention periods may further validate the sustainability of lapbook-assisted collaborative learning. This study extends existing research by demonstrating that collaborative learning supported with lapbook media not only improves reading comprehension scores but also transforms classroom interaction patterns and learning behaviors. The findings confirm prior research emphasizing collaboration and constructivist pedagogy while contributing new insight into the role of creative visual media in EFL reading instruction. Collaborative lapbook-based learning emerges as an effective pedagogical approach that integrates cognitive, social, and motivational dimensions of reading comprehension, ultimately supporting meaningful and sustained learning development among EFL learners.

CONCLUSION

The present study concludes that collaborative learning assisted with lapbook media effectively enhances EFL learners' reading comprehension and classroom engagement. The integration of collaborative interaction with visually organized learning media created a student-centered learning environment that encouraged active participation, peer discussion, and meaningful knowledge construction. Quantitative findings demonstrated a significant improvement in students' reading comprehension achievement, as reflected in the increase between pre-test and post-test scores. These improvements indicate that learners developed stronger abilities in identifying main ideas, understanding supporting details, interpreting vocabulary in context, and making inferences from texts. The collaborative structure enabled students to negotiate meaning collectively, while lapbook media functioned as cognitive scaffolding that supported information organization and retention. Consequently, reading instruction shifted from passive text decoding toward an interactive process involving discussion, analysis, and reflection.

Furthermore, qualitative findings revealed that the effectiveness of collaborative lapbook-assisted learning extended beyond academic achievement to include motivational and behavioral development. Students demonstrated higher engagement, confidence, and responsibility during reading activities, suggesting that the learning model supported both cognitive and affective dimensions of language learning. The explanatory sequential mixed-method design confirmed that improvement occurred through active collaboration, visual representation of knowledge, and strategic reading practices fostered during lapbook construction. This study therefore contributes pedagogical evidence that combining

collaborative learning with creative instructional media provides an effective alternative to conventional reading instruction in EFL classrooms. The findings highlight the importance of integrating social interaction and multimodal learning tools to facilitate deeper comprehension and sustainable learning outcomes among junior high school EFL learners.

DECLARATION OF USING AI TOOLS

In the preparation of this manuscript, artificial intelligence (AI) tools were utilized solely to assist in language refinement, organization of ideas, and improvement of academic writing clarity. All research design, data collection, analysis, interpretation of findings, and final conclusions remain the responsibility of the researcher. The use of AI tools did not influence the originality, integrity, or scholarly contribution of this study.

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