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Research Paper

Peer Modeling of Collaborative Writing: Effects on Language and Pair Dynamics

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Abstract

Although pair work interaction gained substantial attention in recent decades, little is known about the best method to enhance its effectiveness. This study investigated the impact of peer modelling demonstration of collaborative writing tasks as a pedagogical intervention on Language-Related Episodes (LREs) and pair dynamics. Using a one-group pretest-posttest design with a delayed posttest, twenty intermediate learners were randomly paired up to complete three tasks (information-gap, story reconstruction, and jigsaw), which also involved a paragraph-level writing over a three-week period. Each session, the participants were required to work on one task while recording their voices. In the second session of the study, the pairs were provided with the peer modelling video to explore its contribution to their performances. The pairs' audio-recorded performances (about 15 hours) were carefully transcribed and later analyzed for a) the frequency, types, and resolution of LREs and b) pair dynamics. Results of Negative Binomial Regression revealed that peer modelling had a significant positive effect on pair performance, in a way that, after the provision of peer modelling, the pairs produced a significantly greater number of LREs and correctly resolved the majority of the conflicts. Additionally, analysis of McNemar's test revealed that the pairs demonstrated more collaborative pair dynamics subsequent to peer modelling. The findings are pedagogically important as they support peer modelling as a valuable pedagogical technique to be integrated into language learning classes to ensure L2 development and foster qualities of pair work.

Keywords: Collaborative Writing Tasks, LREs, Pair Work, Pair Dynamics, Peer Modelling

Engaging in pair work activities, which involves interactions and discussions, is one of the most widespread practices in Second Language Acquisition (SLA). Various pedagogical rationales advocate the implementation of pair-work activities in language learning classes. Pair work is claimed to enhance opportunities for using the target language (Crookes & Chaurdon,

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2001; Storch & Aldosari, 2013) and to promote learners' autonomy and self-directed learning (Crookes & Chaurdon, 2001). From the theoretical standpoint, peer interaction is supported by two major theories. Long's (1996) Interaction Hypothesis highlights that during interaction, learners receive feedback, which helps them recognize the differences between their language use and the target language, thereby prompting them to modify their language output (Swain, 1985). Sociocultural theory also emphasizes the importance of social dialogue in mental development. According to this perspective, it is asserted that when learners mutually collaborate, through co-construction of meaning, they can achieve what they were once unable to achieve if they were working independently (Vygotsky, 1978).

While these theoretical perspectives emphasize the benefits of pair work activities to foster language learning opportunities through collaborative interaction, the quality of this interaction often varies significantly, and learners may not always engage in a type of interaction and negotiation of meaning that is considered effective for language development. There are also a plethora of studies that stated that simply pairing up learners and expecting them to perform a task collaboratively does not necessarily lead to quality learning opportunities (Mercer & Littleton, 2007; Storch, 2001, 2002a). Therefore, how to improve the quality of pair work interaction remains a critical question, and the present study seeks to address this theoretically and pedagogically important gap by investigating the impact of peer modelling demonstration on peer interaction.

Gibbons (2002), for instance, emphasized that successful participation in pair work activities requires adherence to some rules. Similarly, Galton and Williamson (1992, p. 30) suggested that "for successful collaboration to take place, pupils need to be taught how to collaborate so that they have a clear idea of what is expected of them". To this end, one possible approach might be to demonstrate to learners how to perform a task collaboratively through peer modelling, which aligns with the notion of scaffolding in sociocultural theory (Vygotsky, 1978). In this study, peer modelling serves as a scaffold, aiming to assist pair members in engaging meaningfully when performing collaborative writing tasks. This activity frame is intended to foster equality and mutuality, enabling these features to emerge where needed. Although patterns of pair interaction and LREs have been a significant focus of recent studies (Chen, 2018; Dao & McDonough, 2017, 2018; Li & Liu, 2022; Zhang, 2019), research has devoted little attention to what strategies can be implemented to increase the potential benefits of peer interaction, not only about language discussions (i.e., in the form of LREs) but also in terms of promoting collaborative pair dynamics. To address this, the current study investigated the effect of peer modelling demonstration of collaborative writing tasks on LREs and the nature of pair dynamics in intermediate-intermediate pairs.

Literature Review

LREs and Collaborative Writing

Collaborative dialogues have been investigated predominantly based on the occurrence of LREs, which Swain (1998, p.70) defined as "any part of the dialogue in which students talk about the language they are producing, question their language use, or other- or self-correct". Furthermore, collaborative writing, a task in which two or more learners work together to co-construct a text, is supported by prominent language learning theories. Collaborative writing is considered to enhance collective scaffolding, mediate L2 development (e.g., Swain & Watanabe, 2013), and improve L2 vocabulary learning (Kim, 2008), among other benefits. Such benefits, however, do not automatically arise simply by pairing up learners to work together. Previous research has established that incidences of LREs during pair work activities is mediated by a number of factors, such as proficiency (Basterrechea & Leeser, 2019; Leeser, 2004; Watanabe, 2008; Watanabe & Swain, 2007; Kim & McDonough, 2008; Kowal & Swain, 1994), patterns of pair interaction (Storch, 2002a, 2002b; Li & Liu, 2022; Watanabe & Swain, 2007), level of engagement (McDonough, 2004; Storch, 2008), and task type (Swain & Lapkin, 2002; García Mayo, 2002; de la Colina & García Mayo, 2007; Suzuki & Itagaki, 2007).

Zabihi and Ghahramzadeh (2022), for instance, investigated the effect of proficiency pairing on language engagement during a collaborative composition task. Findings indicated that high-high pairs generated and accurately resolved a significantly greater number of cognitive conflict episodes compared to low-low and low-high pairs. Regarding the level of engagement, the results revealed that high-proficiency learners exhibited increased cognitive and social engagement when collaborating with equally proficient peers, while lower-proficiency learners reported higher levels of affective engagement when working alongside other low-proficiency partners. Amirkhiz, Bakar, Abd Samad, Baki, and Maahmoudi (2013) examined the performances of two Iranian EFL dyads and two Malaysian ESL dyads on collaborative writing tasks. The dyads were asked to complete fifteen writing tasks collaboratively while recording their voices. The results of the study indicated that EFL dyads focused more on meta-linguistic features of language compared to their ESL counterparts. Most of the previous studies indicated that when learners are truly collaborating, they tend to foster their language learning opportunities by focusing on LREs (Chen & Hapgood, 2019; Storch & Aldosari, 2013; Watanabe & Swain, 2007), and they also tend to resolve more of their linguistic problems (Chen & Yu, 2019).

Besides the critical role played by patterns of pair interaction, proficiency has also been the focus of extensive research due to its significant impact on creating learning opportunities (Choi & Iwashita, 2016; Kim & McDonough, 2008; Leeser, 2004; Watanabe & Swain, 2007; Williams, 1999). Some earlier research has shown that lower-proficiency learners are disadvantaged in mixed-proficiency pairs, as their more proficient counterparts often took control of the task and disregarded their contributions (Kowal & Swain, 1994, 1997). Nevertheless, other studies have demonstrated that these lower-proficiency learners tended to

engage more in discussions centered on language forms and correctly resolve them when paired up with higher proficiency partners (Leeser, 2004). Later studies have revealed that learners engaging in mixed-proficiency dyads tend to discuss language form more extensively and demonstrate a greater ability to reach accurate consensus than those in the same-proficiency dyads (Choi & Iwashita, 2016; Kim & McDonough, 2008; Storch & Aldosari, 2013).

