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Enhancing Foreign Language Students Reading and Social Skills through Read, Read, Trade

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ABSTRACT

The advent of 21st century curricula emphasise communication and collaboration as cornerstones of foreign language education. Currently, many Malaysian higher education Chinese as a foreign language (CFL) learners struggle with reading comprehension and feel anxious about learning a new language. Their concerns often revolve around understanding texts thoroughly and accessing effective social support from peers and instructors. In this context, this study introduces Read, Read, Trade (RRT), a collaborative learning approach that helps learners understand texts while improving their social skills. Guided by Kemmis and Taggart's action research model, 24 first-level CFL learners participated in two cycles of learning activities. Their reading comprehension abilities and social performances were investigated through tests, observations, and interviews. The first cycle showed a strong improvement, with learners scoring an average of 3.92 points higher than pre-cycle test after using RRT; while the second cycle led to further improvement. Learners reported that RRT helped them develop stronger social skills by encouraging more meaningful interactions, active listening, and supportive peer feedback. This study offers insightful pedagogical implication specifically for foreign language instructors. Future research should expand to varied proficiency levels, include control groups, employ longitudinal designs, and test RRT's transferability to other foreign language contexts.

1. Introduction

The 21st century curriculum framework is designed to meet the requirements of the future world. Learners, in fact, need to be equipped to tackle the challenges posed by a rapidly changing world. The Partnership for 21st Century Skills (P21) [1] coalition has identified four key learning and innovation skills that today's learners need to master: creativity and innovation, critical thinking and problem solving, communication, and collaboration. Among these four areas, communication and collaboration emphasise the interaction between individuals. Collaboration, in particular, goes

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beyond ordinary communication. Joseph and Santhosh [2] indicated that, from socio-constructivist perspectives, collaborative learning underscores the social aspect of knowledge formation. It suggests that learners build understanding through interactions, discussions, and shared meaning-making. By leveraging the varied perspectives and experiences of peers, collaborative learning enhances critical thinking, creativity, and problem-solving abilities, all of which are emphasised in 21st century education. This demonstrates that collaborative learning is a strong approach that can effectively achieve these abilities collectively.

Collaborative learning is a widely adopted approach in contemporary foreign language classes worldwide. For instance, collaborative learning was employed to develop English as a foreign language (EFL) learners' problem-solving ability and enhance their motivation to participate in learning activities [3]. Collaborative learning was used to improve German as a foreign language (GFL) learners' communicative and intercultural competence [4]. It can also be integrated with technology to teach foreign languages, like teaching Japanese as a foreign language (JFL) to promote student-centred learning [5] and Chinese as a foreign language (CFL) to facilitate project-based learning [6].

Scope down to Malaysian context, studies have indicated that the most popular foreign languages learned in Malaysia are Chinese [7] and Japanese [8] owing to rapid expansion of bilateral political and economic relations between China-Malaysia and Japan-Malaysia; given that English is considered as a second language rather than a foreign language. One advantage of learning Chinese as a foreign language over Japanese in Malaysia is the environment that offers more opportunities for practicing Chinese than Japanese due to community presence and cultural integration. Given that this study was conducted primarily within the Malaysian context, the focus is specifically on CFL learners.

In the CFL domain, reading comprehension is fundamental as it helps learners to build their vocabulary, understand sentence structures, and recognise characters. Additionally, it provides a strong foundation for developing other language skills, such as writing, listening, and speaking, making it an essential component of Chinese language learning. In this regard, prior studies highlighted the necessity to concern the reading anxiety that foreign language learners encounter in learning a language, as this anxiety often influences their meaning-making process and their learning performance [9,10]. A recent study in Malaysia found that most CFL learners have an average level of anxiety in learning a new language; when it comes to reading comprehension, CFL learners tend to be more concerned about their ability to answer questions and experience communication apprehension anxiety, particularly due to fear of negative feedback and poor test performance [11]. Normally, when learners initially start their foreign language learning process, they have a strong desire to learn. However, the excitement can fizzle out very fast; and fear takes its place before they even realise it. In this case, learners' concern of "reading comprehension" is likely tied to how well they thoroughly understand and interpret a written text and how should they gain effective social support from their peers and instructors. Unfortunately, current Malaysian research on CFL primarily emphasises the general learning challenges faced by learners and offers general solutions. It lacks a specific focus on the critical aspect of reading comprehension, which is essential as it forms the foundation for developing other language skills [12].

