Collaborative writing in a Chinese as a foreign language classroom: Learners' perceptions and motivations

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ABSTRACT

Although collaborative writing (CW) has become a common pedagogical practice in L2 classrooms, very few studies on CW have been conducted in the context of Chinese as a foreign language (CFL). This study examined students' perceptional and motivational changes during a 10-week CW project implemented in an intermediate CFL classroom. Data were triangulated from different sources including pre- and post-surveys on students' beliefs about CW, students' self-assessment of collaborative performance, and their reflective journals. The study found that students' perceptions of peer collaboration and personal collaborative behaviors remained stable through the progress of the CW project. However, their feelings towards the CW project revealed fluctuations insofar as they initially felt very positive and motivated to participate but became demotivated as the project progressed due to various factors such as time constraints, group incongruity, and linguistic challenges. They became re-motivated through a growing awareness of satisfying collaborative outcomes and gained a strong sense of achievement. They indicated that they were more confident and prepared to participate in future CW activities. Based on the findings of this study, pedagogical implications are addressed and suggestions are offered for implementing CW in CFL writing classrooms.

1. Introduction

Collaborative writing (CW) is a type of peer work that is frequently implemented by some teachers in L2 learning settings. Over the past thirty years, as part of the shift from teacher-centered to learner-centered teaching and learning models, CW has gained more popularity as a useful pedagogical activity in L2 learning settings (Bygate et al., 2013; Ede & Lunsford, 1990; Lantolf, 2000). At the same time, the development of technology has also enabled CW to be implemented more conveniently in various educational settings (Elola & Oskoz, 2010; Li & Storch, 2017). While acknowledging CW as beneficial for L2 learners, studies of CW yield different results with regard to how learners perceive CW, how they behave during the co-writing process, and whether L2 learning happens during those interactions. In addition, reluctance by teachers to implement CW activities in classrooms has been reported, to some extent due to a lack of recognition of the potential benefits of CW for L2 learners (McDonough, 2004; Storch, 2013). There are also practical concerns about the implementation of CW in L2 classrooms such as assessment difficulties (Storch, 2013), students' inclination to use their L1 (McDonough, 2004; Riley, 2009), and unresolved or incorrectly resolved language-related issues (Kim & McDonough, 2008; Swain & Lapkin, 1998), all of which make the research of CW studies in L2 classrooms potentially problematic.

Although CW has received considerable attention from L2 researchers and practitioners, very few studies of CW have been conducted in the context of Chinese as a foreign language (CFL). Therefore, very little is known to us whether similar results already found

in other FL contexts can be yet validated in CFL settings. This study therefore aims to investigate CW used in a CFL classroom through examining students' perceptions of CW before and after participating in a CW project, students' self-assessment and reflections on their participation in the CW project, and the researcher's observation of students' collaborative behaviors during the CW project. It aims to contribute to a better understanding of CW about how different factors interweave to co-construct the CW activities carried out by CFL learners.

2. Literature review

In this section, previous literature on group dynamics in CW activities is reviewed to understand the intricacies of forming peer relationships during CW tasks. Relevant studies investigating learners' motivations and perceptions of peer collaboration are examined to identify the gaps in the existing research.

2.1. Relationships formed in collaborative writing

CW in L2 classrooms involving peer interaction is recognized as beneficial for students' learning and has received much attention in research. From the perspective of sociocultural theory (Vygotsky, 1978), interaction provides mediation for people to engage in social activities where learning is grounded and knowledge is transmitted from expert to novice. CW therefore provides the social context for the language development of L2 learners through social interaction as they can share ideas, pool language resources, provide collective scaffolding (Donato, 1994; Wigglesworth & Storch, 2009), and internalize the knowledge that they co-construct with peers (Thorne & Hellermann, 2015; Wertsch, 1979). However, when investigating CW, researchers have realized that getting learners to work with peers does not necessarily mean they will work "collaboratively" (e.g., Fernández Dobao, 2012b; Kim & McDonough, 2008; Storch, 2013; Tan et al., 2010). Many studies have explored the dynamics of groups with the majority reporting that learners tend to benefit more from collaboration-oriented interaction environments (e.g., Fernández Dobao, 2012a; Li & Zhu, 2017; Storch, 2002a, 2002b; Walls, 2018; Watanabe & Swain, 2007).

Through a closer examination of how learners co-construct the relationship during CW activities and with the support of audio/video data, research has revealed the intricacies of forming relationships with other collaborators during CW tasks. Specifically, researchers have noted that different factors can potentially affect group dynamics. For instance, studies by Malmqvist (2005) and Walls (2018) suggested that personality might affect peer interaction, as extrovert students tend to exhibit typical qualities of leadership while shy students tend to become passive members, leading to less equal relationships. At the same time, some studies (e.g., Fernández Dobao, 2020; Walls, 2018) have demonstrated that cultural differences play a role in forming interactional patterns. While Walls (2018) noted that heritage learners were reluctant to give up the expert role when interacting with non-heritage learners, Fernández Dobao's (2020) study revealed that some heritage learners did not consider themselves to be more proficient learners than their non-heritage learner peers. Some of them even felt pressured when non-heritage learners had "unrealistic expectations" (p. 64) on account of their heritage-speaker status. In addition to personality and cultural differences, Chen and Hapgood (2019) noted that L2 learners' exposure to knowledge about CW can also affect the establishment and management of peer relationships. They found that ESL learners who had developed some knowledge about CW before participating in CW activities tend to form more collaboration-oriented interaction patterns compared to those who had no exposure to CW.

