

Assessing the Learning Potential of Second Language Student Interaction in Collaborative Writing

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Abstract—This study examines peer interaction in collaborative writing in second language (L2) learning and assesses how interaction may allow students to learn about correct language use from each other as they write. A small number of studies have found more pronounced improvement in individual writing after students had completed collaborative writing with their peers over a period of time than after learners had completed writing independently under the same conditions. However, research has not examined how peer interaction could provide L2 students with opportunities to learn from their peers. To address this, the present study looked at learner interaction in collaborative writing to identify discussions that could potentially allow students to learn about how language is used in writing, such as those involving learners asking and answering questions and those in which they give corrective feedback to their peers; also assessing the correctness of the information that peers provide to L2 students. The results revealed that students were frequently involved in discussions that could promote individual learning and that the information that learners provided was almost always correct. These results suggest that collaborative writing may be an activity that can help students to learn about correct language use.

Index Terms—peer interaction, interactive feedback, collaborative writing, L2, student-centred learning

I. INTRODUCTION

In second language (L2) learning, peer interaction in collaborative writing has generally been viewed as a process that allows learners to resolve language issues in their writing, but this interaction could also allow students to learn about correct language use, which in turn may lead to the improvement of their own individual writing. Previous studies of collaborative writing in L2 have primarily been driven by a socio-cultural approach to learning. This approach has focused on how students can pool their linguistic resources to correctly express ideas in their co-authored text (Swain, 2000). Driven by this perspective, studies conducted by Storch and Wigglesworth (2007), Wigglesworth and Storch (2009), Fernández-Dobao (2012), McDonough et al. (2018) and Villarreal and Gil-Sarratea (2019) have examined how writing produced by two or more learners differs from writing produced by individuals.

However, seen from the socio-cognitive / interactionist perspective that is adopted in this study, peer interaction in collaborative writing can also be viewed as an opportunity for students to learn about language use from each other. From this theoretical perspective, learning is seen as an individual, cognitive process that is facilitated by interaction with others (Philp et al., 2014). Therefore, we can look at how peer interaction creates opportunities for L2 students to learn about correct language use, and at how each learner's own individual writing may change as a result. Up until now, only a small number of studies have looked at how individual writing changed after L2 learners had completed collaborative or independent writing. These found that there was more pronounced improvement in individual writing after collaborative writing had been completed (see Bikowski & Vithanage, 2016; Davison, 2024; Hsu & Lo, 2018; Khatib & Meihami, 2015; Shehadeh, 2011). Collectively, the findings of these studies seem to indicate that L2 students can possibly learn from their peers, but these studies did not examine how peer interaction could have allowed them to learn. Therefore, it is necessary to examine how peer interaction in collaborative writing can facilitate individual learning and to determine whether students can learn about correct language use from writing collaboratively with their peers. These questions will be explored in the present study.

II. LITERATURE REVIEW

While more extensive research is needed, there are indications that peer interaction in collaborative writing could facilitate individual learning and that it may provide L2 students with increased opportunities to learn about correct language use. While writing collaboratively, learners interact continuously and work together; contributing to the planning, generation of ideas, deliberations about the text structure, and are involved in the editing and revision of the co-authored text (Storch, 2013). This may be completed face-to-face, or online. The present investigation focuses on collaborative writing completed in a physical learning environment and on face-to-face interaction. Collaborative writing is a process that involves two (or more) learners who decide upon the ideas that should be included in the co-written text, how language should be used to convey these ideas in writing, and on how they should be organized and arranged in their work. This type of writing is typified by students proposing and counter-proposing ideas to be included in the co-written text and suggesting and/or deliberating about how language should be used to communicate these ideas. Davison (2021) has noted that through the contributions of learners involved in collaborative writing, they are able to come up with the correct way to convey their intended ideas. This process is indicative of the socio-cultural perspective of learning, and of students working together to correctly express their ideas in text. However, in previous studies, there are also a small number of examples of learners asking their peers questions about language use while deliberating about how to express ideas in their writing. This could allow L2 students to learn about language use. One example from a study carried out by Villarreal and Gil-Sarratea (2019, p. 17) is shown below.

EG1: In the one hand
 EG2: On the one hand
 EG1: On?
 EG2: Yeah
 EG1: Or in?
 EG2: On ... on the one hand ...

