

Collaborating in First Language while Writing in Second Language: A Unique Writing Experience

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Abstract

After the advent of socio-cultural theory of learning and the widespread applications of its tenets in second language pedagogy, learners' first language was praised to play certain facilitative roles in second language learning. The functions of L1 use have also been explored in collaborative writing tasks, but the focus has long been on the similarities of writing processes in the two languages and the transfer of strategies from the first to the second languages. However, one basic difference between first language and second language learners, which seems to have been overlooked, is the fact that second language learners have two languages at their disposal, and hence may benefit from them both. The present study was hence designed to investigate first language collaborations of learners engaged in a second language writing task by collecting audio and written data from 36 (12 groups of 3) Persian speaking intermediate English learners while writing an argumentative paragraph. 6 of the 12 groups were asked to collaborate in their first language and the others were limited to using the second language in their collaborations. The results of comparisons between the first language and second language groups indicated that while the former groups focused on task management, task clarification and grammar, the latter groups were more concerned with vocabulary and content.

Key Words: *Second Language Acquisition, Collaborative Writing, First Language Use.*

Introduction

Since as early as 1980s, research on the nature of second language (L2) writing has been thriving. There have been numerous attempts to figure out how L2 writers approach a writing task (Raines, 1985; Cumming, 1989). Among these attempts, there has been a trend to find patterns of similarity between the processes involved in L2 writing and their counterparts in the first language (L1) writing. However,

research in this domain has generally tended to overemphasize the similarities between writing in L1 and L2, and has mainly overlooked the obvious differences between the two processes. That is, despite the “salient and important differences” (Silva, 1993) between writing in L1 and L2, most researchers have narrowly attended to the similarities.

One of the salient differences between L1 and L2 writers is the generally neglected fact that L2 writers have two languages at their disposal. This seems to have been a taken-for-granted fact, so as few studies have taken into consideration that L2 writers may make use of both their L1 and L2 resources to deal with the cognitively demanding task of writing in a second language. Differences as such have not received due attention from second language acquisition (SLA) researchers, “resulting in little understanding of the unique features of L2 writing and a lack of coherent, comprehensive L2 writing theory” (Wang and Wen, 2002, p. 226). This, in part, may be explained by the tacit animosity of communicative approaches to second language teaching towards any reference to the learners’ L1 in the past decades. This strongly negative attitude towards L1, however, has been recently giving away to a much milder one.

Once severely rejected by traditional language teaching methods such as the Grammar Translation and the Audio-lingual methods (Larsen-Freeman, 2000), L1 use is no more considered to be inherently detrimental in second language pedagogy. That is, recent research within a socio-cultural framework has come up with numerous facilitative roles for L1 use. The majority of these studies (Brooks and Donato, 1994; Villamil and de Guerrero, 1996; Anton and DiCamilla, 1999; Swain and Lapkin, 2000) have tried to identify functions of L1 use by L2 learners engaged in different collaborative tasks. Writing has also been the focus of some of these studies, and researchers have tried to understand what goes on in an L2 writing task, and how L2 writers make strategic uses of their L1s to approach an L2 writing task.

The socio-cultural theory of learning has been an umbrella term for the studies focusing on the functions of L1 in L2 writing tasks (Villamil and de Guerrero, 1996), and has served as a tenable theoretical framework for them all. The theory, as proposed by Vygotsky (1978), shed new insights to the potential role of the L1 by providing “a powerful explanatory framework for conceptualizing what is involved in language learning” (Wells, 1999, p. 249).

Learning, in this theory, is believed to be mediated by cultural artifacts, one of the most significant of which is language. The theory also maintains that there is a dialectical relation between the learner and the social world. Therefore, Learners are not just passive recipients of language input and teachers are not just providers of input. Rather, the learners, the teacher, and the socio-cultural context in which the discourse takes place cooperatively constitute what is being learned (Tsui, 2008). Therefore, as active agents in the process of learning, L2 learners and their huge background L1 knowledge are expected to play crucial roles in the learning process. L1, in this regard, has been reported to have numerous facilitative and mediating roles.

The recent growth of interests in L1 as a tool for mediation has motivated scholars to demonstrate the potential benefits of using L1 in L2 teaching and learning, the majority of which have focused on learners’ use of the first language in collaborative tasks (Brooks and Donato, 1994; Villamil and de Guerrero, 1996; Anton and DiCamilla, 1999; Swain and Lapkin, 2000; Storch and Wigglesworth, 2003; Scott and De la Fuente, 2008; Centeno-Cortes and Jimenez, 2004; Storch and Aldosari, 2010). However, since most of these studies have been concerned with functions of L1 use, there seems to be a gap in the literature to investigate the “process” of L2 writing while seeking help from the L1. The present study was therefore designed to contribute to the ongoing debates on the nature of L2 writing and to investigate the process of L2 writing as a unique experience with a focus on L1 use as a mediating tool for learners to deal with such a cognitively demanding task.

