

Collaborative Writing: Product, Process and Students’ Perceptions in Secondary School EFL Writing

Author: Nora Gil Sarratea

Tutor: Dr. Izaskun Villarreal Olaizola

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0. ABSTRACT

Although pair and group work are widely used in language classrooms, research investigating the benefits of collaborative writing (CW) is very limited. This study sets out to integrate CW in secondary school EFL writing. Two parallel intact classes were used. After a pre-teaching and an individual pre-test in both classes, students in the control group (N=16) produced an argumentative essay individually whereas students in the experimental group (N=16) produced it in pairs and recorded their interactions. They also completed a questionnaire to elicit their perceptions. The study analysed the product, process and students' perceptions on CW. The findings revealed that pairs produced shorter but more grammatically accurate and linguistically complex texts. They also obtained higher scores in content, structure, organization and register. Collaboration afforded students the opportunity to pool ideas, deliberate over language use and provide each other with feedback. Despite some reservations, most students were supportive of the experience.

Key words: collaborative writing, secondary school, EFL, language outcomes, episodes, perceptions.

1. LITERATURE REVIEW

In the last 15-20 years, collaborative pair and group work has become common in many classroom contexts around the world. Indeed, the current view of language learning and teaching emphasizes instruction in which collaborative pair and group work is central to the language classroom (García Mayo, 2007; Shehadeh, 2011).

This view rests on strong theoretical and pedagogical bases. From a theoretical perspective, it is supported by the social constructivist perspective of learning. Social constructivism, based on Vygotsky's work (1978), sees human development as inherently a socially situated activity. In first language (L1) contexts, a child's (novice) cognitive development arises in social interaction with a more able member of society (expert), who provides the novice with the appropriate level of assistance. Such assistance, which is referred to in the literature as *scaffolding*, enables novices to stretch their cognitive and linguistic development beyond their current level towards their potential level of development. However, researchers have shown that *scaffolding* can also occur in second language (L2) contexts among peers when working in pairs and groups (Kuiden & Vedder, 2002; Alegría de la Colina & García Mayo, 2007; Kim 2008; Swain, 2000, 2006, 2010, among others). Thus, from this perspective, as Storch and Wigglesworth (2007,

p.157) stated, “group and pair work provide learners with the opportunity to participate in activities which foster interaction and knowledge co-construction.”

From a pedagogical perspective, the use of pair and group work is supported by the communicative approach to L2 instruction and its emphasis on providing learners with opportunities to use the L2. For instance, McDonough (2004, p.208), citing evidence from pedagogically-oriented research, considers the main benefits of pair and group work:

Pair and small group activities provide learners with more time to speak the target language than teacher-fronted activities, promote learner autonomy and self-directed learning, and give instructors opportunities to work with individual learners. In addition, learners may feel less anxious and more confident when interacting with peers during pair or small group activities than during whole-class discussions.

While the use of collaborative small group and pair work in the language classroom is well supported theoretically, its use in L2 writing classrooms seems quite limited. Collaborative writing (CW) defined as “the joint construction or the co-authoring of a text by two or more writers” (Storch, 2011, p. 275) has rarely been used. The majority of peer-interaction activities have employed oral tasks. When collaborative activities have been introduced into writing classes, it has been generally for the purposes of brainstorming ideas prior to the writing activity itself, or for the purposes of obtaining feedback from the teacher or peers on the drafted or completed writing. This way, one of the drawbacks of peer reviews is that the focus is often on the final product of writing rather than the process of writing (Storch, 2005).

Getting students to compose in pairs is a fairly novel strategy mainly because writing is generally thought of as a complicated process which is carried out individually (Storch & Wigglesworth, 2012). Writing in a foreign language (FL) seems to be one of the most complicated and difficult language skills for language learners to acquire in academic contexts because it requires carefully-organized integration among different language sub-skills: it implies getting the grammar and spelling right; having a wide range of vocabulary; using a variety of sentence structures; linking the ideas and information across sentences in order to develop a topic; organizing the content clearly and using the conventions of layout correctly. It involves a number of cognitive and metacognitive strategies, such as, brainstorming, planning, outlining, organizing, drafting, revising and editing which are often carried out individually. Furthermore, it seems that many teachers have been reluctant to doing pair work activities in their classrooms

because they think that learners may use their L1 or because they are not sure about how to best pair students (Storch & Aldosari, 2012).

But while writing is generally considered a solitary activity, in real world contexts, CW is far from unusual. In higher education contexts, nowadays learners are being asked with greater frequency to work in pairs or groups to complete written assignments. Similarly in the workplace, learners will be asked to work in pairs or groups on group projects.

Indeed, even if research investigating the benefits of CW is scant, there has recently been a focus on examining CW. It has been considered a way of emphasizing interactive teaching and learning, and it departs from the more traditional and teacher-dominant classroom that has been the norm.

Swain's work (2000, 2006, & 2010) expanded on the advantages of CW. Based on Vygotsky's perspective of L2 learning, Swain (2000) proposed the notion of *collaborative dialogue* in which learners are engaged in joint problem solving activity. It constitutes a form of *languaging*, described as "the process of making meaning and shaping knowledge and experience through language" (Swain, 2006, p. 89). In the research examining the nature of *languaging* that occurs during collaborative activities, this notion has been operationalized as language-related episodes (LREs). These episodes are segments in the learners' dialogues where they deliberate over language (lexical choices, grammar and mechanics) while trying to complete the task (Swain & Lapkin, 2001).

A number of studies have examined the nature of that *languaging* that occurs during collaborative writing activities and have contrasted writings completed individually and in pairs. It has been proven that not only students' attitudes toward collaborative activities are positive and their motivation increases, but their writing quality also improves in a significant way (Swain & Lapkin, 2001; Storch 2005, Storch & Wigglesworth, 2007, 2009; Shehadeh, 2011 among others).

According to Storch's review (2011) three strands can be distinguished in this body of research. The first strand includes studies that have looked more closely at the product or outcome of CW, by comparing the quality of writings composed by individuals and pairs. The second strand comprises studies that have focused on the nature of the cognitive processes that CW engenders by considering the influence of factors such as task type, L2 proficiency and relationships learners form when working

together. The third strand includes studies that consider the field of computer-mediated interaction. Furthermore, all those studies from the three strands have examined students' perceptions on CW.

Within the first strand, by comparing students working individually or in pairs, it has been demonstrated that CW results in writings with much more accuracy in grammar, a higher linguistic complexity and with more relevant, richer and precise content, organization and vocabulary (Storch, 1999, 2005; Kuiden & Vedder 2002; Storch & Wigglesworth, 2007, 2009; Kim, 2008; Shehadeh, 2011; Fernández Dobao, 2012 among others). The analysis of the transcripts of the pair talk has allowed the researchers to better understand the higher quality of writings completed by pairs.

In a cross-sectional study that focused on collaborative dialogues, dictogloss and text reconstruction tasks completed by intermediate proficiency level learners of Dutch, English and Italian as an L2, Kuiden and Vedder (2002) investigated the role of group interaction in L2 writing. They found that learners' reflection on and discussion of language forms, content and the writing processes itself resulted in noticing and, as a consequence, higher command of certain grammatical and lexical forms.

Storch's (2005) classroom-based study compared writing produced by two groups of advanced English as Second Language (ESL) learners who worked on a data commentary task individually or in pairs. All the texts were measured quantitatively in terms of fluency, accuracy and complexity and qualitatively taking into consideration their content, structure and task fulfilment. The study found that pairs produced shorter texts, but grammatically more accurate and syntactically more complex. Furthermore, pairs tended to produce texts that had a clearer structure and focus.

In a larger-scale experimental study, Storch and Wigglesworth (2007) compared the writing performance of 24 pairs and 24 individual advanced ESL learners on a report and an argumentative essay and more recently, the same authors (Storch & Wigglesworth, 2009) conducted a study in which they compared 24 pairs and 48 individual advanced ESL learners writing an argumentative essay. In both studies pairs were assigned more time to complete the task than individual learners and writings were also analysed on detailed discourse analytic measures of fluency, complexity and accuracy. The studies obtained similar results: like Storch (2005), they found that the texts written in pairs were significantly more accurate than those written individually. However, collaboration did not result in longer texts or more complex language.

The analysis of the pair talk in the previous two studies illustrated that collaboration afforded the students the opportunity to interact on different aspects of writing. In particular, it encouraged students the opportunity to give and receive immediate feedback on language, an opportunity missing when students wrote individually (Storch & Wigglesworth, 2007). Brainstorming of ideas took up the greater proportion of the time and included making notes about ideas. Revision, with a focus on grammatical accuracy and lexical choice, was also important as learners discussed their use of language (Storch & Wigglesworth, 2009). The authors concluded that this collaboration may explain why pairs tended to produce texts with greater grammatical accuracy than individual writers.

In a further exploration of the role of collaboration in writing, Fernández Dobao (2012) contributed to the understanding of the benefits of peer collaboration, not only between pairs, but also in small groups. Intermediate Spanish learners in a university context worked either in groups, in pairs, or individually to complete a written task. The analysis of the texts in terms of accuracy, fluency, and complexity revealed that the groups produced the most accurate texts, followed by the pairs, and then the individuals. As everyone was assigned the same amount of time, individuals produced longer texts. The recorded interactions showed that the groups also produced a larger number of LREs than the pairs, and had a higher proportion of correctly resolved LREs. These findings suggest, similarly to Storch and Wigglesworth (2009) that pooled knowledge acts as an enabler in CW activities, allowing learners to produce more accurate texts as a result of shared knowledge. It must be noted that the larger number of participants may result in a higher complexity of patterns of interaction. Sometimes in groups of more than two learners, many LREs were resolved without the active participation of all members.