Examples from other studies reveal that L2 student questions are not only restricted to queries about language use. There are also examples of learners asking questions about cohesion and the use of cohesive devices while writing collaboratively (see Davison & Hasaneen, 2024) and examples of learners asking their peers questions about spelling; as illustrated in the example from the study completed by Mayo and Zeitler (2017, p. 77) below.

1G2S2: Skiing
 2G2S1: Skiing.
 3G2S2: With two I?
 4G2S3: Yes with two I.

When students discuss the language that should be used to convey ideas in their co-authored text, they also may have the chance to learn about correct language use. From a socio-cognitive/interactionist perspective, learning is seen as an individual process that is facilitated by interaction with others (Philp et al., 2014). A peer may be viewed as an additional source of information and may have knowledge about language use that learners do not have. As a result, asking peers questions during collaborative writing may potentially allow L2 students to increase their own knowledge of language use. To illustrate, in the example above from the study completed by Villarreal and Gil-Sarratea (2019), EG1 learns that “in the one hand” is incorrect and that “on the one hand” should be used instead. Similarly, a small number of examples of language related episodes in previous studies reveal that students provide corrective feedback to their peers on incorrect language use when they make a proposal for the co-authored text. This potentially presents students with an opportunity to reconsider their own language use. This can be seen in the example below from the study completed by Storch and Wigglesworth (2007, p. 162).

Dan: As seen on the graph.
 Sam: Has the most average, most average.
 Dan: You mean the highest.
 Sam: Yes the highest average. The highest average rainfall during the . . .
 throughout the year.

When L2 students make a proposal for the co-authored text and receive corrective feedback from their peers, this pushes them to correct the language used in their proposal and means that the proposed idea can be included or incorporated into the co-written text. However, this feedback can also draw the students' attention to their own errors. When making a proposal, a learner may be unaware that language has been used incorrectly, but corrective feedback draws the L2 student's attention to this and thus, from a socio-cognitive/interactionist perspective, provides this person with a chance to learn about language use. Additionally, interactive feedback is immediate and is provided as writing is being completed (Storch, 2019). The real-time nature of this feedback means that a learner has the opportunity to modify the language used in a new, updated proposal and can receive further feedback which may confirm that this new language attempt was successful (Davison, 2021). Potentially, it also means that the feedback that learners receive while writing is multiplied. Students commonly receive written corrective feedback on their writing from their instructors (Hyland & Hyland, 2006; Cui et al., 2022). In addition to this, when students complete collaborative writing, they can also receive interactive corrective feedback from their peers. One advantage of this type of feedback is that it is suited to the learners' level of understanding which Polio (2012) suggests is one of the key characteristics of effective feedback. However,

without further investigation, we cannot be sure that the frequency of exchanges that involve students asking questions or receiving corrective feedback would have a meaningful impact on their learning. Additionally, we also cannot be sure that learners would answer their partners' questions correctly or give correct feedback to their peers. Vuogan and Li (2022) stress that there are questions about the correctness of the information that L2 students can provide to their peers. For example, Adams et al. (2011) and Cheng et al. (2023) suggest that L2 students can mis-correct their peers and Chen and Yu (2019) revealed that learners can answer peer questions incorrectly.

While further investigation is needed, there are indications that collaborative writing creates opportunities to learn about language use that are not presented by independent writing. When L2 students write collaboratively, deliberation is external and explicit as each learner's thoughts about how ideas should be organized or about how language should be used in the co-authored text are brought out into the open to be reviewed, explained, or discussed (Storch, 2019). This leads to notable differences between collaborative and independent writing. One of these differences is that when students write collaboratively, they have the chance to discuss the language that they will use in their co-authored text. Learners engage in discussions referred to as language related episodes or LREs (Swain & Lapkin, 1998). A number of scholars have found that learners engage in LREs relating to the use of grammar, lexis, and mechanics of writing (Fernández-Dobao, 2012; Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009). Others such as Davison and Hasaneen (2024) also found that L2 students engaged in LREs concerning organisation and the cohesion of text although they primarily deliberated about language use.