In response to CFL learners' reading comprehension issues, Bao [13] proposed that engaging in collaborative dialogue can be highly benefit for CFL beginners through resolutions of language-related episodes (LRE), in which learners talk about the language they are producing, question their language use, or correct themselves or others [14]. It is indeed a commendable approach; however, the concept remains broad, lacking a systematic scaffolding strategy to guide CFL learners to read and comprehend. Although there are numerous collaborative learning methods available (e.g., Jigsaw, Think-Pair-Share), none have been identified as the optimal solution for addressing the current reading challenges faced by Malaysian CFL learners. Cheng [15] highlighted that exploring

learning styles and strategies can provide educators with fresh insights for adapting teaching approaches to enhance student achievement. Therefore, this study introduces a novel collaborative learning approach specifically designed to enhance reading comprehension activities for CFL learners: Read, Read, Trade (RRT). The research objective is to investigate the influence of RRT on learners' reading comprehension, their social development, and their perceptions of the RRT. This study aimed to implement this approach within CFL classroom setting, and to offer solutions to the problems that have been identified. This study holds significance as it advances pedagogical practices in CFL education while offering a replicable framework to strengthen learners' engagement and achievement. Aligned with this purpose, the following research questions were explored:

1. How does RRT impact CFL learners' reading comprehension skills?
2. How does RRT affect CFL learners' social skills?
3. What do CFL learners think about RRT?

2. Review of Literature

2.1 Cooperative Versus Collaborative Learning

In recent years, cooperative and collaborative learning receive increased attention among researchers and practitioners in foreign language education, in which both approaches involve pair or group activities in the language learning classroom. Due to their distinct historical contexts, cooperative and collaborative learning have different pedagogical objectives; the tendency to use these terms interchangeably has obscured their unique contributions to foreign language education [16]. Cooperative learning is typically marked by a well-defined structure of activities. It involves a division of work among learners, where everyone is responsible for a specific part of the problem-solving process [17]. This approach also emphasises interdependence in group work, meaning learners can only achieve their goals if their peers in the group also achieve theirs [18]. While cooperative learning encourages active participation from learners, it is the instructor who initially determines most of the content to be learned in the classroom, reflecting a "covert teacher-centeredness" [19].

On the other hand, according to Bruffee [20], a leading theorist on collaborative learning, this approach creates an environment where knowledge is not merely transmitted from instructors to learners but is instead co-constructed within the learner community. In contrast to cooperative learning, collaborative learning tends to avoid imposing extensive structure on learning activities [20]; learners typically "work together in small groups that are typically self-selected, self-managed, and loosely structured" [21]. Hence, in collaborative learning, the authority rests with the learners, who are expected to negotiate with one another to achieve more collectively than they would individually. Consequently, peer feedback is considered as collaborative learning rather than cooperative learning [19].

As highlighted by Kato *et al.,* [19] the key differences between cooperative and collaborative learning lie in the degree of structure and the level of learner-centeredness. Building on this foundation, this study introduces RRT as a collaborative learning method in foreign language classrooms. Peer comments and feedback are crucial elements of this method, emphasising its collaborative nature. Thus, learners engage in a minimally structured environment with minimal instructor intervention throughout the peer learning process.

2.2 RRT: Theoretical and Practical Concepts

In relation to foreign language education context, Kamal [22] highlighted that social constructivism theory has gained prominence in the study related to reading, while the research on foreign language learning has increasingly adopted this theory. The fundamental concept of social constructivism is that individuals construct their knowledge through active participation in their learning process. As such, social constructivism supports learners in constructing meaning and developing their own cognitive orientation through interactive experiences with environments and other individuals [23].

As Vygotsky emphasised, higher mental functions like literacy should be learned within their social context [24]. Regarding reading, Wilson [25] argued that social context influences who, what, where, when, why, and how one reads and interprets. This context includes the roles of peers and instructors in facilitating learning, which influences learners' achievements. Regarding this matter, collaborative learning primarily stems from the social constructivist school of thought - Vygotsky's zone of proximal development (ZPD) [26]. The ZPD theory has a social origin, suggesting that learners' cognitive systems develop through interaction within social groups, which promotes learner engagement with more capable individuals who offer assistance and guidance. Thus, it is essential to include collaborative features such as knowledge sharing or meaning-making practices with peers, peers' feedback and scaffolding, and learning through collaborative problem-solving attempts to brace the RRT approach, adhere to the social constructivism theory implied in foreign language classroom.

With respect to the practical application of the RRT approach proposed by this study, it is fundamentally modified from Spencer Kagan's Quiz, Quiz, Trade (QQT) concept [27][28]. Essentially, QQT is a vocabulary reinforcement method that enables learners to review important vocabularies and definitions from their reading. Some instructors modified it into a question-and-answer activity to recap or strengthen learners' understanding of the knowledge. After modification, the key distinction between these two approaches is that QQT is classified as cooperative learning, whereas RRT is considered a form of collaborative learning. The details of their differences are illustrated in Table 1, adhering to the theoretical foundation of cooperative and collaborative learning.