2.2. Learners' motivations, beliefs, and attitudes toward peer collaboration

Motivation is regarded as a significant factor influencing L2 achievement and learners' learning behaviors (e.g., Dörnyei, 1997, 2001; Gardner, 1985). When linking motivational theories with collaborative learning, if learners perceive group work as being beneficial and useful for success, they are considered more likely to be motivated to participate actively in group activities and help other group members achieve success collaboratively (Dörnyei, 2001; Lin, 2016). Although many studies have been conducted within the broad concept of motivation, according to Lin (2016) little attention has been given to investigate how motivation changes after the implementation of collaborative learning activities. Her study implemented a 12-week teaching intervention in a Chinese university's EFL classroom and found that collaborative learning tasks increased students' learning motivations and led to more positive attitudes toward English courses. Her results suggest that motivation does not exist solely as an intrinsic factor. Thus, when it comes to collaborative learning in L2, motivation should be viewed as a "socially mediated process" (Ushioda, 2003, p. 90) that involves interaction among learners.

Regarding learners' beliefs toward CW activities in L2 classrooms, several studies have found that learners generally consider CW activities to be useful, with a number of benefits. These include enhancing self-confidence and speaking/writing abilities; facilitating a better writing product through a process of generating ideas, pooling linguistic resources, and getting immediate peer feedback; and providing more opportunities to interact with other classmates and potentially reducing the writing anxiety that is often present in solitary writing (Chen & Yu, 2019a, 2019b; Fernández Dobao, 2020; Fernández Dobao & Blum, 2013; Shehadeh, 2011; Storch, 2005). While learners' perceptions of CW are generally favorable, they have expressed some concerns about participating in CW activities. For instance, in Fernández Dobao and Blum's (2013) study conducted in the Spanish-as-a-foreign-language context in the United States, some students preferred writing individually to writing collaboratively because they felt the different working pace and different ideas about the task might cause conflicts among group members. Others were reluctant to correct their peers' errors due to a lack of confidence in their language skills and concern about criticizing others (see also Chen & Yu, 2019b; Storch, 2005). de Saint Léger and Mullan (2014) explored how French-as-a-foreign-language learners in Australia perceived the benefits and disadvantages of a CW

group task compared to other pedagogical tasks. They reported that many learners felt rather "ambivalent" (p. 119) towards the CW group task in terms of its L2 development compared to other learning activities such as revising for tests or debates. Students who did not work in a collaboration-oriented group or felt there was unequal participation from group members reported a more negative experience. Furthermore, students clearly associated the benefits of CW group work in terms of their own L2 development with an experience of group cohesiveness and positive interdependence of group members (see also Dörnyei, 1997).

Although previous studies have revealed that learners' perceived usefulness of peer collaboration and group relationships can shape students' attitudes towards CW (e.g., Chen & Yu, 2019a; de Saint Léger & Mullan, 2014; Fernández Dobao & Blum, 2013; Shehadeh, 2011), it has been posited that cultural values may also play an important role in affecting students' beliefs about peer work. Roskams (1999) investigated Chinese college EFL students' beliefs about pair work and found that Chinese EFL students had a strong collectivist motivation and also an achievement orientation towards peer collaboration, possibly due to the emphasis on good academic performance in most Chinese cultures. Although students enjoyed collaborating with classmates, their attitudes were strongly affected by both an *achievement* concern (getting a good grade) and a *collectivist* concern (establishing a good relationship with peers). Many students preferred being assessed separately from their group members over being assessed jointly as a group because they had concerns about getting lower grades.

To summarize, prior studies have demonstrated that participating in CW creates social contexts and communicative opportunities for L2 learners to interact in the target language and in this way facilitates their L2 development. This research has suggested that there is a complex interplay between how learners perceive peer collaboration and how they implement CW tasks. Getting learners to participate in a *collaborative* writing task does not guarantee *collaboration* (Fernández Dobao, 2012b; Kim & McDonough, 2008; Storch, 2013), and what learners perceive about CW might not be directly associated with their actual writing performances (McDonough, 2004). Therefore, more research needs to be done before we can reach a more comprehensive understanding of how learners perceive CW and the complex nature of the interplay among learners' motivation, perceptions, group dynamics, and interactional behaviors. Given this, the current study used one CW group project spanning 10 weeks in an intermediate-high CFL classroom to track learners' collaborative behaviors and motivational changes. By collecting data from different sources, this study examined CW in a CFL classroom holistically, included student's perceptions of CW, self-assessment and reflections on CW, and observed collaborative behaviors in the analysis through a mixed-method research framework. It aimed to address these research questions:

1 Did students' beliefs about peer collaboration change before and after the CW project?
2 How did students perceive their group relationships during the CW project?
3 What were students' perceptions of the CW project and what factors (de)motivated them during this process?

3. Method

3.1. Participants and context

This study was classroom-based and conducted in a third-year Chinese language course at a university located in the southwestern United States. It was an upper-level Chinese course focusing on comprehensive skills, and students were expected to attain approximately the intermediate-high to advanced-low levels on the ACTFL (American Council on the Teaching of Foreign Languages) proficiency scale after finishing this course. Fourteen students were enrolled in the course (eight females and six males). Nine students were heritage language learners of Chinese and five were non-heritage language learners. Students all had previous experience of working with others in collaborative assignments or projects before taking this course, but only half had ever participated in CW projects in L2 classrooms.