Learners engage in these discussions primarily to ensure that language is used correctly in the ideas that they wish to express, but these discussions may also create opportunities for students to learn about language use. Herder et al. (2020) suggest that collaborative writing allows L2 learners to share knowledge with their fellow students and Davison (2021) noted that students share knowledge about language use while engaged in LREs. Another difference is that L2 students can notice how language is used by their partners as collaborative writing is being completed. For example, when peers make proposals for the co-authored text, students receive additional language input that independent writers do not receive, and this increases the opportunities for them to notice how language is used (Schmidt, 1990). Peer language input also provides L2 students with examples of language use which learners can compare to their own use of language. This means that they can also notice how peer language use differs from their own (Davison, 2021). Additionally, Storch (2005) points out that L2 students can notice how their peers use new words and expressions when they make proposals for the co-written text and then can incorporate these into their own language repertoire. The final major difference between collaborative and independent writing concerns how learners deliberate about language use. In collaborative writing, deliberation is brought out into the open. The proposals that learners make for the co-written text and the language used to express these ideas are constantly reviewed and discussed by those involved (Storch, 2019). In this open forum, each learner's ideas about language use can possibly be questioned or challenged by a peer if language use is incorrect. This process may prompt learners to re-evaluate and possibly to modify their own language use. This is illustrated in the following example from Davison (2021, p. 50).

- S1 *What did you write?*
 S2 They don't move a lot to burn the fats and calories
 S1 Fat without s
 S2 *Correct*
 S1 They don't move a lot...
 S2 To burn the fat and calories...
 S1 *That's it...*

An important question to ask is: if the student in the previous example was writing independently (S2), what would draw this student's attention to incorrect language use and prompt them to re-evaluate language? Clearly, learners do deliberate about language use while writing independently because they can think about, and thus reconsider, the language that they will use (De Guerrero, 2018). However, this internal process is bound by the individual student's linguistic knowledge and understanding of how language is used (Storch, 2013); limiting the learner's ability to re-evaluate and reconsider language use. Chen and Lee (2022) stress that learners may even disagree about language use when collaborative writing is completed, but this demonstrates that each learner's preconceived ideas about how language should be used in text can be challenged or questioned by a peer; providing each student with the chance to reconsider and possibly learn about correct language use.

However, while these opportunities are not presented to L2 students who complete writing independently, they are still contingent upon the students' knowledge of language. Accordingly, it is important to determine whether learners can answer peer questions about language use correctly and to determine if they can provide accurate feedback to their peers. Also, to date, it is still unclear how frequently students are involved in exchanges that allow them to learn about how language is used. To address these questions, the present study examined collaborative writing dialogue to identify student deliberation that could potentially facilitate individual learning, such as episodes in which learners ask their peers questions about language use, and those in which students give corrective feedback to their peers. It also assessed whether the information that peers provided was correct.

Accordingly, the present study addressed the following research questions:

1. Do peers engage in LREs that involve learners providing corrective feedback and answering peer questions?

2. Do they engage in these types of LREs less frequently than in LREs that involve other types of interaction?
3. Do students share correct information with their peers?

III. METHOD

A. Design

This classroom-based study involved 64 students who completed an academic writing course in a university in the UAE. In this program, pairs of students from four intact class groups completed various writing activities together over a period of eight weeks. The dialogue of students who completed collaborative writing was recorded and then transcribed. This was then analysed to identify learner discussions about language use and about other facets of writing, referred to as language related episodes or LREs. These LREs were subsequently reviewed to determine the ratio of episodes that involved learners providing corrective feedback and answering peer questions, or those that involved other types of interaction. The exchanges that involved students asking questions and providing corrective feedback were subsequently assessed to determine the ratio of discussions in which learners provided correct information to their peers.

B. Participants and Setting

The participants were university students who completed the same academic writing course. They were all between 18-21 years old, Arabic first language speakers and had an intermediate level of English (IELTS 6.0 – 6.5). Approximately 16 learners from each of the four intact class groups gave consent for their data to be used in this study, and there were between 20 to 22 students in each class. No changes were made to the way the academic writing course was normally taught to accommodate this study. Students received the same instruction and carried out the same series of writing activities as their peers who had previously completed this writing course (see Table 1 below). Learners completed two classes per week. Each 1-hour and 20-minute class was composed of a 20-minute instruction phase, a 50-minute writing phase and a final 10-minute review phase. During the writing phase, pairs of learners worked collaboratively to produce a co-authored essay in each class. All writing was completed on paper and learners did not use their computer, mobile phones or the internet to do this. Over a period of eight weeks, pairs of students from four intact class groups completed various writing activities together. (see Table 1). When the writing was completed, this would be submitted to the instructor and learners would each receive a copy of their writing with written feedback in the following class.