Table 1
Differences between QQT and RRT

Cooperative learning: QQT	Criteria	Collaborative learning: RRT
Reading, speaking, listening Review of vocabularies and definitions Question-and-answer (comprehension)	Focus of language skill	**Reading, speaking, listening** Read and comprehend
Highly structured – Bound to questions and answers Each learner is given a card with a question and an answer. They quiz a partner, trade cards, and then repeat the process with a new partner. Partner can provide hints to assist.	Degree of structure	**Less structured – Flexible exchange of role** Each learner must comprehend a full text by themselves, typically comprising two or more sections. They choose the section they wish to read to and share with peers, write it on a card, read and explain it to their peers, trade cards with partners holding different sections, and then repeat the process with a new partner. This activity involves not only

		reading and explaining but also includes discussion, scaffolding, questioning, problem-solving, comments, and feedback as needed.
Covert teacher-centeredness Teacher plays a significant role in designing the content, questions, and format of the learning activity.	The role of instructor and learners	**Learner-centeredness** Learners decide on the content they want to read and share with peers. Learner can simply explain, discuss, ask questions, solve problem with peers, and provide guidance, comments and feedback to their peers, rather than just reading. It reduces instructor's direct involvement.
Individual accountability The activity divides tasks among learners, with each of them responsible for asking and answering questions.	Demonstration of equal participation	**Shared authority** Foster an environment where learners share their knowledge and skills. Encourage them to negotiate, discuss, and provide constructive feedback to one another. This approach promotes mutual understanding, co-construction of knowledge, and shared decision-making.
Positive interdependence It depends on the interaction between learners to complete the asking and answering activity.	Peer interaction	**Feedback-oriented** Incorporate elements where learners provide feedback to each other. This can involve discussing the quality of reading interpretation, exploring different challenges, and collectively improving their understanding.

Source: (1) QQT - Kagan, 1990
(2) RRT – The researcher (modified from QQT)

3. Methodology

The purpose of this study was to reveal the practicability of a novel collaborative learning approach, RRT, specifically designed to enhance reading comprehension activities for CFL learners. Regarding this matter, action research is highly preferred in educational research as it aids in achieving sustainable development by proposing practical solutions to various teaching and learning challenges [29]. Therefore, this study was designed as action research to investigate the quality of the collaborative learning approach and to enhance CFL learners' reading experiences through RRT. Cyclical models are commonly employed in action research to define problems, gather data, analyse data, and implement improvements. On that note, the action research process in this study was structured according to Kemmis and Taggart's [30] Classroom Action Research (CAR) model which consists of four basic steps: plan, act, observe, and reflect (see Figure 1).

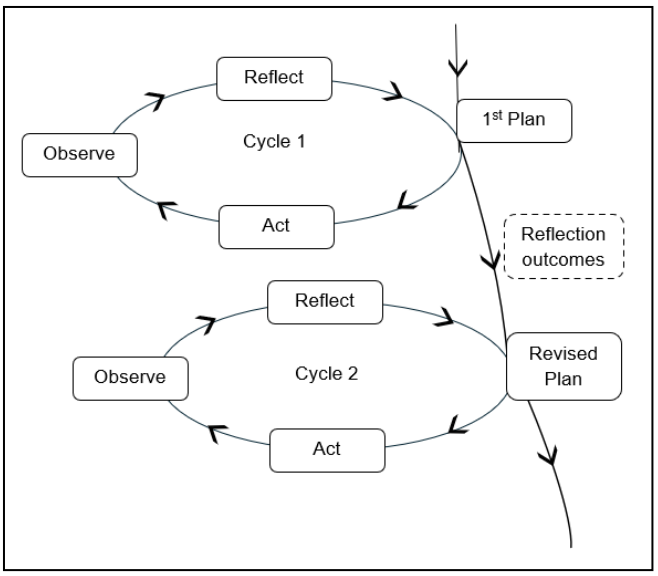

Fig. 1. Kemmis and Taggart's (1988) Classroom Action Research (CAR) model

3.1 Plan

At the planning stage, the subject of the study was determined. The subject of the study was a class of Diploma first-level CFL learners at a public university in Malaysia. The class comprised 24 CFL learners. These CFL learners were chosen to participate in the action research because the group of learners are lacking foundational knowledge and skills of the language, which made them ideal candidates for action research, as it allowed for targeted interventions to address these specific gaps. Furthermore, it was considered that selecting the first-level CFL learner group for the study would be convenient, as it was assumed that the beginner CFL learners are often more adaptable and open to new teaching methods which anticipated ample room for growth. This makes them ideal candidates for the implementation of innovative learning methods, which is essential for action research aiming to improve educational practices. After identifying the current situation, an action plan was devised to address the issues, focusing on identifying first-level CFL learners' reading comprehension skills and the social support they receive in reading, to identify areas for improvement by implementing the RRT approach. In addition, planning for the research tools is necessary at the initial stage. This study incorporated research tools such as observation sheets, interview protocols, and test sheets.