Review of the Literature

What many of the studies dealing with the issue of L1 use in L2 writing share, seems to be the idea that L2 learners make use of their L1 in one way or another (Kobayashi and Rinnert, 1992; Cohen and Brooks-Carson, 2001). Studies in this regard have had many different designs and, as van Weijen et al. (2009) put, have been “carried out for a number of different reasons and with varying research goals” (p. 236). The same authors also provide a very comprehensive review of the status quo of the literature on the topic, some of which will be discussed in the following.

The first group of the studies focused on comparisons of L1 and L2 writing processes and how L1 writing strategies are transferred into L2 writing (Uzawa and Cumming, 1989; Whalen and Menard, 1995; Wolfersberger, 2003). L1 use, for these studies, meant the strategy of translating from the first language into the second during writing. A similar view was also shared by other studies focusing on the influence of learners’ characteristics namely writing expertise and L2 proficiency on L2 writing (Cumming, 1989; Sasaki, 2004). A second trend of research into L2 writing comprised several studies which have considered L1 use as an independent variable by instructing participants to plan either in their L1 or their L2 before writing their L2 texts (Akyel, 1994; Lally, 2000) or by instructing participants to write a text in their L1 and then translate it into their L2 (Cohen & Brooks-Carson, 2001; Kobayashi & Rinnert, 1992). However, the results yielded by these studies have been complicated to a high degree due to the fact that participants in the direct writing condition reported using their L1 very often while writing in their L2, even though they were not supposed to (Cohen and Brooks-Carson, 2001; Kobayashi and Rinnert, 1992). The third category includes studies investigating the effect of L2 proficiency on L1 use (e.g., Wang, 2003; Wang & Wen, 2002; Woodall, 2002). The main drawback of these studies was a lack of clear operational definition for L1 use. In other words, the results of these studies have been mixed largely because they did not have a unique definition for what L1 use is. Lay (1982), as a case in point, found more L1 use on certain topics than on others and reported that more L1 use improved the quality of the final draft of the written text. Yet, it remained unclear what “more L1 use” actually meant. In a similar attempt, Woodall (2002) investigated the relation between L2 proficiency, task difficulty, and L1 use. According to his ANOVA results, he concluded that “less proficient L2 learners switched to their L1s more frequently than more advanced learners, and that more difficult tasks increased the duration of L1 use in L2 writing” (p. 7). Nevertheless, Wang (2003), dealing with the same issue, came up with different results, and concluded that frequency of L1 use varied only slightly among different proficiency level learners.

Of course, there have been more precise studies too, making attempts to calculate the extent to which L1 was used during writing in L2, by reporting the overall percentage of L1 words in L2 think-aloud protocols (Wang and Wen, 2002), the mean number of language switches per task (Woodall, 2002; Wang, 2003), and the time length that L1 use occurred during L2 writing (Woodall, 2002).

Finally, the fourth group of studies, to which the present study is more directly linked, has focused specifically on the role that L1 use plays during L2 writing. In a seminal study, focusing on the use of L1 in the collaborative interaction of adult learners of Spanish engaged in writing three informative paragraphs, Anton and DiCamilla (1999) found that L1 served a critical function in helping students to achieve mutual understanding about various aspects of the task, that is to maintain intersubjectivity (mutual understanding of the task in hand), which in turn lets them provide each other with scaffolded help, and externalize their inner speech.

Brooks and Donato (1994), investigating the dialogue of eight learners of Spanish, observed that the L1 was used for three functions. The first function was meta-talk which was illustrated by learners using their L1 to comment on their L2 use. The authors argue that this enabled the participants to take control of the task discourse and thus initiate and sustain verbal interaction. The other two functions served by the L1 were to establish a joint understanding of the task and to formulate the learners’ goals.

In another study, focusing on the stories written in L2 by student pairs as the outcome of dictogloss or jigsaw tasks, Swain and Lapkin (2000) reported that the students used their L1 for three principal purposes: (1) moving the task along, (2) focusing attention, and (3) interpersonal interaction. Within a socio-cultural framework, Storch and Wigglesworth's (2003) study of English learners, engaged in joint composition and reconstruction tasks, also revealed that students used their shared L1s for task management, testing clarification, determining meaning and vocabulary, and explaining grammar.

Having analyzed the discourse of Spanish-speaking university students engaged this time in peer revision of their L2 writing, Villamil and De Guerrero (1996) also came up with some functions of L1 use by learners doing writing tasks. Based on the data collected from the discourse of learners engaged in peer revision of their L2 writing, they concluded that L1 was an essential tool for making meaning of texts, retrieving language from memory, explaining and expanding content, guiding their action through the task, and maintaining dialogue. In a more recent attempt, Kibler (2010), also focused on the oral interaction of adult learners during an extended writing activity, and came up with the conclusion that "L1 offers strategic opportunities for interaction and blurs the boundaries between expert and novice writers" (p. 121).

As the literature reviewed above suggests, research results on the functions of L1 use in L2 writing have been varied to a high extent, but L1 functions such as planning, generating ideas or content and solving linguistic problems are among the most reported ones (Beare, 2000; Centeno-Cortes and Jimenez, 2004).