Although prior research has offered valuable insights into LREs and collaborative writing, there is a lack of consensus regarding which proficiency pairings exert a more pronounced impact on pair work interaction and learning outcomes. To address this gap and control for the confounding effects of proficiency differences, the present study focuses exclusively on intermediate partnerships. Additionally, it remains unclear what techniques can be used to encourage collaborative pair dynamics, ensuring that all pair members benefit. Therefore, this study investigates the impact of peer modelling demonstration of collaborative writing tasks on the occurrence of LREs and pair dynamics among intermediate-intermediate pairs. This study aims to offer insights for educators who are seeking to enhance the effectiveness of pair work activities in their classes.

Modelling

Tharp and Gallimore (1988) referred to modelling as "the process of offering behaviors for imitation…until the language maturity is reached" (p. 47). There are only a handful of studies that have investigated the effect of modelling as a pedagogical technique on learners' LREs and pair dynamics. One of the primary studies in this regard was conducted by Swain and Lapkin (1998), in which a video-recorded performance of two students was depicted to French immersion students. The modelling video was aimed at showing students what to do when they receive a set of pictures. Despite having student modelling in their study, they did not directly focus on the role of modelling on students' performances, as it was used with other techniques.

In a study, Kim and McDonough (2011) used a pre-task modelling to promote the focus on form among Korean EFL learners working on three tasks. In their study, the modelling group watched a model video of a teacher and researcher performing similar tasks, while the other group (i.e., non-modelling group) did not. The researchers analyzed the task transcripts for instances of LREs and found that those who received pre-task modelling produced a significantly greater number of LREs. Additionally, their LREs were more frequently resolved correctly compared to those learners who did not view the model. Furthermore, the study concluded that the modelling group tended to develop more collaborative pair dynamics than their counterparts. Kim (2013) also reported on the effect of pretask modelling on learners' attention to form to assist them in formulating questions. Consistent with previous research, one group of learners received pretask modelling, while the other group did not. Results of this research demonstrated that pretask modelling contributed to learners' attention to form and consequently to their question formation.

In contrast to prior research that primarily utilized teacher or researcher modelling, two recent studies have explored the implementation of peer modelling. Rostami Darounkola, Yaqubi and Khonamri (2022) considered the contribution of peer modelling to pair participatory patterns. In their single case study, the performance of one intermediate EFL learner interacting with different peers was analyzed longitudinally to determine how peer modelling contributes to pair participatory patterns. Analysis of the data revealed that peer modelling positively and qualitatively enhanced pair patterns of interaction, leading to increased engagement. In a subsequent study, Rostami Darounkola, Yaqubi, and Khonamri (2024) investigated how peer modelling demonstration led to changes in pair dynamics when a core intermediate-level learner interacted with the same- or higher-level peers across nine sessions. In the fifth session of the course, learners viewed a staged modelling performance of two peers. Results of their study revealed that both core-intermediate and core-advanced pairs exhibited more collaborative patterns of interaction after peer modelling demonstration. However, the core-advanced pairs demonstrated slightly greater gains in collaborative engagement. In contrast to the current research, these two studies primarily focused on speaking ability and did not consider LREs in their analyses.

In sum, most of the previous studies have employed teacher or researcher models and incorporated modelling as a pre-task planning technique (Except Rostami Darounkola, Yaqubi, & Khonamri, 2022, 2024). Therefore, further research is warranted to examine whether peer modelling (i.e., having learners as models) can promote beneficial interactions and how it impacts the incidence and resolution of LREs as well as pair dynamics, within homogenous-proficiency dyads engaged in collaborative writing tasks.

Pair Dynamics

Storch (2001, 2002a) identified four distinct patterns of pair interaction in her research: collaborative, expert-novice, dominant-dominant, and dominant-passive. She used two indices— equality (degree of control over tasks) and mutuality (level of engagement and contribution) — to distinguish these four patterns. She posits that collaborative pair dynamics characterized by a high level of both equality and mutuality involve active co-construction of knowledge and active engagement in task completion. Conversely, dominant-dominant pairs are not attentive to and do not value each other's contributions. In dominant-passive pair dynamics, one individual takes control of a task, while excluding the other from playing an important role. Expert-passive pairs, on the other hand, are characterized by a more knowledgeable individual assisting a less experienced partner. She argues that the patterns of interaction of collaborative and expert-passive are more conducive to second language learning. These four types of patterns of interaction underscore that simply assigning learners to work together does not guarantee collaborative engagement (Kim, 2020; Storch, 2001, 2002a, 2004) as learners might sit like a pair but rarely work as a *true* pair (Mercer & Littleton, 2007).

Numerous studies have investigated the effects of pair dynamics on L2 learners' peer interaction (e.g., Kim & McDonough, 2008; Storch & Aldosari, 2013; Watanabe & Swain, 2007; Zabihi & Ghahramanzadeh, 2022; Zhang, 2019). For instance, research conducted by Kim and McDonough (2008) indicated that learners who typically exhibit a collaborative interactional style with peers of similar proficiency levels may adopt a passive role in interactions with more proficient speakers, resulting in a dominant-passive pair dynamics.

Watanabe and Swain (2007) focused on the individual learners interacting with partners of higher and lower proficiency levels. They investigated the interaction of four English L2 learners with more or less proficient interlocutors while performing multi-stage tasks (including writing with peers, reformulating, noticing the differences between the original and reformulated text, and reconstructing the text individually). Results indicated that the learners generated a greater number of LREs during the pair writing phase when collaborating with higher-level interlocutors. Conversely, they exhibited more LREs with lower-level interlocutors during the noticing phase, likely due to a greater number of reformulations, and achieved higher scores in text reconstruction after working with lower-level partners. Analyses of patterns of pair interaction in this study showed that those who employed a collaborative interaction style yielded more LREs and improved text reconstruction scores. The results suggest that interaction with both lower- and higher-level interlocutors can be beneficial for learners if they engage in collaborative pair dynamics.

These findings align with those of Li and Liu (2022), who reported that learners who engaged in collaborative dyadic interaction generated a greater number of LREs and correctly solved a higher proportion of those conflicts, concluding that pair dynamics have a greater impact than the proficiency pairings on collaborative writing. Chen and Hapgood (2019) similarly explored the impact of learners' knowledge of collaborative writing on their patterns of interaction as well as on the quality and quantity of LREs. Employing a mixed-method approach grounded in metacognitive theory, they compared two groups— one class with explicit collaborative writing knowledge taught to them and one without. The results of their study indicated that participants with greater exposure to collaborative writing principles exhibited more collaborative patterns of interaction and produced a greater number of LREs.

