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Enhancing Students' Extensive Reading Learning Outcomes: Integrating Motivation, Technology, and Collaborative Active Learning

Zuvyati Aryani Tlonaen[1,*], Dortean Amelia Jois Jaha[2], Zet Ena[3] & Rohmatul Fitriyah Dewi[4]

[1]Department of English Education, Universitas Kristen Artha Wacana, Indonesia

[2]Department of Physical Education, Universitas Kristen Artha Wacana, Indonesia

[3]Department of Management, Universitas Kristen Artha Wacana, Indonesia

[4]Department of Teacher Education, Central China Normal University, China

*Corresponding email: zuvyatitlonaen@ukaw.ac.id

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Abstract: Enhancing University Students' Extensive Reading Outcomes: Integrating Motivation, Technology, and Collaborative Active Learning. Objective: This study aimed to enhance students' outcomes in the Extensive Reading course by integrating motivation, technology, and Collaborative Active Learning (CAL) into the learning process. It was conducted in response to low student achievement and to address the research gap, since few studies have comprehensively explored the combined role of motivation, technology, and CAL in improving extensive reading performance**. Methods:** The study involved 49 third-semester English Education students in East Nusa Tenggara, Indonesia, using a mixed-method approach. A quasi-experimental pre-test/post-test design, along with semi-structured interviews, was employed. The experimental group (n = 25) received the intervention, while the control group (n = 24) followed traditional methods. The intervention lasted for 14 weeks, beginning with a pre-test in week 1, followed by the intervention from weeks 2 to 15, and a post-test in week 16. Interviews were conducted with six purposively selected students (three high-achieving and three low-achieving) to support the quantitative findings. A paired samples t-test was used to analyze the data. **Findings**: The results showed that the integration of motivation, technology, and collaborative active learning significantly improved students' learning outcomes for the Extensive Reading course in the experimental group (pre-test mean: 41.32; post-test mean: 66.64; $p < 0.001$), while the control group showed no change. Interview data revealed that technology and collaboration enhanced motivation and engagement among students in the experimental group, whereas the control group reported low motivation and limited support. **Conclusion:** Policymakers should support digital literacy initiatives, teachers should implement collaborative and technology-based reading activities, and universities should integrate these approaches into their curriculum design to enhance the success of extensive reading.

Keywords: integration, motivation, technology, collaborative active learning, extensive reading, higher education.

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INTRODUCTION

Extensive reading is a course offered by the English Language Department in universities, where students engage with a wide range of diverse texts. Generally, this course aims to improve students' reading fluency and comprehension skills, and enhance their vocabulary (Abdulrazzaq et al., 2024; Ngân et al., 2019; Taye & Teshome, 2025). Foster a love for reading, encourage critical thinking (Boakye,

2017), support language acquisition (Boakye, 2017; Cremin & Scholes, 2024; Liu & Zhang, 2018; Zur et al., 2025), and build confidence. However, many students struggle with reading engagement due to a lack of motivation or interest in the material, as traditional reading approaches often fail to resonate with today's learners, who are accustomed to interactive and dynamic content.

Factors such as limited access to diverse reading materials can restrict exposure to various genres and perspectives, while varying reading levels may leave some students feeling overwhelmed or bored, further diminishing their interest (Kuhn et al., 2024; Seventilova, 2024; Zuilkowski et al., 2019). Additionally, the pressure of standardized assessments can shift focus away from reading for pleasure, making it feel like a chore rather than an enjoyable (Mason & Warmington, 2024; Tattersall Wallin, 2022; Yusof & Mohamad, 2020). Other challenges that might be observed among students include their diverse educational backgrounds, which may include social sciences and science classes in high school, rather than language-focused programs. As a result, they often face significant difficulties in English language skills, particularly reading comprehension. In their third semester, students are required to take the Extensive Reading course, which is designed to engage them with a variety of texts throughout the semester. However, many students struggle to comprehend these texts, which negatively impacts their learning outcomes.

The teaching strategies employed by lecturers often rely on traditional methods, where students are simply given readings and then asked to present their understanding of the material. Students are required to read texts, make video presentations, or complete reading comprehension tests with a series of questions in order to reach their final grades. As a result of these assignments' failure to foster a thorough comprehension of English texts, students are compelled to summarize in their native language, utilize artificial intelligence (AI) to provide them with answers to questions, and employ a variety of other strategies without actually understanding the texts. This situation emphasizes how urgently a more effective reading teaching approach is needed that ensures students engage with and understand the material.