In summary, the literature indicates that a good number of studies have dealt with functions of L1 use in collaborative tasks, and more specifically in collaborative writing. However, most of these studies have been more concerned with the quality of the final written output, and the identification of the various roles L1 can play in doing certain tasks. That is, the processes of learners' thought engaged in joint L2 writing tasks, as indicated in their oral whilst-writing interactions, have not been truly investigated. Furthermore, many of the studies reviewed have not considered how sensitive writing mode can be in the learners' use of their L1 either. The present study was therefore designed as an attempt to fill the gap in the literature, and to investigate whether collaborating in L1 and writing in L2 can be a different experience from collaborating and writing in L2. Thus the present study seeks to answer the following research questions:

1. Is there any quantitative difference between L1 and L2 oral collaborations of learners writing an argumentative paragraph collaboratively?
2. What different aspects of the writing task do learners collaborating in L1 and L2 focus on?

Materials and Methods

Participants

The study was carried out in a private language school in Varamin, Iran. The data was collected from 36 intermediate learners of English. The participants (24 male and 12 female), aged 16-23 were carefully selected to take part in the study based on the results of institute placement tests. They were initially chosen to form groups of three. Due to some contextual limitations all groups were same-sex and hence from a total of 12 groups, the data was finally collected from 8 male and 4 female groups.

Data Collection

The data was collected using audio-recording procedures. In order to improve the quality of the audio-recorded data, the groups were seated in different corners of two classrooms and each was equipped with a digital audio recorder. They were all initially instructed on how to perform the task and were reminded to verbalize their thoughts and share their ideas with their group members before writing them down. Half of

the groups (4 male and 2 female) were randomly asked to use only English (L2 groups) in their collaborations and throughout the writing process, while the other half (4 male and 2 female) were required to use their mother tongue, Farsi (L1 groups). Each group was given a written prompt to start the collaboration with, and then prepare an argumentative paragraph in response to it. The prompt was the same for all the groups and read “What are the effects of modern technology on our lives?”, though at the time of performing the task they had no idea about what the other groups were talking and writing about. The task was not timed and the participants were allowed to take as much as they needed. At the end of the collection process, the final written drafts were gathered for further analyses. The whole data collection process was eyed by the researchers who, of course, did not interfere with the performance of the groups.

Data Analysis

The collected audio data were initially transcribed. The importance of transcription in the analysis of audio/video data has been highlighted in the literature. For instance, as Ellis and Barkhuizen (2005, p. 209) put, “transcribing is an integral part of the analysis itself. During the process, the analyst begins to notice aspects of the talk which may become an important part of the analysis”. The recorded data were hence transcribed using a modified version of the transcription system developed by Jefferson (1983) (see the Appendix). To answer the first research question, the data were tabulated first in terms of turn-taking and timing patterns and were exposed to basic quantitative analyses. As for the second research question, a conversation analysis (CA) perspective towards data analysis was adopted (Psathas, 1995; Hutchby & Wooffitt, 1998; ten Have, 1999). CA deals with naturally occurring interactions as data, and every minute detail is considered relevant in uncovering participant orientations toward the interaction. The transcribed data was analyzed based on the moment by moment investigation of the learners’ interactions, and certain patterns of interaction between the two study groups were discovered. The data collected from L1 groups were translated into English by two of the researchers separately to achieve unity of analysis. The translated data are *italicized* in the transcriptions to be easily distinguished from English collaborations.

Results

Research question 1

Basic quantitative analyses of the data indicated that L1 and L2 verbal interactions of the participants engaged in a collaborative writing task feature some patterns of difference. Based on a descriptive analysis of the data set and a measurement of the time allocated to the overall task, and the calculation of the number of the turns taken by members of each group, the first research question was answered. Table 1 summarizes the findings for L1 groups.

Table 1. Descriptive features of oral interactions in L1 groups

	Task completion time	Number of turns taken	Average turns per minute
L1G1*	22':59"	127	5.25
L1G2	17':05"	180	10.53
L1B1**	20':02"	204	10.18
L1B2	22':59"	118	5.13
L1B3	28':07"	148	5.26
L1B4	5':20"	27	5.06
<i>Total</i>	<i>116':02"</i>	<i>804</i>	<i>6.92</i>

*L1G1-2: L1 girls' groups

**L1B1-4: L1 boys' groups

As Table 1 shows, task completion time for most of the six L1 groups ranged from about 17 to 28 minutes, with the exception of L1B4 who took only about 5 minutes to complete the task. L1B3 also took the longest among all groups to hand in the written text. The number of the turns taken by the members in each group varied from 27 to 204, yet there seems to be no relation between the amount of time taken to complete the task and the turn taking frequency, since L1B1 who were the third to finish the task (20':02''), ranked the first in the number of turn taken (204 turns).

The total amount of time taken by the six groups was 116 minutes and 2 seconds during which an overall 804 turns were taken. As the last column indicates, in the case of average turns taken per minute, four of the groups had only less than 6 turns, while groups L1G2 and L1B1 featured an average above 10. The average number of turns taken per minute for all the six groups was also 6.92. Table 2 summarizes the counterparts of these findings for L2 groups, where L2G and L2B represent L2 girls' groups and boys' groups accordingly.