Although the previous studies have shown that collaboration tends to result in better quality writings, mainly in terms of grammatical accuracy, other studies have investigated more closely if CW activities, and the LREs thereby generated, lead to language learning.

Kim (2008) compared the effectiveness of collaborative and individual tasks on the acquisition of L2 vocabulary. The task used was a dictogloss and language gains were measured by comparing scores on pre-test and two post-tests. Learners working in pairs resolved correctly a higher percentage of these LREs and as a result, they performed better in the vocabulary post-tests. The results of another study with a pre-test-post design

conducted by Meihami, Varmaghani and Meihami (2013) supported the hypothesis that CW has a significant effect on improving grammatical accuracy of the English as a Foreign Language (EFL) students' writings.

In order to test the effectiveness of CW not just in one aspect, such as vocabulary or grammatical accuracy, but on learners' general writing skills, Shehadeh (2011) conducted a longitudinal study in EFL context. She found that practice with collaborative activities over a prolonged period of sixteen weeks had a positive impact on the quality of learners' writings. A writing scale was used to rate students' writings in terms of content, organization, grammar, vocabulary and mechanics and the results showed improvements in content, organization and vocabulary, but not in accuracy, as had been found in previous studies. As Shehadeh argues, it is possible that this was because the learners involved in the study were quite low-proficiency learners and they may not have had the language knowledge to assist each other.

While the first strand includes studies that have looked at the product of CW and have proved that pairs, involving mainly advanced learners in SL contexts, tend to produce shorter but linguistically and grammatically more complex and accurate texts, with a clearer structure and focus, the second strand focuses on the nature of the cognitive processes that CW engenders. They have mainly examined the influence task type and L2 proficiency grouping have on collaborative dialogues.

Studies have indicated that different task types could promote different attention to language on the collaborative process: Storch's (2005) study of nine dyads who were asked to collaboratively describe a graphic prompt showed that the learners focused a considerable share of the total time (53%) on idea generation followed by language issues (25%); Alegría de la Colina and Garcia Mayo (2007) demonstrated that a more structured task (text reconstruction) elicited more LREs from the learners than jigsaw or dictogloss; in Storch and Wigglesworth (2007), more attention to lexical choices than to accuracy was elicited probably because the tasks used were meaning-focused. This greater attention to lexis could also be attributable to the fact that the participants were advanced L2 learners.

In fact, the L2 proficiency of learners has been another important factor that can affect the quantity and quality of the LREs, and therefore it has to be taken into consideration when pairing learners. One of the earliest studies to consider the impact of

proficiency pairing on attention to language use was conducted by Leeser (2004). Learners were assigned to pairs of similar and mixed proficiency and after completing a writing task, it was found that L2 proficiency had an impact on the number of LREs produced: the high-high pairs produced the greatest number of LREs, followed in descending order by the high-low and low-low pairs. Although most LREs were resolved correctly across all proficiency pairings, the highest proportion of unresolved LREs was found in the data of the low-low pairs. It was suggested that *linguaging* may not be as successful among low-proficiency pairs.

Building on Leeser's work, subsequent studies investigated the effect of not only the learners' L2 proficiency pairing but also the relationships pairs form when working together. This was one of the key findings in Aldosari's (2008) doctoral research. By forming pairs of mixed proficiency in completing three different tasks, it was found that learners who collaborated, irrespective of their proficiency level, produced more LREs than those who did not. Thus, the main variable or factor in this study was the relationships the pairs formed rather than their proficiency grouping or type of task. However, collaboration tended to occur mainly among the similar proficiency pairs (low-low and high-high) rather than the mixed proficiency pairs, where the more proficient learner tended to dominate the interaction. Storch and Aldosari (2012, p. 46) also concluded that the optimal pairing of students depended on the goal of the activity but that "similar proficiency learners seem more likely to form collaborative relationships than pairs where the proficiency gap is large".

Therefore, it has been proved that a greater attention to lexical choices than to accuracy is attributable to the meaning-based nature of the tasks and higher proficiency level of learners. Furthermore, *linguaging* may not be as successful among low-proficiency pairs and collaboration seems to occur mainly among similar proficiency pairs rather than mixed proficiency pairs.

In addition to examining the final product and process of CW, many of the aforementioned studies and some others have investigated students' perceptions on CW. In general, learners have reported positive attitudes toward their experiences. In Shehadeh's study (2011, p. 296), for instance, although CW was new to students, they enjoyed it and found it beneficial by stating that CW "enabled them to generate ideas, pool ideas together, discuss and plan, generate their text collaboratively, provide each other with immediate feedback, and put their text in better shape". Furthermore, their answers showed that they would like to continue working collaboratively in pairs.

In the study by Storch (2005), most students were also positive about the experience and they specifically stated that collaboration was helpful for grammatical accuracy and L2 vocabulary learning. However, two students felt that writing was an inherently individual task and that therefore pair work was better suited for oral activities and other express “some reservations” (Storch, 2005, p. 166). These reservations revolved around their lack of confidence in their own language skills and their concern with criticizing others. In a previous study, Storch (2004) had also found that whereas learners who collaborated or formed an expert/novice relationship viewed pair writing activity positively, this was not the case with participants who formed dominant/passive and dominant/dominant patterns of interaction.

In a recent study by Fernández Dobao (2013) about learners’ attitudes and perceptions on CW, the findings concur with previous research on CW as the students had overall a positive attitude toward pair work and enjoyed the experience. However, students were not aware of the potential and actual learning benefits of CW as “almost a third of them could not see a positive impact of peer collaboration on linguistic accuracy or L2 development” (Fernández Dobao, 2013, p. 375).

Therefore, despite some reservations expressed by learners, research shows that most students have been positive about CW and enjoyed the experience. They specifically stated that collaboration was helpful for generating ideas and grammatical and lexical accuracy, although some of them were not aware of the potential learning benefits of CW.

The review of the first two strands, that comprise a small number of studies investigating collaborative work for the written discourse in L2, gives us an insight into the product and process of CW. The first strand comprises studies that have focused on the final product’s quality by comparing writings completed by individuals and pairs. They have proved that students’ writings improved due to CW. The analysis of the pair talk transcripts has allowed the researchers to better understand the higher quality of writings completed by pairs. Research from the second strand has analysed closely the main factors that have an influence on CW: task type, L2 proficiency and the relationship learners form when working together. Furthermore, some of them have also investigated learners’ perceptions on CW experience. Finally, the third strand includes studies that consider the field of computer-mediated interaction. Although more and more researchers are interested in widening this scope, just the first two strands will be taken into consideration for the purposes of the present study.

2. RESEARCH QUESTIONS AND HYPOTHESES

The aforementioned studies that will serve as starting point for this study have been mainly carried out in SL rather than FL contexts, with university level participants or learners who were taking some specific academic writing courses. Furthermore, many of them have focused on CW activities such as dictogloss, text reconstruction or jigsaw and not too much on the production of different writing genres normally done in the writing classroom.

The current study, therefore, aims to contribute to the fast-growing research on CW by taking it a step further and extending and integrating it into secondary school EFL writing. It sets out to investigate the product, process and students' perceptions on CW.

Specifically, the aims of this study are as follows:

1. To compare the product from individuals and pairs working on the same writing task in order to identify whether there are differences in terms of fluency, grammatical accuracy, complexity, content, structure, organization of ideas and register.
2. To investigate the process of how students go about composing in pairs by analysing the pair recordings.
3. To elicit the learners' attitudes and perceptions on the activity of CW.

Results are expected to be supportive of CW in secondary school. According to previous research, (Swain & Lapkin, 2001; Kuiden & Vedder 2002; Storch 2005, Storch & Wigglesworth, 2007, 2009; Kim, 2008; Shehadeh 2011; Fernández Dobao, 2012 among others), students will probably produce shorter texts but with more accuracy in grammar and vocabulary, higher linguistic complexity and with more relevant, richer and precise content, organization, structure and register.

The analysis of the pair talk may explain the differences in the quality of the writings. The students are expected to spend most of the time generating ideas and deliberating over language choices, mainly lexical language-related episodes. They are also expected to be positive about the experience.

3. METHODOLOGY

3.1. Participants and instructional context

The study was conducted in an FL learning setting. The participants are 32 male/female Basque-Spanish early bilinguals learning English as a foreign language. They study first of optional secondary education at a Secondary School in a town of Navarre.

The students are divided into two classrooms depending on their specialities and these two parallel intact classes were used for the purpose of this study. Group A consisted of 16 students and is considered the *experimental group (EG)* and Group B also consisted of 16 students and is considered the *control group (CG)*. The division into experimental and control groups was determined at random. However, it must be noted that group A is originally formed by 17 students and B by 19 students. As they could not attend one of the sessions, they were excluded from the study.

In order to have an independent variable of their level, an Oxford Placement Test was administered. As suggested by previous research, CW and *languageing* may not be as successful for low-proficiency pairs. Furthermore, learners in this study had to be able to produce an argumentative text in a short period of time. The students from the EG were classified as advanced (1), upper intermediate (6), intermediate (8) and low intermediate (1); the students from the CG were classified as upper intermediate (2), intermediate (13) and low intermediate (1).