3.2 Act

Referring to the expanded Kemmis and Taggart's [30] CAR model in Figure 1, the research procedure involved two cycles, and each cycle consists of two meetings: one learning meeting with on-going observation and another meeting for end-cycle tests. Included the pre-cycle test, the learners' test scores from each cycle (1st-cycle test and 2nd-cycle test) were documented, and interviews were conducted upon the completion of the research cycles. Each subsequent cycle would be refined to address and overcome the previously encountered challenges and obstacles as well as an opportunity to examine the longitudinal impact of the intervention. For instance, although learners have met the targeted outcomes (e.g., test score) in the initial cycle, the second cycle deepens exploration of sustained learning by introducing more complex materials to assess adaptability. This approach aligns with the progressive nature of Kemmis and Taggart's [30] CAR model, which supports iterative development in educational settings.

3.3 Observe

The term "observe" typically refers to conducting a thorough and detailed examination of the situation or activity under investigation in the study. In fact, "observe" and "reflect" usually go hand in hand to assess the necessity for further action (e.g., n-cycle) [31]. At this stage, data were collected through tests, observation, and interviews. Thus, this study employed a convergent parallel mixed-method design, in which both quantitative (tests) and qualitative (observation, interviews) were collected simultaneously to compare and integrated to draw comprehensive conclusion.

On the quantitative data collection aspect, pre-cycle, 1st-cycle, and 2nd-cycle tests were developed. Pre-cycle test only conducted at the beginning of the action research; 1st-cycle and 2nd-cycle tests were conducted at the end of each action research cycle to assess learners' learning outcomes after each cycle of the RRT approach. Test activities that were aligned with the relevant objectives were developed, and expert validation and opinions were sought. In each cycle of action research, different content was taught based on the syllabus; simultaneously, the tests were tailored to match the specific content taught during that cycle. By using varied learning content and assessments in each cycle, the researcher aimed to determine whether RRT consistently improved learners' outcomes across various CFL contexts and content areas.

As a qualitative approach, observation was done by observing the implementation of learners' learning in each RRT cycle, focusing on their demonstration of reading comprehension and social skills in the context, using the observation sheet. Then, interviews were conducted to uncover the reasons behind certain behaviours or events observed; participants also shared their feelings, thoughts, attitudes, and emotions that might not be evident from observation, thereby enriching and confirming the observational data.

The qualitative construct validation of the observation and interview protocol was done by a team of experts in the subject matter and experts in measurement. Experts in the subject matter reviewed the observation and interview protocol pertaining to its relevancy; a close reading of observation and interview protocol was done by experts in measurement, examining the protocol for structure and comprehension. Such a penal evaluated the protocols to check for proper substance, relevancy to the study's focus, and points that might be overlooked. Besides, respondent validation was used to make sure that data was reliable. Participants were provided with a copy of the final version of study reports and asked to verify correctness, clarify discrepancies, and further remark on the inquiry.

3.4 Reflect

As a means of reflection, data analysis can make informed decisions that help progress towards the goals; any shortcomings would prompt alterations, planning, and actions in the next cycle. As per the quantitative data analysis, CFL learners sat for an initial reading test served as the pre-cycle test; the tests conducted at the end of the first cycle was identified as the 1st-cycle test, and the test at the end of the second cycle was identified as the 2nd-cycle test, and so on. A series of paired-sample t-tests were conducted using IBM SPSS software. These tests compared learners' reading test scores at different stages to determine if there were statistically significant improvements over time, for example:

(1) Pre-cycle test versus 1st-cycle test: Assessing the impact of the first cycle.
(2) 1st-cycle test versus 2nd-cycle test: Evaluating the effectiveness of the second cycle and the transferability of RRT to different CFL context or content.
(3) Pre-cycle test versus 2nd-cycle test: Measuring overall progress from the beginning to the end of the study.

The analysis involved calculating the mean scores, standard deviations, and the mean differences between tests. The t-values, degrees of freedom, and significance levels (p-values) were obtained to determine if the observed changes were statistically significant. An alpha level of 0.05 was set as the threshold for significance.

The descriptive analysis approach was used to analyse qualitative data. Accordingly, following the completion of the cyclic process, the data were reviewed, and coding was done using NVivo 14 software in parallel with continual reflection, with a focus on making sure the data could answer the research questions. This study used Saldana's [32] code mapping technique to generalise code patterns and categories, clearly showing the connection between each code. The most common or significant codes that formed the key categories were highlighted. By thoroughly examining the units' meanings within the context, central themes were identified. The researcher interpreted the meaning of data and advanced themes description into a qualitative narrative.