Table 2. Descriptive features of oral interactions in L2 groups

	Task completion time	Number of turns taken	Average turns per minute
L2G1*	22':03''	246	10.93
L2G2	13':21''	140	10.37
L2B1**	19':58''	192	9.6
L2B2	33':27''	109	5.26
L2B3	14':23''	82	5.85
L2B4	21':35''	176	8
<i>Total</i>	<i>125':26''</i>	<i>1015</i>	<i>8.12</i>

*L2G1-2: L1 girls' groups

**L2B1-4: L1 boys' groups

According to Table 2, the total task completion time for L2 groups equaled 125 minutes and 26 seconds which varied among the groups from 13 minutes and 21 seconds for L2G2 to 33 minutes and 27 seconds for L2B2. The total number of turns taken also was 1015 with the minimum of 82 for L2B3 and the maximum of 246 for L2G1.

The last column also indicates that with the exception of L2B2 and L2B3, the average turns per minute for all groups, was equal to or above 8, and, as the total value suggests, the average for all the six groups equaled 8.12. However, a comparison of the total calculated amounts for L1 and L2 groups can yield more interesting details.

Table 3. Comparative summary of the oral interactions in L1 and L2 groups

	Task completion time	Number of turns taken	Average turns per minute
L1 Groups	<i>116':02''</i>	<i>804</i>	<i>6.92</i>
L2 Groups	<i>125':26''</i>	<i>1015</i>	<i>8.12</i>

As Table 3 suggests, it has taken longer for L2 groups to complete the task (9 minutes and 24 seconds more than L1 groups). However, although both the number of turn-takings and the average turns taken per minute seem higher in L2 groups, the results of independent samples t-test, as shown in table 4, reveal no statistically significant difference between the two ($p>0.05$).

Table 4. Independent samples t-test to compare Number of turns takings and the Average turns taken per minute in L1 and L2 groups

	T	df	Sig. (2-tailed) P=0.05	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Number of turn takings	-.672	9.989	.517	-23.50000	34.9711	-101.4327	54.43276
Average turns taken per minute	-.956	9.885	.362	-1.38833	1.45205	-4.62880	1.85213

Furthermore, a higher value for the number of turns taken per minute may well imply shorter turns taken by the members. That is, the fact that the average turns per minute have been lower in L1 groups means that they have had longer turns compared with the participants in L2 groups. A closer look at the extracts derived from the transcribed audio data also proves the same idea.

Extract 1. Longer turns taken by L1 groups

- 27. A: *but do you agree that electricity has had bad and good aspects?*
- 28. B: *of course if a country has electricity factories develop and machines took the humans' place and as a results there was fewer jobs for people=*
- 29. A: *=this is the negative aspect=*
- 30. B: *=exactly*
- 31. C: *but there are many positive effects [too]*
- 32. B: *[factories] were made for people to work in them and this was a chance for employment but when automation everything is done by machines this automation has taken the people's place that is unemployed people are more (.) now let's start see what we write=*
- 33. C: *=in our country the function of electricity has been the most important one is subway I think the first paragraph is about [this]*
- 34. A: *[so write]*
- 35. C: *write the effect of technolgy coming to our country*

As the extract suggests, members of the L1 groups take longer turns to develop, exemplify, and clarify their ideas. In turn 32, for example, participant B elaborates on her previous comment in turn 28 about how the advent of electricity and technology has limited job opportunities. She tries to convince her partners by clarifying and illustrating her previous comment. It seems that the learners were interested in the content of what they were talking about, and participant C's disagreement in turn 31 makes B to further explain her point with a longer turn.

Extract 2. Shorter turns taken by L2 groups

- 43. A: *yeah*
- 44. B: *so*
- 45. A: *we can write=*
- 46. B: *=write word by word?*
- 47. C: *yes of course we should write word by word*
- 48. A: *(3) ok now tell me [about disadvantages]*
- 49. B: *[pros and cons]*
- 50. C: *for example you can become addicted to them=*
- 51. B: *=you can chat too much=*
- 52. C: *=you can become lazy*

A comparison of Extract 2 with Extract 1 indicates that the participants in L2 groups have taken shorter turns. The points, as Extract 2 suggests, are made without any further analyses and evaluations. Turns 50 to 52 are good examples of this, where the participants seem to verbalize their points without elaborating on them anymore. The presence of longer turns in L1 groups and, on the other hand, shorter turns in L2 groups can be also illustrated by the patterns of agreements and disagreements on content of the discussions. Table 5 summarizes verbalized agreements and disagreements on content by the participants in L1 and L2 groups.

Table 5. Verbalized agreements and disagreements on content in L1 and L2 groups

	Verbalized agreements	Verbalized disagreements
L1 Groups	15	44
L2 Groups	49	14

As Table 5 shows, the two groups have had different patterns of verbalized agreements and disagreements on content. While participants in L1 groups have tended to disagree more with the content of their partners' comments, agreements have been more common among the participants in L2 groups. The results of independent samples t-test also implied that there is a significant difference between the number of verbalized agreements and disagreements in the two groups. Table 6 summarizes the t-test results.