Previous studies have shown that technology, motivation, and working together to learn are all good ways to improve reading (Acuña-Torres et al., 2024; Colibaba et al., 2019; Djamdjuri et al., 2022; Galappaththy & Karunarathne, 2022; Kaban, 2021; Lestari et al., 2023; López-Escribano et al., 2021; Mahmud & Shaikh, 2023; Rashid & Azid, 2020a; Vega et al., 2020). However, most studies only examine small aspects of solutions, such as technology, motivation, or teamwork. The results are often short-lived, situation-dependent, and challenging to replicate. Technology only increases access and interaction, but it does not guarantee long-term reading, strategy use, or accountability. Motivational prompts and game-based incentives can enhance short-term engagement, but they risk undermining intrinsic motivation if not embedded in meaningful social tasks. Moreover, working together without digital scaffolds often leads to unequal participation and off-task talking, with little transfer to independent, extensive reading. Many studies use short durations, samples from a single site, and self-report outcomes. They do not track application fidelity, time-on-task, reading volume, or effect sizes, and they do not test how the three parts interact or mediate with each other. The various types of tools and measurements make it more challenging to generalize and provide useful advice for integrated educational design. Because of this, there is no clear, testable model that combines motivational supports, technological affordances, and collaborative active learning to make long-lasting changes in

long-term reading outcomes. This study fills that gap by examining a motivation, technology, and CAL method that combines all three. It employs a quasi-experimental design, incorporating both objective and subjective measures, fidelity monitoring, and a focus on both short-term and long-term effects.

Nonetheless, although these methods have been examined singly or in pairs, such as technology with collaborative learning or motivation with reading, there remains a significant deficiency in research that concurrently integrates all three components. Previous studies have focused on reading skills at the junior and senior high school levels, where the level of difficulty is lower compared to university. Also, extensive reading is used as a strategy to improve students' vocabulary (Sevy-Biloon, 2022) or other English skills (Katemba & Tomatala, 2023; Sahibzada et al., 2024; Shih et al., 2018) while this research helps students in their extensive reading learning outcome, extensive reading requires a strong reading experience to enable students to comprehend texts more effectively. Therefore, this study focuses on university students enrolled in an extensive reading course, which requires them to engage in a substantial amount of reading, and many students struggle with this course. Integrating three key variables (motivation, technology, and collaborative active learning) is expected to be highly effective in enhancing their learning outcomes in this course.

Despite the value of substantial reading, student outcomes are low, showing a lack of effective instructional strategies that integrate motivational support, technology resources, and collaborative learning. This study addresses this gap by answering this research question: How can motivation, technology, and collaborative active learning (CAL) be integrated to improve students' learning outcomes in an Extensive Reading course? From this perspective, the study hypothesizes that motivation, technology, and CAL will increase students' extensive reading outcomes.

METHOD

Participants

Forty-nine third-semester students of the English Education Study Program were involved in this research. Since only one third-semester class was available, students were divided into two groups: an experimental group of 25 students who received the intervention and a control group of 24 students who continued with the traditional method.

The researcher (first author) acknowledges her positionality as a lecturer in the English Education Department, which provided familiarity with the context but also risked potential bias. To remain reflexive, the researcher continuously reflected on personal assumptions and their possible influence on data collection and interpretation. Bias was mitigated through triangulation of data, member checking with participants, and peer debriefing with other researchers.

Research Design and Procedure

This study employed a mixed-methods approach, combining a quantitative quasi-experimental pretest-posttest design with qualitative interviews in the final phase, aiming to provide a comprehensive understanding of the results. This study employed an Explanatory Sequential Mixed Methods Design to collect quantitative data from a quasi-experimental pre-test/post-test, followed by qualitative interviews to explain motivation, technology use, and collaborative learning, thereby enhancing understanding of the intervention's effectiveness.