4. Results and Discussion

4.1 The First Cycle Reading Comprehension Outcomes and Social Underpinnings

The aim of the first cycle in action research is to introduce and evaluate the effectiveness of an intervention in addressing a specific challenge. In this case, the focus is on implementing the RRT approach to enhance learners' performance.

Table 2
Paired samples test between pre-cycle and 1st-cycle test

	Paired Differences							Significance	
				95% Confidence Interval of the Difference					
Pre-cycle – 1st-cycle test score	Mean	SD	Std. Error Mean	Lower	Upper	t	df	One-sided p	Two-sided p
	-3.917	1.816	.371	-4.683	-3.150	-10.567	23	<.001	<.001

Note. "-" indicates a negative difference (Pre – Post), meaning scores increased.

Based on Table 2, the mean difference between the pre-cycle test and 1st-cycle test is recorded as -3.917, indicating a notable improvement in student performance, with an average increase of approximately 3.92 points in student scores following the intervention. The standard deviation of 1.816 reflects the moderate variation in individual score improvements, suggesting that most learners experienced relatively consistent improvements, yet the degree of improvement varied across participants. DiLeo [33] highlighted that learners across different education settings come from diverse backgrounds, each with unique learning abilities and language levels. This shows that this study's intervention supports overall student development, yet individual differences continue to influence the effectiveness of the RRT approach.

The standard error of the mean (.371) offers insight into the precision of this estimated mean difference, showing that the average score improvement is quite accurate, with little variation caused by the sample size. This adds confidence to the results. The 95% confidence interval (-4.683 to -3.150) further reinforces the credibility of these findings, indicating that with high certainty, the true mean difference lies within this range, confirming a consistent upward trend in student performance. The t-value of -10.567 with 23 degrees of freedom represents a strong statistical indication of change, with the p-value (<.001) demonstrating a highly significant effect. Since the p-value is well below the

conventional threshold of 0.05, it confirms that the improvement observed in 1st-cycle test scores is not due to random chance, but rather a direct result of the intervention. This robust statistical outcome provides compelling evidence that the intervention meaningfully enhanced learners' performance.

Given the strong reading comprehension results, qualitative feedback further reinforces the data. Observation data shows that learners exhibited enhanced reading comprehension by effectively collaborating in pairs with minimal guidance, demonstrating increased confidence, understanding, and problem-solving abilities. This aligns with Joseph and Santhosh [2], who indicated that collaborative learning fosters student engagement, a sense of community, and active knowledge construction. Furthermore, insights from student interviews affirm the role of this collaborative learning in enhancing reading comprehension. Example of some interview excerpts from participants:

> It was my first time doing this activity. It was fun! It allowed me to practice reading and learning from others by simply listening. It was a cool way to improve my reading comprehension skills and a good way to learn from each other's mistakes. (Interview 23a)

> When my teacher first introduced the RRT activity in the class, I felt a bit nervous, unsure I would understand all the words or read them correctly. However, as we started, I realised it was a fun way to practice reading and speaking. It boosted my confidence to move around and speak Chinese in front of my classmates, and I also enjoyed learning from others. It made the lesson more active and interesting than just simply reading from the textbook. (Interview 13)

The feedback reflects Vygotsky's [26] ZPD theory, which underpins the RRT activity. This proves that the RRT approach successfully complies the social constructivism theory, demonstrating that learning is most effective in social contexts, where peer interaction fosters knowledge construction and supports skill development beyond what learners could achieve independently. The second excerpt shows that a student typically experiences a high level of anxiety when learning a new language, as indicated in Kawa and Nidham [34] and Noorashid and Jamil [35]. Learners' initial nervousness eased as they engaged in the activity, highlighting how effective is this interactive learning environment lowers the affective filter and boost confidence as well as competency in language use. For instance, a boy in the class was quiet and hesitant, often choosing to read alone or with a nearby friend. Over time, he began seeking out new classmates rather than waiting for others to approach him. His facial expressions and emotional demeanour changed, reflecting a shift in confidence and engagement (Observation C1). Obviously, RRT has demonstrated a strong connection between interactive learning environments, increased confidence, and skill development.