Table 6. Independent samples t-test to compare verbalized agreements and disagreements on content in L1 and L2 groups

	T	df	Sig. (2-tailed) P=0.05	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Verbalized Agreements	-4.887	5.386	.004	-5.66667	1.15950	-8.58419	-2.74914
Verbalized Disagreements	5.115	6.293	.002	5.00000	.97753	2.63485	7.36515

As the table indicates, the number of verbal agreements uttered by L2 groups is significantly more than the ones uttered by L1 groups ($p= 0.04$); on the other hand, L1 groups uttered significantly more disagreements ($p= 0.02$) on the content of their group members' comments. The following two extracts illustrate how disagreement may be more conducive to longer turns and vice versa.

Extract 3. Verbalized disagreements on content in L1 groups

- 68. B: *well what do you think are the positive effects?*
- 69. A: *it can be anywhere like the negative effects (.) for example in medicine technology [has helped]*
- 70. B: *[cure diseases]*
- 71. A: *[cure many diseases] cancer and malignant sicknesses=*
- 72. C: *=but we can also say it has caused diseases itself so we can't write this example (.) it has caused diseases [itself]*
- 73. B: *[pollution] and these [things] or we can say it makes life faster like internet [television]*
- 74. A: *[and text]*
- 75. C: *it helps people get closer to each other=*
- 76. A: *= but it also makes distances among people you know why? Because [technology]*
- 77. B: *[this is less]*
- 78. A: *[with faculties] everyone has some TVs instead of one more rooms satellite computers satellites and the kids are not with the family each in a [room]*
- 79. C: *[well but]*

80. A: *[each in a room] with some facilities and equipments for themselves causes less family [get-togethers]*
81. C: *[but it caused]*
82. A: *[and there] are bigger gaps between families and children=*
83. C: *=but maybe in the past two people two friends would not see each other may didn't call [each other]*
84. B: *[two different cities]*
85. C: *yeah but know by email sms or other things (.) the contact is more [than]*
86. B: *[positive effects] are more than negative=*
87. A: *=people are closer to each other*

As the above extract exemplifies, whenever the participants disagree with the content of their partners' comments, longer turns are generated. A case in point is turn 72 where C disapproves A's comment and provides a more analytic discussion to refute her comment. The same holds true to turn 76 where A disagrees with A and B's idea and sets out to illustrate her point in the subsequent turns. The discussion seems to be so hot that despite B's attempts to take the floor in turns 79 and 81, A does not relinquish the turn and keeps supporting her claim. However, in turn 83, C succeeds to take a turn and showing disapproval of A's supports tries to convince her partners, and as the turns 86 and 87 indicate, manages to do so. According to the findings, therefore, it seems that disagreements on content trigger more analytic discussions of the topic at hand, and hence generate longer turns. Extract 4 corroborates the point by showing how agreements on content are prone to generating shorter turns.

Extract 4. Verbalized agreements on content in L2 groups

12. A: *technology makes our life easier aren't you?=
13. C: =yes
14. A: in before we walked to street to buy=
15. C: =but now internet (.) we buy online
16. B: yes
17. A: it has helped us be improved in everything
18. C: yes of course
19. A: what is the most important advantage?
20. C: the most important is one one of one of most important is internet
21: B: yes yes=
22: C: for example when you buy [something]
23: A: [online]
24: B: yes buy online*

According to Extract 4, C and B's agreements with A's comment in turns 13, 15 and 16 lead to very short turns. Furthermore, their agreements seem to close the case and no different idea is generated. In turn 19, A tries to elicit new comments about the advantages of technology, but his attempt is followed by a repetitive comment on the benefits of internet in turns 20 to 22. As a result of these disagreements, not only very short turns are taken, but also very limited ideas are generated.

Research Question 2

According to the literature, L1 has been reported to have multiple functions in writing in a second language. However, the present study takes the L1 use model suggested by Storch and Wigglesworth (2003) as its point of departure. In this model, 4 main uses for L1 during L2 writing process have been realized which include *task management, task clarification, vocabulary and meaning and grammar*. The two last functions can be considered as an extension of what Swain and Lapkin (2000) termed *language related episodes*. Storch and Wigglesworth (2003, p. 763) define the four functions of L1 use as:

1. *Task management*: discussion about how the task should be completed or how the written text should be structured,
2. *Task clarification*: discussion about the meaning of the task prompt and instructions,
3. *Vocabulary and meaning*: discussions about lexical choice and definitions of words, and
4. *Grammar*: deliberations about grammatical points.

The transcribed data of the present study were therefore coded into each of the above functions and a fifth category was added to cater for *content-related* functions. This is particularly important because unlike Storch and Wiglesworth's study, the participants were not allowed to switch between the two languages, and hence the purpose was not to find functions of L1 use in their collaborations. It was rather to quantify the amount of focus on each of the four categories (as opposed to the fifth category of content) in L1 and L2 groups. The basis of the coding scheme was the number of the turns taken by the participants to refer to each of these five categories. The coding was done by the researchers separately to ensure inter-rater reliability and the points of disagreement in coding were resolved through discussions.