Prior to conducting the research, ethical approval was obtained from the institutional research ethics committee, and all participants provided informed consent before participating in the study. The research protocol was reviewed

and approved under reference number 18/ LP-UKAW/E.6/XI.2024. The study was conducted in accordance with institutional ethical guidelines and the principles outlined in the Declaration of Helsinki. The procedure was done with 1) administering a pretest to gather students' comprehension in reading; 2) conducting the intervention. Students in the experimental group received an intervention that integrated motivation, technology, and collaborative learning. Motivational strategies were implemented by providing rewards, such as extra credit and appreciation (praise and applause), for their efforts, regardless of whether they succeeded or failed in completing reading tasks, as well as feedback on all assignments. Students were divided into four groups, each consisting of six members, to participate in reading challenges. They utilized digital platforms such as e-books accessed through https://www.libgen.is, https://www.goodreads.com/, and Google Drive (reading texts provided by the lecturer uploaded to the Google Drive). The Quizizz application was used to test their individual comprehension of the readings. The collaborative strategy employed the *CAL procedure* (Chank-Tik, 2022) (see Table 1); 3) Conducting a post-test, 4) analyzing the data.

Table 1. Weekly activities of experimental and control groups

Week	Eksperiment group	Control group
Week 1-14	Reading a new text (45 minutes), discussion using macro-scripts	Reading a new text (45 minutes)
	General discussion flow) and micro-scripts (detailed interaction instructions)	Regular discussion without a structured script
	The facilitator actively monitors, provides direct assistance, and encourages student participation.	The facilitator only provides general guidance.
	Comprehension test: true/false, multiple choice, W-H questions, and oral summaries	Comprehension test: true/false, multiple choice, W-H questions, and oral summary

Research Instrument

Before usage, experts validated all research tools. Two English education experts examined the course book-adapted pre-test and post-test items for content validity, and pilot testing confirmed reliability (Cronbach's Alpha > 0.80). An expert in physical education psychology (second author) examined motivation for contextual and theoretical relevance. Expert comments improved the interview guide, and consistent questioning, verbatim transcription, and intercoder checking increased reliability. Pretest and posttest, as well as interviews, were conducted to gather the data. Students were given a short story entitled *Young Goodman Brown*, written by Nathaniel Hawthorne, and the test focused on evaluating specific comprehension of the text through multiple-choice questions (10 items), the ability to distinguish between true and false statements based on the text (10 items), encouraging students to provide reflective and in-depth answers through open-ended questions (2 items), and assessing their ability to identify key information and summarize it in their own words (100-150 words).

The instrument for measuring Extensive Reading Learning Outcomes was designed around five key indicators: 1) General comprehension focuses on students' ability to grasp the main idea or theme of the story, *"What*

is the main theme of the story?"; 2) Detail comprehension emphasizes locating specific information, such as *"The story takes place in the town of _____."*3) Inferential comprehension deals with concluding implied meanings, for example, *"What does the forest symbolize in the story?"*; 4) Vocabulary in context measures understanding of words in their narrative setting, illustrated by the question *"The traveler carries a staff shaped like a _____."*.; 4) the last, interpretation and evaluation highlight students' ability to assess the meaning and impact of the text, as in *"How does the forest journey change Goodman Brown's perspective on life?"*. These indicators ensure the instrument provides a comprehensive picture of students' reading achievements.

The interview questions were used to find out how students felt about Motivation, Technology, and Collaborative Active Learning (CAL) in the course on extended reading. There were three major questions for each variable that were meant to find out about students' experiences and problems, such as *"How motivated did you feel during the extensive reading activities?*" *How did the use of digital platforms (e.g., Libgen, Goodreads, Quizizz) affect your learning experience*?" and "*How did group discussions and collaborative tasks help you understand the reading materials?*". Six students were interviewed: three high scorers numbered as S1, S2, S3 from the experimental group and three low scorers from the control group numbered as S4, S5, S6 to explore diverse perspectives and to compare the impact of the intervention. Low achievers in the experimental group or high achievers in the control group were not included because there were no prominent low achievers in the experiment and no high achievers in the control, the researchers then interviewed high achievers from the experiment (to see the maximum benefit of the intervention) and low achievers from the control (to see the most significant challenges without the intervention).

Data Analysis

In the data analysis, a paired samples t-test was conducted to assess whether there was a significant difference between the pretest and posttest scores within each group. A p-value of < 0.05 indicates a significant difference between the two conditions, whereas a p-value e" 0.05 indicates no significant difference. Along with the paired samples t-test, an independent samples t-test was used to compare the findings of the posttest between the experimental and control groups. The Kolmogorov-Smirnov test was used to determine if the data were normally distributed. It indicated that both groups had p-values greater than 0.05, which means that the data matched the normality assumption. The institution's grading system was used to figure out how well students did (Universitas Kristen Artha Wacana, 2020). Descriptive statistics were given for both groups' pretest and posttest results. This helped illustrate how the scores were distributed and how performance improved over time.

