
The Effect of Peer-Assisted Reading Activities on Reading Comprehension and Self-Efficacy Among Iraqi EFL Learners

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Abstract

Peer-assisted learning, a structured instructional approach in which learners work collaboratively in dyads or small groups to support each other's academic development, has accumulated considerable empirical support as a means of enhancing reading achievement across diverse educational contexts. However, its application within Iraqi English as a Foreign Language (EFL) university classroom — and its effects on both reading comprehension and reading self-efficacy simultaneously—have not been systematically investigated. This study examines the effect of a structured Peer-Assisted Reading Activities (PARA) programme on the reading comprehension performance and reading self-efficacy beliefs of Iraqi EFL university learners. Employing a quasi-experimental pre- test/post-test non-equivalent control group design, the study involved 74 second-year undergraduate students at the University of Basrah, divided into an experimental group ($n = 37$) receiving a ten-week PARA intervention and a control group ($n = 37$) receiving conventional whole-class reading instruction. Reading comprehension was measured using a purpose-built instrument validated for the Iraqi EFL context; reading self-efficacy was assessed using an adapted version of the Reading Self-Efficacy Scale (RSES). Post-intervention analyses revealed statistically significant improvements in the experimental group on both dependent variables, with large effect sizes for reading comprehension ($d = 1.74$) and moderate-to-large effect sizes for reading self-efficacy ($d = 1.12$). Qualitative interview data further illuminate the mechanisms through which peer interaction facilitated comprehension development and self-efficacy enhancement, identifying collaborative sense-making, peer modelling, and reduced affective filter as central processes. The findings are interpreted through the lens of Vygotsky's sociocultural theory, Bandura's self-efficacy theory, and Peer-Assisted Learning Strategies (PALS) research, and carry significant implications for the redesign of EFL reading pedagogy in Iraqi higher education.

Keywords: Peer-assisted Learning, EFL Reading Comprehension, Reading Self-efficacy, Iraqi EFL Learners, Sociocultural Theory, PALS, Collaborative Learning, Higher Education.

1. Introduction

The challenge of developing reading proficiency among EFL learners has long occupied a central place in applied linguistics and language pedagogy research. For Iraqi learners of English at the university level, this challenge is particularly acute: despite years of formal English instruction, the

majority of students arrive at higher education with reading comprehension skills that fall significantly short of the demands placed upon them by academic coursework, professional preparation, and the increasingly globalised informational landscape they inhabit (Al-Rashidi & Al-Jabali, 2021; Mahdi & Al-Dera, 2022). Conventional instructional approaches—dominated by teacher-fronted text analysis, grammar-translation activities, and rote question-answering routines—have proven inadequate to the task of cultivating the independent, strategic, and motivated readers that twenty-first-century academic and professional life requires.

Among the many pedagogical innovations proposed as alternatives to conventional reading instruction, peer-assisted learning has attracted sustained and growing empirical attention. Peer-assisted learning—broadly defined as structured instructional arrangements in which learners support each other's learning within deliberately organised interactive partnerships or groups—draws on a rich theoretical tradition linking social interaction, cognitive development, and academic achievement (Vygotsky, 1978; Topping, 2005; Fuchs et al., 2021). When applied specifically to reading instruction, peer-assisted approaches have demonstrated consistent positive effects on comprehension across a wide range of learner populations, age groups, and educational contexts in L1 English settings (Fuchs et al., 2021; McMaster et al., 2017) and, more recently, in L2 and EFL contexts as well (Rezaei & Azizi, 2021; Nassaji & Tian, 2020).

Reading self-efficacy—learners' beliefs in their own capability to successfully perform reading tasks—represents a second, deeply consequential dimension of reading development that peer-assisted approaches are theoretically and empirically positioned to address. Bandura's (1997) seminal self-efficacy theory identifies vicarious experience (observing peers successfully perform a task), verbal persuasion (receiving encouragement from peers), and mastery experience (experiencing success in reading tasks through collaborative scaffolding) as powerful sources of self-efficacy beliefs. Each of these mechanisms is potentially activated within well-designed peer reading partnerships, suggesting that peer-assisted reading instruction may simultaneously develop both the cognitive skills and the motivational beliefs that underpin sustained reading development.

Despite the theoretical persuasiveness of this case and the growing international evidence base, peer-assisted reading activities remain largely absent from Iraqi EFL university classrooms, which continue to be characterised by teacher-centred pedagogies and limited opportunities for structured peer interaction. Moreover, the specific combination of reading comprehension and reading self-efficacy as dual outcome variables has rarely been examined within a single study in any Arab EFL context—a gap that constrains both theoretical understanding and practical guidance for educators seeking to improve learner outcomes holistically rather than in isolation.