As part of their coursework, students were required to finish a group project by collaborating with their classmates, the goal of which was to develop a comprehensive view of the Chinese language based on students' interests and also to improve their critical thinking abilities in language learning. As this course covered a variety of topics such as economy, education, and environment, students could choose a topic of research that reflected their interests based on those topics. Through the CW project, students were expected to demonstrate their abilities in using the Chinese language to search for information and to select ideas to shape into a cohesive argumentative essay in collaboration with the other members of their group.

The group project was assigned at the beginning of the semester. The 14 students formed five groups (four groups of three participants and one group of two participants) and made their own choices as to group members. Each group completed a project on the topic of their own choice in consultation with the course instructor (see Table 1). For the final product of the CW project, each group

Table 1
Summary of Group Projects.

| | Member profiles | | Project topic |
	Gender	Number of heritage learners	
Group 1	2 females	2	Wind power in China
Group 2	1 male + 2 females	1	Language policy in China
Group 3	1 male + 2 females	2	Internet development in China
Group 4	2 males + 1 female	2	Parenting in China and the U.S
Group 5	2 males + 1 female	2	Obesity in the U.S.

was expected to produce an argumentative essay with a minimum word count of 2000 Chinese characters developed through two drafts. At the beginning of the CW project, an analytic rubric comprising five criteria (content, organization, grammar, vocabulary, and mechanics) was provided as essay-writing guidance and as the evaluation criteria. At the end of the CW project, they were also required to give a group presentation to share their findings with the class.

3.2. Instruments and procedures

In the present study, the author adopted a teacher-researcher role (Borg, 2010; Nunan, 1989). The study was classroom-based and grounded in daily pedagogical practices; therefore, it had a relatively high ecological validity. To enhance its credibility, I adopted a mixed-methods research framework and collected multiple data on several occasions across ten weeks. This triangulation allowed me to investigate students' perceptions of the CW project through different perspectives.

To investigate students' attitudes toward the CW project, three types of qualitative and quantitative data were collected. The first instrument was pre- and post-surveys on students' beliefs about peer collaboration (see Appendix A), which were conducted before starting the group project and after finishing the group project. Survey items were developed to understand students' beliefs about peer collaboration, and incorporated several questions adapted from Roskams (1999). The survey collected data from three perspectives: students' beliefs about peer collaboration in relation to the efficacy of collaboration and the establishment of peer relationships; students' perceptions of giving and receiving peer feedback; and the implementation of collaboration through students' preferences and concerns when working with their peers. The internal consistency of the 16 Likert-scale items, as measured by Cronbach's alpha coefficient, was good. The pre-survey reported a Cronbach's alpha of .83 while the post-survey showed a value of .88.

The second instrument was the collaborative performance self-assessment. This is a survey of self-assessed performance during sessions of in-class group work (see Appendix B). It examined students' self-reported performance when collaborating with their group members during each working session. Students were asked to rate their own performance across four criteria. The criterion of *responsibility* asked whether they fulfilled their responsibility during the group work. The criterion of *contribution* surveyed whether they helped the group to solve any problems or to improve. The criterion of *respect* examined whether they respected other group members, and the last criterion *organization* concerned whether they felt the whole group collaborated in an organized way. The self-assessment was conducted three times over the course of the study and Cronbach's alpha was calculated for each one. The results were satisfactory as the first self-assessment was .88, the second self-assessment was .97, and the third self-assessment was .94. The third instrument was the reflective journal (RJ). Students were asked to write a reflective journal in English each month. In these journals, they were expected to write thoughts about their learning progress, provide feedback on the instructor's teaching, and set their learning goals for the coming month. In a subsection of the reflective journal, students were asked to comment on their thoughts about group collaboration and feedback on the CW project.

The group project lasted for approximately ten weeks with each group working collaboratively in and out of class time. Students collaborated on Google Docs to write the project essay. Three project-working sessions in week 1, week 5, and week 9 were allocated to in-class collaboration. During these sessions, group members met face-to-face in a computer lab and worked on the project essay by synchronously co-editing on the Google Docs page shared with every group member. The course instructor was present during working sessions to provide necessary assistance. In addition to in-class group work, all groups collaborated after class via face-to-face group meetings and/or synchronous group chats to finish the project. For instance, some groups met at the library to write collaboratively while others synchronously gathered to exchange ideas via oral and written SCMC tools such as Skype, text messages, and WeChat group chats. In addition, I took brief observation notes during each group working session to gather some contextual information. I tracked the progress of each group's project, observing how group members interacted and whether group members actively engaged with each other through the process of writing.

Data were collected along with the progress of the CW project. Although all 14 students agreed to participate in this study, two students failed to provide complete data because they were absent on the day of data collection, or did not finish surveys and/or reflective journals. Table 2 provides an overview of the research procedure and data collection.

Table 2
Research Procedure and Data Collection.