The results of the analyses revealed that L1 and L2 groups were different in the amount of attention paid to the five categories mentioned above. Table 7 summarizes the findings.

Table 7. The frequency of the turns taken to refer to the five categories

	Task management		Task clarification		Vocabulary & meaning		Grammar		Content		Total	
	#*	%**	#	%	#	%	#	%	#	%	#	%
L1 Groups	109	13.55	27	3.35	56	6.96	162	20.14	450	55.97	804	100
L2 Groups	35	3.44	13	1.28	72	7.02	50	4.92	845	83.25	1015	100

*Number **Percentage

As Table 7 shows, the number of turns containing task management, task clarification, and grammar is greater in L1 groups compared with L2 ones. In vocabulary and meaning, on the other hand, the number and percentage of related turns are greater for L2 groups. The case is of course similar in content-related turns where both the number and percentage of these turns are greater for L2 groups too. Therefore, descriptively speaking, it could be concluded that the use of L1 by participants engaged in a collaborative writing task has generated more instances of turns related to task management, task clarification and grammar. The use of L2, on the other hand, seems to have been conducive to more focus on vocabulary and meaning and content. Inferential statistics, however, provides more detailed information. Table 8 shows the results of independent samples t-test for each of the categories.

Table 8. Independent samples t-test to compare L1 and L2 groups in the five categories

	t	df	Sig. (2-tailed) P=0.05	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Task Management	3.513	6.288	.012	12.33333	3.51030	3.83853	20.82813
Task Clarification	1.919	6.764	.098	2.33333	1.21564	-.56168	5.22835
Vocabulary & Meaning	-1.097	9.964	.299	-2.66667	2.43128	-8.08655	2.75322
Grammar	3.264	6.679	.015	17.00000	5.20897	4.56169	29.43831
Content	-2.643	7.394	.032	-65.83333	24.90973	-124.10499	-7.56168

As table 8 shows, the differences between the performance of L1 and L2 groups are significant at the level of $p=0.05$ in Task Management ($.012 < p$), Grammar ($.015 < p$) and Content ($.032 < p$). In other words, L1 groups have featured significantly more instances of task management and focus on grammar than L2 groups. As far as content is concerned, however, L2 groups seem to have featured significantly more instances compared to L1 groups. The differences found in Task Clarification ($.098 > p$) and Vocabulary and Meaning ($.299 > p$) between the two groups are not statistically significant. The following will provide examples of extracts related to the categories in which significant differences between the two groups were found.

As summarized in Table 8, L1 groups featured significantly greater tendencies to refer to task management in their collaborations about the written task. Extract 5 is an example of these instances.

Extract 5. Task management in L1 Groups

- 21. B: *ok guys (.) we what about a short introduction?*
- 22. A: *an explanation of topic (.) we write the topic in some lines*
- 23. B: *and next we write the positive effects=*
- 24. C: *=and [negative]*
- 25. B: *[negative] yeah negative effects*
- 26. C: *yeah it's good three parts*
- 27. A: *yeah so draw three parts on paper (5) ok now the effect*
- 28. B: *no it's the start*
- 29. A: *aha (.) the introduction what should we write?*

In Extract 5, the L1 group participants take 9 turns to decide on how to do the task at hand. They seem to be planning the overall organization of their writing task first. In turn 21, B shows his awareness of the overall structure of a paragraph by asking a question about the introduction. The question is followed by a further explanation about the introduction by A, and then the discussion continues to other sections of the writing task, i.e. the positive and negative effects of modern technology in the subsequent turns. In turn 27, A suggests to draw sketches on the paper to focus on different parts of the paragraph one by one, and the suggestion is welcomed by his partners in the 5-second pause in the current turn where they start to draw the sketch. The overall design is decided and in turn 29, A tries to elicit content from his partners.

Grammar was also found to be dealt with by L1 and L2 groups differently. Similar to task management, the references to grammar in L1 groups significantly outnumbered the ones in L2 groups. That is the data collected from L1 groups featured more instances of talking about grammar. Extract 6, illustrates an example of this.

Extract 6. Grammar in L1 groups

- 15. C: *language lab may be helpful and use these equipments*
- 16. A: *=THIS (3) language lab this lab is singular*
- 17. B: *no equipMENTS is plural*
- 18. C: *yes using using (2) using these [equipments]*
- 19. A: *[no no] it's not countable equipMENT (.) THIS equipment*
- 20. B: *[oh yes]*
- 21. C: *[yes yes] this using this equipment*

According to Extract 6, the meaning focused discussions of the group members shifts into a form focused one by A's reference to a grammatical point in turn 16. While C and B argue that "equipments" should be preceded by "these," A disagrees, and in turn 19 explicitly posits that "equipment" is uncountable and hence should be referred to as "this equipment." B and C's quick approval of A's comment in turns 20 and 21 also indicates that they are well aware of the grammatical rule and do not need any further explanations.

In other words, A's form focused comment raises B and C's awareness about a grammatical point they have ignored.