Despite the importance of pair dynamics, little research has focused on finding a method to generate more collaborative features or push learners toward collaborative patterns of interaction. These results underscore the necessity of recognizing effective techniques for task implementation, ensuring that learners understand the types of interactions conducive to L2 learning. Given that prior studies have demonstrated the advantages of pair work tasks in fostering collaborative pair dynamics and heightened engagement, it is crucial to pinpoint successful methods for promoting learner interactions that exhibit these qualities. Introducing the features of a successful collaboration through peer modelling may have a positive effect on learners' pair dynamics and the occurrence of LREs by raising their awareness. The purpose of

the study is to explore the effect of peer modelling on frequency, types, and resolution of LREs and pair dynamics, by addressing the following research questions:

1. Does peer-modelling have any significant effect on encouraging the occurrence and resolution of LREs in intermediate-intermediate pairs during collaborative writing tasks?
2. Is there any significant difference in the occurrence and resolution of LREs before and after peer-modelling?
3. Does peer-modelling contribute to the frequency of collaborative pair dynamics among intermediate learners?

Method

Design

To address these research questions, the present study employed a one-group pretest-posttest design with a delayed posttest (Creswell & Creswell, 2017) to investigate the impact of peer modelling demonstration of collaborative writing tasks on intermediate EFL learners' production of LREs and pair dynamics. Accordingly, students completed a collaborative writing task in the first session as their pretest. Subsequently, they received a peer modelling video in the second session, which incorporated the collaborative features and LREs, followed by Task 2. Finally, after a one-week interval, the students completed the third task (delayed posttest).

Participants

The present study, being part of a larger research project, recruited participants from undergraduate students majoring in Teaching English as a Foreign Language (TEFL) at a university in northern Iran. This procedure was conducted through announcements in their classes and messages sent to their course groups. Participants were selected using convenience sampling based on their willingness to participate and availability during the study's timeframe. From among the total number of 80 students involved in the main phase of the larger project, only 20 intermediate TEFL undergraduate students (male and female) comprised the sample of this study. They ranged in age from 19 to 25 years old. They were all native speakers of Persian and had not been to any English-speaking countries. Based on the results of the Oxford Placement Test (OPT) (Allen, 2004), they were placed into an intermediate level (OPT scores were in the range of 120–149 and correspond to IELTS 4–5.5 based on the test designer's associative levels chart). The students were then randomly paired up together (N=10) to work on three different collaborative writing tasks. In line with some of the previous similar studies (e.g., Chen, 2016, 2018), this sample size was considered to be appropriate considering the intensive nature of data collection, the qualitative and quantitative analyses of types, frequency, and resolution of LREs, as well as the discourse analysis needed for determining the patterns of pair interaction among the learners.

Materials

Collaborative tasks

Three collaborative tasks were employed in the present study: an information-gap task, a story-reconstruction task, and a jigsaw task. The primary objective of all three tasks was to generate oral interaction among learners; however, the tasks also involved paragraph-level writing. All three tasks were piloted with a group of students similar to our target participants to ensure an appropriate level of difficulty. They were ultimately selected based on their level of difficulty, the absence of any linguistic clues that might influence the pairs' production (except for some short phrases in the case of the information gap task), and the appropriate number of characters involved in each task. In the first task, an information gap task, students received information about three different travel destinations (Sydney, Australia; Edinburgh, Scotland; St. Moritz, Switzerland) on two separate sheets of paper (Student A and Student B), including details such as activities, transportation options, and journey times. They were first required to exchange information to fill out the empty sections of the worksheet provided, and then work together to write a travel advertisement for one of the locations they agreed upon as their chosen travel destination. In the second task (i.e., story reconstruction), students were asked to watch a short animation from one of the episodes of the Tom and Jerry cartoon (about 4 minutes in length). The students first received the peer modelling video, followed by watching the animation only once, and were allowed to take notes if they wanted to. There was no ending for the animation, and students were required to work in pairs to reconstruct the entire story, including an ending. Finally, in the jigsaw task, students were given four pictures and asked to work in pairs to arrange the pictures and create a narrative. The pictures depicted a countryman who went to the war front. They first described the pictures, shared their opinions about the storyline, agreed upon the best idea, and finally wrote a paragraph about it.

Peer-modelling video

To demonstrate how to carry out a task and collaborate effectively, a video clip (approximately 8 minutes in length) was created. The models were two EFL female students who were similar to the target participants in terms of age and language proficiency. Prior to recording the video, the models were informed about the procedure to ensure that the peer-modelling video: a) provided instances of correctly resolved grammatical, lexical, and mechanical LREs, and b) exhibited collaborative pair dynamics in which pair members were fully attentive, shared their opinions, provided feedback, justified their reasons, and asked questions where necessary. The models completed the first task similarly to the participants. They rehearsed the task twice and received feedback from one of the researchers before the main recording to improve the quality of their interaction and to make sure that the collaborative features are incorporated in their main performance. Subsequently, in the second session, the video extract of the writing stage of the models' performance was shown to the participants. The reasons for providing peer modelling as a between-task-cycle in session two align with Thornbury's (2005) assertion that to improve a skill, it may be more beneficial for learners to

first 'have a go' and then observe the models performing the same task. An extract from the peer models' performance is provided below to showcase instances of correctly resolved LREs as well as collaborative pair dynamics.

Figure 1

Pictures from the Peer Modelling Main Performance

Picture A

Picture B

Picture C

In Figure 1, three pictures that were extracted from the main peer modelling performances are presented. As shown in Picture A, both peers are fully attentive to the task at hand. One of the pair members takes the responsibility for writing, while the other follows along and provides help where necessary. In Picture B, one of them raises a question, and the other listens carefully to determine how they can best solve the linguistic issue. In Picture C, they are providing and explaining their reasons about which items they consider necessary to include in their travel advertisement to make it more attractive, as shown by their body gesture and hand movements.

Extract 1: *Extract from peer-modelling video*

01	L1	I think… we'd better use a question which is more erm …[tempting =
02	L2	=[tempting]yeah, how about this? Do you ever think about traveling to Edinburgh?
03	L1→	it is better to use have you ever … that's the present perfect tense
04	L2	ok have you ever
05	L1→	have… you… ever…*(reading while jotting down)* what's the past participle of think?
06	L2	thought=
07	L1→	=oh yes. Thought. Can you spell it, please?
08	L2	T-H-O-U-G-H-T.
09	L1	okay… have you ever thought about your travel destination?
10	L2	how about adding another question?
11	L1	yes I think it would sound more natural. Any opinion?
12	L2	erm…do you like to travel with train? Because the transportation system was train for Edinburgh
13	L1→	yeah I know but the correct preposition is by

14 L2 by?
15 L1→ yes by train. With train is wrong. We use by for transportation.

As illustrated in Extract 1, the peer modelling segment included different types of LREs (turns 03, 06, 08, 13, 15). The models are also completely attentive to each other's contributions, demonstrating collaborative pair dynamics.