Both classes receive the same instructional curriculum and the book they follow in class is *View points I* from Burlington Books publisher. Each unit focuses on a different writing genre, such as, descriptions, reports, letters or argumentative essays considered common text types for the CEFR B1 reference level (Council of Europe, 2001).

3.2. Materials

3.2.1. Collaborative writing task

The task involved is an argumentative essay of 150 words. The main reason of choosing this type of text was to integrate CW into their instructional curriculum by applying it to a text they were about to study in class.

In the CG students wrote two essays individually, whereas in the EG students wrote one essay individually and the other one in pairs. These writings were completed

under time limits. As a result of previous research which has shown that pairs take longer to complete tasks than individuals (Storch, 1999, 2005; Storch & Wigglesworth, 2007, 2009; Fernández Dobao, 2012), the pairs and individuals were allocated a different amount of time. The pairs were given 40 minutes to complete the essay and the individuals were given 25 minutes.

As research has shown that collaboration makes the writing task more difficult compared to individual writing (Fernández Dobao, 2012; Biria & Jafari, 2013), to reduce such complexity, the present study makes use of pair writing in which only two students collaborate and interact to create a composition.

3.2.2. Questionnaire

In order to elicit the learners' attitudes and perceptions on the activity of CW, the students from the EG had to complete an online questionnaire which was created by using the SurveyMonkey evaluation tool (see [Appendix 8.1](#)). The first question addressed learners' overall attitudes towards writing and the following questions focused on the CW task they had completed for the purpose of this study. They were asked to indicate whether they preferred to complete the task individually or in pairs, and to justify their answers. They also had to explain the most positive aspects and the difficulties when working collaboratively. In the next question, learners were requested to reflect on the impact of collaboration on the nature of their written texts (regarding content, structure, organization, register, fluency, grammar, vocabulary and mechanics) and they were also questioned about the learning benefits of collaboration. Finally, they had to indicate whether they liked the experience and would like to do more such CW tasks in the future.

As Shehadeh (2011) stated, the students in her study "might have been more able to give more detailed and potentially interesting responses if they had written in their first language". This is the reason why learners in this study, as it was also the case in Fernández Dobao (2013), were given the opportunity to answer some questions in their first language Basque. Therefore, although English has been the medium of instruction and communication throughout the whole study, Basque was occasionally used here so that students would feel much more comfortable when expressing themselves.

3.3. Procedure

The study was carried out as part of the regular coursework during three weeks. The procedure involved five different sessions. In the first session, the OPT was

administered to be completed in 40 minutes. Based on the scores obtained and following previous studies (Aldosari, 2008, Aldosari & Storch, 2012) that showed that collaboration tends to occur mainly among similar proficiency pairs, parallel level pairs were formed in the EG.

Prior to writing individual and collaborative essays, each group received an entire session of 55 minutes on argumentative essays (see [Appendix 8.2](#)). Considering students' lack of interest in writing, a productive but enjoyable class was designed. After a short brainstorming of 5 minutes, the class was divided into three different groups. Each group was given a short for and against essay taken from their books split into parts. Their job was to put them in the correct order in 10 minutes. After doing and correcting it, during the next 15 minutes, the structure of argumentative texts was explained and a chart with connectors was also completed. The last 15 minutes were devoted to the plan students should follow when writing an argumentative texts and some points to consider were also mentioned.

Once students were taught about how to write an argumentative text, in the third session all the students composed one argumentative essay individually about the role of exams in education (see [Appendix 8.3](#)). Writing this individual essay would serve as a pre-test in order to make sure that the comparison between the essays written individually and collaboratively was reliable.

The fourth session was used to carry out the experimental task. Students wrote another argumentative text about the use of new technologies among children. In this case, the students from the CG wrote it individually and students from the EG had to do it in pairs. EG students had to record themselves with their mobile phones throughout the writing process (see [Appendix 8.4](#)).

In the fourth and last session, students were given a link to the online questionnaire they had to complete.

Table 1: Procedure

	EG		CG	
March 25 th , Tuesday	12:30-13:10	OPT	11:35-12:15	OPT
April 1 st , Tuesday	12:30-13:25	Pre-teaching	11:35-12:30	Pre-teaching
April 3 rd , Thursday	13:25-13:50	Pre-test	14:20-14:40	Pre-test
April 8 th , Tuesday	12:30-13:10	Collaborative Writing	11:35-12:00	Individual Writing
April 10 th , Thursday	13:25-13:35	Online questionnaire	14:20-14:30	Online questionnaire

3.4. Data analysis

The data used in this study included 56 argumentative essays (48 written individually and 8 written in pairs), the transcripts of 4 pairs which were randomly selected from the larger data set, and 16 questionnaires.

3.4.1. Analysis of the compositions

Following similar previous research and their criterion (Storch, 2005; Storch & Wigglesworth, 2007, 2009; Fernández Dobao, 2012), the texts were analysed using both quantitative and qualitative measures in order to determine whether there were any identifiable differences in the essays completed by the learners working in pairs, and those completed by the learners working individually. Quantitative measures included measures of fluency, accuracy, and complexity. A qualitative evaluation of the written texts took into consideration the content, structure, organization and register used.

In order to undertake the analysis, the length of each essay in words was calculated (using the computer word count function) and then all written work was coded for T-units and clauses. A T-unit is defined by Hunt (1996, p. 735) as “one main clause plus whatever subordinate clauses happen to be attached to or embedded within it.” (e.g., if we spend a lot of time in front of a computer or a mobile phone, / our eyes can be damaged.// by EG11-12 students) This is an example of a T-unit, the end of which is denoted by // composed of 2 clauses separated by /. This measure, despite concerns expressed by Bardovi-Harlig (1992), is the most commonly used unit of analysis of both written and oral discourse (Foster, Tonkyn, & Wigglesworth, 2000). (See [Appendix 8.5.1](#) for further details).

For the analysis of clauses, independent and dependent clauses were distinguished. An independent or main clause is one which can be used on its own (Richards, Platt & Platt, 1992); a dependent clause must be used with another clause in order to form a grammatical sentence in English. Although there is some disagreement among researchers as to how to code for dependent clauses, in this study, following Foster et al. (2000), a dependent clause was one which contained a finite or a non-finite verb and at least one additional clause element of the following: subject, object, complement or adverbial. In the example of the T-unit above (if we spend a lot of time in front of a computer or a mobile phone, / our eyes can be damaged.//), the first clause is a dependent clause and the next one is an independent or main clause (see [Appendix 8.5.2](#) for further details).

Regarding the quantitative analysis, fluency was measured in terms of the average number of words, T-units and clauses per text. In order to measure accuracy, the proportion of error-free clauses to total clauses (EFC/C), error-free T-units to total T-units (EFT/T), and number of errors to words were calculated. These three measures of accuracy were selected in order to make the results comparable to those of previous research (e.g., Storch, 2005; Storch & Wigglesworth, 2007; 2009; Fernández Dobao, 2012). Global measures of accuracy (EFC/C and EFT/T) represent a realistic measure of accuracy (Skehan & Foster, 1999) but according to Storch (2005), it is also important to use local units (errors per word) because they account for the exact distribution of errors in relation to words.

Most previous research has focused on grammatical and lexical errors, ignoring spelling and punctuation problems. However, since the study of LREs has found that learners working collaboratively discuss mechanical as well as grammatical and vocabulary problems (e.g., Storch, 2007, 2008; Storch & Wigglesworth, 2007, 2009; 2009), in the present study, as Fernández Dobao (2012) did, all three types of errors were identified: grammatical errors include syntactical errors (e.g., errors in word order, missing elements) and morphological errors (e.g., verb tense, subject–verb agreement, errors in use of articles and prepositions, errors in word forms), lexical errors include confusion of word choice and mechanical errors include spelling and punctuation errors (see [Appendix 8.5.3](#) for further details in errors for global and local units).

In analysing texts, it is important to consider not only accuracy but also complexity. This is because accuracy may be achieved as a result of a learner not taking any risks in their writing and relying on simple, well-controlled forms. At the same time a trade-off may exist between complexity and accuracy. The more complex the sentences produced, the more likely they are to contain errors (Foster & Skehan, 1996). Complexity reflects the writer's willingness to engage and experiment with a range of syntactic structures, moving beyond coordination to more complex structures which include subordination and embedding. One measure of complexity is the proportion of clauses to T-units (C/T). Foster and Skehan (1999), based on their previous research, conclude that this is a reliable measure. A further measure used was the percentage of dependent clauses to clauses (DC/C), which examines the degree of embedding in a text (Wolf-Quintero, Inagaki, & Kim, 1998).

A qualitative evaluation of the written texts considered the content, structure, organization and register. Taking as the basis some of the component areas of the writing scale used by Shehadeh (2011), an analytic rubric with four levels of performance (4-Very good, 3-Good/average, 2-Fair/poor and 1-Very poor) was created. (See [Appendix 8.5.4](#) for a complete description of the four components).

3.4.2. Analysis of the pair dialogues

Four of the eight transcripts were randomly selected for a detailed analysis of the processes the learners were engaged in while they were composing their essays. The pair dialogues were analysed at three levels following Storch (2005) and Storch & Wigglesworth (2007, 2009).

At the first level, three distinct phases of the writing process were identified, and the time spent on each phase was noted. These consisted of time spent planning, which occurred before the learners began to write their texts, time spent composing the texts, and revision activities, where the entire text was revised after composing was complete.