Since "interactions" play a significant role in this context, it is essential to investigate learners' social skills development as a complement to test outcomes. The observation indicates that learners demonstrated active participation and enthusiasm throughout the 1st-cycle activity, they remained attentive to their peers' reading, actively listening and responding by asking relevant questions, and provided thoughtful comments on their peers' reading. A detailed example from participant feedback:

> I can understand the text with my peers' help…without the teacher's guidance most of the time…we ask each other questions and explain confusing parts…we also share ideas and think together, which helps clarify the meaning. Working with peers makes me feel more comfortable asking questions and figuring things out. However, if the text is very difficult or if no one

understands it, we may still need the teacher's help. But in most cases, RRT gives us a great opportunity to learn from each other and understand the text together. It fosters teamwork and helps me gain confidence in reading without always relying on the teacher. (Interview 06a)

The above excerption demonstrated that the RRT approach fosters a peer-driven learning environment that reduces teacher dependence. Through collaborative discussions and peer exchanges, learners simultaneously refine their social skills and reading comprehension, each reinforcing the other [36]. Engaging socially helps them articulate ideas, navigate diverse perspectives, and gain confidence, which deepens text comprehension. Likewise, stronger reading abilities equip them with analytical tools for structured, critical discussions, fostering both intellectual and interpersonal growth. These qualitative findings align with the test score improvements, supporting the conclusion that the intervention effectively strengthened learners' reading comprehension and social skills.

4.2 Reflection and Adjustment for the Subsequent Cycle

In the first cycle of implementing RRT, initial advantages were obtained, but certain challenges emerged that highlight the need for refinement in the second cycle. One key issue was that some learners would take a moment to sit alone, flipping through their reading material after engaging with a partner before seeking a new one. This suggests an instinctive tendency toward "brain breaks" - brief pauses that allow learners to step away from intense cognitive effort, giving their minds a chance to refresh before continuing the learning process [37], which was not initially accounted for in the structure of RRT. Additionally, differences in reading pace led to situations where some learners had to wait for others before pairing up again, highlighting concerns about the suitability of an entirely paired learning approach. These observations suggest that while peer interaction is valuable, incorporating short "me time" within the process may provide learners with time to process, recall, and consolidate their learning before engaging with a new partner.

Another challenge discovered in the first round was that some learners consistently paired only with close friends. While this aligns with the Heron's [38] concept, which suggests that the friendship context can strategically prepare learners for group work by fostering collaboration, trust, and confidence in learning; however, this study challenges that perspective. The "friendship approach" may unintentionally limit learners' exposure to diverse perspectives and peer input, reducing the breadth of learning opportunities within the RRT framework. Although this social preference is natural, it highlights the need for strategies that encourage broader peer interaction to enrich learners' learning experiences. To address this in the second cycle, instructors provided greater encouragement and structured social support to motivate learners to engage with a wider range of peers. Additionally, a supportive environment that allows more flexibility in pairing was created, not just with classmates but also with instructors. This can further improve engagement and knowledge exchange.

4.3 The Second Cycle Reading Comprehension Outcomes and Social Underpinnings

The second cycle of RRT is not a continuation driven by test scores or performance achievements but rather a strategic refinement of the process. In this cycle, more complex reading materials were introduced to evaluate learners' adaptability and sustained learning over time. The goal was to explore longitudinal effects, assessing how the modified approach influences comprehension and collaborative learning in the long run.

Table 3
Paired samples test between 1st-cycle test and 2nd-cycle test

	Paired Differences							Significance	
				95% Confidence Interval of the Difference					
1st-cycle test – 2nd-cycle test score	Mean	SD	Std. Error Mean	Lower	Upper	t	df	One-sided p	Two-sided p
	-1.833	3.002	.613	-.566	-3.101	-2.991	23	.003	.007

Note. "-" indicates a negative difference (Pre – Post), meaning scores increased.

Table 3 demonstrates RRT effectiveness in enhancing learners' reading comprehension. The mean difference between the 1st-cycle and 2nd-cycle test scores is -1.833, indicating a notable improvement. The standard deviation of 3.002 suggests that individual score improvements varied moderately among students; some improved more than others, while a few may have shown smaller gains. However, the 95% confidence interval (-0.566 to -3.101) confirms that the true average difference is very likely negative, meaning students in the later test scored higher. Since the entire interval is below zero, it reinforces that the improvement is statistically reliable and not due to chance. With a t-value of -2.991 and 23 degrees of freedom, the result indicates a statistically meaningful difference between the 1st-cycle and 2nd-cycle test scores. P-values of 0.003 (one-sided) and 0.007 (two-sided) are well below the conventional threshold of 0.05. It shows that the improvement between the 1st-cycle and 2nd-cycle test scores is statistically significant.

Table 4
Paired samples test between pre-cycle test and 2nd-cycle test

	Paired Differences							Significance	
				95% Confidence Interval of the Difference					
pre-cycle test – 2nd-cycle test score	Mean	SD	Std. Error Mean	Lower	Upper	t	df	One-sided p	Two-sided p
	-2.083	3.798	.775	-3.687	-.479	-2.687	23	.007	.013

Note. "-" indicates a negative difference (Pre – Post), meaning scores increased.