Procedure

The present study aimed to investigate the impact of peer-modelling on the occurrence and resolution of LREs and pair dynamics. The dependent variables included the number and resolution of LREs, as well as patterns of pair interaction. The independent variable was the video extract of the peer modelling. The general aim of the study was explained to the participants at the very beginning of the session. They were assured that the data would be used solely for research purposes, and they were assured about the anonymity and confidentiality of their data to obtain their consent. All participants took OPT in the same session and were randomly paired into Intermediate-Intermediate dyads based on the test results. To minimize confounding effects stemming from task duration, each pair was allowed a maximum 30 minutes to complete the assigned task. To preclude interlocutor effects, the pairings remained constant throughout the study. In each session, they sat face-to-face while recording their voices using mobile devices.

The main phase of the study was completed over three sessions spanning a three-week period (see Table 1 for research design and procedure). During the first session, prior to the peer modelling, the students were informed about the task purpose and task outcomes, but they did not receive explicit instructions on how to perform the task. Subsequently, each pair completed an information-gap task focused on different travel destinations and created a trip advertisement with their peer. In the second session (i.e., modelling session), participants viewed the peer modelling video extract in class. This video was designed to demonstrate different instances of LREs, their correct resolution, and collaborative pair dynamics. As noted earlier, the models were two EFL students who performed a collaborative task identical to that of the target learners, providing different types of LREs and their resolution, as well as demonstrating collaborative patterns of interaction (refer to Extract 1). Immediately after watching the model video, they also watched a short animation of Tom and Jerry (about 4 minutes) with no ending. Students then worked together to reconstruct the story and write their own ending. One week later, in session three, pairs were required to complete the jigsaw task but without the opportunity to watch the peer modelling video again. Each pair received four distinct yet related pictures and was asked to collaboratively create a story. It is worth mentioning that all three tasks were piloted with 24 L2 learners to gain an overall understanding of the task complexity, general challenges involved in task implementation, and the required time needed for task completion.

Table 1

Research Design and Procedure

Oxford Placement Test (OPT) **Consent form**
20 Intermediate-Intermediate Learners (N=10 Pairs)
Session 1 **Before Modelling** Task 1 (information-gap) Exchange information about different destinations Create and write a travel advertisement
Session 2 **After Modelling** **Watch peer-modelling video** Task 2 (Tom &Jerry animation) Watch the animation Reconstruct the story and write an ending
Session 3 **After Modelling** Task 3 (Jigsaw task) Describe the pictures Create and write a story

Coding Procedure and Analysis

a) Language-Related Episodes (LREs)

All audio recordings were carefully transcribed, coded, and analyzed primarily in terms of the number and resolution of LREs. Following the research conducted by Swain and Lapkin (1998, 2001), LREs are characterized as instances where learners reflect on their language production, evaluate their language use, or engage in self- or other-correction. Building on previous research, these episodes were further coded according to their linguistic focus and subsequently categorized into three distinct types: grammatical, lexical, and mechanical LREs.

Grammatical LREs (as illustrated in Extract 2) refer to instances where students primarily focus on grammatical issues, such as verb tense, prepositions, subject-verb agreement, and article selection. In Extract 2, grammatical LREs are indicated by arrows, highlighting a student's inquiry to her partner regarding the appropriate preposition and the past tense form of the verb 'throw'.

Extract 2: *Grammatical LREs*

161	L1	→	In the ocean or on the ocean?
162	L2		in the ocean
163	L1	→	He's on the ocean. He was in the ocean. And he saw an island
164	L2		we can add suddenly
165	L1		ok suddenly… The island… [he saw the island =
166	L2		= [he saw the island]
167	L1		the wave=
168	L2		= the wave was… was too strong =

169 L1 → = the wave throw do you know the past form of throw? Throw threw?
170 L2 threw

Lexical LREs dealt mostly with word choice and word meaning, as illustrated in Extract 3. In this segment, the student is looking for the term' shell', provides its Persian translation, and subsequently receives the English equivalent from her peer.

Extract 3: *Lexical LREs*

01 L2 turtle, turtle? Yes. He put salt I think on it.
02 L1 He was too hungry and he thought that he can eat the [turtle =
03 L2 = [turtle]
04 L1 → as he put the salt on the …we can say erm…what what do we call it? The turtle … لاک (shell in Persian)
05 L2 → erm …shell you mean
06 L1 >yes yes< turtle Shell
07 L2 → The hard shell… they have hard shells

Mechanical LREs, on the other hand, refer to instances where students discuss the spelling, pronunciation, and punctuation. In Extract 4, a student requests the spelling of the word 'successful', and her peer assists her by providing the correct form.

Extract 4: *Mechanical LREs*

62 L2 but... But he wasn't successful.
63 L1 Yes, he wasn't successful.
64 L2 → how can... How should we write successful? Say... Two C?
65 L1 → two C... E... Two S...
66 L2 two S...
67 L1 → and... F-U-L. Just this. Successful.

Additionally, LREs were coded according to whether they were correctly resolved, unresolved, or wrongly resolved, following previous studies (Swain, 1998; Leeser, 2004; Kim & McDonough, 2008, 2011; McDonough & Sunitham, 2009). Correctly resolved LREs are defined as those successfully addressed through either self- or other-correction, or by providing a correct response. In contrast, unresolved LREs refer to instances in which neither peer was able to solve the problem or answer the question. Finally, wrongly resolved LREs denote instances where an incorrect solution was offered or an incorrect answer was given.

b) Pair dynamics

The pair talk data were coded for patterns of pair interaction drawing on Storch's interactional framework (2001, 2002a, 2002b). In her study (2002b), mutuality—defined as the level of students' engagement in tasks— was identified as a key factor in determining the degree

of collaboration. Consistent with the classifications proposed by Kim and McDonough (2011), the term 'collaborative' in this study is applied to expert-novice and collaborative pairs, whereas 'non-collaborative' is used for dominant-dominant and dominant-passive pairs. The criteria for collaborative pair dynamics are as follows (based on Mercer & Littleton, 2007; Storch, 2001):

- An uninvited contribution by asking questions or providing comments (Waring, 2011) → *coded as initiative*
- Asking questions and providing comments → *coded as asking question*
- Sharing ideas and responding to questions already been raised→ *coded as sharing ideas*
- Completing peer utterances and prompting the partner's engagement → *coded as completing peer utterances*
- Building up on each other's contribution through contingent talk→ *giving linguistic direction and explanation*

Below, an extract from a prior to peer-modelling session is presented wherein the pair is busy working on the information gap task. The extract is taken from the opening talk wherein learners had to exchange information about different travel destinations explained before.

Extract 5: *pair dynamics during information-gap task (before modelling)*

08	L2	→	I think… Sydney… is a good choice… what about you?
09	L1		erm Sydney in Australia?
10	L2		>Yeah<
11	L1	→	ºSoº how can you think we can get there? With a boat? Or maybe a flight?
12	L2		umm..I think plane is a better choice
13	L1	→	so…you know how much it takes by plane? [22 hours=
14	L2		= erm…]=
15	L1		= by plane I'm not a [person=
16	L2		=[now=
17	L1		=for long] distance trip
18	L2		I don't like it actually I like shorter than trip 22 hours it's so long it's so far…
19	L1		um, I know and I'm also a little bit scared of plane let it be 22 hours
20	L2	→	okay do you have better choice? Another [country?=
21	L1	→	=I think].. but… you know the things we can do in Sydney?
22	L2		um I [think=
23	L1	→	=so let me] check it on website if you don't have any information about it we can do scuba diving, sunbathing and swimming
24	L2		swimming anyone we can go swimming
25	L1		but things related to water are my favorite but I think it's not worth it because of the long distance
26	L2		okay so let's check Edinburgh I think Edinburgh or Switzerland.
27	L1		In Scotland?=

28	L2	=Yes, Sco[tland=
29	L1	=I think] we can get there by train.
30	L2	Edinburgh has good shops, good restaurants and cafes. (2) I think it's not… so far but… train (2) I'm so so on train …plane is a better choice
31	L1	yeah it's plane but that's a long distance can we get there by plane you don't think so?
32	L2	I don't think so
33	L1	so how much does it take to train?