TABLE 1
TIMETABLE OF WRITING ACTIVITIES

Writing task	Week	# of classes
Descriptive/expository	2-3	4 classes
Cause and effect	4-6	6 classes
Compare and contrast	6-8	6 classes

C. Recording and Transcription of Collaborative Writing Dialogue

Collaborative writing was completed by pairs of students who were seated together at the same desk. The desks were arranged in a horseshoe formation and the instructor's desk was situated at the front of the class close to where the learners were seated. To record the dialogue of learners who completed collaborative writing, a small audio recorder was placed on the table of each pair of students. Due to the norms of the host country, video recording was not allowed, so audio recording was used. The unintrusive nature of the small audio recorder also meant that learners did not pay attention to the recording device as they discussed their writing. During collaborative writing, the instructor did not intervene in any way but was able to observe student interaction and note when learners had completed the writing tasks. Due to the time and labour involved, 25% of the recordings were randomly selected to be transcribed and then analysed (n=94).

D. Assessment

The examples of collaborative writing dialogue (n=94) were then assessed by two different examiners. Before assessment was carried out, both assessors completed training to ensure that they were assessing the samples in the same way. The same training procedure was used for the three different types of assessment shown in table 2 below. For training, a small sample of scripts were reviewed by both examiners. Using an assessment guide, they would assess each example together. When both assessors were confident that they were interpreting the measures in the same way, an identical set of scripts was given to each examiner to be assessed. Once completed, the assessment of both raters was compared to determine the consistency between the rating of both examiners. This was deemed to be acceptable (Polio & Friedman, 2016). When this was completed, the scripts that had been assessed differently by both raters (for each measure used) were reviewed and discussed by both examiners until they agreed on the final assessment of these (see Johnson et al., 2005). Thus, there was 100% agreement between both raters on the final assessment of the scripts for all measures.

E. Measures

Table 2 illustrates the measures that were used in the present study. The identification of LREs was used solely to identify student discussions about language use and about other facets of writing. The results of this identification were not analysed but were needed to subsequently identify the type of peer interaction that took place in each of the LREs.

This study identified LREs concerning language use (relating to grammar and lexis) and mechanics of writing, which were identified in previous studies completed by Storch and Wigglesworth (2007), Wigglesworth and Storch (2009) and Fernández-Dobao (2012). It also identified discourse related LREs associated with discussions about cohesion/organization of text (see Davison & Hasaneen, 2024).

TABLE 2
ASSESSMENT ACTIVITIES

Order	Activity
1	Identification of LREs in transcribed collaborative writing dialogue
2	Identification of exchanges involving students asking questions, providing feedback or other types of interactions in LREs
3	Identification of the number of exchanges where learners provide correct/incorrect information to their peers when answering questions or providing corrective feedback

When LREs had been identified, the number of episodes that involved students asking and answering questions or providing corrective feedback to their peers was determined. To simplify assessment, interaction that did not involve students asking questions or providing feedback was classified as other types of interaction. The reason for doing this was to facilitate the comparison of the number of LREs that involved students asking questions and providing corrective feedback to the number of those that did not. If the ratio of these was very low, then it could be assumed that these would have a minimal impact on individual learning as students would not be provided with frequent opportunities to learn about language use from working and interacting with their peers. It is also assumed that LREs classified as other types of interaction in the present study would be representative of the type of interaction noted in research previously conducted by Storch and Wigglesworth (2007), Wigglesworth and Storch (2009) and Fernández-Dobao (2012) namely, interaction that involves students pooling their linguistic resources and resolving language issues in their writing together.

Finally, the number and ratio of LREs where learners gave correct information to their peers when answering questions or providing corrective feedback was assessed. If peers answer student questions incorrectly or provide corrective feedback that is incorrect, then this clearly would not facilitate individual learning and possibly could even be detrimental. As a result, the present study not only assessed how frequently students asked questions or gave corrective feedback but also assessed whether the information that they provided was correct.