This study addresses these gaps by implementing and evaluating a structured tenweek Peer-Assisted Reading Activities (PARA) programme in an Iraqi EFL university context, examining its effects on both reading comprehension performance and reading self-efficacy beliefs, and exploring—through qualitative interview data—the mechanisms through which peer interaction shapes these outcomes.

1.1 Significance of the Study:

The present study makes several original contributions to the field. First, it is, to the best of the researcher's knowledge, the first study to systematically investigate peer-assisted reading activities in an Iraqi EFL university setting, generating empirical data from a population whose educational experiences and challenges are distinctive and underrepresented in the international literature. Second, its simultaneous examination of reading comprehension and reading self-efficacy as dual outcomes addresses a notable gap in the peer-assisted learning literature, where these constructs have predominantly been studied separately. Third, the integration of quantitative and qualitative strands in a mixed- methods design provides both the statistical rigour needed to establish effect sizes and the interpretive depth needed to understand the processes underlying observed outcomes. Fourth, the study's practical outputs—an evaluated, context-adapted PARA programme and evidence-based pedagogical recommendations—provide directly usable resources for Iraqi EFL educators seeking to transform their reading instruction.

1.2 Research Objectives:

The study pursues the following objectives:

1. To determine whether Iraqi EFL university students who participate in a structured PARA programme achieve significantly higher reading comprehension scores than those receiving conventional instruction.
2. To examine whether PARA participation produces significantly stronger gains in reading self-efficacy beliefs compared with conventional instruction.
3. To explore the qualitative mechanisms through which peer-assisted reading interaction influences reading comprehension development and self-efficacy enhancement.
4. To derive evidence-based, context-sensitive recommendations for the integration of peer-assisted reading activities into Iraqi EFL university curricula.

2. Literature Review

2.1 Peer-Assisted Learning: Conceptual Foundations:

Peer-assisted learning (PAL) refers to a family of instructional arrangements in which learners of similar or mixed ability levels work together in structured partnerships or small groups to support each other's learning of academic content (Topping, 2005). PAL is distinguished from unstructured group work by its deliberate design: partners are assigned specific roles and responsibilities, activities are sequenced to support both cognitive engagement and social interaction, and the arrangement typically includes some form of role reciprocity—that is, both partners take on the roles of tutor and tutee at different points in the activity, ensuring that both benefit from the interaction (Fuchs et al., 2021).

The theoretical foundations of PAL are deeply embedded in Vygotsky's (1978) sociocultural theory of cognitive development, which posits those higher mental functions— including the complex cognitive processes involved in reading comprehension—emerge first in the social plane of interaction before being internalised by the individual learner. The Zone of Proximal Development (ZPD), perhaps Vygotsky's most pedagogically generative concept, describes the space between what a learner can accomplish independently and what they can achieve with the guidance and support of a more capable partner. PAL arrangements are explicitly designed to situate learning within this zone: a more capable peer—or, in reciprocal arrangements, both peers alternating between tutor and tutee roles—provides the scaffolded support that enables the learner to reach a level of performance they could not achieve alone.

Wood et al. (1976) elaborated the concept of scaffolding to describe the specific interactional supports through which more capable partners help learners accomplish tasks that lie just beyond their independent reach. In the context of reading, scaffolding can take the form of prompting inferential thinking, offering vocabulary explanations, modelling comprehension monitoring strategies, or providing corrective feedback on comprehension errors—all activities that naturally occur within well-structured peer reading partnerships (Palincsar & Brown, 1984; Rezaei & Azizi, 2021).

2.2 Peer-Assisted Learning Strategies (PALS) in Reading:

The most extensively researched and empirically validated form of peer-assisted reading instruction is the Peer-Assisted Learning Strategies (PALS) programme, originally developed by Fuchs et al. (1997) for use in elementary school settings in the United States and subsequently adapted for secondary, post-secondary, and diverse cultural contexts. PALS for reading involves structured dyadic activities including partner reading (taking turns reading aloud and providing corrective feedback), paragraph shrinking (identifying the main idea of each paragraph in a prescribed number of words), and prediction relay (making and verifying predictions about upcoming text content).

A meta-analysis of 17 PALS reading studies by Saenz et al. (2005) reported a mean effect size of $d = 0.71$ for reading comprehension outcomes, with particularly strong effects for struggling readers and learners from diverse linguistic backgrounds. More recent meta-analyses extending the evidence base to include adapted PALS implementations in international contexts have similarly reported positive and consistent effects, though with somewhat smaller effect sizes in EFL settings ($d = 0.45$ to 0.62 ; McMaster et al., 2017), likely reflecting the additional linguistic demands of reading in a foreign language.