This extract is from the first session, prior to the peer-modelling, where two learners of similar proficiency levels engage in an information-gap task. In turn 08, Learner 2 initiates a topic proposal by expressing a preference for Sydney as a travel destination and solicits her partner's opinion, forming the first part of an adjacency pair. Without paying heed to her question regarding what she thinks about Sydney, she focuses on her own agenda, which is asking questions about the transportation system (turn, 11). In turn 13, Learner 1 produces a self-initiated repair by asking and immediately answering her own question without allowing any wait-time for Learner 2 to respond, thereby monopolizing the floor. Even when Learner 2 attempts to initiate and take a turn to engage in discussions (turns 14, 16), this is overlapped and ignored, indicating restricted participation rights. In turn 20, Learner 2 initiates a question about another travel destination. However, her question is disregarded by her peer, who overlaps and shifts the topic by introducing a new question. This interactional move disrupts the adjacency pair and signals disengagement. Later, Learner 2's attempt (turn 22) to respond to a question about activities in Sydney is interrupted, further limiting her conversational agency. According to Kachur and Prendergast (1997), interruptions can signal either mutual engagement or disengagement; here, the interruptions function as a form of shutting down. Despite exchanging task-relevant information, the pair displays non-collaborative interactional patterns, characterized by limited reciprocity and unequal participation.

Analyses of the representative extract of pair talk data from prior to the peer-modelling session revealed that, although pair members asked questions, shared opinions, or had initiatives, they completed the task reluctantly, primarily to fulfill the requirement of finishing it. This observation supports Mercer and Littleton's (2007) assertion that when teachers pair up learners for collaborative activities, the learners may prioritize the task outcome over the quality of their interaction and collaboration. The salient features of their non-collaborative dyadic interaction include a failure to engage the peer in meaningful participation, the exclusion of the other member from significant contributions, and one participant's sustained dominance over the task. To track down how the peer-modelling video contributed to pair interaction, an extract from the second session is presented alongside an additional extract from the third session, where the pair members were required to perform the jigsaw task.

Extract 6: *pair dynamics during story-reconstruction task (immediately after peer-modelling)*

39	L2 →	Oh, we can't make it past.
40	L1 →	No. I mean, stories are usually in simple past, but we are just going with simple. So I think it's better to keep it.
41	L2 →	All of a sudden…erm=
42	L1	=he finds his spots.
43	L2	What's that phrase …that is said? His eyes glance,> his eyes captured< something like that... I don't know the [exact=
44	L1 →	=an island] caught his eye.
45	L2	Okay.
46	L1	All of a sudden, an island catches *(emphasizing)* his eye. Because again, I think it is simple present.
47	L2 →	Yes. You said we are going to continue in simple present.
48	L1 →	Yeah. So all of a sudden an island catches his eyes. Okay. All of a sudden…erm an island= *(reading while jotting down)*
49	L2 →	=catches his eyes=
50	L1 →	=catches… his… eyes *(reading as she is writing)*
51	L2 →	and the waves. What is that word that the waves are pushing some kind of boats to the island? Can we say is more suitable word for it?
52	L1	(2) Why not just going with first? … it seems like the ocean grows hands.
53	L2 →	And how about we just leave the [apart and =
54	L1	=throws
55	L2	[him?=
56	L1	=Him] arouse him into the island. Yes.
57	L2	Let's just continue with Tom reaches the,
58	L1 →	I mean, it's not the exact thing. We saw =
59	L2	= the waves push him to the island.
60	L1	(2) I don't know. So how are we supposed to describe this?
61	L2 →	We can say the God listen to his>begging wishes<.
62	L1	ºYeahº
63	L2	I mean, it's a cartoon. Yeah. It's just how things happen. We can just make it simple. Go to the next level. We don't need to explain everything
64	L1	don't we? (2) Okay. Let's just go there.
65	L2 →	Or we can go like with the winds... Move... the waves of… the ocean=
66	L1 →	=Yeah. The waves of the ocean here. Can we somehow use >an admirable attitude<? For example, start a sentence with, surprisingly,… the ocean somehow grew hands… and the waves... of it erm helped him=
67	L2	= to reach the island.

Extract 6 represents the collaborative pair dynamics between two peers as they engage in story reconstruction task, demonstrating a high level of interactional alignment. Both pair members are jointly working on the reconstruction task. Their pair talk exhibits contingent talk, as defined by van Lier (1996), whereby they build upon each other's contributions and extend or simply complete each other's utterances (turns, 42, 44–47, 49, 54). This interaction reflects a mutual responsiveness, characterized by their attentiveness to one another's suggestions, particularly in the form of corrective feedback (turns, 39, 43, 46). Moreover, this discourse exemplifies the nature of 'exploratory talk' wherein the pair members engage critically yet constructively with each other's suggestions (Wegerif & Mercer, 1996). This is evident, for instance, in turns 43–44, and 51–60, where their lexical choices revealed meaning-making, as well as in turns 39–40, and 42–46, which highlight grammatical negotiations. Consequently, this pair talk demonstrates high degree of equality and mutuality, representing collaborative pair dynamics (Storch, 2002a).

Extract 7: *pair dynamics during jigsaw task (subsequent to the peer-modelling demonstration)*

59	L1	to capture the memories of that day… we say the bride and the groom=
60	L2→	=uh-hu… How do we continue this story? Do you want to still continue the story on the wedding day?=
61	L1→	=I think… we need a transition here from this to the... war we cannot just go to the war
62	L2	oh so we can say like …but they were having their happy days.. and but… but a news came out that the men have to go to w[ar =
63	L1→	=yes] so they were having their… happily ever moment *(laughter)* =
64	L2	=they were having their honeymoon… um=
65	L1→	=how do I write it?... they were having their…(2)
66	L2	the sentence you just said was okay I guess
67	L1	they were… having… their… happily… ever… after moment… till… war happened?= *(reading while writing the sentence)*
68	L2→	=till or we can say till a news [came out=
69	L1→	=THE] news of the war came out… the… news of… war… came out *(reading while writing the sentence)*
70	L2	and the man had to go to war

Extract 7 is taken from the third session, during which the pair is engaged in the jigsaw task following the peer-modelling session. Unlike the session prior to modelling, the pair members demonstrate full attentiveness and active participation in the process of co-construction. They ask questions, share opinions, and offer assistance when necessary. Learner 1 adopts her peer's suggestion but reformulates it with an alternative phrasing (turn, 63). Subsequently, in turn 64, Learner 2 offers another phrase, prompting her peer to initiate a

preference organization sequence by requesting her partner's opinion on the best phrasing (turn 65), followed by her confirmation (turn 66). This interaction illustrates a high degree of mutuality and symmetrical participation, as evidenced by their collaborative engagement and balanced control over the task. This sequential organization of turns and the use of confirmation check tokens indicate effective negotiation of meaning.