■ RESULT AND DISCUSSION

Quantitative Result

The frequency distribution data of students' reading scores before and after the intervention reveal a notable improvement in the performance of the experiment group compared to the control group. In the experiment group, a significant shift occurred across the grade intervals. Before the intervention, 75% of the students (18 students) were in the lowest category (0–54.99), 25% (6 students) were in the average category (55.00–67.99), and none reached the high category (68–100). After the intervention, only 16.7% (4 students) remained in the lowest category, 29.2% (7 students) achieved scores in the average category, and a remarkable 62.5% (15 students) reached the high category. This indicates a

substantial improvement in reading performance following the application of the intervention strategies.

In contrast, the control group showed minimal change. At the pre-test, 79.2% (19 students) were in the lowest category, 16.7% (4 students) in the average category, and only 4.2% (1 student) in the high category. After the post-test, the distribution remained nearly the same, with 91.7% (22 students) in the lowest category, 8.3% (2 students) in the average category, and 4.2% (1 student) in the high category. This suggests that, without the intervention, students' reading performance did not demonstrate meaningful improvement (see Table 2).

Table 2. Description of students' learning outcomes (pre-test-post-test)

No	Grade	Experiment				Control			
		Pre-test		Post-test		Pre-test		Post-test	
		f	%	f	%	f	%	f	%
1	High (68-100)	0	0%	15	62.5%	1	4.2%	1	4.2%
2	Average (55.00-67.99)	6	25%	7	29.2%	4	16.7%	2	8.3%
3	Low (0-54.99)	18	75%	4	16.7%	19	79.2%	22	91.7%

Next, the initial normality test indicated that the data from both groups were normally distributed. The Kolmogorov-Smirnov analysis yielded significance values of 0.073 for the pre-test data and 0.132 for the post-test data, indicating the need for a paired samples t-test for statistical analysis. The paired samples t-test further validates this improvement, with a statistically significant difference observed between the pre- and post-intervention scores ($p < 0.001$). This substantial change demonstrats the effectiveness of the intervention strategies applied in the study (see Table 3).

In addition to reporting the research findings using the paired samples test, we also conducted an independent samples t-test (with data normality tested using the Kolmogorov-Smirnov test, which showed that both groups had p-values > 0.05, namely the experimental group = 0.175; control group = 0.200) to compare the extensive reading outcomes between the experimental and control groups. The results revealed a significant difference between the two groups, with a t-value of 8.883 and a significance level of <0.001. These findings strengthen the evidence that integrating motivation, technology, and collaborative active learning has a significant impact on student learning outcomes in Extensive Reading course (Table 4).

Table 3. Paired samples test

	Paired differences		t	df	Significance	
	Mean	SD			One sided	Two sided
Pre-test- post-test	-25.320	17.834	-7.099	24	<.001	<.001

Table 4. Independent samples test

	Levene's Test of Equality of Variances		t	df	Significance	
	F	Sig.			One-sided	Two-sided
Equal variance assumed	3.381	0.072	8.883	47	<.001	<.001

The findings strongly support the contribution of combining motivational strategies, technological tools, and collaborative learning methods in improving extensive reading outcomes. The significant increase in the experimental group's scores (pretest-posttest) after the intervention highlights the practical benefits of this integrative approach. In addition, we tested the significance of this model by comparing it with a control group, and the results showed that the model we implemented consistently outperformed the control group in the post-test scores. Overall, these results affirm the potential of innovative and interactive strategies in transforming language education.

Qualitative Result

The interview results indicated that students in the experimental group exhibited enhanced comprehension and improved engagement as a result of incorporating motivation, technology, and collaborative active learning practices. Conversely, students in the control group reported diminished motivation, restricted engagement, and inadequate support, which adversely affected their learning experience. These results show that using interactive tools and working together with classmates can help students do better in the Extensive Reading course (see Table 5)

Motivation: Extra Credit, Appreciation (Applause and Praise), Positive Language, and Feedback

The implementation of an extra credit system in the experimental class, along with structured reading assignments and quizzes via the Quizizz application, enhanced student engagement and performance. This finding aligns