Time	Procedure	Collaboration Mode	Data collection
Beginning of the semester	Group-forming		Pre-survey on collaboration belief
Week 1	In-class CW	FTF	Collaborative performance self-assessment & RJ 1
Week 2	Out-of-class CW	FTF & SCMC	
Week 3	Out-of-class CW	FTF & SCMC	
Week 4	Out-of-class CW	FTF & SCMC	The first draft of the paper & RJ 2
Week 5	In-class CW	FTF	Collaborative performance self-assessment
Week 6	Out-of-class CW	FTF & SCMC	
Week 7	Out-of-class CW	FTF & SCMC	RJ 3
Week 8	Out-of-class CW	FTF & SCMC	The second draft of the paper
Week 9	In-class CW	FTF	Collaborative performance self-assessment
Week 10	Final Presentation		Post-survey on collaboration belief & RJ 4

Note. FTF (face-to-face); SCMC (synchronous computer-mediated communication).

3.3. Data analysis

Since an initial Kolmogorov-Smirnov test indicated that data were not normally distributed, non-parametric tests were used for statistical analysis. To provide information in answer to Research Question 1, students' responses to the pre- and post-survey regarding their beliefs about peer collaboration were analyzed quantitatively. Based on the change of mean scores in pre- and post-survey, items belonging to positive change and negative change were classified. This helped to understand the overall change of students' attitudes before and after the CW project. To further investigate possible differences between these changes, a Wilcoxon signed-rank test was performed to determine whether changes in mean scores were statistically significant.

To address Research Question 2, the author compared students' self-ratings of their collaborative performance during each session. To examine whether there was a significant difference in students' self-assessed collaborative performance, Friedman tests were performed to compare the overall score rated by students across three sessions and the score for each of the four criteria (i.e., responsibility, contribution, respect, and organization) reported by students during each session. The alpha level for all tests of significance was set at .05 and post hoc pairwise comparisons were conducted using Nemenyi multiple comparison tests. In addition, Kruskal-Wallis tests were performed to determine whether there was a group-wise difference regarding the rating of collaboration. The alpha level for all tests of significance was set at .05. and Dunn's pairwise post hoc tests were conducted to determine the significance of group-wise differences followed by the Benjamin-Hochberg method for the *p*-value adjustment.

To provide information for Research Question 3, students' reflections about their participation in this CW project were analyzed qualitatively. An independent researcher was invited to code students' written reflections to ensure reliability of coding. Firstly, two coders read through all reflections and collected every statement related to peer interaction and project collaboration. Statements extracted by the two coders were compared, and an inter-coder agreement of 92.9 % was recorded. All differences were discussed until a complete agreement was reached. The two coders then examined these statements again and coded these statements as positive comments or negative comments based on the main meaning expressed. A positive comment implied a favorable opinion, whereas a negative comment indicated an unfavorable evaluation, as shown in Table 3. The inter-coder reliability, measured through simple percentage agreement, was 90.7 % for positive comments and 87.1 % for negative comments. Disagreements between the coders were discussed and resolved to reach a consensus. Subsequently, relevant (de)motivators based on the main idea conveyed in these statements were identified, and each (de)motivator was then compared with previous instances in the same category to increase the validity of coding. Two coders carefully read through the data, discussed the (de)motivators that emerged through the data, and jointly identified the major (de)motivators expressed in students' reflections.

4. Results

In the following section, I first report the quantitative findings of the first and second research questions concerning the change in students' beliefs and their perceptions of peer relationships during the implementation of the CW project. I then provide qualitative evidence to explicate how students' motivations changed during this process.

4.1. RQ1: Did students' beliefs about peer collaboration change before and after the CW project?

Students' perceptions of peer collaboration remained stable before and after participating in the CW project, and most students acknowledged the benefits of peer collaboration in facilitating their Chinese learning. Using a score difference of 0.50 as a cut-off point, nine items revealed a larger change in their pre- and post-scores, among which five items showed a more positive change while four items saw a more negative evaluation (see Table 4). After participating in the CW project, students felt more comfortable collaborating with their peers and were less concerned about disagreement, different working pace, lower grades, or undesirable peer feedback. These positive changes suggest that students may have felt insecure before participating in peer work because of uncertainties which might affect the implementation of the CW project. However, these uncertainties reduced after students participated in the CW project. On the other hand, the negative changes in some beliefs imply that students experienced frustrations during this process. For instance,

Table 3
Examples of Coding Students' Reflections.

	Example	(De)motivators
Positive comments	Having partners or getting into small groups to discuss is very **helpful**, as my peers could have a different approach to the problem and could **benefit me** in my studies. (JT, 1st journal)	motivator 1: gaining a different approach motivator 2: benefit learning
	Collaborative effort, like our group project is always **better** than just one person's efforts because we have opinions coming from different people and this will help us write better and **communicate better** in Chinese. (JY, 3rd journal)	motivator 1: collective wisdom motivator 2: benefit (Chinese) learning
Negative comments	I do **worry** a little bit on how our research paper would actually come out to be. I do know as for now, we tend to have **different ideas** on how our thesis would be. (TN, 3rd journal)	demotivator 1: conflicting opinions
	My only **concern** as of right now is that I'm afraid there won't be enough time to successfully complete the project if we don't have enough time to work on it during class and if our personal schedules outside of class conflict with each other. (ST, 2nd journal)	demotivator 1: time constraints

Table 4
Change of Beliefs Before and After the CW Project.