Results

To estimate the reliability of coding for LREs (both its types and resolution), two months after the prior analysis, 23% of the data were coded again by one of the researchers as an intra-rater reliability. Pearson's *r* was 0.92 for the types and 0.94 for the resolution of LREs. Moreover, the same subset of data was recoded for pair dynamics. Simple percentage agreement was 0.90 between the first and the second coding. Additionally, an independent rater also coded a subset of 10 % for the incidences of LREs; the simple percentage agreement between the two raters was 92 %.

The first and second research questions inquired whether peer modelling had any significant effect on the occurrence and resolution of LREs. Table 2 illustrates the frequency and resolution of grammatical, lexical, and mechanical LREs for each of the three tasks. Before watching the modelling video, the learners generated only 11 grammatical LREs and correctly resolved all of them. However, these intermediate-intermediate pairs generated a greater number of grammatical LREs after viewing peer modelling video; the total number of grammatical LREs was 57 and 55, respectively, for the second and the third tasks. Out of the total number of LREs in the second and third tasks, 85.9% and 92.7% were resolved correctly.

Regarding lexical LRE, as can be seen, before peer modelling, the pairs produced only 27 lexical LREs, of which 66.6% were resolved correctly. After the peer modelling session, however, the pairs generated a higher number of lexical LREs. For the second task, immediately following the viewing of the peer modelling video, the intermediate-intermediate pairs produced 96 lexical LREs and correctly resolved 78.1% of them. In the third task, the pairs generated 41 lexical LREs and 95.1% resolved correctly by the pair members.

The pairs produced the least number of mechanical LREs before peer modelling; however, following this, they generated 65 mechanical LREs, of which 96.9% were resolved correctly. In the jigsaw task, they had 35 mechanical LREs in their interaction, with all resolved correctly.

Table 2

Frequency, Types and Resolution of LREs/Before and After Peer Modelling

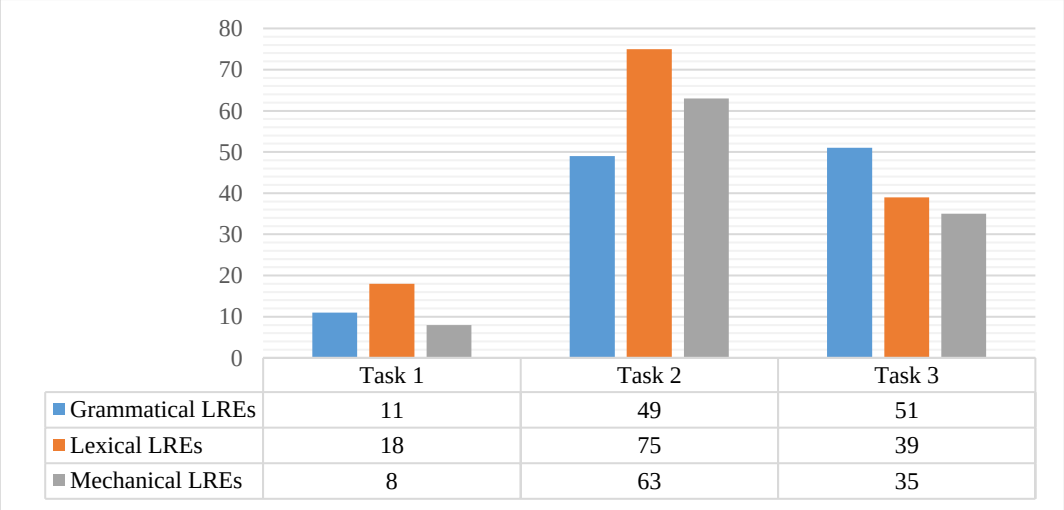
	Intermediate-Intermediate (N=10 Pairs)								
	Task 1 Information-gap			**Task 2 Story-reconstruction**			**Task 3 Jigsaw**		
	Sum	**Mean**	**SD**	**Sum**	**Mean**	**SD**	**Sum**	**Mean**	**SD**
Grammatical LREs	**11**	**1.1**	**1.85**	**57**	**5.7**	**2.79**	**55**	**5.5**	**2.27**
Correctly Resolved	11	1.1	1.85	49	4.9	2.42	51	5.1	1.96
Unresolved	0	0	0	4	0.4	0.96	2	0.2	0.42
Wrongly Resolved	0	0	0	4	0.4	0.96	2	0.2	0.63

	Intermediate-Intermediate (N=10 Pairs)								
	Task 1 Information-gap			Task 2 Story-reconstruction			Task 3 Jigsaw		
	Sum	Mean	SD	Sum	Mean	SD	Sum	Mean	SD
Lexical LREs	**27**	**2.7**	**2.45**	**96**	**9.6**	**1.58**	**41**	**4.1**	**2.51**
Correctly Resolved	18	1.8	1.81	75	7.5	1.58	39	3.9	2.37
Unresolved	7	0.7	1.25	17	1.7	1.63	2	0.2	0.42
Wrongly Resolved	2	0.2	0.42	4	0.4	0.69	0	0	0
Mechanical LREs	**9**	**0.9**	**1.44**	**65**	**6.5**	**3.53**	**35**	**3.5**	**2.32**
Correctly Resolved	8	0.8	1.22	63	6.3	3.56	35	3.5	2.32
Unresolved	0	0	0	1	0.1	0.31	0	0	0
Wrongly Resolved	1	0.1	0.31	1	0.1	0.31	0	0	0
Total LREs	**47**	**4.7**	**5.14**	**218**	**21.8**	**4.93**	**131**	**13.1**	**5.15**

Figure 2 illustrates the total number of correctly resolved LREs across three tasks. As can be seen, the pairs correctly resolved a greater number of LREs subsequent to peer modelling, though they showed slightly greater improvements in performing Task 2.

Figure 2

The Total Number of Correctly Resolved LREs in Pair Talk Data



To investigate the effect of peer modelling demonstration on the total frequency of LREs, we initially applied Poisson Regression, commonly used for count data. However, it exhibited overdispersion (the residual deviance/df ratio= 3.089), violating the Poisson Model's key assumption of equal mean and variance. To address this, we employed Negative Binomial Regression, which is more appropriate for overdispersed count data (see Table 3). Following the Negative Binomial Regression analysis, we evaluated the goodness-of-fit of the model. The deviance/df ratio was .538, and the Pearson Chi-square/df ratio was .397, relatively close to 1, indicating adequate fit. The Omnibus test for the model was statistically significant ($\chi^2 = 9.914$, $df = 2$, $p = .007$), indicating that, overall, the predictors explain a significant proportion of variance in LREs frequency. Specifically, the analysis revealed that from Task 1 to Task 2, the

frequency of LREs increased significantly (Exp (B) = 4.681, *p*=.001), representing a 368.1% increase. Similarly, from Task 1 to Task 3, there was a significant increase (Exp (B) = 2.787, p= .032), equivalent to a 178.7% increase. Since a higher frequency of LREs is generally regarded as greater learner engagement with language processing, these results suggest that peer modelling effectively promotes the generation of LREs among pairs.