For the second level of the analysis, all language related episodes (LREs) were identified. This was because these episodes are most likely to provide insights into the learners' understanding about language. In these episodes, the learners talked about the language they were producing, and corrected each other. LREs could be composed of a single turn (e.g. a learner deliberating over a word choice, shown by pauses and rephrases) or a number of turns. LREs were categorized for focus, distinguishing among Lexis-focus (L-LRE), Form-focus (F-LRE) and Mechanics-focus (M-LRE); L-LREs included episodes in which learners searched for words (in the L1 or L2), considered alternative expressions, or explained the meaning of words or phrases; F-LREs were episodes in which learners deliberated over morphology (e.g. word forms) or syntax (e.g. length and order of sentence); and, M-LREs included episodes in which learners focused on the spelling of words or punctuation (see [Appendix 8.6](#) and/or [section 4.2.2.](#) for further explanations and examples).

In addition to identifying the three distinct phases of the writing process and LREs, the third level of analysis involved a general description of the non-language related episodes which constitute a focus on a particular aspect categorized as one of the following: task clarification and management; idea generation and discussion of content; structure (organization and ordering of ideas); revision activities and other (including

discussion in the L1) (see [Appendix 8.7](#)). It should be noted that when coding for episodes, exact time was not calculated because the aim here was to examine how students approached the writing task rather than calculating the exact time spent on each phase of writing.

3.4.3. Analysis of the questionnaires

Students’ responses from the 16 online questionnaires were collected and results were analysed. Their answers were grouped depending on the arguments they gave or the aspects they focused on (e.g. some students perceived it as beneficial for helping to each other; others emphasized that it was as a fun and novel activity).

4. RESULTS AND DISCUSSION

The following section includes the findings and discussion obtained for the comparison of individual and collaborative writings in terms of fluency, accuracy, complexity, content, structure, organization and register; the process the learners were engaged in while they were composing their essays at three different levels (phases of writing, LREs and episodes); and their perceptions in the CW activity.

4.1. Comparing individual and jointly written texts

As expected from previous research (Storch, 2005; Storch & Wigglesworth, 2007, 2009; Fernández Dobao, 2012), texts produced by individuals were longer (from 164,06 words to 169,94 words) than those produced by pairs (from 160,56 words to 161 words). However, overall the similarity of these measures across the individuals and pairs is notable, and provides independent verification of the appropriateness of the different timings allowed for the two groups.

Table 2: Average of words, T-units and clauses per text for both groups

<i>Fluency</i>	EG Pre-test	CG Pre-test	EG CW	CG
	Mean	Mean	Mean	Mean
Average Words per text	160,56	164,06	161	169,94
Average T-units per text	12,94	13	13,25	13,31
Average Clauses per text	23	24,81	22,38	22,50

As explained above, accuracy was measured both in local and global units. The measures for accuracy are reported in Tables 3 and 4.

Table 3: Measures of accuracy (global units)

<i>Accuracy (global units)</i>	EG Pre-test		CG Pre-test		EG CW		CG	
	Total	Mean	Total	Mean	Total	Mean	Total	Mean
EFT	55	3,44	32	2	50	6,25	47	2,94
EFT/T (%)		24,06		15,95		47,34		21,25
EFC	151	9,44	135	8,44	102	12,75	132	8,25
EFC/C (%)		37,9		34,73		56,18		36,52

The results of the global units in table 3 show that pairs have obtained better accuracy scores than individuals on both measures. Students in the EG have produced more error-free T-units per T-unit (from 24,06% in the pre-test to 47,34% in CW) than students in the CG (from 15,95% in the pre-test to 21,25% in the second writing). The percentage of error-free clauses per clause also shows similar results (37,9%-56,18% in the EG and 34,73%-36,52% in the CG).

Table 4: Measures of accuracy (local units)

<i>Accuracy (local units)</i>	EG Pre-test	CG Pre-test	EG CW	CG
	Mean	Mean	Mean	Mean
Errors per word	0,15	0,17	0,09	0,16
Grammatical errors per word	0,1	0,12	0,05	0,11
Lexical errors per word	0,02	0,02	0,01	0,01
Mechanical errors per word	0,03	0,04	0,03	0,03

The results of local units also confirm that students working collaboratively have produced more accurate writings than those writing individually. Even if both groups have improved, as they have benefited from repeating the same text type again, the students from the EG have committed fewer errors per word (from 0,15 in the pre-test to 0,09 in CW) than students from the CG (from 0,17 to 0,16). From those errors, the more specific analysis of grammatical, lexical and mechanical errors per word shows that students working collaboratively have reduced the amount of grammatical errors per word (from 0,1 in the pre-test to 0,05 in CW) in comparison to the students working individually (0,12-0,11). Whereas the EG has produced slightly more grammatically accurate texts, there are no differences in lexis and mechanics. Both the EG and the CG have reduced in similar proportions the number of lexical errors per word (from 0,2 in the pre-tests to 0,1 in CW and individual writing) and CW has not resulted either in better texts regarding mechanics (EG: 0,03-0,03 and CG:0,04-0,03).

In terms of complexity, results in table 5 show that the proportion of clauses per T-unit in the second essays is lower in comparison to the pre-tests (from 1,83 to 1,68 in the EG and from 1,93 to 1,78 in the CG). This suggests that both collaborative and individual writings have been less complex than the pre-tests and may explain the reason why there have been fewer errors in these second essays. Regarding the second measure of complexity, in the CG the percentage of dependent clauses per clauses has been further reduced (46,98% to 39,74%) in comparison to the EG (from 42,59% to 41,48%). This implies that CW has resulted in more complex writings in this sense. However, the results obtained in both measures are not so different. In fact, the lack of significant differences between collaborative and individual writing regarding complexity had already been observed in previous research (Storch, 2005; Storch & Wigglesworth, 2007, 2009).

Table 5: measures of complexity, proportion of C/T and DC/C

<i>Complexity</i>	EG Pre-test	CG Pre-test	EG CW	CG
	Mean	Mean	Mean	Mean
Proportion C/T	1,83	1,93	1,68	1,78
DC/C (%)	42,59	46,98	41,48	39,74

As shown in the above tables 3, 4 and 5, CW has resulted in slightly more complex texts with greater grammatical accuracy. However, scores vary among the different pairs. Table 6 presents data from the EG pairs ordered from higher to lower proficiency level. The table contains the results for fluency, complexity and accuracy (see [Appendix 8.8](#) for the data of the EG pre-test, CG pre-test and CG second writing). The major improvement is observed among the learners with higher proficiency (EG1, EG2, EG3, EG4), suggesting again that collaborative writing is not so beneficial for students with low proficiency level. For instance, the pair with the lowest proficiency (EG15-16) has still committed 30 errors even if they have worked together. It might be the case that low competence learners are unable to help each other as they lack the necessary language knowledge (Shehadeh, 2011) that would allow error correction.

Table 6: Measures of fluency, accuracy and complexity in CW- EG

CWEG	Words	T-units	Clauses	DC	C/T	DC/C (%)	EFT	EFT/T (%)	EFC	EFC/C (%)	Errors	Erros/w	G	G/w	L	L/w	M	M/w
EG1-2	148	12	18	7	1,50	38,89	8	66,67	14	77,78	6	0,04	3	0,02	0	0,00	3	0,02
EG3-4	159	13	22	10	1,69	45,45	6	46,15	11	50,00	11	0,07	7	0,04	0	0,00	4	0,03
EG5-6	191	14	28	15	2,00	53,57	9	64,29	22	78,57	8	0,04	7	0,04	0	0,00	1	0,01
EG7-8	137	12	19	7	1,58	36,84	6	50,00	11	57,89	10	0,07	7	0,05	0	0,00	3	0,02
EG9-10	191	18	31	12	1,72	38,71	9	50,00	20	64,52	17	0,09	8	0,04	4	0,02	5	0,03
EG11-12	135	10	17	7	1,70	41,18	5	50,00	9	52,94	11	0,08	7	0,05	1	0,01	3	0,02
EG13-14	167	13	21	8	1,62	38,10	3	23,08	6	28,57	24	0,14	17	0,10	4	0,02	3	0,02
EG15-16	160	14	23	9	1,64	39,13	4	28,57	9	39,13	30	0,19	17	0,11	3	0,02	10	0,06
Total	1288	106	179	75			50		102		117		73		12		32	
Mean	161	13,25	22,38	9,38	1,68	41,48	6,25	47,34	12,75	56,18	14,63	0,09	9,13	0,05	1,50	0,01	4	0,03

Therefore, despite individual variations, the quantitative analysis of the writings shows that students from the EG have produced shorter but much more accurate texts. In addition to the global measures of accuracy, the more specific analysis of grammatical, lexical and mechanical errors per word shows that students working collaboratively have reduced the amount of grammatical errors per word. Furthermore, CW has resulted in writings with higher complexity.

Table 7 presents the qualitative scores given to the texts written by the students. CW has resulted in writings with better quality of content, structure, organization of ideas and appropriate register. Whereas learners writing individually have score more poorly in structure (3,75-3,69) and organization (3,25-3,22) in the second time, learners writing collaboratively have outperformed them even if they have lower scores in the pre-test (3,5-4 in structure and 3,03-3,63 in organization). CW has also resulted in compositions with higher quality of content, i.e., with a clearer focus and providing with more relevant and varied arguments. Finally, regarding register, there are no significant differences, even if jointly produced writings exhibit a slightly more appropriate use of the formal-informal and personal-impersonal forms.