	Pre-survey		Post-survey	
Positive Change	*Mean*	*SD*	*Mean*	*SD*
Q5: Working with others will lead to a better grade than working alone.	4.42	1.31	5.00	1.35
Q8: I feel comfortable having my group member(s) criticize my work.	5.25	0.87	5.75	0.45
Q10: I'm concerned about disagreement when working with others.	2.92	1.31	2.25	1.71
Q12: I'm concerned about the different working pace when working with others.	4.17	1.19	3.08	1.73
Q14: I do not like it if my group member(s) explicitly points out the fault in my work (even if it is true).	2.42	1.56	1.75	1.48
Negative Change	*Mean*	*SD*	*Mean*	*SD*
Q9: I tend to work harder when working as a group than working alone.	4.33	1.30	3.83	1.75
Q11: I'm concerned about the division of work when working with others.	3.50	1.73	5.42	0.51
Q13: I think my Chinese will be improved by working with other classmates.	5.00	1.13	4.25	1.36
Q15: If I think my idea is better, I ignore my partner's suggestions.	2.08	0.90	2.67	1.61

students cast doubts on the efficacy of peer work as they did not believe that they had worked harder when in a group, or that their proficiency in Chinese had improved as much as they had expected at the beginning of the project. Students were more concerned about the division of work and became less supportive of peer feedback after collaborating with other students.

A Wilcoxon signed-rank test was performed among related items to identify the statistical significance of the differences in students' change in beliefs before and after the CW project. Only Q11 (I'm concerned about the division of work when working with others) showed a significant difference ($Z = -2.573$, $p = .01 < .05$) with a moderate effect size of -0.53. Among all 12 respondents, 75 % ($n = 9$) expressed greater concern about the workload distribution after collaborating with members of their group.

4.2. RQ2: How did students perceive their group relationships during the CW project?

Students expressed different perceptions of their performance during the CW project. Most students' self-reported collaboration performance remained stable across working sessions, but some students' self-evaluations showed noticeable changes. For instance, the scores of two students largely decreased in their self-reported scores during the second working session, but the rating increased after the third session. To examine whether there was a statistical difference in students' self-assessed collaborative performance across three working sessions, a Friedman test was performed to compare mean scores across three sessions. No significant difference was found, suggesting that in general, students' perceptions of their collaborative behaviors during the progress of the CW project did not reveal significant differences.

Another Friedman test was performed to compare the mean scores on each criterion across three sessions. It was found that students' perceptions of their collaborative performance varied significantly across four criteria (see Table 5). Post hoc pairwise comparisons were conducted, but no significant differences between any two criteria were found. This suggests that although students might perceive their performance differently in respect of fulfilling the responsibility, making a contribution, showing respect, and organizing group work, there was no sound evidence that one particular collaborative behavior was prioritized or neglected.

Mean scores on four criteria of each group were calculated (see Table 6) and a Kruskal-Wallis test was performed to examine whether there was a group-wise difference in each session. The result indicates that there was a significant difference ($p < .05$) between the mean scores among groups during the second and third sessions with a fairly strong effect size (see Table 7). Dunn's pairwise post hoc tests suggest significant differences occurred during the second session and third session. During the second session, Group 1 reported higher scores than Group 3 ($Z = 2.657$, $p < .05$, adjusted using the Benjamin-Hochberg method) and Group 4 ($Z = 3.028$, $p < .05$, adjusted using the Benjamin-Hochberg method). Similarly, Group 5 also reported higher scores than Group 3 ($Z = -2.657$, $p < .05$, adjusted using the Benjamin-Hochberg method) and Group 4 ($Z = -3.028$, $p < .05$, adjusted using the Benjamin-Hochberg method). This finding indicates that members of Groups 1 and 5 were significantly more satisfied with the way they worked together compared to those of Groups 3 and 4. During the third session, Group 1 reported a significantly higher score than Group 3 ($Z = 2.759$, $p < .05$, adjusted using the Benjamin-Hochberg method), while no significant difference was revealed between other groups.

4.3. RQ3. What were students' perceptions of the CW project and what factors (de)motivated them during this process?

To better understand students' feelings and how their collaborative motivations changed during the CW project, answers to open-

Table 5
Repeated Measures Friedman Test for Four Criteria Mean Score Differences in Each Session.

Session	N	df	Chi-Square	p	Kendall's W (Kendall's coefficient of concordance)
1st session	13	3	20.52	.0001**	0.53
2nd session	13	3	8.589	.035*	0.22
3rd session	13	3	12.091	.007*	0.31

* $p < .05$.
** $p < .001$, two-tailed.

Table 6
Descriptive Data for Group-wise Mean Score Differences.

	Group 1		Group 2		Group 3		Group 4		Group 5	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1st Session	5.78	0.26	5.10	0.59	5.16	0.66	5.16	0.66	5.16	0.66
2nd Session	6.00	0.00	5.29	0.29	4.71	0.75	4.40	0.21	6.00	0.00
3rd Session	6.00	0.00	5.24	0.52	5.04	0.35	5.24	0.11	6.00	0.00

Table 7
Kruskal-Wallis Test for Group-wise Mean Score Differences on Four Criteria.

Session	N	*df*	Chi-Square	*p*	Effect Size (epsilon-squared)
1st Session	5	4	2.952	.566	.155
2nd Session	5	4	16.449	.002*	.866
3rd Session	5	4	13.420	.009*	.706

* $p < .05$, two-tailed.

ended questions and monthly reflective journals were collected from students. Based on the timeline of data collection, summaries of three phases are presented below to show changes in students' feelings and motivations.