Table 3

Negative Binomial Regression Results for Total Number of LREs

Parameter Estimates										
Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			95% Wald Confidence Interval for Exp(B)		
			Lower	Upper	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Intercept	1.548	.3482	.865	2.230	19.748	1	.000	4.700	2.375	9.301
Task 2	1.543	.4752	.612	2.475	10.550	1	.001	4.681	1.844	11.880
Task 3	1.025	.4784	.087	1.963	4.590	1	.032	2.787	1.091	7.119
Task 1	0a							1		

Note: N = 10 pairs. Model fit statistics: AIC = 213.408, BIC = 217.611.

Following the significant positive effect of peer modelling on the number of LREs in the Negative Binomial Regression, pairwise comparisons were also conducted. It was revealed that the pairs produced a greater number of LREs in Task 2 (*Mean Difference*= −17.100, SE= 7.29, *p* =.018) compared to Task 1. The pairs also generated a higher number of LREs in Task 3 (*Mean Difference*= −8.400, SE= 4.59, *p* =.068) compared to Task 1, though not statiscally significant. Although the pairs performed significantly better subsequent to peer modelling, trends of the data indicated that the pairs produced a larger number of LREs in Task 2 than in Task 3.

The third research question examined whether peer modelling could encourage collaborative pair dynamics. As illustrated in Table 4, subsequent to peer modelling, the pairs developed more collaborative patterns of interaction compared to before peer modelling.

Table 4

Pair Dynamics across Three Tasks

	Intermediate-Intermediate	
	Collaborative	Non-collaborative
Task 1 (Before Modelling)	3	7
Task 2 (After Modelling)	10	0
Task 3 (After Modelling)	8	2

Before watching the peer modelling video, only three out of the ten pairs demonstrated collaborative pair dynamics. However, subsequent to peer modelling, all pairs in the second

and eight dyads in the third task exhibited collaborative patterns of interaction. To determine whether the number of collaborative pair dynamics differed significantly after the modelling session, McNemar's test was performed. The analysis revealed a statistically significant change in patterns of pair interaction between Task 1 and Task 2 (p =.016). A trend toward a similar change was observed between Task 1 and Task 3 (p = .063), although this difference did not reach statistical significance. These results indicate that peer modelling can be considered as a useful technique to promote collaborative pair dynamics within pairs, as there were more collaborative pair dynamics subsequent to the peer modelling demonstration. Frequency counts of the collaborative features are also presented in Table 5.

Table 5

Instances of Collaborative Features Prior and Subsequent to Peer Modelling

	Initiative	Sharing ideas	Asking question	Completing peer utterance	Giving linguistic directions or explanations
Task 1(Before Modelling)	**27**	**236**	**169**	**71**	**47**
Task 2 (After Modelling)	**37**	**441**	**171**	**81**	**218**
Task 3 (After Modelling)	**28**	**271**	**108**	**75**	**131**

As illustrated in Table 5, the peer modelling demonstration qualitatively expanded the patterns of pair interaction, as evidenced by increased instances of initiating, sharing ideas, asking questions, and providing linguistic feedback after peer modelling. In sum, the frequency of collaborative features indicates that peer modelling encouraged more collaborative pair dynamics among pair members.

Discussion

This study aimed to examine whether teaching learners how to effectively collaborate through peer modelling demonstration had any significant effect on the frequency, types, and resolution of LREs and pair dynamics during collaborative writing tasks. Overall, the findings of the present study revealed that introducing collaborative features through peer modelling significantly enhanced the frequency and correct resolution of LREs and encouraged collaborative pair dynamics. Concerning the frequency of LREs, the statistical analyses revealed that the intermediate-intermediate pairs produced a significantly greater number of LREs and more correctly resolved them after watching the peer modelling video, aligning with the findings of Kim and McDonough (2011). Regarding the type of LREs, the pairs *relatively* generated a greater proportion of lexical LREs across the tasks. Given that they were at an intermediate level of proficiency, they were less concerned about grammatical accuracy; as a result, more lexical LREs were produced during task performance, which is consistent with Li and Liu's (2022) study. Additionally, the findings revealed that the pairs demonstrated significantly more collaborative pair dynamics subsequent to the peer modelling video. The pair performances in the first session confirm the findings of previous research that not all

learners inherently collaborate effectively when paired up. Contrary to Chen (2018), who posits that pairs naturally move toward collaborative pair dynamics without any pedagogical support, and Storch (2002a), who emphasized that patterns of pair interaction tend to remain stable across tasks, our data indicated that the pairs' participatory patterns shifted toward more collaborative ones *only* after implicitly integrating the collaborative features in the peer modelling demonstration. Consistent with previous studies, this research supports the view that collaborative patterns of interaction foster rich language learning opportunities, as learners were more attentive to each other's contributions, posed more questions, shared opinions, offered linguistic assistance through LREs, and justified their reasons. Moreover, aligning with Yule and Macdonald's (1990) and Chen's (2016) arguments, the analysis of the present study underscores the critical role of active listening and emphasizes the mutual benefits arising from collaborative patterns of interaction.

Unlike earlier studies wherein the models were mostly teachers or researchers and used modelling as a planning technique (Kim, 2013; Kim & McDonough, 2011), this study employed two students as models. According to Schunk (1978), peer modelling is primarily based on the perceived similarities between the model and the observer. It functions as a means for social comparison, allowing individuals to evaluate themselves in relation to others. When observers recognize significant similarities, peer models can profoundly affect their understanding of personal competencies and the appropriateness of their behaviors. Consequently, this might have led the participants in this study to believe that if models who were similar to them (in terms of age and language proficiency) performed the task effectively, they were capable of doing so as well. The implementation of peer modelling demonstration led to an increase in the pairs' production and correct resolution of LREs and fostered a more collaborative participatory pattern; however, the trends in the data indicated better performance in Task 2, immediately after watching the modelling video, compared to Task 3, suggesting that the effects of peer modelling may diminish over time.