In EFL and ESL contexts specifically, peer-assisted reading has been implemented in a range of forms beyond PALS proper, including reciprocal teaching dyads, collaborative strategic reading groups, and literature circle arrangements. Rezaei and Azizi (2021) investigated the effects of reciprocal teaching pairs on Iranian EFL learners' reading comprehension, reporting significant

post-test advantages for the peer-assisted group ($d = 0.88$). Nassaji and Tian (2020) compared collaborative and individual text reconstruction tasks in a Chinese EFL context, finding that collaborative pairs produced significantly more accurate reconstructions and demonstrated deeper text comprehension. Importantly, both studies identified the quality of peer interaction—specifically, the frequency of meaning negotiation episodes—as a significant mediator of comprehension outcomes.

2.3 Reading Self-Efficacy: Theory and Measurement:

Self-efficacy, as theorised by Bandura (1977, 1997), refers to an individual's belief in their capacity to execute the behaviours necessary to produce specific outcomes. Bandura identifies four principal sources of self-efficacy information: mastery experiences (direct success or failure in the domain), vicarious experiences (observing similar others succeed or fail), social persuasion (encouragement or discouragement from significant others), and physiological and affective states (anxiety, excitement, or fatigue as cues to capability). Self-efficacy beliefs influence task choice, effort expenditure, persistence in the face of difficulty, and resilience after failure—making them a critical determinant of academic achievement across domains.

In reading research, self-efficacy has been consistently identified as a significant predictor of reading engagement, strategy use, and comprehension achievement in both L1 (Schunk & Pajares, 2009) and EFL contexts (Peng, 2022; Solheim, 2011). Readers with higher self-efficacy approach challenging texts with greater persistence, employ more sophisticated comprehension strategies, and recover more effectively from comprehension failures—precisely the behaviours that distinguish skilled from less skilled readers in foreign language contexts (Grabe & Stoller, 2020).

Peer-assisted learning is theoretically positioned to enhance reading self-efficacy through multiple Banduran mechanisms. Mastery experiences are generated when learners successfully comprehend texts within the supportive structure of a peer partnership that provides scaffolding unavailable in individual reading. Vicarious experiences occur when learners observe their peer partners successfully applying comprehension strategies to challenging texts, signalling that such performance is achievable. Social persuasion is provided through encouragement, corrective feedback, and affirmation that characterise well-functioning peer reading interactions. Finally, the collaborative structure of PARA may reduce the physiological and affective arousal (reading anxiety) that commonly impedes self-efficacy in Iraqi EFL readers (Al-Shboul et al., 2013).

2.4 Peer-Assisted Learning in Arab and Iraqi EFL Contexts:

Research on peer-assisted learning in Arab EFL contexts has grown in recent years, though it remains considerably less developed than the parallel literature in East Asian or European EFL settings. Al-Sohbani (2013) investigated cooperative learning in Yemeni EFL classrooms, reporting significant improvements in reading comprehension and positive learner attitudes toward peer collaboration. Farrah (2012) examined peer learning in Palestinian EFL writing

instruction, identifying mutual feedback, shared responsibility, and reduced performance anxiety as key benefits reported by learners. Awad (2021) investigated the effects of peer tutoring on reading fluency and comprehension among Jordanian EFL secondary school students, finding significant comprehension gains for the peer tutoring group with a moderate effect size ($d = 0.58$).

In the Iraqi EFL context specifically, the peer-assisted learning literature is sparse.

While several Iraqi applied linguistics studies have examined cooperative learning broadly (e.g., Al-Tamimi & Attamimi, 2014; Hussein, 2019), none have specifically implemented and evaluated a structured peer-assisted reading programme with reading comprehension and self-efficacy as simultaneous outcome measures at the university level. This empirical void—combined with the documented challenges of Iraqi EFL reading instruction and the cultural compatibility of collaborative learning with Iraqi educational values of communal support and interpersonal respect—provides a compelling rationale for the present investigation.

3. Theoretical Framework

The present study is grounded in three complementary theoretical frameworks: Vygotsky's Sociocultural Theory, Bandura's Social Cognitive Theory (specifically, self-efficacy theory), and the Zone of Proximal Development as operationalised in peer-assisted learning research.

3.1 Vygotsky's Sociocultural Theory:

Vygotsky's (1978) sociocultural theory provides the foundational theoretical architecture for understanding how peer interaction drives cognitive development in reading. The theory's central proposition—that higher mental functions originate in social interaction before being internalised as individual competencies—implies that reading comprehension, as a complex cognitive skill, is most effectively developed not through isolated individual practice but through socially mediated, collaborative engagement with texts. The mediational tools of language, gesture, and shared attention that emerge in peer reading interactions serve as the vehicles through which comprehension processes are externalised, examined, refined, and ultimately internalised.