To present the results of this study, statistics associated with the number and ratio of LREs that involved students asking questions and providing corrective feedback will be presented; along with the number and ratio of these LREs where learners gave correct/incorrect information to their peers. To provide a more complete picture, it will also present examples of LREs involving students asking/answering questions, providing/receiving corrective feedback and examples of LREs involving other types of interaction.

IV. RESULTS

Overall, the results of this investigation revealed that there were a similar number of LREs that involved students answering questions and providing corrective feedback to their peers, and LREs that involved other types of interaction. Analysis of LREs involving learners answering questions and providing corrective feedback also showed that they almost always provided correct information to their peers. As a result, there were very few examples of LREs where students gave incorrect information to their partners. Examples of LREs illustrated instances of students modifying language use in their proposals as a result of the feedback received. Additionally, there were examples of learners sharing knowledge about language use, and of students noticing how language was used by their peers as they made proposals for the co-authored text. The details of these results are shown in the following sections.

A. Learner Interaction in Collaborative Writing Dialogue

As can be seen in Table 3, there was almost an equal mean number of LREs involving students answering questions and providing corrective feedback to their peers ($M=5.00$), and LREs involving other types of interaction ($M=5.02$). Thus, in a notable number of the LREs identified, students were presented with opportunities to learn from their peers.

TABLE 3
TYPE OF PEER INTERACTION IN LREs

Type of Interaction	# examples	Mean # per sample	SD
Answering peer questions	326	3.47	2.68
Providing corrective feedback	144	1.53	1.75
Answering questions + providing corrective feedback	470	5.00	3.70
Other types of interaction	472	5.02	3.33
All LREs	942	10.02	5.81

To test the difference between the mean number of LREs in which learners gave corrective feedback and answered questions and LREs that involved other types of interaction, a paired-sample t-test was completed. The difference between these means was not significant ($M=5.00$, $SD=3.70$) and ($M=5.02$, $SD=3.33$), $t(92) = 1.66$, $p = .48$. This means that there were not significantly fewer LREs in which students provided corrective feedback and answered peer questions than those that involved other types of interaction.

Qualitative analysis of LREs that involved learners asking peers questions revealed that students were presented with different opportunities to learn. While writing, peers answered questions about language and the mechanics of text as illustrated in examples 1, 2 and 3 below. This allowed learners to share knowledge with their peers. A review of the LREs in which students asked questions also revealed that these often stemmed from students noticing peer language use as proposals were made for the co-authored text. This can be seen in Example 4.

Examples of LREs involving students asking questions to their peers

Example 1 – Asking questions about grammar

- S1 Is that people who suffered...
 S2 From obesity ... have... have or has?
 S1 Have ... many health problems

Example 2 – Asking questions about spelling

- S1 Principles...
 S2 Principles... How do we do spell principles?
 S1 P R I N C I P L E S

Example 3 – Asking questions about lexis

- S1 They tend not to move a lot
 S2 They tend to get tired... let me write ... synonym of tired?
 S1 Get tired ...exhausted
 S2 They tend to get exhausted

Example 4 – Noticing followed by questions about lexis I

- S1 What...
 S2 Have a high risk
 S1 I wrote high average
 S2 Big risk ... why did you erase it
 S1 Who... are more ... what's risk?
 S2 Danger

Qualitative analysis of LREs also revealed that peers provided corrective feedback on language use when students made proposals for the co-authored text as can be seen in examples 6 and 7 below. Peer feedback often pushed learners to modify the language used in their original proposal as illustrated in Example 8.

Examples of LREs involving students providing corrective feedback to their peers

Example 6 – Corrective feedback on the use of lexis

- S2 Is a delighting... caramel
 S1 Delightful *not* delighting...

Example 7 – Corrective feedback on the use of grammar

- S2 The high amount of calories they consumes
 S1 Just like snacks calories they consume... just on snacks

Example 8 – Corrective feedback on the use of lexis with language modification

- S2 ... increasing the risk...
 S1 Increasing your heart attach
 S2 Increasing the risk of heart attack
 S1 Okay, the heart attack for it...