Apart from the above four categories, a fifth category of content related turns was also found in the data which comprises a huge proportion of the total number of turns (55.97% in L1 groups, and 83.25% in L2 groups). The following extract is chosen from L2 groups who allocated 845 turns to talking about content, which was found to be significantly more than the counterpart number by L1 groups (450) (see table 8).

Extract 7. Content in L2 groups

36. A: you said there is NO useless technology in our life (1) do we have?
37. B: technology means something that is technical that is USED
38. A: yes [starts writing]
39. C: yes we have Reza (.) nuclear power
40. A: [laughs] no=
41. B: =that's [not technology]
42. C: [it's a technology]
43. A: it's a technology but it is not useless
44. C: it is useless
45. A: WHY?
46. B: for power (.) for electrocity
47. C: from this perspective yes [but]
48. B: [yeah] come on

As Extract 7 suggests, throughout these 13 turns, the participants are dealing with content-related issues. They are deciding whether technology can be useless or not. B's comment in turn 37 posits that technology cannot be useless. This argument is quickly accepted by A, who starts writing in 38. Yet soon after, C challenges the idea by putting that "nuclear power" is useless, an argument which is refuted by A and B in the subsequent turns particularly by B's examples in turn 46, to which C seems to have acceded in turn 47.

Discussion

Contrary to the huge bulk of studies in the literature which sought to find out why learners switch to their L1s while writing in L2, the present study was designed to see how approaching an L2 writing task is basically different in groups who collaborate in their L1s and those who are bereaved of this opportunity and are limited to collaborating in their L2. The results have indicated that collaboration in L1 can reduce cognitive overload of the demanding task of writing in L2 and hence can provide the learners the chance to explore other areas of language besides content.

The results of the study showed that the nature of the learners' collaborations in L1 and L2 are very different. L1 groups took less time to complete the overall task and hand in the final draft. Similarly, the quantitative analyses of turn taking patterns also revealed that they took fewer turns to complete the task compared with L2 groups. However, when more deeply studied, the turns taken by L1 groups proved to be longer and more analytical. In other words, although L2 groups took more turns in their collaborations, their turns were shorter and hence rarely did they elaborate on their comments.

The results also indicated that given their mastery over content and linguistic features of their mother tongue, L1 groups could challenge and disagree with their partners' comments and work their points of conflict out. The case did not hold true to the L2 groups whose data indicated significantly more instances of agreement on content, which in turn led to accepting the first suggestions and impeded analytical thought over content in many cases.

An analysis of the five variables of task management, task clarification, vocabulary and meaning, and content also indicated that L2 groups were too concerned with what to say and write that they had little cognitive capacities left to deal with task management, task clarification and grammar. The descriptive quantification of the turns taken by the two groups showed that L2 groups were more concerned with vocabulary and meaning and content and paid less attention to task management, task clarification and grammar. This lack of attention to form in L2 groups can be frowned upon from a second language acquisition point of view as Gutierrez (2008) puts:

[T]here is a growing body of evidence that supports the claim that some degree of attention to language is necessary for SLA and that learners need to be provided with the appropriate tools to reflect on language and its use (p.519).

These latter findings of the study could be deemed to be in line with findings in the literature (Swain and Lapkin, 2000). Research dealing with why learners switch to their L1 while doing an L2 writing task has stipulated that L1, as a tool for mediation, is used by L2 learners to decrease the cognitive overload of the task at hand (Qi, 1998; Cohen & Brooks-Carson, 2001; Woodall, 2002; Knutson, 2006). In other words, once L2 learners face cognitive overload while writing in L2, they decide to revert to L1 use. This can be said to have been corroborated by the results of the current research particularly because the L2 groups who were not allowed to use the L1 did not feature extensive references to areas beyond vocabulary and content.

Wang and Wen (2002) also found that “the tendency of L1 occurrence varies with individual composing activities: L1 is more likely to occur in process-controlling, idea-generating and idea-organizing activities than in text-generating activities” (p. 240). This is also partly in line with the findings of the present study. The results of the present study implied that L1 groups referred to task management, task clarification, and grammar (counterparts for Wang and Wen’s process-controlling) more than L2 groups. However, contrary to Wang and Wen’s study, content or idea-generating was referred to by L2 groups more than L1 ones.

More reference to task clarification was another feature of L1 groups’ collaborations. Brooks and Donato (1994) obtained similar results and maintained that L1 may assist learners “to gain control of the task” and therefore work with it at a higher cognitive level. The finding is also akin to that of Storch and Wigglesworth (2003) who postulate that more instances of task clarification in Vygotskian terms allows learners extend their zone of proximal development (ZPD) (Lantolf, 2000). In other words, learners can proceed with the task only when they gain a shared understanding of what they need to do. Anton and DiCamilla (1999) also conclude that one of the functions of L1 use by L2 learners is achieving inter-subjectivity or a shared understanding of the task in hand.

Finally, contrary to previous studies which highlighted the similarities of writing processes in L1 and L2 (Woodall, 2002), the present research tried to uncover the intricate differences of the two processes by showing how differently learners approach the writing task while collaborating in L1 and L2. The idea was also to show that writing collaboratively in a second language while making use of L1 can be a fundamentally unique experience, and with regard to the numerous facilitative functions L1 can potentially have, L2 teachers may need to reevaluate views concerning the use of the L1 in L2 group and pair works.