Table 7: qualitative scores for writings written by the EG and CG

	Pre-test EG	Pre-test CG	CW EG	CG
Content	3,25	3,41	3,63	3,53
Structure	3,5	3,75	4	3,69
Organization	3,03	3,25	3,63	3,22
Register	3,06	3,38	3,13	3,38

Therefore, CW has resulted not only in writings with higher grammatical accuracy and linguistic complexity, but it also provides texts with a clearer structure and organization of ideas, better quantity and quality of arguments and more appropriate register.

4.2. The process of collaborative writing

When analysing the pair dialogues, there was a particular interest in attempting to illuminate what activities the learners may have been performing in order to produce better texts than individuals.

4.2.1. Phases of writing

The first stage of this analysis examined the amount of time spent on planning, composing and revising the texts. The time spent on the different phases is shown in Table 8:

Table 8: Time spent on the different phases of writing

	Total time on task (min)	Planning	Composing	Revision
EG1-2	35:23	7:37	27:86	0
EG2-3	22:28	1:38	20:03	0
EG7-8	13:54	2:56	10:95	0
EG9-10	40:00	15:00	25:00	0

The planning phase was spent on reading the instructions, generating and organizing some preliminary ideas and deciding on who would be the scribe before they began to write their texts. Two pairs discussed more deeply during this planning phase by brainstorming and making notes about the main points they intended to include in their essays. Like in Storch (2005), this created a structural framework which guided their subsequent writing. Furthermore, they started deliberating over language choices from the planning phase.

Although each pair took a different approach to carry out the task, all the learners spent most of the time on the composition phase of the task. In this phase, they generated ideas, discussed about the structure and deliberated over language choices.

The absence altogether or relative short time spent on revising the written texts can be attributable to two factors like in previous research (Storch & Wigglesworth, 2007, 2009). Firstly, the participants appeared to be aware of time constraints and these were often mentioned in the dialogues (“contrareloj!!!!” (*Count down!!*)[00:22:25] by EG10 or “we only have few minutes” [00:08:51] by EG2). Secondly, the time spent on revisions may be underestimated given that some pairs did their revisions throughout the composing process, rather than in a separate, post-writing revision phase, and where this occurred revision time was not separately counted.

Therefore, students went through different phases when writing their essays. The fact of reading the instructions aloud, generating and organizing ideas, creating a structural framework, deliberated over language choices and spending time on revision when composing may explain the higher level of success achieved by the students from the EG.

4.2.2. Language-related episodes (LREs)

As discussed above, the LREs were categorized as grammatical (F-LREs), lexical (L-LREs) or mechanical (M-LREs). Table 9 summarizes the distribution of LREs per type and pair. The total number of each type of LRE is also given. The number of the correctly resolved LREs is also included.

Table 9: Language-related Episodes (LREs)

	F-LREs	Correctly resolved	L-LREs	Correctly resolved	M-LREs	Correctly resolved	Total LREs	Correctly resolved LREs
EG1-2	8	8	4	4	5	4	17	16
EG3-4	4	4	5	5	1	1	10	10
EG7-8	7	5	3	3	1	1	11	9
EG9-10	12	12	17	13	2	2	31	27
Total	31	29	29	25	9	8	69	62

Interaction related to language generated a total of 69 LREs in these four pairs. As it was expected from previous research (Storch, 2005; Storch & Wigglesworth, 2007, 2009), there was a greater focus on lexis and grammar than on mechanics (M-LREs). However, in those previous studies lexical LREs made up the greatest proportion of the total LREs because of the meaning-based nature of the tasks as compared to the more grammar-based tasks which have been used elsewhere (e.g. dictogloss or text reconstruction tasks used by Swain & Lapkin, 1998). The greatest focus on lexis was also attributed to the advanced proficiency level of learners.

In this study, lexical and grammatical LREs are parallel. This is likely to be because the task involved is also meaning oriented and, unlike those studies, learners in this study are mainly intermediate language learners and hence the need for a focus on grammatical accuracy has also been quite high. Therefore, it seems to be the case that intermediate level learners negotiate more for grammar than advanced learners who focus mainly on conveying the meaning.

As in previous research (Storch & Wigglesworth, 2007, 2009; Fernández Dobao, 2012), it seems that learners writing collaboratively discussed and mutually agreed upon decisions on their use of grammar and vocabulary. However, the majority of spelling and punctuation decisions, although not all of them, have been individually made by the learner ultimately writing the text (Fernández Dobao, 2012, p.54).

4.2.2.1. F-LREs

The F-LREs showed learners collaborating over a range of grammatical points, such as prepositions, plurals, relative clauses, modal verbs and syntax. They deliberate and seek confirmation for the choices they make, correct each other and, at times, provide explanations for why a particular form should or should not be used. However, unlike the lengthy F-LREs found in the data of the studies by Swain and Lapkin (1998), in this study the F-LREs are often quite brief, composed of no more than six turns.

Example 1 illustrates a discussion on a particular grammatical aspect. It has been discussed in three of the four pairs and correctly resolved:

Example-1.

- 86 EG1: in the one hand
- 87 EG2: on the one hand
- 88 EG1: on?
- 89 EG2: yeah
- 90 EG1: or in?
- 91 EG2: on...on the one hand.... we have to say something like...

As in the other three pairs, students provide each other with corrective feedback. In this case, EG1's polar questions (lines 88, 90) show lack of certainty over choice of the preposition. The student EG2 is sure about the correct choice but after some turns, uncertainty arises again. Perhaps the act of verbalizing their concern has helped them reach the correct answer (Example 2):

Example-2.

- 127 EG1: in the other hand, on the other hand, in or on?
- 128 EG2: on the one hand, in the other hand....
- 129 EG1: (*thinking aloud*) on the other hand

Below (Example 3) is a similar example in which learners deliberate over the use of another preposition. EG3 provides the correct form of the preposition and EG4 repeats it by offering positive feedback.

Example-3.

- 32 EG3: doing better things in the future, now we can put an example
- 33 EG4: in or on?
- 34 EG3: in
- 35 EG4: well, in, in

In the following extract (Example 4), the student EG4 corrects EG3 for the incorrect verb agreement. The explanation is brief and EG3 accepts it and realizes about the mistake.

Example-4.

- 14 EG4: today.... today children
- 15 EG3: uses
- 16 EG4: use, it's plural
- 17 EG3: yes, yes

As for the quantitative analysis of the individual and collaborative writings, it has been seen that students working collaboratively have reduced significantly the amount of grammatical errors per word (0,1-0,05) in comparison to the students working individually. Furthermore, they have produced texts with slightly higher linguistic complexity. It is difficult to establish whether the amount of time spent on language deliberations, such as the ones above, correlate with grammatical accuracy and complexity, given that only four pairs of transcripts have been deeply analysed.

However, the F-LREs identified and the fact that 29 out of 31 have been correctly resolved suggests that along the lines of Storch and Wigglesworth (2007, 2009) the opportunity to provide each other with input and feedback throughout the writing process may explain the greater accuracy and complexity in the pair compositions. Both in the EG and CG, the main error has been the use of the definitive article “the” to refer to nouns in general, such as, *the new technologies and *the students. However, these errors and the others (except for the two F-LREs that have been incorrectly resolved) have been made without deliberating over them.

4.2.2.2. L-LREs

The major focus of discussion in the lexical LREs was word and verb choice to describe and discuss about new technologies: addiction, contact with friends, effects, etc. The students have also deliberated over linking words or connectors such as furthermore, in addition or moreover which were given in the pre-teaching session.

The following extract (Example 5) shows how the students confirm their lexical choice “influence”:

Example-5.

- 77 EG8: having a mobile phone is an advantage
- 78 EG7: but it can cause bad effects, or influence?
- 79 EG8: effects, is good no [*referring to influence*]?
- 80 EG7: Yes

In the next one, students are trying to find the correct adjective. One of the students has a word in mind and the other offers suggestions until they come across with the exact word:

Example-6.

- 50 EG1: more ambitious
- 51 EG2: yes, but also we could say that they are more with themselves
- 52 EG1: more selfish?
- 53 EG2: no selfish is...
- 54 EG1: individualist?
- 55 EG2: aislado...but I don't know how to say "aislado" in English so....
- 56 EG1: isolated?
- 57 EG2: OK isolated

Although in the case of three pairs all the L-LREs have been correctly resolved, the lowest proficiency pair has resolved 13 of 17. These four errors are the only errors this pair has made in the essay. The following lengthy extract (Example 7) shows how these learners deliberate over some language choices. They solved two F-LREs but they made a lexical error at the end:

Example-7.