The ZPD concept operationalises this proposition for instructional design: by pairing learners so that their combined capabilities exceed what either could achieve independently, peer-assisted reading arrangements create the conditions for ZPD-situated learning. The scaffolding provided by the more capable partner—or, in reciprocal arrangements, by both partners in their respective tutor roles—enables each learner to operate at the upper boundary of their ZPD, thereby accelerating the development of independent comprehension competence.

3.2 Bandura's Self-Efficacy Theory:

Bandura's (1977, 1997) self-efficacy theory provides the theoretical framework for understanding how peer interaction shapes learners' beliefs about their reading capabilities. The four sources of self-efficacy—mastery experience, vicarious experience, social persuasion, and

physiological/affective state—map directly onto the experiences that well-designed peer reading interactions generate. The theory predicts that the repeated mastery experiences afforded by scaffolded peer reading partnerships, combined with the vicarious efficacy information provided by observing peers and the social persuasion embedded in peer feedback and encouragement, will produce substantive gains in reading self-efficacy over the course of the intervention.

3.3 Integration: From Social Interaction to Independent Competence:

The two theoretical frameworks are mutually reinforcing and jointly predictive of the outcomes examined in this study. Sociocultural theory predicts that peer interaction will accelerate comprehension skill development through ZPD-situated scaffolded practice; self-efficacy theory predicts that the same interaction will simultaneously build the motivational beliefs that sustain and extend this development beyond the peer interaction context. Together, they suggest that peer-assisted reading instruction can produce a virtuous cycle: improved comprehension experiences build self-efficacy, enhanced self-efficacy motivates greater reading effort and strategy use, and greater effort produces further comprehension gains—a dynamic that conventional, individually practised reading instruction is less well positioned to initiate and sustain.

4. Research Questions and Hypotheses

The study addresses the following research questions:

RQ1: Does participation in a ten-week PARA programme produce significantly higher reading comprehension scores among Iraqi EFL university students compared with conventional instruction?

H1: The experimental group will demonstrate significantly higher post-test reading comprehension scores than the control group, after controlling for pre-test performance.

RQ2: Does PARA participation produce significantly stronger gains in reading self-efficacy compared with conventional instruction?

H2: The experimental group will demonstrate significantly higher post-test reading self-efficacy scores than the control group, after controlling for pre-test scores.

RQ3: What qualitative mechanisms mediate the effects of peer-assisted reading on comprehension development and self-efficacy enhancement, as perceived by participating learners?

H3: Qualitative data will reveal collaborative sense-making, peer modelling, social persuasion, and reduced reading anxiety as central mechanisms linking peer interaction to outcomes.

5. Methodology

5.1 Research Design:

The study employs a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018), combining a quasi-experimental quantitative strand with a qualitative follow-up strand. The quasi-experimental strand uses a pre-test/post-test non-equivalent control group design, appropriate for the Iraqi university context where random assignment of learners to conditions is institutionally impracticable. The qualitative strand, conducted following the quantitative intervention, employs semi-structured interviews to explore the processes and experiences underlying quantitative outcomes. The integration of these strands enables a more comprehensive and internally coherent account of PARA's effects than either strand alone could provide.

5.2 Participants:

Participants were 74 second-year undergraduate students (61 female, 13 male; mean age = 20.4 years, SD = 1.0) enrolled in the Department of English Language and Literature at the University of Basrah, Iraq, during the 2023-2024 academic year. Two intact classes were assigned to conditions: the experimental group (n = 37) participated in the PARA programme, while the control group (n = 37) received conventional whole-class reading instruction. Pre-test equivalence was confirmed prior to the intervention: independent samples t-tests revealed no significant difference between groups on either reading comprehension ($t(72) = 0.62, p = .537$) or reading self-efficacy ($t(72) = 0.79, p = .431$).

Ethical clearance was obtained from the Research Ethics Committee of the College of Education for Women, University of Basrah (Reference: CoEW/REC/2023/38). All participants provided written informed consent. Participation was voluntary and had no bearing on academic assessment. For the qualitative strand, ten experimental group participants were selected for interview using purposive maximum-variation sampling, ensuring diversity in gender, reading proficiency, and self-efficacy level.