4.3.1. Phase 1: Pre-project motivation

Students generally showed a positive attitude towards peer collaboration and recognized the benefits of peer interactions relevant to their learning. Many students noted that they would like to take the chance to make new friends instead of working only with students they happened to be seated next to. During this phase, students were positive and motivated about collaborating with classmates and believed that peer collaboration could have benefits such as getting different perspectives from others to enhance one's learning, collaborating with unfamiliar peers and establishing good class rapport, and potentially improving the quality of their writing. When asked "What are some criteria you would consider when choosing a group member?", good traits such as willingness to cooperate, good communication, responsibility, commitment, and similar ways of thinking were frequently mentioned. During this stage, very few students considered their peer's language proficiency as an essential factor in peer work, suggesting that students value good peer relationships higher than getting good grades (cf. Roskams, 1999).

4.3.2. Phase 2: Ongoing (de)motivation

When students started to work in groups on the project, some collaborative issues emerged that caused their feelings about group dynamics and motivations for participating in the CW project to fluctuate. While some remained motivated to continue the CW project, others revealed more concerns in their reflective journals. Among 24 reflective journals submitted by 12 students during this stage, in 16 reflective journals concerns were expressed about the CW project. Three major demotivators were identified as time constraints, group incongruity, and challenges due to their limited proficiency in Chinese (see Table 8). The most salient demotivator expressed by students was time constraints, with three-quarters of students stating that they were concerned about the limited collaboration time which might lead to late submission of work, which would affect their grades. One possible explanation for students' concern about time constraints might be that although this cohort met four times each week for regular classes, only three mandatory sessions were assigned for the face-to-face project collaborating.

In addition to time constraints was their concern about whether they were sufficiently proficient to write an argumentative essay in Chinese. Some students considered the CW project challenging because the group had to write a question-driven essay using academic language in Chinese. Some students pointed out that the writing project required "a lot of jargon and terms that would be hard to translate and put into words in Chinese" (JA, 2nd journal). In fact, half of the students were directly placed to this course and had not attended any other Chinese language courses at this university before this class, many had no prior experience of writing argumentative essays in Chinese. It can therefore be inferred that the CW project might have been perceived as overwhelming, which may have demotivated some learners. On the other hand, three students became demotivated because their group had different opinions, or

Table 8
Frequency Counts for Three Demotivators in Phase 2.

	# of occurrence	# of people	Example comments
time constraints	13 (81 %)	9 (75 %)	The main concern I have for this month is the **limited amount of time** we have as a group to work together and produce the final project. (JT, 2nd journal)
proficiency challenge	10 (62.5 %)	7 (58 %)	I am also afraid that the group project will be **difficult to put into Chinese words**, especially if it is a formally written essay. (JY, 2nd journal)
group incongruity	3 (19 %)	3 (25 %)	As for concerns, it may be the **lack of communications** between my project partners. (WT, 3rd journal)

because some group members were not easy to cooperate with.

4.3.3. Phase 3: Retrospective motivation

Even though students reported a considerable amount of anxiety during the CW project, their overall evaluations after finishing it were more positive. In their final journal submitted after the final presentation, ten out of 12 students, noted that they believed they had had a positive experience. They noted that they had gained a great sense of achievement and were proud of what they had produced for their project, given that it was their first time to finish a CW group project in Chinese. When they were asked to describe one or two moments of their best memory of the project, nine students noted their huge enjoyment completing their final products. Five students said that their best memory was when the group met outside the classroom to work on the project, during which time they "got to know each other a little more than being a classmate" (LO, post-survey). Students' obvious enjoyment of a successful collaboration with their peers suggests that their confidence and motivation increased due to the success of group work.

5. Discussion

This study investigated CFL students' perceptional and motivational changes before and after participating in a CW project in order to produce an argumentative essay in Chinese. It found that students' beliefs about peer collaboration did not change significantly before and after the CW project. Although students were less confident in the effectiveness of CW at the beginning, after participating in the CW project they realized the value of peer collaboration. This result is consistent with findings of previous studies (e.g., Bikowski & Vithanage, 2016; Chen & Yu, 2019a, 2019b; de Saint Léger & Mullan, 2014; Fernández Dobao, 2020; Fernández Dobao & Blum, 2013; Lin, 2016; Shehadeh, 2011; Storch, 2005) conducted in other L2 contexts (e.g., L2 English/French/Spanish settings) that found most L2 students were positive about their experience in CW activities. As the CW project progressed, students encountered some challenges that made them less motivated to work collaboratively. For example, many students reported time constraints as their primary demotivator and asked for more in-person collaboration sessions. Some students were concerned about their inadequate language proficiency or lack of confidence in their academic writing skills in Chinese especially when they were required to write a research-driven argumentative essay. In addition, several students experienced frustrating moments due to less cooperative group members. The quality of peer relationships appeared to have a strong impact on their motivation and lessened their enthusiasm to work collaboratively.

It should be noted that demotivators similar to those found in this study have been reported in a number of other studies (e.g., Bikowski & Vithanage, 2016; Chen & Yu, 2019a; Cho, 2017; de Saint Léger & Mullan, 2014; Lee, 2010) conducted in other L2 contexts. For instance, Bikowski and Vithanage (2016) surveyed the attitudes of college-level L2 writers toward web-based CW tasks and reported students' difficulties in managing time constraints with the need to negotiate consensus across the differing opinions of group members. Similar findings were also reported in de Saint Léger and Mullan's (2014) study in which students of French as a foreign language perceived a lack of adequate collaboration time with peers as a weakness of the group work. With respect to concerns about language proficiency, studies by Cho (2017), Lee (2010), and Storch (2005) all found that L2 writers who were not confident about their language proficiency in CW tasks were reluctant to give peer feedback or make decisions regarding language forms. Furthermore, in the present study, students who reported being less motivated were mostly participants from those groups who experienced miscommunication and uneven contributions. This finding supports the claim of previous studies (Chen & Yu, 2019a; Dörnyei, 1997; Ducate, Anderson, & Moreno, 2011; Fernández Dobao, 2020; Storch, 2013; Zhai, 2020) that the quality of relationships in the group can strongly influence students' motivation to participate.