- | | |
|--|--|
| <ul style="list-style-type: none"> 199 EG9: people use them correctly, risks can't be as dangerous as otherwilde 200 EG10: eso está mal
[This is wrong] 201 EG9: ya, bai
[Yes, I see it] 202 EG10: these risks will be less dangerous 203 EG9: OK 204 EG10: or would be less dangerous, "serían"
[They would be] 205 EG9: so we think that... 206 EG10: we think that children tendrían que tener prohibido
[They should have it forbidden] 207 EG9: we think that children... 208 EG10: mustn't, no deberían? | <ul style="list-style-type: none"> [They shouldn't?] 209 EG9: haven't 210 EG10: bai?
[Yes?] 211 EG9: mustn't 212 EG10: no pueden no, no deberían... [They musn't no, they shouldn't] 213 EG9: shouldn't! Use them, because they are too young to afford these risks 214 EG10: afford da afrontar?
[Afford is to face?] 215 EG9: afford da aurre egin
[Afford is to face] 216 EG10: nola idazten da?
[How do you write it?] 217 EG9: afford |
|--|--|

Example 7 illustrates once again that working in pairs provides learners with the opportunity to pool their knowledge about the L2 in what Donato (1994) refers to as collective scaffolding, and to reflect on their language use (Swain, 2000). The learners in this example are individually novices but collectively experts. In other words, there is no identifiable expert. Instead, both members pool their incomplete L2 knowledge to solve language problems and co-construct an utterance that none of them seemed to be

able to produce on their own. It cannot be forgotten that pairs in this study have been formed according to their proficiency level. Therefore, even if sometimes one Figure student in the pair is the one providing the corrective feedback or has a greater accuracy level, in all pair talks both members work collaboratively in the writing process.

4.2.2.3. F-LREs and L-LREs

The next extract (Example 8) shows how a pair pools their L2 knowledge in order to find the most appropriate way to introduce their essay. In addition to creating an accurate grammatical sentence by solving an F-LRE and an L-LRE, one of the learners tries to suggest a more sophisticated expression (line 103):

Example-8.

- 97 EG10: nola esaten da tema?
[How do you say topic?]
98 EG9: topic
99 EG10: this topic is...
100 EG9: the topic which we are going to write
101 EG10: which...ez da behar
[It is not necessary]
102 EG9: the topic we are going to write is
103 EG10: discuss?
104 EG9: yes

The following two extracts (Examples 9, 10) show how learners deliberate over a number of language issues at the same time. In the first one, students deliberate about choices of expression (lines 30-31), but also grammatical forms, with a pronoun in this case (lines 33-38); whereas in the second one, one of the learners provides corrective feedback on a grammatical form (line 90). This extract is another clear example of collective scaffolding:

Example-9.

- 30 EG2: we could say that they
pass too much time with new
technologies so they don't go
out
31 EG1: OK, yeah, they spend a
lot of time
32 EG2: too much
33 EG1: oh yes, they spend too
much time with them
34 EG2: with (*writing*)
35 EG1: them
36 EG2: with it? technology is "it"
37 EG1: technologies

- 38 EG2: new technology or
technologies? OK, OK

Example-10.

- 86 EG3: we think that
87 EG4: we think that, the
technologies
88 EG3 technology is good to
work, to do other things, or
works
89 EG4: things, like socialize
90 EG3: socializing
91 EG4: but
92 EG3: but you need to control it

4.2.2.4. M-LREs

Regarding M-LREs, as previously mentioned, few examples are observed. Furthermore, most of them relate to spelling rather than punctuation. Even if most of the spelling and specially punctuation decisions are made by the learner ultimately writing the text, learners have also discussed about mechanical decisions, like in Example 11:

Example-11.

- 14 EG8: ordun, jartzen badu, nowadays...”no wadays” hola idazten da?
 [And if we write...nowadays...How do you write it?]
 15 EG7: ez dena juntu
 [Everything altogether]
 16 EG8: ordun nowadays hola idazten da
 [So, nowadays is written this way]
 17 EG7: a:jam
 18 EG8: nowadays comma

The following two extracts are taken from the pair that has deliberated the most from the four pairs over mechanical choices:

Example-12.

- 70 EG2: wait, between children
 71 EG1: between?
 72 EG2: tw double e e...
 73 EG1: between,
 74 EG2: two ee, I am not sure...
 75 EG1: Ok, so between children.
 76 EG2: full stop

Example-13.

- 158 EG1: do I have to write a comma after for example? For example...
 159 EG2: yeah

As it can be seen, students provide each other with the correct spelling of the word “between” but they also comment on how and when they have to use full stops and commas.

4.2.2.5. Deliberating over register

In addition to grammatical, lexical and mechanical LREs, students have also reflected on register. As explained above, together with content, organization and structure, the appropriateness of register is another category that has been assessed qualitatively in this study. Students from the EG have slightly improved in this aspect, and this may be attributed to the occasional attention paid to it as in Examples 14 and 15:

Example-14.

- 123 EG9: far
- 124 EG10: far from us?
- 125 EG9: yes
- 126 EG10: bueno far, menos
 subjectividad
 [Less subjectivity]
- 124 EG9: egie, bale
 [It's true]

Example-15.

- 131 EG2: it's obvious, do you
 know how to write it?
- 132 EG1: yes
- 133 EG2: no, oh sorry "it is"
 obvious, it is formal so we can't put
 it's
- 134 EG1: yeah

Therefore, although some M-LREs and occasional reflections on register are found, the analysis of LREs in this section has shown that there was a greater focus on lexis and grammar than on mechanics. Most of the spelling and especially punctuation decisions are made by the learners ultimately writing the text. CW has provided learners the opportunity to pool their linguistic resources and reflect on their language use. They deliberated and sought confirmation for grammatical and lexical choices, and gave and received corrective feedback. It has been argued that this may explain why students from EG have produced much more grammatically accurate and linguistically complex texts. Regarding vocabulary, students have deliberated over word forms, connectors or various expressions and most of L-LREs have also been correctly resolved. However, it seems that collaboration has been more beneficial to grammar than to vocabulary. Even if students from the EG group have produced more accurate texts in terms of vocabulary than in the pre-test, they have not outperformed the CG. Pairs in this study may not have more lexical resources than individuals.

4.2.3. Episodes

4.2.3.1. Generating ideas

In addition to the attention paid to language, all pairs spent the majority of time deliberating over and generating ideas. A substantial amount of the content discussion relates to brainstorming in which the learners made notes about the main points they intended to include in their essays. However, these brainstorming and discussions about content continued throughout the whole writing process. This may explain how jointly written essays have scored higher in terms of quantity and quality of content. Example 16 illustrates how learners brainstorm and generate for and against arguments:

Example-16.

- 2 EG7: you can communicate
- 3 EG8: with friends...then against... It can cause addition...
- 4 EG7: another advantage can be that if you for example, if you want to find
 information in the internet... to find in the mobile phone like in a computer
- 5 EG8: ok, so you can use like a mobile phone to look for information...

4.2.3.2. Structure

Furthermore, all the learners have taken their time to organize their ideas prior to writing. Once they were writing, they also discussed about the order things should go in. The higher scores in structure and organization of ideas may have been attributed to the explicit talk about the structure in the pairs. Below is an example of one pair:

Example-17.

- 9 EG1: and advantages and disadvantages?
- 10 EG2: we have to write both of them
- 11 EG1: yeah but in what order? What do we write first? Advantages or disadvantages?
- 12 EG2: I suppose that depends... we are in favour or against?
- 13 EG1: we will do against?
- 14 EG2: ok, we will do against, so firstly advantages or disadvantages?
- 15 EG1: against? or
- 16 EG2: advantages?
- 17 EG1: Ok, so advantages first and then disadvantages

4.2.3.3. Revision

Apart from generating ideas and organizing them, learners have also devoted some time to revision which consisted in re-reading the text. As explained above, pairs have adopted a quite recursive approach (that is, they generated an idea, read and re-read it to evaluate it for accuracy and expression, before proceeding to generate the next idea), instead of revising everything at the end. Therefore, this also seems to explain the higher level of success achieved by the students from the EG.

4.2.3.4. Other (discussion in L1)

In addition to the aforementioned aspects, the use of the L1 in the decision-making process must be taken into consideration. The use of the L1 corresponds with the proficiency level of the learners. The students with the highest proficiency (EG1-2 followed by EG3-4) have constructed the text by using English as the vehicular language. In the case of the pairs with lower proficiency, and especially in the one formed by EG9-10, there has been a significant use of the L1. It has been used mainly to deliberate over ideas or language choices and when giving or receiving feedback. So it seems to be the case that low level learners lack the language tools in the target language to deliberate about it, while higher level learners have the necessary resources to do it in English. Notwithstanding the importance of language choice, the mere existence of metalinguistic talk has been remarked, as it is considered to be of paramount importance to successful L2 learning (Kitade, 2008).

Therefore, CW has provided the learners the opportunity to pool their linguistic resources and to give and receive corrective feedback. This seems to explain why students from EG have produced more grammatically accurate and linguistically complex texts. Furthermore, the fact of reading the instructions aloud, generating and organizing ideas, creating a structural framework, and spending time on revision may explain the higher level of success achieved by the students from the EG in content, structure and organization. The slightly improvement in register has also been attributed to the occasional reflections on it during the writing process. The excerpts in this section illustrate that all the pairs collaborated in the creation of the text. Sometimes, one the student in the pair contributed more in providing the text with grammatical accuracy or giving corrective feedback but the other one with ideas and the other way round.

4.3. Students' perceptions

Students' answers to the first question about their overall attitudes towards writing confirm their dislike towards this skill. Most of them have indicated in the rating scale that they do not like writing very much arguing that "I find it difficult", "it is boring", "because I'm not very good writing in English", "we don't practice it as much as we need" or "because I haven't got very good vocabulary".

Regarding CW, the results confirm previous studies (Storch, 2005; Shehadeh, 2011; Fernández Dobao, 2013) in which most students have been supportive of the activity. 12 of the 18 learners in this study have preferred to carry out the task in pairs. The predominant reason given (by 9 students) was that it provided them with the opportunity to help each other in multiple ways. One student stated that "when you write individually, sometimes you don't know what to write or how to write, but if you have a person with you, he can help you".