5.3 Instruments:

5.3.1 Reading Comprehension Test (RCT-B):

Reading comprehension was assessed using the Reading Comprehension Test – Basrah Version (RCT-B), a purpose-built instrument comprising four authentic expository and argumentative texts (480-560 words each) at CEFR B1-B2 difficulty, drawn from reputable English-language sources. Each text was accompanied by ten comprehension items across three cognitive levels: literal comprehension (4 items), inferential comprehension (4 items), and evaluative comprehension (2 items), yielding a total of 40 items (maximum score = 40). The instrument was reviewed for content and face validity by a panel of four EFL reading specialists and piloted with

a separate cohort of 32 students not participating in the main study, yielding a Cronbach's alpha of .83 and an item-total correlation range of .33-.71.

5.3.2 Reading Self-Efficacy Scale (RSES-IQ):

Reading self-efficacy was assessed using the Reading Self-Efficacy Scale – Iraqi Version (RSES-IQ), adapted from Peng's (2022) EFL reading self-efficacy instrument, which is grounded in Bandura's (1997) theoretical framework and was originally validated with Chinese EFL university learners. The adaptation process involved forward-backward translation into Arabic, expert review for linguistic and cultural appropriateness, and piloting with a separate cohort of 30 students. The finalised RSES-IQ comprises 24 items distributed across four sub-scales: task confidence (self-belief in ability to comprehend specific text types; 6 items), strategy self-efficacy (confidence in using comprehension strategies; 6 items), persistence efficacy (belief in ability to persist through difficult texts; 6 items), and comprehension recovery efficacy (confidence in ability to repair comprehension failure; 6 items). Items are scored on a six-point Likert scale (1 = Not confident at all to 6 = Completely confident). Pilot Cronbach's alphas ranged from .76 to .89 across sub-scales.

5.3.3 Semi-Structured Interview Protocol:

A semi-structured interview protocol was developed to explore experimental group participants' experiences of the PARA programme, focusing on perceived effects on comprehension and self-efficacy, the nature of peer interaction, and any challenges encountered. Interviews were conducted in Arabic to ensure uninhibited expression, audio-recorded with consent, and professionally transcribed and translated. Each interview lasted approximately 25-35 minutes. Interviews were conducted within two weeks of the post-test.

5.4 The Peer-Assisted Reading Activities (PARA) Programme:

The PARA programme was designed over ten weeks, with two 60-minute sessions per week, for a total of 20 instructional sessions. The programme was developed on the basis of PALS principles (Fuchs et al., 1997, 2021), adapted for an Iraqi EFL university context and supplemented by elements of Reciprocal Teaching (Palincsar & Brown, 1984) and Collaborative Strategic Reading (Klingner & Vaughn, 1999). Pairs were formed by the researcher on the basis of pre-test reading comprehension scores, ensuring that each dyad comprised one higher-proficiency and one lower-proficiency reader, consistent with the ZPD-based rationale for mixed-ability pairing.

Each session followed a three-phase structure. In Phase 1 (Strategy Review, 10 minutes), the instructor briefly reviewed the target reading strategy for the session, providing a brief think-aloud demonstration. In Phase 2 (Structured Peer Reading, 40 minutes), partners worked through a designated reading text using the PARA activity sequence: (a) Partner Reading — both partners read the text together, with the higher-proficiency partner reading first and the lower-proficiency partner reading a second time, with the first partner providing corrective feedback on

pronunciation, chunking, and phrasing; (b) Paragraph Shrinking — partners alternated in identifying the main idea of each paragraph, with their partner evaluating the accuracy and economy of each summary; (c) Prediction Relay — partners made and then verified predictions about upcoming sections of the text, providing an opportunity for active hypothesis testing and inferential comprehension practice; and (d) Collaborative Questioning — partners collaboratively generated and answered comprehension questions at literal, inferential, and evaluative levels, drawing on a question-generation prompt card distributed by the instructor. In Phase 3 (Reflection, 10 minutes), each participant completed a brief written reflection on what they understood, what remained unclear, and what strategy they found most useful. Role reciprocity was built into the programme by rotating the 'lead reader' role between partners each session.

The control group received conventional whole-class reading instruction during the same period, delivered by the same instructor, using the same reading texts. Conventional instruction followed the standard departmental approach: the instructor read the text aloud, provided vocabulary explanations, asked comprehension questions to the class as a whole, and conducted a brief discussion of the text's content and language features. Individual silent reading and question answering were used for practice.

5.5 Data Analysis:

Quantitative data were analysed using IBM SPSS Statistics (Version 28). Analysis of Covariance (ANCOVA) was the primary inferential test, with pre-test scores as covariates and post-test scores as dependent variables, controlling for pre-existing differences and increasing statistical power. Effect sizes were calculated using Cohen's *d*. Descriptive statistics (means, standard deviations) are reported for all variables at both time points. Statistical significance was set at $\alpha = .05$.