The comparison between the pre-cycle and the 2nd-cycle test in Table 4 serves to measure overall progress from the beginning to the end of the study. The statistical analysis reveals a significant improvement, as indicated by the mean difference of -2.083, showing that students demonstrated higher reading comprehension scores in the second cycle compared to the pre-cycle test. The standard deviation of 3.798 shows that individual score changes between the pre-cycle and 2nd-cycle tests varied considerably. While the overall trend indicates improvement, some students made substantial gains, while others improved more modestly or inconsistently. The standard error of the mean was calculated at 0.775, indicating that the estimated average score improvement of −2.083 is measured with reasonable precision. This value reflects the expected variability of the sample mean if the assessment were repeated with a similar group of students. The confidence interval (-3.687 to -0.479) confirms the reliability of this progress, as it does not include zero, reinforcing the meaningful impact of the intervention. Additionally, the p-values (.007 for one-sided and .013 for two-sided) fall below the conventional threshold of 0.05, providing strong evidence that the improvement is

statistically significant rather than occurring by chance. The negative t-value (-2.687) with 23 degrees of freedom highlights a substantial shift in performance, further supporting the effectiveness of the intervention.

The quantitative findings suggest that RRT approach has positively influenced learners' reading comprehension over the course of the study (from pre-cycle to 1st-cycle and to 2nd-cycle), validating its role as a structured method for processing, recalling, and engaging with reading materials effectively. The findings also highlight that flexible interaction, reading repetition as well as brain breaks contribute to sustained comprehension gains. Regarding the improvement in test scores, one participant noted:

> During the second cycle, I felt more confident and comfortable…I started helping my partners and asking questions whenever I didn't understand something…because of that, my fluency, pronunciation, and understanding of the text got better. I could clearly notice my improvement after doing the activity a second time. (Interview 06b)

Align with Barkaoui [39], the findings suggest that task difficulty does not directly impact test score improvements; rather, repeated engagement enhances familiarity, task mastery, and participation. This increased confidence and deeper peer interaction fostered greater cognitive engagement, leading to improved performance. Findings proved that RRT is effective in fostering consistent improvement in learners' reading comprehension, reinforcing the adaptability and effectiveness of the RRT approach.

In the second cycle of RRT, the collaborative dynamics have been elevated to a higher level. Observations indicated that learners not only developed fundamental skills in reading and exchanging ideas with peers but also cultivated their own strategies to navigate and enhance the RRT process. This is supported by participants' feedback:

> After doing this activity a few times…we began writing down the meaning of each word, then combining them into complete sentences. Next, we found a partner to read and explain the sentence together…we checked whether our understanding matched and corrected each other if needed. It really helped me to understand the sentence structure and meaning more deeply. (Interview 23b)

> Teacher spoke 90% Chinese with me and surprisingly I was able to respond confidently in a short time. This showed how effective this method is in helping us become more comfortable using the language. (Interview 13)

The first excerpt highlights a blend of independent learning (functioning as self-directed brain breaks) and collaborative engagement among peers. The second excerpt highlights learners' proactive engagement in exchanging reading roles with their instructors, allowing them to gain valuable insights into their strong mastery levels through the RRT activity. Clearly, learners skilfully capitalised on the enhanced adaptability of the improved RRT approach, particularly its allowance for flexible partner selection, whether with peers or instructors; thereby optimising its versatility and driving positive learning outcomes. While previous studies have affirmed the benefits of freedom in partner selection in collaborative learning, which enhanced engagement, cognitive development, and behavioural outcomes [40], as well as improved problem-solving skills [41], the findings of this study go beyond previous insights by showcasing the enhancement and evolution of learners' personalised collaborative learning strategies and social skills, alongside the cultivation of their

creative and critical thinking skills. This RRT approach yields a profound and meaningful impact indeed.

However, one point of concern is the moderate standard deviation observed across the different test cycles, which indicates that students' individual score improvements were not uniform. This variability is further reflected in the differing standard errors and the width of the confidence intervals across cycles, suggesting that the consistency of student improvement varied from one cycle to another. This might be due to language proficiency gaps among the students, especially in inferencing or decoding. In preparation for the upcoming RRT implementation, instructors are encouraged to adapt reading tasks and prompts to align with students' different comprehension levels. Differentiation should be prioritised, both in task design and scaffolding, by identifying which students are benefiting and which require additional support. To enhance strategy uptake, peer modelling can be reinforced by pairing students strategically, allowing stronger readers to demonstrate effective reading techniques during RRT sessions.