Table 5. Interview results of the experimental and control groups

Variables	Questions	Experimental group (high scores)	Control group (low scores)
Motivation	Q1: How motivated did you feel during the extensive reading activities?	S1: Highly motivated due to interactive platforms. S2: Motivated by recognition and progress tracking. S3: Enjoyed discussions and varied activities.	S4: Low motivation due to repetitive tasks. S5: Read only to complete assignments. S6: Felt disengaged due to lack of acknowledgment.
	Q2: What activities helped increase your motivation?	S1: Quizizz leaderboard and feedback. S2: Group discussions and digital tracking. S3: Weekly journals and group work.	S4: Only motivated by the need to pass. S5: Occasional informal discussions. S6: Pair reading helped slightly.
	Q3: Did technology impact your motivation?	S1: Yes, wide access and instant results helped. S2: Libgen and Quizizz were engaging. S3: Access and gamified quizzes increased interest.	S4: No interactive feedback, just file sharing. S5: Technology use was minimal. S6: No interactive tools to boost motivation.
Technology	Q1: How did digital platforms affect your learning?	S1: Made access and practice easier. S2: Gave independence and flexibility.	S4: No significant change; only basic file access. S5: Missed opportunities

		S3: Increased enjoyment through quizzes.	for tech-based engagement. S6: Technology did not enhance learning.
	Q2: Which tools helped most? Why?	S1: Quizizz – for repeated practice. S2: Libgen – for wide material access. S3: Goodreads – deeper understanding from reviews.	S4: None – only used Google Drive. S5: Google Drive was not helpful. S6: No tools stood out.
	Q3: Challenges in using technology?	S1: Login issues, solved with peer help. S2: Internet, managed by early downloads. S3: Quizizz setup confusion was overcome with practice.	S4: Internet problems; borrowed devices. S5: Missed updates on materials. S6: No internet = no access to files.
CAL	Q1: How did group tasks help you understand texts?	S1: Helped reveal missed details. S2: Enabled real-time Q&A. S3: Made tasks meaningful, improved understanding.	S4: Had to work alone, no discussion. S5: No structured collaboration. S6: Wanted more group activities.
	Q2: What did you learn from peers?	S1: Analyzing characters and themes. S2: Multiple text interpretations. S3: Better summary techniques.	S4: Did not learn much from peers. S5: Informal talk, little depth. S6: Rare peer support.
	Q3: Did collaboration improve comprehension/ engagement? Why?	S1: Yes, deeper connection and interest. S2: Improved expression and listening. S3: Made learning interactive and enjoyable.	S4: No collaboration = low engagement. S5: No support in comprehension. S6: Collaboration would have helped.

with the work of Bahati et al. (2019) and El-Hashash (2022), who highlighted that quizzes facilitate knowledge retention and improve both enjoyment and academic performance when administered appropriately. Integrating gamification elements in Quizizz aligns with the findings of Kyung-Mi (2022) and Mader & Bry (2019), who demonstrated that gamified assessments enhance intrinsic motivation and promote active participation by creating a more dynamic learning environment. This study strengthens the findings of Julaihi (2023) and Parnabas et al. (2023), indicating that external motivators, such as extra credit, can enhance students' engagement with learning materials and lead to improved outcomes. In contrast to studies indicating limited or short-term effects of extrinsic rewards, this research demonstrates that the combination of extra credit with collaborative and gamified methods sustains engagement and fosters

long-term academic advantages. The extra credit system employed here functions not only as an external incentive but also as a component of a holistic motivational strategy that incorporates both intrinsic and extrinsic factors.

The importance of praise and applause in creating a positive classroom environment has greatly improved students' morale, interest, and motivation. Verbal and non-verbal gestures, such as praise and applause, help students feel important, which makes them more likely to get involved with their learning tasks (Yasir et al., 2023). Acknowledging even small successes increases confidence and the desire to take on new tasks, creating a healthy learning environment. Khalfaoui et al. (2021) stress how important it is to have a caring environment, especially for students from different backgrounds. Wu (2023) discusses how positive psychology can enhance morale and foster a sense of belonging among individuals. This resonates with the experimental group's reflections, where one student mentioned being *"motivated by recognition and progress tracking" (S2, Experimental group)*. In contrast, students in the control group felt "*disengaged due to lack of acknowledgment*" (S6, Control group). These contrasting voices highlight how recognition and gratitude play a pivotal role in shaping student engagement and academic performance.