For the sake of simplicity, in this study, LREs involving other types of interaction were defined as those that did not feature students asking questions or providing corrective feedback to their peers while deliberating about writing. As expected, these reflected the interaction noted in previous research conducted by Storch and Wigglesworth (2007), Wigglesworth and Storch (2009) and Fernández-Dobao (2012); that is, interaction that involved students pooling their linguistic resources to express their intended ideas in text. As can be seen in Example 10, through the contributions of both learners, students were able to correctly express their ideas.

Examples of LREs involving other types of interaction

Example 10 – Other types of interaction I

- S2 Wait... there wasn't lots of... There wasn't variety of food...
 S1 Yes... there wasn't a variety of food...
 S2 Food was not available
 S1 Wait... and it was... we say it was limited

- S2 Food was available in limited quantity
 S1 Yes... limited quantity
 S2 That's the word I was looking for!

B. Providing Correct/Incorrect Information to Peers

When students provided corrective feedback and answered questions, the information that they gave to their peers was almost always correct. This is shown in Table 4. Students provided correct information to their peers in 463 of 470 LREs that involved them providing corrective feedback or answering questions; meaning that in 98.51% of these, the information that they gave was correct. This approximates the rate of accuracy that would be expected from first language speakers. In this study, students only answered peer questions incorrectly in 2 of the 326 LREs; meaning that 99.39% of the answers were correct. Learners provided incorrect feedback in 5 of the 144 LREs. Thus, 96.53% of feedback given was correct.

TABLE 4
 PEER INTERACTION IN LRES WHERE STUDENTS PROVIDED CORRECT/INCORRECT INFORMATION

Type of Interaction	# Examples	# Correct	# Incorrect
Answering peer questions	326	324	2
Providing corrective feedback	144	139	5
Providing corrective feedback + answering questions	470	463	7

As noted in Table 4, there were 2 examples of students answering questions incorrectly. Both were in the same sample of collaborative writing dialogue (collaborative dialogue 90) and the incorrect information was given by the same learner. In 5 of the 144 LREs that involved peers providing feedback to other students, they provided information that was incorrect. However, in each of the examples, the incorrect feedback was subsequently highlighted by the recipient. Thus, this feedback did not lead to incorrect language use. In some of these, the learner pointed out why the feedback given was incorrect as shown in Example 11.

Example of incorrect corrective feedback

Example 11 – One student correcting incorrect feedback

- S1 Both of the countries are similar
 S2 We write, both of countries
 S1 Both of the countries are alike

To sum up, learners frequently asked questions and provided corrective feedback to their peers while engaged in LREs in collaborative writing dialogue. The number of these were similar to the number of those that involved other types of interaction. Analysis of these LREs also revealed that students frequently gave correct information to their peers; answering questions correctly and providing feedback that was correct. A review of LREs illustrated examples of students sharing knowledge about language use, and of learners noticing how peers used language in their proposals. This review also illustrated how peer feedback can draw the learners' attention to incorrect language use and lead them to modify their own language.

V. DISCUSSION

The purpose of this investigation was to assess the learning potential of peer interaction in collaborative writing by determining how frequently learners gave corrective feedback to their peers or answered their questions about language use or about other aspects of writing. Results revealed that the frequency of these episodes is sufficient to have a meaningful impact on learning. If these exchanges were limited in collaborative writing, then L2 students would not be presented with frequent opportunities to learn about language use. However, in the mean number of 10 LREs per collaborative writing dialogue noted in the present study, approximately 5 of these involved learners asking questions or providing corrective feedback to their peers on errors in language use. This means that students frequently engaged in discussions with their peers that provided them with opportunities to learn. The results also revealed that when answering questions and providing corrective feedback, peers almost always gave correct information to learners; specifically in 98.51% of the LREs that involved this type of interaction. Scholars such as Vuogan and Li (2022), Cheng et al. (2023), Chen and Yu (2019) and Adams et al. (2011) have stressed that there are questions about the correctness of the information that L2 students can provide to their peers. However, in the present study, students only answered 2 of the 326 questions that they were asked incorrectly and only gave incorrect feedback in 5 of the 144 LREs where they provided corrective feedback to their peers. Taken together, these results suggest that peers can be a useful source of information about language use. Peer interaction also provides students with opportunities to learn about correct language use which are not presented to students who write independently.