4.4 Implementation of RRT: An Overview

CFL learners generally viewed the RRT approach positively. The findings indicated that participants were deeply engaged and well-acquainted with the entire RRT process, which led to significant improvements in their reading comprehension. For instance:

> This activity enhanced my comprehension of the text because it allowed me to read the same or different parts of a text several times with different partners. Each time, I understand a little more because I can ask questions, listen to how others read, and discuss about the meaning together. When I don't understand a word or sentence, my partner's explanations often clarified it in a simpler way. We also shared ideas about the text, which helped me think deeper and notice details I might have overlooked. By reading, listening, and discussing with different people, my understanding of the text improved. It becomes a shared effort to learn and comprehend together. (Interview 09)

This study aligns with Kahu *et al.*, [42] notion, emphasising that every learning approach must ensure learners are familiar with the process, experience a sense of positive interpersonal belonging, and actively engage or find enjoyment in the learning journey. This immersion is key to success, as their efforts translate into meaningful results, motivating them to progress and sustain continuous learning.

The RRT approach has also strongly highlighted the importance of social support in enhancing reading comprehension achievement. CFL learners confirmed that this approach outperformed many other reading activities they had previously encountered, emphasising its ability to enhance enjoyment in foreign language learning within a supportive and socially comfortable environment. For example:

> Compared to other reading activities, it is more active, fun, and I feel more comfortable talking with classmates one-on-one. It helps build my confidence because we support each other, and I learn new words and better ways to read and comprehend by listening to my peers. I feel happy and more motivated to read when doing this activity. (Interview 16)

> Compared to other reading activities, it creates a more relaxed and supportive learning environment…we feel more comfortable asking our friends…we learn from each other in a more natural way. (Interview 03)

Guo [43] and Mynard and McLoughlin [44] argued that enjoyment/interest in learning directly fosters self-confidence, affective motivation, and encourages both cognitive and emotional engagement. It also facilitates dynamic interactions at individual and group levels, closely aligning with the outcomes obtained in the implementation of the RRT approach in this study.

As a summary, the overall findings highlight RRT as a highly effective and innovative collaborative learning approach that offers substantial benefits in academic achievement, social constructivism, and learner well-being.

5. Conclusion and Recommendations

This study provides pedagogical insights for higher education, highlighting the significance of implementing collaborative learning in foreign language instruction. First, this study demonstrates that the RRT approach has notably improved students' reading comprehension during CFL. This success offers CFL instructors concrete evidence that integrating structured, peer-based learning activities can foster deeper engagement with learning materials and enhance overall language proficiency. Additionally, instructors should prioritise granting learners sufficient freedom to direct their collaborative initiatives and tailor their learning preferences. Equally important, instructors need to offer targeted encouragement or support, especially for those who may progress more slowly or face greater challenges, to ensure every learner remains actively engaged in the collaborative learning process.

Furthermore, drawing on the principles of social constructivism, CFL instructors implementing the RRT approach should design activities or select reading materials that require active engagement and simultaneously foster reflective dialogue and peer interaction. This strategy facilitates the collective construction of meaning among learners. This study reveals that the current implementation of the RRT approach does not adequately account for differentiated instruction. This finding suggests an opportunity for instructors to refine the approach by integrating tailored strategies that address the diverse learning profiles within their classrooms. For instance, instructors might consider adapting reading materials and designing collaborative tasks to meet the specific needs of learners at different proficiency levels; by providing scaffolding for those with slower or lower learning abilities; and offering opportunities for more advanced students to challenge themselves. This adjustment not only supports a broader range of learning styles but also amplifies the overall impact of the RRT approach in enhancing reading comprehension and language acquisition.

This study has certain limitations. As this action research involving a small cohort of 24 CFL learners, the findings may have limited generalisability. The participants were drawn from a single educational institution and examined within a first-level CFL class. However, CFL courses include multiple proficiency levels with a broader range of learners, which could provide more diverse perspectives if incorporated into future research. Additionally, the duration and number of cycles may have influenced the study's outcomes. A two-cycle investigation may not have been sufficient to capture significant shifts in learners' academic performance or to assess the long-term impact on their sustained foreign language acquisition. Moreover, the absence of a control group restricts the ability to compare the effectiveness of RRT-based collaborative learning against conventional collaborative methods in terms of reading comprehension and social development. Relying solely on

students' self-reported experiences may introduce bias or overlook critical aspects that warrant further investigation.

Future research should aim to recruit a more diverse participant pool by including students from various CFL levels and different educational institutions. This broader representation would enhance the generalisability of the findings while shedding light on the effect of diverse backgrounds and language proficiency levels on the efficacy of the RRT approach in enhancing reading comprehension and social skills. Additionally, employing a longitudinal design, either by extending the duration or increasing the number of intervention cycles could provide a more robust assessment of the long-term impacts of the RRT approach on learners' academic outcomes and sustained engagement. Future research should also incorporate control groups to facilitate comparisons between RRT-based collaborative learning and traditional collaborative methods, which would help pinpoint the specific contributions of the RRT framework. Finally, future studies should explore the applicability of the RRT approach beyond the CFL context. Investigating its effectiveness in teaching other second or foreign languages could confirm its broad suitability and potential benefits across diverse language teaching environments.

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