Consistent use of positive language and constructive feedback is essential for improving students' learning outcomes by cultivating a growth mindset and encouraging active participation. The research emphasises positive reinforcement, using statements like "great effort," which assist children in perceiving problems as opportunities for learning (Alkhiyami et al., 2024). Effective feedback models not only pinpoint strengths and areas for enhancement but also facilitate autonomous learning (Dmitrenko & Budas, 2021). Meanwhile, structured feedback cultivates a supportive environment that encourages positive behavioural modification (Bhattacharyya et al., 2020; Cobbold & Wright, 2021). Moreover, positive feedback improves motivation and performance in educational tasks tasks (Aslam, 2021; Margolis et al., 2022), and meta-analyses have shown that it has a significant effect on cognitive results (Wisniewski et al., 2020). This is consistent with students' feedback: experimental group students appreciated *"leaderboard and feedback" (S1, Experimental group)* as a source of motivation, whereas control group students reported that *"no interactive tools (were available) to boost motivation" (S6, Control group).* These results demonstrate the importance of incorporating balanced, constructive criticism into teaching to help students improve and create a safe learning environment in the classroom.

The control class, on the other hand, kept things simple. The educators still thanked students for their hard work and used positive language to create a good learning environment. However, there were no extra credits or rewards for outstanding work. Appreciation was more generic and only came in the form of verbal encouragement, with no real prizes or extra points. Additionally, feedback was not part of the grading process, so students received their final marks without any specific guidance on how to improve their performance. It made learning easier in the control class, focusing on regular tests. However, it did not provide students with the added motivation and opportunities to reflect on what they had learned that the experimental class did. This difference demonstrates how tactics such as extra credit, focused feedback, and structured recognition can lead to increased engagement and improved learning outcomes.

The Contribution of Technology: Access to Resources, Enhanced Engagement, Support for Learning Styles, and Increased Accessibility

The online platforms were used to help students in the experimental class. Students may

obtain reading materials from sites such as Libgen and Goodreads. A Google Drive folder has been set up with a selection of carefully chosen reading materials for their use. Students were also expected to maintain an online reading list in Excel, which they used to track their readings throughout the semester as part of their journal projects. The internet platforms were employed to augment the learning experience in the experimental class. Libgen and Goodreads were two of the tools used to give students reading materials. A Google Drive folder was set up with a curated list of these resources, providing students with easy access. Students were also required to maintain an online reading list using Excel, which they had to complete as part of their journal assignments. This integration was effective, as one student noted, *"Libgen was used for wide material access" (S2, Experimental group)*, while another highlighted that Goodreads enabled *"deeper understanding from reviews" (S3, Experimental group)*. These tools not only expanded access but also promoted deeper engagement with texts.

In groups, students wrote weekly journals that included summaries, personal comments, critical assessments, connections to their own experiences, questions and challenges, and conclusions. The purpose of these notebooks was to keep track of their reading each week, see how well they understood the subject, and for them to think about how the material related to their own lives. In groups, students wrote weekly journals that included summaries, personal thoughts, critical assessments, links to their own lives, questions and challenges, and conclusions. The purpose of these notebooks was to keep track of their weekly reading, see how well they understood the subject, and for them to think about how the material related to their own lives.

Along with the journals, pupils were required to read a short tale from a book every week. Each narrative was split into three segments. The *Quizizz* platform, a website that provides real-time feedback and displays a scoreboard to illustrate standings, was used to generate weekly tests that assess students' understanding. This aspect motivated kids to strive for excellence, which in turn made them more enthusiastic and engaged. *Quizizz* made learning more engaging and interactive, and it helped students perform significantly better in the Extensive Reading course. It helped them understand the content better while keeping them engaged and interested in the learning process. As one participant reflected, *"Made access and practice easier… increased enjoyment through quizzes" (S1, Experimental group)*

Technology has become an important part of education since it gives students access to a wide range of reading materials that can be changed to fit their needs as stated *"gave independence and flexibility" (S2, Experimental group)*. Digital libraries and interactive platforms, such as Quizizz, make reading more engaging and enjoyable. Gençten and Aydemir (2023) demonstrate how reading exercises that utilize technology can significantly increase young learners' interest in the material. Mayer's multimedia learning theory emphasizes the importance of combining text, visuals, and other media to meet the needs of different learning styles. Thwin (2023) reiterates that well-constructed multimedia tools enhance educational outcomes. Digital tools also help address logistical problems by allowing students to access materials at their own pace and in their preferred manner. Loh and Sun (2022) demonstrate that technology enhances leisure reading by providing immediate access to a diverse range of content, which was particularly crucial during the COVID-19 pandemic, as highlighted by Khusniyah (2021). Furthermore, Ceylan et al. (2023) illustrate that multimedia-based instructional activities have a significant impact on academic achievement, corroborated by Mehta et al.'s (2024) findings regarding the efficacy of multimedia in enriching educational experiences. Combining technology

and multimedia creates an interactive and adaptable learning environment that gives students the freedom to learn in a way that suits them best.