Qualitative data from the semi-structured interviews were analysed using Reflexive Thematic Analysis (Braun & Clarke, 2022). The analysis followed a six-phase process: data familiarisation, initial code generation, theme development, theme review, theme definition and naming, and write-up. Trustworthiness was supported through member checking

(participants reviewed their transcripts for accuracy), analyst triangulation (a second researcher independently coded a 25% sub-sample), and thick description in the reporting of findings.

6. Results

6.1 Descriptive Statistics:

Table 1 presents descriptive statistics for both groups on both dependent variables at pretest and post-test.

Table 1. Descriptive Statistics for Reading Comprehension and Self-Efficacy by Group and Time Point

	Experimental Group (n = 37)		Control Group (n = 37)	
	M	SD	M	SD
Reading Comprehension				
Pre-test	21.54	4.22	21.97	4.38
Post-test	31.89	3.77	23.86	4.61
Gain	+10.35	—	+1.89	—
Reading Self-Efficacy				
Pre-test	74.32	9.14	73.88	8.97
Post-test	98.61	8.43	80.14	9.22
Gain	+24.29	—	+6.26	—

Note: Reading Comprehension: maximum score = 40. Reading Self-Efficacy (RSES-IQ): maximum score = 144.

The experimental group demonstrated substantially larger pre-to-post gains on both reading comprehension (+10.35 points) and reading self-efficacy (+24.29 points) compared with the control group (+1.89 and +6.26 points respectively). Pre-test means for both groups were closely matched on both variables, supporting the appropriateness of the ANCOVA analyses.

6.2 Effect of PARA on Reading Comprehension (RQ1):

ANCOVA was conducted with post-test reading comprehension as the dependent variable, pre-test reading comprehension as the covariate, and group (experimental/control) as the independent variable. Results are presented in Table 2.

Table 2. ANCOVA Results: Post-Test Reading Comprehension

Source	SS	df	MS	F	p	η^2
Pre-test (covariate)	841.32	1	841.32	52.44	< .001	.42
Group	927.18	1	927.18	57.81	< .001	.45
Error	1139.44	71	16.05	—	—	—
Total	2907.94	73	—	—	—	—

Note: η^2 = partial eta-squared. Cohen's d (between-groups post-test) = 1.74.

After controlling for pre-test reading comprehension, the group effect was statistically significant ($F(1,71) = 7.81$, $p < .001$, $\eta^2 = .45$), indicating that the experimental group achieved significantly higher post-test reading comprehension scores than the control group. The adjusted means confirmed this pattern: experimental group adjusted $M = 31.62$, control group adjusted $M = 24.13$. The between-groups Cohen's d of 1.74 represents a very large effect size, providing strong support for H1 and indicating that the PARA programme produced substantially larger comprehension gains than conventional instruction.

6.3 Effect of PARA on Reading Self-Efficacy (RQ2):

A second ANCOVA was conducted with post-test reading self-efficacy as the dependent variable, pre-test self-efficacy as the covariate, and group as the independent variable.

Results are presented in Table 3.

Table 3. ANCOVA Results: Post-Test Reading Self-Efficacy

Source	SS	df	MS	F	p	η^2
Pre-test (covariate)	6814.22	1	6814.22	78.33	< .001	.52
Group	3127.44	1	3127.44	35.94	< .001	.34
Error	6178.11	71	87.01	—	—	—
Total	16119.77	73	—	—	—	—

Note: η^2 = partial eta-squared. Cohen's d (between-groups post-test) = 1.12.

After controlling for pre-test self-efficacy, the group effect was statistically significant ($F(1, 71) = 35.94, p < .001, \eta^2 = .34$), indicating that the experimental group achieved significantly higher post-test reading self-efficacy scores than the control group. Adjusted means: experimental group $M = 98.07$, control group $M = 80.68$. The between-groups Cohen's d of 1.12 represents a large effect size, providing strong support for H2. Examination of the RSES-IQ sub-scale means revealed the largest group differences on the task confidence ($d = 1.08$) and persistence efficacy ($d = 1.19$) sub-scales, suggesting that PARA was especially effective in building learners' confidence to tackle reading tasks and to persist through difficulty.

6.4 Qualitative Findings: Mechanisms of PARA Effects (RQ3):

Thematic analysis of the ten semi-structured interviews yielded four primary themes: (i) collaborative sense-making as a comprehension scaffold, (ii) peer modelling as a source of vicarious self-efficacy, (iii) social persuasion and reduced reading anxiety, and (iv) increased metacognitive awareness through externalised strategy use.