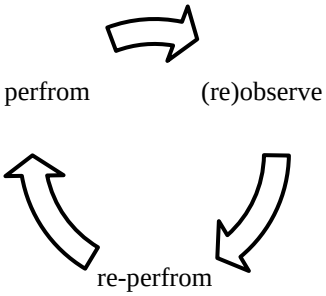
This observed decline, however, can be attributed to three factors. First, because there were more collaborative pair dynamics in Task 2, more LREs were generated compared to Task 3. Previous research has shown that when learners are engaged in collaborative pair dynamics, a higher number of LREs are generated (e.g., Chen, 2018; Fernandez Dobao, 2012; Philp et al., 2010; Watanabe & Swain, 2007). They reiterated that learners can benefit from peer interaction *if* they engage in collaborative pair dynamics, irrespective of their proficiency pairings (Li & Liu, 2022; Watanabe & Swain, 2007). This phenomenon also proves that social interactions, such as conversations and pair work activities, are "locally managed". These social interactions are constructed and organized in real-time by the participants themselves, rather than being dictated by pre-set rules or structures, which emphasizes the emergent, contingent, and situated nature of the interaction (Firth & Wagner, 1977; Walsh, 2011). As was noted, "social contexts are not static but are constantly being formed by the participants through their use of language and the ways in which turntaking, openings and closures, sequencing of acts, and so on are

locally managed" (Walsh, 2011, p.84). Therefore, depending on the previous turns, actions and behaviors of others, and participants' identities, the interaction shapes and unfolds. Under this view, learning is a dynamic process that unfolds as individuals engage in moment-by-moment co-construction of meanings (Walsh, 2011). Second, this reduction might also be attributed to the nature of the tasks. While limited research has directly compared the effect of story-reconstruction and jigsaw tasks on LREs, the existing literature has shown that task type can affect the generation and resolution of LREs (e.g., de la Colina & García Mayo 2007; Nassaji & Tian, 2010; Zabihi, 2022). The findings of this research are consistent with the findings of de la Colina and García Mayo's study (2007), which revealed that the text reconstruction task led to the generation of more LREs compared to the other two types (dictogloss and jigsaw task). The story-reconstruction task based on the animated story prompted learners to engage in more content negotiation, leading to increased LREs production. Writing an ending for the story required the learners to ask more questions and seek clarifications, creating more opportunities for LREs production and resolution compared to the limited nature of the jigsaw task (creating stories based on four pictures).

Another potential possibility may be associated with the learners' tendency to backslide to their previous conditions that they were once more accustomed to, aligning with the findings of the earlier studies (Rostami Darounkola, Yaqubi & Khonamri, 2022; 2024). This observed decline could be attributable to the factor Bandura (1977) mentioned for the failure of the effects of modelling, namely the students' failure to adequately retain the newly acquired skills (in this case, the collaborative features incorporated in the peer modelling video). While interactional data suggest potential fading of modelling effects, this claim requires further investigation through learner perception data. When students are not able to actively retrieve and reinforce the traces of peer modelling demonstration, the collaborative features are more likely to be less accessible over time, leading to a decline in performance. This confirms Thornbury's (2005) suggestion, which asserted that to perform a task, learners are required to initially perform, observe, and re-perform; however, the findings of this study recommend that learners engage in periodic re-observation of the model performance to avoid such backsliding and to make the modelling effects more durable. In other words, consistent with previous research (Rostami Darounkola, Yaqubi, & Khonamri, 2022; 2024), it is highly recommended that learners engage in a cyclical process of performing, observing, re-performing, and *re-observing* alternatively in subsequent sessions (see Figure 2).

Figure 2

Recommended Cycle for the Provision of Peer Modelling Demonstration



This study, consistent with the findings of Chen and Hapgood's (2019) research, sheds light on our current understanding of pair work interaction, demonstrating that the use of collaborative writing tasks does not automatically lead to the application of a truly collaborative approach on the part of learners. The findings revealed that peer modelling demonstration can raise learners' awareness about the collaborative features and the discourse options of pair interaction, which may well reduce the likelihood of learners' dominance in the interaction. Kramsch (1985) suggested that to facilitate the establishment of a true collaboration, "[S]peakers must learn to listen to the utterance of a previous speaker across its delivery, process it as it is spoken, interpret it, create and formulate a reply as they listen, find a natural completion point in their interlocutor's discourse and take the floor at the appropriate moment" (p. 177). The transcription analyses of the pair talk data subsequent to peer modelling revealed that pairs resembled the same collaborative features mentioned by Kramsch (1985).

The findings have several important pedagogical implications for how to use pair work tasks in language learning classes. First, as learners' prior experience and pre-existing beliefs can influence their engagement and learning outcomes within the classroom environment (Borg, 2003), it is necessary for ELT teachers to expand learners' knowledge of collaborative features required for effective pair work interaction through peer modelling. Second, although peer modelling has positively affected learners' performances, our findings demonstrated a decline in the efficacy of modelling over time. For that reason, besides the periodic re-observation of modelling suggested earlier, teachers are recommended to explicitly introduce the collaborative features to learners in order to avoid multiple interpretations. Students can also discuss the important features incorporated in the peer modelling before initiating the task, resulting in more understanding of the task expectations and merits of collaborative interaction. Teachers can also invite students to share their group experience and the way modelling assisted them in enhancing their subsequent task performance.

Despite the significant insights and implications of the study, the results are suggestive rather than definitive. The current study focused solely on a specific EFL context in Iran and did not consider the contextual factors that might influence learners' engagement, which makes

the findings not generalizable to broader contexts. Future studies could continue this line of inquiry by including other instructional contexts, various cultural settings, a larger sample size, more rigorous experimental designs, and different proficiency pairings. While audio-recording, classroom observation, and students' completed task outcomes enabled us to track learners' performances, empirical studies might be needed to investigate learners' perceptions about the effectiveness of peer modelling and its impact on their performance. Future studies can employ quantitative and qualitative analysis to have a more in-depth understanding of the factors that shape the nature of pair work interaction (e.g., attitudes, motivation, self-selection of peers, personality traits, etc.), resulting in having triangulated data that guide teachers in implementing and designing pair work tasks. This study contributes to the existing literature on pair work activities by introducing educators to a pedagogical technique to use in their language learning classes to enhance the effectiveness of pair work interaction, identifying a previously overlooked factor. In sum, the findings support peer modelling as an effective pedagogical technique that not only encourages the occurrence and correct resolution of LREs but also promotes collaborative pair dynamics, which has been claimed to be more conducive to language learning (Storch, 2001, 2002a).

Conclusion

The findings of the study revealed that peer modelling positively affected pairs' production and resolution of LREs and encouraged more collaborative pair dynamics. Despite the benefits of pair work interaction in class, many teachers still show a degree of resistance to allowing students to engage in pair work activities. This hesitation is largely rooted in the anticipated chaos and disputes that could emerge during collaborative work, as well as the tendency for the students to use L1 instead of the target language when they share the same language background (Kramsch, 1985). Consistent with previous research (Kramsch, 1985), the current study highlighted the point that discourse options and collaborative features must be taught or demonstrated to learners, especially in EFL contexts. Incorporating peer modelling can raise learners' awareness of collaborative pair dynamics, thereby enhancing true collaboration where both parties contribute meaningfully to tasks. Pedagogically, in EFL contexts like that in Iran, teachers should encourage active engagement and provide clear guidance on how to engage in collaborative tasks to maximize language learning opportunities. By scaffolding collaborative tasks and integrating collaborative ground rules—such as seeking agreement, asking questions, justifying opinions, and ensuring equal participation— into the peer modelling demonstration, teachers can enhance the productivity and quality of pair work interaction among peers. In conclusion, peer modelling demonstration is supported as a useful instructional technique that assists learners in developing collaborative pair dynamics and encourages more linguistic discussions among pair members, ultimately contributing to improved language development.

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