The control class, on the other hand, did not utilize technology extensively. Most of the resources were shared using Google Drive, and the students did their work on paper worksheets instead of using interactive platforms like Quizizz or keeping online reading logs. They stated *"Technology did not enhance learning" (S6, Control group)*, while another explained that they faced *"internet problems; borrowed devices" (S4, Control group)*. They only utilised tools like Excel and Google Docs to a limited extent, mostly for organising basic information or performing minor tasks. Since the control class lacked interactive or multimedia tools, the learning experience was less dynamic. Instead, students had to rely more on traditional methods of answering problems and discussing them with the teacher. This method worked, but it lacked the extra engagement, flexibility, and adaptive learning opportunities that came from using technology in the experimental class. This difference shows how technology may change the way kids learn by making it easier, more collaborative, and more interesting.

Collaborative Active Learning: Enhancing Engagement and Understanding

The Preparation phase of Chang-Tik (2022) The Collaborative Active Learning paradigm is when teachers plan collaborative learning activities utilising micro-scripts and macro-scripts to help students have meaningful conversations. Weekly projects were created using a combination of macro- and micro-scripts to enable students to read independently, think critically, and collaborate. For example, as part of the macro-script, which outlines the main goals of the job (understanding and analyzing major topics), students are instructed to read a specific chapter of a book. Students read independently, take notes on important topics or stylistic features, and then discuss what they have learned in groups. They worked together to make a summary or a creative piece, such as a picture that showed what they had read. The micro-scripts guide interactions inside these tasks. Students are encouraged to share their thoughts or ask others questions based on evidence, such as "Can you provide a specific example from the text?" In the same way, one student writes the opening for collaborative writing, and the others add information to make it better. This systematic method ensures that students meet their learning goals and learn important skills such as working with others, analyzing information, and communicating clearly. As one participant noted, group work *"helped reveal missed details, enabled real-time Q&A, and made tasks meaningful"* (S1–S3, Experimental group)

The teacher established a helpful and engaging learning environment in person during the Facilitation phase, providing clear directions and assistance with technology. During the Cognitive Interaction phase, students engage in discussions and complete analytical tasks to establish a shared understanding of the material. The Social Interaction phase ensures that everyone in the group has an equal workload, can manage their emotions effectively, and trusts each other. Lastly, the Assessment phase combines self-assessment and peer-assessment to promote authentic learning and reflection. This strategy is designed to help children think critically, get involved, and work effectively together. Students confirmed this, explaining that they learned *"analyzing characters and themes, multiple text interpretations, and better summary techniques"* (S1–S3, Experimental group). By engaging in various types of work, students enhance their collaborative learning environment.

When teachers look at Collaborative Active Learning (CAL), they use the framework that Chang-Tik (2022) created to look at how students engage with each other. The two main

areas they look at are cognitive interaction and social interaction. There are seven ways to measure cognitive interaction: the ability to speak freely, chances for open discussions, responding constructively to challenges, negotiating shared meanings, explaining and reasoning with peers, favouring agreement over arguments during discussions, and asking questions to clarify rather than to elaborate. On the other hand, social interaction is measured by nine factors, such as creating a collaborative learning environment, dealing with dominance or intimidation, promoting healthy competition, controlling emotions, dealing with personality conflicts and frustrations, constructively challenging false beliefs without being too polite, building trust within the group, assigning tasks fairly, and establishing rules for emotional and social engagement. By adopting this all-encompassing method, teachers may see how well students work together and how they learn important social and cognitive abilities that are important for learning in the 21st century.