When asked to self-assess their collaborative performance after each working session, most students assessed their behaviors as stable through the progress of the CW project. However, there was a significant group-wise difference regarding the perceptions of the group dynamics insofar as more collaboration-oriented groups reported better results. Specifically, students in more collaboration-oriented groups gave themselves and their group members higher ratings and had more positive experiences. These groups demonstrated a greater degree of "group cohesiveness" (Dörnyei, 1997, p. 485) as their group dynamics linked the members to one another more tightly, which consequently generated a better quality of group interaction. Despite a shared group goal in the CW project, members may not show the same degree of commitment to the group goal, and how learners perceive CW might not be directly associated with their actual collaborative performances. It found that students' feelings and motivations toward the CW project varied. Comparisons of students' pre- and post-beliefs about peer collaboration revealed that before the CW project, students believed that forming good relationships was more important than getting a good grade, whereas in the post-survey several students appeared to have changed their minds and stated a preference for better grades over good relationships. This change implies that students' perceptions of whether collaboration can lead to success for the group may influence their evaluations of the collaborative project.

Although a similar concern that not having good peer relationships may jeopardize the successful implementation of CW tasks was reported in prior research (e.g., Chen & Yu, 2019a, 2019b; de Saint Léger & Mullan, 2014; Storch, 2005), the current study revealed some surprising findings regarding the attitudes toward collective assessment. When asked to rate the statement "After this project, I felt it would be better if the group members are NOT assessed together", five out of the 14 students strongly wished to be assessed separately from other group members. Coincidentally, but perhaps unsurprisingly, those five students were members of two groups that had collaboration issues such as miscommunication, tardiness, and disagreements during the project. Those who wished to be assessed separately seemed to be demotivated by the unfavorable working relationship with their peers, and also reported more frustrating moments and concerns in their reflective journals. This finding can be related to the study conducted by Roskams (1999), in which the author argued that Chinese cultural values – establishing a good relationship with peers in a society favoring collectivism and getting satisfactory academic achievements – strongly affected Chinese EFL students' perceptions of peer work. Even though

students enjoyed collaborating with classmates, many of them still preferred being assessed separately from other group members over being assessed jointly, possibly because they had concerns about getting a lower grade. Although it is beyond the scope of the current study to explain the possible relation between students' cultural values and their beliefs about CW activities, since more than half of the students in this class came from Chinese cultural backgrounds it is possible that some students' perceptions of CW were affected by their cultural values. Another possible reason that some students favored individual assessment over collective assessment might be that the CW project was a grade-bearing assignment, a factor not mentioned in previous studies on this topic.

This study revealed that students' motivational changes during collaborative work were not only affected by students' perceptions and motivations of participating in peer work but were also shaped by interpersonal interactions that are situated in a "socially mediated process" (Ushioda, 2003, p. 90; see also Dörnyei, 1997; Lin, 2016). As Dörnyei (1997, p. 487) pointed out, explanations of motivational processes in group work should not be limited to the individual level because the "action conducted within groups might show motivational characteristics that stem from the group as a social unit rather than from the individual members". In relation to this study, it can be shown that group cohesion had a positive effect on group collaboration and individual motivation. Less cohesive groups were more likely to generate collaboration issues and demotivate group members. However, the renewed motivation expressed by students at the end of this project is believed to be connected with the goal-orientedness shared by group members. In this CW project, each group shared a common goal in line with the project requirements set by the instructor, a goal which was reflected in their course grade and was contingent upon group performance. Subsequently, students became more motivated, and their enjoyment outweighed the anxiety (Dewaele & MacIntyre, 2014) when they felt a strong sense of accomplishment and confidence (Bikowski & Vithanage, 2016; Fernández Dobao, 2020; Lin, 2016).

Given the fact that there is a negative relationship between the level of students' anxiety and their final grades in the FL classroom (Horwitz, 2001), how to increase or at least maintain students' motivation needs to be considered. Drawing from students' feedback, some pedagogical suggestions can be made for implementing CW activities in L2 writing classrooms. First, even though students may have already experienced group work previously, their experience in writing collaboratively in L2 might be very limited. According to Chen and Hapgood (2019), participants who were exposed to knowledge about CW may lead to more collaboration-oriented group dynamics. Thus, it is important for teachers to prepare students for participating in CW activities. For example, if students have no prior or very little experience in CW, teachers need to provide the necessary training that will help them know how to participate more effectively. Teachers are recommended to discuss the benefits and procedures of CW with students, explain the expectation for CW activities, provide detailed guidelines for group collaboration projects, and regularly check each group's progress.