They emphasized that they had more ideas to share when working in pairs. For instance, a learner wrote in Basque that more ideas are obtained when working in pairs, because each student sees things from different perspectives. The experience was also helpful for improving their grammatical accuracy and vocabulary, as explained by other students "Sometimes some words are difficult and the other person can help guessing it", "we solved doubts about grammar, how to write words" or "We learn new words and different methods to do an essay". Thus, it is clear that the process of pooling ideas and linguistic resources was also perceived as an opportunity to learn from each other "Because I can learn more in pairs and I can correct my faults" or "we correct mistakes to each other".

Finally, as in Storch (2005), some students also noted that CW was a novel and fun activity. This was expressed clearly in “It was the first time we did a writing in pairs and it was a good experience”, “It was funny” or “because writing individually is more boring “. Furthermore, it was perceived by some of them as an easier and faster way of writing: “It is easier” or “we could do it faster.

However, some students had reservations about CW. The number of students who expressed preference for individual over CW (4 out of 16) was bigger than in previous studies (Storch 2005, Shehadeh, 2011 and Fernández Dobao, 2013) probably as an artifact of the low number of students involved in this study. One student preferred individual work because she lacks confidence in her own language skills “because I can write in my own way. And if I do mistakes when I am with another classmate, the mark will be worse (and it is my fault)”. Contrary to those who thought that collaboration resulted in an easier and faster way of writing, the rest of students raised issues of a more practical nature, such as “it is less complicated” or “easier” to write individually. The fourth student explained that she has chosen this option because she likes organizing the ideas in her particular way. However, she admits that she enjoyed the experience because they had more ideas to compare. These reasons highlight the need of having to prepare students to write collaboratively. They cannot put the blame on themselves for making mistakes and they will have to learn to collaborate with people who have different working and learning strategies.

When learners, both the ones expressing a preference for individual and for CW, were asked to explain the difficulties encountered when working together, 9 out 16 did not report any. However, the rest argued that their differences had been the major inconvenient. As one student stated “the other one thinks different than you” or “We sometimes think different things to solve the essay so we have to write the best of both”. Another student also explained that “communication was a bit difficult in the beginning”. Other two students, forming the pair who took the longest to complete the task, expressed that sometimes it was difficult to reach an agreement because each of them had their own way of organizing and writing sentences. These difficulties suggest once again that much has to be done with learning strategies. In addition to making students be aware of them, learning strategies will have to be taken into consideration when pairing students. Furthermore, another student added that even if they helped each other, sometimes “We don’t know all necessary connectors and we need more vocabulary to do a good essay”. Forming parallel level learners has been considered to be the best option in this study, but it has also been proved that collaboration is not so beneficial to lower proficiency learners and particularly for improving vocabulary.

As previously explained, students were also asked to reflect on the impact of collaboration on the nature of their written texts in a more detailed way. They already stated that collaboration helped them share more ideas and produce texts with much more grammatical and lexical accuracy but they were requested to assign one value (very helpful, helpful and not helpful) to each of the following aspects: mechanics, vocabulary, grammar, fluency, register, organization, structure and content.

Figure 1: Students' perceptions on the impact of CW on their writings

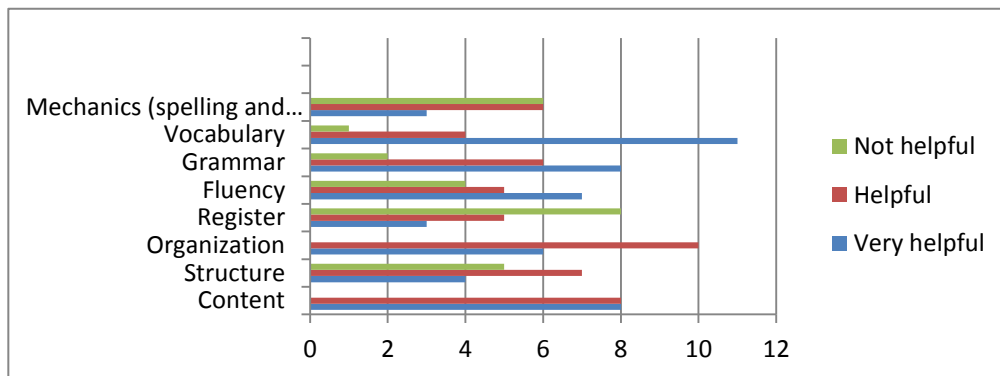


Figure 1 shows the results graphically. Results confirm that for them, CW is most beneficial for producing texts with better content, organization, vocabulary and grammar. In fact, their perceptions correlate with the actual improvement of the essays regarding these aspects.

In the same way, students were also asked about the potential long-term learning benefits of collaboration. Even if students have admitted to find it useful to improve in the aforementioned aspects, they seem skeptical about its learning effects in the long run, as in Fernández Dobao (2013). Only 9 students (56,25%) think that they will be better in writing if they continue working this way; whereas 4 students (25%) state that they are not sure, and 3 (16,75%), which include the ones preferring to work individually, answered with a no.

However, as it was the case in Shehadeh's study (2011), students' answers showed that they enjoyed the experience and would like to continue working collaboratively in the future. From the options *Yes*, *No* or *I don't mind*, although 5 students (31, 25%) chose *I don't mind* option, 11 students (68,75 %) were sure that they would like to continue doing more such CW activities.

Therefore, the results from the questionnaire reveal a positive attitude towards CW. Most students have preferred to carry out the task in pairs because CW provided them with the opportunity to share more ideas, to produce much more accurate texts and because it was a novel and fun activity. The difficulties expressed suggest that

individual differences, mainly learning strategies, have to be taken into consideration when pairing learners. Furthermore, they seem skeptical about its learning effects in the long run. Overall, they enjoyed the experience and would like to continue working collaboratively in the future.

5. CONCLUSIONS

Although the use of pair and group work is well supported theoretically and widely extended in the language classroom, research investigating the benefits of CW is very limited. Getting students to compose in pairs is a fairly novel strategy. Hence, the present study has contributed to the fast-growing research on CW by taking it a step further and extending and integrating it into secondary school EFL writing, involving mainly intermediate level learners.

The findings are consistent with most previous research (Storch, 2005; Storch & Wigglesworth 2007, 2009; Kim, 2008; Shehadeh, 2011; Fernández Dobao, 2012, 2013). They support the use of CW in the FL classroom and contribute to our understanding of the benefits of peer collaboration between pairs. However, this study suggests that apart from advanced learners, intermediate proficiency level learners can also collaboratively produce writings with greater grammatical accuracy.

The comparison of the products of pairs and individuals showed that collaboration may not result in longer texts, but does lead to the production of more linguistically complex and grammatically accurate texts. A more qualitative analysis also illustrates that jointly written essays scored higher in content, structure, organization of ideas and register.

In terms of the process of writing that students engaged in when composing in pairs, an analysis of four dialogues showed that collaboration afforded the students the opportunity to interact on different aspects of writing. The results of LREs show that there was a greater focus on lexis and grammar than on mechanics. Most of the spelling and especially punctuation decisions were made by the learners ultimately writing the text. CW has provided the learners the opportunity to pool their linguistic resources and to give and receive corrective feedback. This is believed to explain why students from EG have produced much more grammatically accurate and linguistically complex texts.

In addition to the attention paid to language, pairs spent time reading the instructions, generating and organizing ideas, creating a structural framework and revising. This is supposed to explain the higher level of success achieved by the students from the EG in content, structure and organization. The slight improvement in register has also been attributed to the occasional reflections on it during the writing process.

Although this was so for all competence level students overall, the major improvement is observed among the learners with higher proficiency, suggesting again that collaborative writing is not so beneficial for students with low proficiency level. It is also important to note that the use of L1 corresponds with students' proficiency level. The lowest proficiency learners have significantly used their L1 to deliberate over ideas, language choices and provide each other with feedback as they sometimes lacked the language tools in the target language to deliberate about it. Despite the language choice, the mere existence of metalinguistic talk has been remarked in this study.

Thus, pair work has given the learners the opportunity to co-construct the texts by pooling their linguistic resources (collective scaffolding) and collaborate in the solution of language-related problems, generating ideas together and by providing each other with alternative suggestions and immediate feedback. This is believed to explain the higher success achieved by learners writing collaboratively.

Regarding students' attitudes and perceptions on CW, the results showed that most students have been supportive of the experience. In fact, 12 of the 18 learners have expressed preference for collaborative over individual writing. They stated that collaboration helped them share more ideas and produce texts with much more grammatical and lexical accuracy. Some of them also noted that it was a novel and fun activity. However, the reservations and difficulties expressed suggest that individual differences, mainly learning strategies, will have to be taken into consideration when pairing learners in the future. Students need explicit instruction on collaboration because they need to be prepared for a future which may require them to write collaboratively. Furthermore, even if they enjoyed the experience and have admitted to find CW useful to improve their writings in multiple ways, they seem skeptical about its potential learning effects in the long run.

In fact, this is one of the areas by which the scope of the present study could be extended. The experience has revealed improvements in grammatical accuracy, linguistic complexity, content, structure, organization and register in a fairly short time and with relatively little intervention from the teacher. This is the reason why the findings obtained in the present study could be transferred to the actual language

classroom. However, future long term studies could also investigate if a prolonged engagement in CW led to a more successful language learning in secondary education, along the lines of the longitudinal study Shehadeh (2011) conducted in EFL university context.