The study emphasises the efficacy of organised collaborative learning approaches in improving students' collaboration skills. For example, Nahar et al. (2022) discovered that the application of a quantum teaching model markedly enhanced students' collaborative thinking via active discussions and group work. Likewise, Nurhawa et al. (2023) demonstrated that problem-based learning, when combined with lesson study activities, significantly improved collaboration abilities among biology students, illustrating that meticulously designed collaborative challenges yield superior engagement and educational results. Strauß and Rummel (2020) emphasized the significance of computer-supported collaborative learning (CSCL) in facilitating productive interactions essential for knowledge production in online environments. Chang-Tik (2022) stressed that collaborative learning helps students reach their academic goals and improve skills, including teamwork, communication, and analysis. Hairida et al. (2021) and Saputri et al. (2022) substantiated this by illustrating the advantages of inquiry-based, project-based, and ICARE learning methods in enhancing students' teamwork and critical thinking skills. Evidence indicates that structured collaborative activities, directed by macro- and micro-scripts, are crucial for cultivating important 21st-century abilities and fulfilling educational objectives.

The students in the control group were also allowed to read a story at home every week, exactly like the students in the experimental group. The main difference, though, is how they learn. There were no macro or micro scripts in the control group to help with the learning process. Instead, students answered questions from the text and talked about their answers with the teacher. The control group primarily discussed the literal meaning of the text, whereas the experimental group explored themes, characters, and stylistic characteristics in greater depth. The instructor's role was more about making things easier than about getting students to work together or use higher-level thinking abilities like reasoning, questioning, or coming to an agreement on what things mean. Consequently, students in the control group depended more on their own initiative to grasp the content, as one of them reflected, *"Had to work alone, no discussion"* (S4, Control group), while another explained, *"did not learn much from peers"* (S4, Control group). Some even admitted that *"no collaboration = low engagement"* and that *"collaboration would have helped"* (S4 & S6, Control group), in contrast to the experimental group, which thrived under a more organised method that encouraged critical thinking and teamwork. This difference demonstrates how Collaborative Active Learning with scripted supervision can help students learn more deeply and become more engaged.

This study's results show how important motivational tactics, technological integration, and collaborative active learning models are for getting

students more involved, boosting their learning outcomes, and changing the general dynamics of the classroom. The experimental class, together with extra credit, praise, positive language, and controlled feedback, showed a significant boost in how motivated and well students performed. Interactive platforms, such as Quizizz, and the implementation of structured collaborative tasks further enhanced participation and critical thinking skills. By comparison, the control group, which relied on traditional teaching methods, lacked the additional layers of engagement and support, underscoring the effectiveness of innovative pedagogical approaches.

Limitations and Implications of the Study

It is important to recognize the various limitations of this study. First, the results may not be as broadly applicable as they seem to be because the sample size was small and restricted to one class at a single school. Second, despite efforts to balance the groups, the quasi-experimental approach without random assignment may have introduced potential biases. Third, there was little qualitative information gleaned from interviews, and the study mostly used quantitative metrics, which might not adequately represent the richness of students' viewpoints and experiences.

Despite these limitations, the study provides valuable insights and recommendations for teaching English. The results show that students' reading outcomes can be significantly enhanced by combining technology, collaborative active learning, and motivational techniques. Since these integrated approaches increase engagement and promote both internal and extrinsic motivation, educators are urged to use them instead of standalone techniques. To support the evidence and generalizability of these findings in various educational settings, future research may employ mixed-methods designs, increase and diversify sample sizes, and investigate long-term effects.

■ CONCLUSION

The results of this study indicate that integrating motivation, technology, and collaborative active learning substantially enhances the extensive reading outcomes of students compared to conventional, isolated approaches. The control group primarily remained in the lower categories. At the same time, the experimental group not only demonstrated substantial gains in test scores but also experienced a shift in performance distribution from low to medium and high achievers. These findings underscore the significance of implementing integrated teaching and learning models that integrate cognitive, technological, and social dimensions. Consequently, they contribute new evidence to the expanding body of literature that promotes more comprehensive approaches to language education.

The integrated model provides both practical benefits and theoretical contributions to the design of language learning environments, making the implications of this study particularly pertinent for educators who are seeking effective strategies to enhance reading competence. Nevertheless, the study is constrained by its quasi-experimental design and the use of a single class sample, which may impact the generalizability of the results. In order to further validate and expand these findings, additional research with more diverse and extensive samples, as well as longitudinal designs, is required. However, the current investigation emphasizes that learners' intricate requirements cannot be satisfactorily addressed by isolated methodologies and that integrated methodologies are more effective in fostering sustainable enhancements in language learning outcomes.

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