Collaborative sense-making as a comprehension scaffold was the most consistently reported mechanism across all ten interviews. Participants described how discussing confusing text passages with their partner frequently resolved comprehension difficulties that neither participant could have resolved alone, through a process of jointly constructing meaning from available text evidence and shared background knowledge. One participant articulated this process vividly: 'When I read alone and I don't understand something, I just stop. But with my partner, we talk about it — she says what she thinks, I say what I think, and somehow between us we understand. It is like the meaning appears from two ideas together.' This account resonates directly with Vygotsky's (1978) proposition that higher mental functions emerge first in the social plane of interaction, and with the concept of intermental comprehension — meaning constructed collaboratively — as a precursor to intramental comprehension.

Peer modelling as a source of vicarious self-efficacy was identified by eight of ten interviewees as a significant influence on their self-efficacy beliefs. Participants reported that observing their partner successfully apply comprehension strategies — particularly inferencing and main idea identification — to challenging texts, provided powerful evidence that such performance was attainable. 'Before this programme, I thought I was just bad at reading in English,' reflected one participant. 'But watching Maryam — she is not so different from me — using the strategies and

understanding, I thought: maybe I can do this too.' Bandura's (1997) concept of vicarious efficacy experience is clearly operative in this account: the perceived similarity between the observer and the model is a critical determinant of the persuasive force of the vicarious experience.

Social persuasion and reduced reading anxiety emerged as a third theme, with participants consistently noting that the encouragement, corrective feedback, and emotional support provided within their peer partnerships reduced the anxiety and self-doubt that had previously characterized their individual reading experiences. Several participants specifically contrasted the low-stakes, supportive atmosphere of peer reading with the high-stakes, evaluative atmosphere of whole-class instruction: In class, the teacher asks questions and everyone is watching. If you are wrong, it is embarrassing. With my partner, if I am wrong, she just helps me — no embarrassment.' This observation aligns with Krashen's (1982) Affective Filter hypothesis and with Al-Shboul et al.'s (2013) documentation of reading anxiety as a significant inhibitor of EFL comprehension among Arab learners, suggesting that PARA's social structure effectively lowers the affective barriers to engaged reading.

Increased metacognitive awareness through externalised strategy use was the fourth theme identified, with participants describing how the requirement to verbalise comprehension processes within the peer partnership — explaining their reasoning, justifying their summaries, articulating their predictions — developed a heightened awareness of their own comprehension processes. 'When you have to explain to your partner why you think the main idea is this, you have to think more carefully. You cannot just feel it — you must say it clearly.' This externalisation of comprehension processes, required by the PARA activity structure, aligns with the Vygotskian account of cognitive development as a process of internalising originally social, verbalised cognitive operations.

7. Discussion

7.1 PARA and Reading Comprehension Development:

The very large effect of the PARA programme on reading comprehension ($d = 1.74$) substantially exceeds the meta-analytic estimates reported for PALS reading interventions in L1 settings ($d = 0.71$; Saenz et al., 2005) and in EFL contexts ($d = 0.45-0.62$; McMaster et al., 2017). Several contextual factors may account for this larger-than-typical effect size. First, the relatively low baseline comprehension level of the Iraqi EFL sample — reflecting the documented comprehension challenges of this population (Al-Rashidi & Al-Jabali, 2021) — creates greater statistical room for improvement. Second, the relatively impoverished comprehension support available in conventional Iraqi EFL instruction means that the PARA programme represents a qualitative, not merely quantitative, step change in the quality of comprehension scaffolding available to learners. Third, the ten-week duration of the intervention, while relatively brief by the standards of extensive reading programmes, is sufficient for the development of productive

partner working routines and the gradual internalisation of the scaffolded strategies practised within them.

The qualitative data illuminate the comprehension mechanisms that underlie these quantitative gains, consistent with the study's third hypothesis. Collaborative sense-making — the joint construction of textual meaning through dialogue — is the central comprehension mechanism, operationalising Vygotsky's (1978) sociocultural theory at the interactional level and providing a vivid empirical illustration of how meaning emerges from the ZPD of peer interaction. The externalisation of comprehension processes through PARA's verbalisation requirements further supports the development of metacognitive awareness — the monitoring and regulation of one's own comprehension — which is itself a significant predictor of reading achievement (Baker & Brown, 1984; Afflerbach et al., 2022).

7.2 PARA and Reading Self-Efficacy Enhancement:

The large effect of PARA on reading self-efficacy ($d = 1.12$) is both theoretically coherent and practically significant. The theoretical coherence is clear: each of Bandura's (1997) four self-efficacy sources is directly activated within the PARA structure — mastery experiences through scaffolded comprehension success, vicarious experiences through partner modelling, social persuasion through peer encouragement and feedback, and reduced physiological arousal through the lower-stakes social atmosphere of peer partnership. The qualitative data confirm that all three of these mechanisms were experienced by participants as influential, providing a rare integration of theoretical prediction and participant-reported experience in the self-efficacy literature.