Conclusion and Implications

As opposed to older views towards favorability of the separation of the learners’ mother tongue from the L2 while teaching them a second language, there has been a current shift of attitudes towards giving L1 a role in SLA. Based on the tenets of the socio-cultural theory of learning, a good number of supports for L1 use in second language pedagogy have been identified. The majority of these supports assume L1 as a tool for mediation, especially in group and pair-work activities. Therefore, collaborative writing has also been investigated to show what roles L1 can play in joint writing tasks. Studies in this regard have mainly

focused on the similarities of L1 and L2 writing processes, thus overlooking the differences between the two. A good many of the articles in this domain have investigated the roles L1 plays in L2 writing tasks and why L2 writers switch to their L1s. However, the potential differences between mental processes of learners collaborating in L1 and the ones collaborating in L2 have been largely taken for granted.

The present study was then designed to show how differently learners collaborating in L1 and learners collaborating in L2 may approach a joint writing task. The results indicated that while the participants in L2 groups were generally obsessed with generating ideas and dealing with vocabularies, L1 groups, making use of their huge lived experiences in their mother tongue, stepped beyond content and explored other language areas such as task management, task clarification, and grammar.

The possible explanations behind this can be better understood in the light of the research conducted under the framework of Cognitive Load Theory (CLT) which is an instructional theory based on human cognitive architecture addressing the limitations of working memory (Mayer, 2005). According to Sweller (2005) CLT addresses deals with the limitations of working memory capacity and the construction of schema automation in long-term memory. Before the incoming data is transferred to long-term memory, it needs to pass through working memory. It is at this point that overloading working memory with cognitively demanding tasks and activities may impede this transfer process. The conclusion derived from this for language pedagogy is therefore the fact that the reduction of workload on working memory may well boost language performance.

Cognitive load in this regard refers to the overall mental activity of the working memory at a certain point of time (Cooper, 1998). Two main kinds of cognitive load have been identified in the literature (Sweller, 2007). The first is intrinsic cognitive load which is a function of the incoming stimulus, and hence cannot be manipulated by instructional interventions. The second is extraneous cognitive load which is, on the contrary, generated by instructional intervention. In other words, appropriate instructional designs or task specificities can duly reduce this extraneous cognitive load. Now, back to the findings of the present study, it can be concluded that the use of L1 in collaborative writing can serve an important role in reducing this latter type of cognitive load. As the results of the analyses suggest, collaborating and writing in L2 at the same time have been such a cognitive burden for L2 groups that they could not step beyond content. L1 groups, on the other hand, having a lower extraneous cognitive load as a result of collaborating in their mother tongue, could feature more instances of task management and meta-linguistic talk in the form of grammar explanations.

The findings can also have many implications for teacher trainers and textbook developers as well as teachers themselves. If the use of L1 can enhance the quality of learner interactions, then there seems to be a need to raise awareness towards these beneficial roles. As the analyses showed, L1 groups featured significantly more instances of task management and focus on grammar than L2 groups. The findings can be of great interest to task designers and teachers engaged in designing and delivering cognitively demanding tasks. Learners seem to be able to manage the task at hand once they are allowed to use their L1. The case holds true to form-focused tasks where the learners are expected to pay conscious attention to form. L1, as the findings suggest, can provide ample opportunities for learners to step beyond constraints of meaning and discover the form.

The present study was limited to the collaborations of the learners engaged in writing an argumentative paragraph. However, task variation may reveal different results, and so can different paragraph modes. There was also no focus on group compositions. In other words, exploring how different group formations may affect the use of L1 can be interesting too. Finally, writing was taken as a whole process in the present research. However, investigating the learners' use of their L1s in different phases of a writing task (planning, drafting, revising) independently can prove informative too. Further research, catering for these limitations, is therefore welcomed.

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Appendix:

Conversation Analysis Transcription Conventions (adapted from Jefferson, 1983):

(.) (2)	untimed/timed perceptible pause within a turn underline stress
CAPS	very emphatic stress
↑	high pitch on word
.	sentence-final falling intonation
?	yes/no question rising intonation
,	phrase-final intonation (more to come)
:	a glottal stop, or abrupt cutting off of sound
:	lengthened vowel sound (extra colons indicate greater lengthening)
=	latch (direct onset or no space between two unites)
→	highlights point of analysis
[]	overlapped talk; in order to reflect the simultaneous beginning and ending of the overlapped talk, sometimes extra spacing is used to spread out the utterance
°soft°	spoken softly/decreased volume

><	increased speed
()	(empty parentheses) transcription impossible
(words)	uncertain transcription
.hhh	inbreath
\$words\$	spoken in a smiley voice
(())	comments on background, skipped talk or nonverbal behavior
{{() words.}}}	marks the beginning and ending of the simultaneous occurrence of the verbal/silence and nonverbal; absence of {} means that the simultaneous occurrence applies to the entire turn.
?S(s):	Unidentifiable speaker(s)
“words”	words quoted, from a textbook, for example