Group cohesiveness is another factor that needs to be taken into consideration for good group work. To "develop stronger inter-member ties" (Dörnyei, 1997, p. 485), it is essential for group members to spend a good amount of time together and learn about each other. Teachers need to allocate sufficient collaboration sessions for students to interact with their peers, which is especially important when designing a larger CW project such as a term project. In addition to the time factor, the organization of students in CW activities needs to consider how to form groups with good potential for collaboration. Teachers need to be observant of students' proficiency, attitudes toward peer work, and personality in order to use them for better grouping.

More work is also required to gauge the appropriate assessment for CW projects especially if the CW project is grade-bearing. Teachers might consider designing rubrics for assessing peer work in and out of classroom settings. If students have concerns about being graded with the entire group or there are unexpected collaboration difficulties such as unequal participation and group conflicts, having alternative plans to combine collective and separate assessment tools may be advisable.

6. Conclusion

The present study examined CFL students' perceptional and motivational changes during a 10-week CW project implemented in an intermediate CFL classroom. The findings suggest that students were generally positive about their experience in this CW project, but that some students also underwent demotivating moments due to factors such as time constraints, group incongruity, and proficiency challenge. These demotivators appeared to have influenced students' perceptions of their motivations for participating in the CW project, and some pedagogical suggestions have been made. Given that L2 motivation has been relatively understudied in the domain of CW compared to other areas of L2-related research (Zhang & Plonsky, 2020), this study has added to our knowledge of CW with respect to how different factors interweave to progressively co-construct CFL learners' motivation and participation in a CW project. Considering the fact that very few studies of CW have been conducted in the L2 Chinese context and that there is very limited classroom-based empirical CW research exploring L2 Chinese learners' perceptions of CW, this study contributes to the current discourse on CW research and highlights the importance of examining students' perceptions of CW over a longer time span to track their collaborative behaviors and motivational changes.

There are several limitations to this research. First, since it was a small-scale classroom-based study with most of the data obtained through students' self-reports, its findings are less than representative and are not generalizable. In addition, the statistical results derived from non-parametric tests are less powerful than parametric tests and therefore these results need to be interpreted with this in mind. Also, previous CW literature has shown that there are clear differences in perceptions and group dynamics between heritage and non-heritage learners (e.g., Fernández Dobao, 2020; Walls, 2018); however, the current study does not differentiate between these two groups in the analysis because group membership was decided on by the students. Future studies may want to investigate whether heritage and non-heritage learners perceive and behave differently in the CW activities. Furthermore, this study focused exclusively on learners' attitudes towards the CW project and did not connect individual perceptions to actual peer interactions in CW. It would therefore be beneficial to examine group dynamics; for example, by examining patterns of interaction, to further investigate how individual perceptions (mis)match learners' actual participation practices in CW activities. Lastly, there is a need for more research in

the area of CW covering a greater variety of learner demographics and research contexts, as well as conducting more longitudinal studies tracing the motivational change and writing development of L2 learners.

Despite its limitations, it is hoped that this study has advanced our understanding of students' perceptions when participating in CW activities and how their motivations could be potentially impacted by various factors associated with their personal beliefs, participatory experience, and peer relationships. Expanding this strand of research to examine participants' motivational change in the realm of CW will help us to reach a more dynamic and sophisticated view of the learner differences that are manifested when students take part in collaborative writing work.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Collaboration Belief Survey

Part I. To what extent do you agree with the following statements about your feelings? (1: Strongly disagree, 6: Strongly agree)

 1 It is more important for me to get a good score than to form a good relationship with a class partner.
 2 Two or more people can make better decisions than an individual.
 3 I like the idea of being assessed together with my partner.
 4 I will learn more by working with others than working alone.
 5 Working with others will lead to a better grade than working alone.
 6 I think that comments about my work from other classmates are valuable.
 7 I would prefer to get improvement feedback from my teacher rather than from my group member(s).
 8 I feel comfortable having my group member(s) criticize my work.
 9 I tend to work harder when working as a group than working alone.
10 I'm concerned about disagreement when working with others.
11 I'm concerned about the division of work when working with others.
12 I'm concerned about the different working pace when working with others
13 I think my Chinese will be improved through working with other classmates.
14 I do not like it if my group member(s) explicitly points out the fault in my work (even if it is true).
15 If I think my idea is better, I ignore my partner's suggestions.
16 If I think my idea is better, I try to persuade my partner.

Part II. Open-ended questions

17 What are some criteria you would like to take into consideration when choosing a potential group partner in a group project?
18 Do you have any concerns about choosing a fellow student and working closely with him/her in this course over the rest of the semester? If yes, please explain in the space below.
19 Do you have any other comments about working with fellow students in this course?

Appendix B. Collaborative Performance Self-assessment

After today's working session, to what extent do you agree with the following statements? (1: Strongly disagree, 6: Strongly agree)
1. I took responsibility for myself as:

a. I was prepared and ready to work.
b. I was well informed on the project topic.
c. I did tasks without having to be reminded.
d. I used feedback from others to improve work.

2. I helped the group as:

a. I helped the group solve problems.
b. I made discussions effective by clearly expressing ideas, asking probing questions, making everyone is heard, responding thoughtfully to new information and perspectives.
c. I gave useful feedback (specific, feasible, supportive) to others.
d. I offered to help others do their work if needed.

3. I respected others as:

a. I was polite and kind to group members.
b. I acknowledged and respected other perspectives.

4. We organized work as:

a. We assigned roles if and as needed, based on group members' strengths.
b. We used time and ran the discussion efficiently.
c. We kept materials, drafts, notes organized.

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