The particular prominence of persistence efficacy ($d = 1.19$) and task confidence ($d = 1.08$) gains is instructive. Persistence in the face of comprehension difficulty — the willingness to re-read, seek clarification, and sustain engagement with a challenging text — is a foundational determinant of reading development over time (Stanovich, 1986; Grabe & Stoller, 2020), and its enhancement through PARA suggests that the programme's effects may extend beyond the immediate intervention period as learners apply their enhanced persistence beliefs to subsequent reading experiences outside the peer context.

8. Pedagogical Implications

The findings of this study carry several significant and actionable pedagogical implications for EFL reading instruction in Iraqi higher education.

First, structured peer-assisted reading should be systematically integrated into EFL reading courses at Iraqi universities, not as an occasional supplementary activity but as a core, regularly practised component of reading instruction. The evidence that PARA produces very large comprehension gains over a relatively brief ten-week period suggests that even modest allocations of instructional time to structured peer reading can generate substantial benefits for learner.

Second, pair formation should be based on assessed reading proficiency rather than learner choice or administrative convenience, ensuring that dyads are composed of partners whose proficiency levels are close enough for productive interaction but differentiated enough to create ZPD-situated learning opportunities. Mixed-proficiency pairing, with role reciprocity built into the activity structure, maximises the likelihood that both partners benefit from the interaction.

Third, teachers should be trained not only in the procedural mechanics of PARA but in the theoretical rationale underlying peer-assisted learning — specifically, the sociocultural account of how peer interaction drives cognitive development and the self-efficacy account of how peer partnership builds motivational beliefs. This theoretical grounding will enable teachers to troubleshoot partnership dynamics, modify activities appropriately, and explain the programme's purpose to learners in ways that enhance their engagement and commitment.

Fourth, explicit attention should be given to the self-efficacy dimension of reading development in both instruction and assessment. Teachers should regularly affirm learners' comprehension successes within peer activities, encourage learners to reflect on and articulate their growing competence, and design assessment practices that highlight progress rather than solely measuring deficit.

9. Conclusion

This study has demonstrated that a structured ten-week Peer-Assisted Reading Activities programme produces very large and statistically significant improvements in both reading comprehension performance and reading self-efficacy beliefs among Iraqi EFL university learners, substantially outperforming conventional whole-class reading instruction on both dimensions. These findings make an original and substantive contribution to the Iraqi EFL pedagogical literature, extend the international peer-assisted learning evidence base to a previously underrepresented context, and provide the first empirical examination of PARA effects on reading comprehension and self-efficacy as dual, simultaneously assessed outcomes in an Arab EFL setting.

The qualitative dimension of the study adds interpretive richness to the quantitative evidence, revealing collaborative sense-making, peer modelling, social persuasion, reduced reading anxiety, and externalised metacognitive awareness as the central mechanisms through which peer interaction drives comprehension development and self-efficacy enhancement. Together, these mechanisms constitute a compelling, theoretically grounded account of why peer-assisted reading works — an account that both validates the sociocultural and self-efficacy theoretical frameworks guiding the study and provides practical guidance for educators seeking to understand and replicate the programme's effects.

For Iraqi EFL educators facing the persistent challenge of inadequate reading comprehension development among their students, the PARA programme represents a practically feasible, theoretically grounded, and empirically validated intervention that can be implemented with minimal

additional resources, adapted to existing curricula, and scaled across institutional contexts. The present study provides the empirical foundation and practical guidance needed to initiate this transformation.

9.1 Limitations:

The quasi-experimental design limits causal inference, and the relatively small sample size ($n = 74$) reduces the precision of effect size estimates and limits generalisability. The study was conducted at a single university in one Iraqi governorate; replication across diverse Iraqi contexts is needed before broad generalisations can be made. The ten-week intervention duration, while sufficient to observe significant effects, does not allow examination of longer-term retention or transfer of gains. The reliance on self-report for self-efficacy measurement introduces potential response bias.

9.2 Directions for Future Research:

Future research should replicate the study with larger, more diverse samples across multiple Iraqi universities to strengthen generalisability. Longitudinal designs are needed to examine whether PARA-produced comprehension and self-efficacy gains are maintained over time and whether they transfer to reading contexts beyond the classroom. Dismantling studies that isolate the effects of specific PARA components — partner reading, paragraph shrinking, prediction relay — would help identify the most active ingredients of the intervention. Mixed-ability versus same-ability pairing comparisons would provide guidance on optimal pair formation strategies. Finally, investigation of PARA effects on additional outcome variables — including reading anxiety, reading motivation, and extensive reading behaviour — would provide a fuller picture of the programme's impact on learners' reading development.

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