A review of the LREs that involved learners asking questions and providing corrective feedback highlighted different opportunities for L2 students to learn. These revealed examples of learners asking their partners questions about grammar, lexis and spelling; allowing them to share knowledge with their peers (see Herder et al., 2020). Davison (2021) suggests that when students write collaboratively, they can notice how language is used by their partners and how it differs to their own use. In the present study, there were examples of learners noticing how lexis was used by their peers when making

proposals for the co-authored text and then asking them questions about this. Other examples illustrated how peer feedback on language errors led students to reconsider and modify language use. Storch (2019) points out that interactive feedback is given in real-time as writing is being completed. This means that learners can modify language use in response to this and can receive further peer feedback confirming the success of this new language attempt (Davison, 2021). Collectively, it seems that interactive processes in collaborative writing can draw L2 students' attention to errors in their own language use, providing them with opportunities to learn from their peers. Additionally, peer interaction multiplies and varies the feedback that learners receive while writing. Students receive immediate, real-time feedback from their peers in addition to the written corrective feedback that is commonly provided by their instructors after writing has been completed (Hyland & Hyland, 2006; Cui et al., 2022). Manchón (2014) stresses that different types of feedback can fulfil different functions in writing. For example, Nassaji (2015) suggests that oral feedback focuses on the accuracy of language use while written feedback may focus more on the improvement of writing skills. This potentially means that the varied modes of feedback presented by collaborative writing can help to develop different aspects of written discourse. Additionally, Polio (2012) suggests that peer feedback may be effective because it is suited to the learners' level of understanding. However, it is still necessary to determine how students engage with feedback that is provided by their peers. Thus, further investigation is needed.

The results of this study and of previous research suggest that peer interaction in collaborative writing may fulfil two different roles. Firstly, as proponents of the socio-cultural approach to second language learning suggest, it allows students to work together to resolve language issues in their writing (see McDonough et al., 2018; Storch & Wigglesworth, 2007; Villarreal & Gil-Sarratea, 2019). Driven by a socio-cognitive/interactionist perspective, the present study also suggests that students may be able to learn from completing collaborative writing with their peers. This possibility is supported by the results of studies completed by Shehadeh (2011), Khatib and Meihami (2015), Bikowski and Vithanage (2016) and Davison (2024) that highlighted more pronounced improvement in individual writing after students had completed collaborative writing than after independent writing had been carried out. From a pedagogical perspective, collaborative writing may be seen as an activity that facilitates learning about language use and may potentially allow L2 students to learn from each other as they write. The frequency of exchanges and correctness of the information that peers provided in this study seems to support this interpretation. However, more extensive research still needs to be carried out, particularly to determine whether lower-level students would also be able to answer peer questions correctly or be able to provide accurate feedback to their partners. Additionally, this study seems to suggest that there may be other possible indirect benefits of peer interaction in collaborative writing. Allowing learners to answer peer questions about language use and to provide corrective feedback to each other can foster a more student-centred approach to L2 writing as Yu et al. (2021) suggest. Moreover, completing collaborative writing may possibly reduce the reticence that learners feel when they need to provide corrective feedback to their peers (Kuyyogsuy, 2019; Fujii et al., 2016). For example, there is no clear recipient or provider of feedback in collaborative writing because both learners provide corrective feedback to each other on different aspects of language use while writing (Davison, 2021). However, it is clear that further investigation is still needed to gauge L2 student acceptance of the interactive feedback that is provided by peers during collaborative writing.

VI. CONCLUSION

The results of this study indicated that L2 students frequently asked their peers questions about language use while writing collaboratively, and that peers provided corrective feedback to learners on their errors in language use when they made proposals for the co-authored text; prompting these students to re-evaluate and modify language use. The results also revealed that learners almost always gave correct information to their partners, answering questions correctly and providing correct feedback to their peers. Together these results suggest that peers may provide L2 learners with an additional, beneficial source of information about language use. They also indicate that peer interaction in collaborative writing creates opportunities to learn that are not presented by independent writing. The results of the present study and of previous research seem to suggest that peer interaction in collaborative writing may play two different roles; allowing learners to pool their resources and work together to resolve language issues in their writing, and at the same time allowing students to learn from each other as they write.

ACKNOWLEDGEMENTS

We wish to thank the Research and Innovation department at Rabdan Academy for their support.

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