Finally, due to the small scale nature of the study, with only 32 participants and one collaborative writing task, further research analysing the product, process and students' perceptions of intermediate learners from secondary school is necessary for generalizing results. However, the findings suggest that there is a place for collaborative writing tasks in the EFL classroom. Collaboration has resulted not only in better quality writings, but also has afforded the opportunity to engage with and about language. That is, they provide opportunities for language learning and what is even more important, students will not perceive writing as such a boring and difficult language skill.

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8. APPENDIXES

8.1. Questionnaire

Dear students,

Thank you for participating in this study. You have worked seriously in your essays and I am very grateful for that. Now I would like you to answer some questions based on your views and experience. You are encouraged to provide your perceptions honestly and to write as much as you can, because this will be very important for me.

The answers and the essays will be used only for research purposes. To complete the questionnaire I have created enter:

<https://es.surveymonkey.com/s/TGGNDRH>

The questions are in English, but you CAN ANSWER them in English or in BASQUE. I want you to be comfortable when expressing yourselves, so I do not mind if you have to do it in Basque.

8.2. Pre-teaching

PRE-TEACHING (including teacher's notes)

1. Explain the research I will conduct and then, brainstorming. (5min)
 - Do you know what is an argumentative or a for and against essay? How is it written? Structure...?
A for and against essay is usually about a controversial issue. It presents both sides of the issue and then concludes by supporting one of the sides.
2. Ordering the text: the class will be divided into three different groups. Each group will be given a short for and against essay split into parts. They will have to put them in the correct order. (10min)
3. Hand in the three texts. Read them and correct them.

FOR and AGAIST ESSAY

Text 1:

In the last few decades, organic food has become very popular. **The question is**, should everyone start buying it?

On the one hand, organic food has many advantages. **For one thing**, it is safer and healthier to eat than non-organic food. This is **because** it is grown without dangerous chemicals. It **also** has more vitamins and minerals. **Moreover, due to the fact that** organic farming does not use chemicals, organic food is better for the environment.

On the other hand, shopping for organic food may be quite inconvenient **because** it is not available in all shops. **In addition**, it's very expensive, **so** it's not practical for many families

To sum up, organic food is better for your health than other foods. **However**, you need to decide whether or not you can afford to spend the money and the time it takes to buy it.

Text 2:

Many people use alternative medicine nowadays. **However**, some people are asking: does it really help?

On the one hand, alternative medicine has got disadvantages. **Firstly**, research hasn't proved that methods such as acupuncture and reflexology really work. **Secondly**, it's hard to know who is really qualified to practice it, **since** there is no supervision as there is for medical doctors.

On the other hand, although there is little scientific proof, many people say that alternative medicine helps them. **Furthermore**, it's not as dangerous as many conventional methods, **such as** surgery and drugs.

In my opinion alternative medicine is worth trying. If it doesn't help, at least it won't do any harm – except to your bank account.

Text 3:

People have experimented on animals for many years in order to find out how to cure disease. **However**, today many people claim that animal testing is a cruel form of exploitation.

On the one hand, medical experimenting on animals causes them pain and suffering. **In addition**, doctors cannot always apply the results to humans **because of** the physical differences between people and animals. **Furthermore**, many animal tests

are unnecessary **because** there are alternative methods, such as computer models of the human body.

On the other hand, animal experimentation has played an important role in many medical advances, including treatments for cancer and AIDS, open-heart surgery and organ transplants. **Moreover**, alternative methods are sometimes not as accurate as using animals.

In conclusion, although I realize that animal testing causes suffering, **I believe** it is necessary in order to help human beings. **Nevertheless**, governments should make sure that laboratory animals are treated as humanely as possible and used only then when completely necessary.

4. Explain the structure of argumentative texts by making explicit reference to the texts. (5min)

STRUCTURE

Opening (paragraph 1): introduction to the issue and presents some controversy on this topic

Body (paragraphs 2 and 3):

Paragraph 2: presents arguments supporting one side of the issue, with supporting details and examples

Paragraph 3: presents arguments supporting the other side of the issue, with supporting details and examples

Closing (paragraph 4): sums up the topic and states the writer’s opinion.

5. Students will have to complete the chart with the connectors from the texts. They could also include others they know.

CONNECTORS

ADDITION	CONTRAST	LIST	EXAMPLES	CAUSE/RESULT	CONCLUSION
And Also As well as + n/v-ing In addition (to) Furthermore Moreover What’s more	One the one hand/on the other hand But/however/nevertheless Although/even though + clause (subject + verb) In spite of /despite + n/v-ing While	Firstly/ first of all Secondly Thirdly Finally	For example For instance Such as Like In particular	Because Since For Because of /due to + n/v-ing the fact that + clause	In conclusion To sum up All in all All things considered Taking everything into account

6. PLAN: (10min)

1. Brainstorm your essay: make a list of the points for and against a topic before you start writing.
2. Organize your ideas (opening, body and closing)

TWO OPTIONS:

1. It can be useful to draw a conceptual map/outline and add connectors.



2. Outline:

OPENING - issue

BODY

Connector + argument in favour of issue with details and examples
Connector + argument in favour of issue with details and examples

Connector + argument against the issue with details and examples
Connector + argument against the issue with details and examples

CLOSING - your opinion

3. First draft

4. Revision..... (Pay attention to vocabulary, grammar, mechanics....)

7. POINTS TO CONSIDER: (5min)

- Write well-developed paragraphs in which the points you present are supported with justification, (i.e. reasons or examples).
- You must not include opinion words in the introduction or the main body, Opinion words can only be included in the final paragraph. **FACTS** (objective proof with *facts, statistics, typical examples, and opinions of established experts*) ≠ **OPINIONS** (statements of author's beliefs and opinions).
- Do not use informal style (e.g. short forms, colloquial language, etc.) or strong language (e.g. I firmly believe, etc).

8.3. Pre-test

Exams are an important part of education in many countries. Are they necessary? Discuss the advantages and disadvantages of exams and the role they should play in education. (150 WORDS)

8.4. Collaborative and individual writing

New technologies are becoming more and more common. Many children already use mobile phones and social networks. Should they be allowed to use them? Discuss the advantages and disadvantages of using new technologies and the role they should play among children. (150 WORDS)

8.5. Guidelines for assessing writing

8.5.1. T-Units

(Following Storch 2005; Wigglesworth & Storch 2007, 2009)

A T-unit is defined as an independent clause and all its attached or embedded dependent clauses. (e.g. if we spend a lot of time in front of a computer or mobile phone, / our eyes can be damaged.//)

This is one T-unit, the end of which is denoted by // composed of 2 clauses separated by / as shown.

Grammatical subject deletion in a coordinate clause counts the entire sentence as one T-unit. (Polio, 1997, p.138) (e.g. You can also get ashamed and lose money with strange messages. //)

Otherwise, it would count as 2 T-units composed of 2 independent clauses. e.g. you can also get ashamed //and you lose money with strange messages. //

8.5.2. Clauses

Independent clause: A grammatical structure which contains a subject and a verb and can stand on its own.

Dependent clause: a clause containing a finite verb which cannot stand alone as a sentence and which may be introduced by an adverbial (e.g. because, while, when), be a relative clause (e.g. you can contact with friends who live in another country), or reduced relative clause (e.g. exams cannot properly test the level / students have).

In the example of the T-unit above, the first clause is a dependent clause and the next one is an independent clause. (e.g. if we spend a lot of time in front of a computer or mobile phone, / our eyes can be damaged.//)

8.5.3. Errors

Global units

Any error excludes a clause from being error free (e.g. omitted plural's', omitted preposition, omitted articles all count). Differentiating error free clauses from error free T-units i.e. if the T-unit has two clauses, one may be error free and counts as an error-free clause, the other may have an error, in which case the t-unit is not error free.

Error-free T-units are therefore a subset of error-free clauses.

Local units

- Errors are cumulative. It would not be fair to assess two students with the same score, if one has omitted the third person –s once and the other one omits it six different times.
- Tense/aspect are coded according to preceding discourse rather than looking at a sentence in isolation.
- The use of the definite article *the* for general plural nouns is counted as an error.
- Word choice errors are considered when the provided word is considered unquestionably wrong (e.g., they tell you new *notices, such as parties or things that have happened to others, by EG9-10) In this case, instead of notices*, the correct word choice would be “plans” or “pieces of news”.
- An erroneous expression containing more than one word is still counted as one error. (e.g., New technologies are becoming more and more common *with the past of the time, by EC12). In this case, the erroneous expression *with the past of time contains more than one word, but it is still counted as one error.

8.5.4. Qualitative analysis

The rubric has been created by the researcher and based on Shehadeh’s writing scale, 2011 for some criterion. Content, organization and register are also assigned half points (e.g. 2,5 or 3,5.)

CATEGORY	4- Very good	3- Good/average	2- Fair/poor	1- Very poor
Content	Relevant to topic assigned; good quality and amount of arguments substantive, thorough development of thesis.	Mostly relevant to topic; in general good quality and amount of arguments although sometimes lacks detail or there is a repetition or irrelevant idea.	Not so relevant to topic; arguments are not so good in terms of quality and quantity with some repetitions or irrelevant ideas.	Not relevant to topic; arguments are not relevant and inadequate quantity, too few.
Structure	The essay includes an introduction that introduces the topic, a body with for and against arguments divided into two paragraphs and a conclusion with the position statement.	There is one mistake in the structure: in the introduction that introduces the topic, in the body with for and against arguments divided into two paragraphs or in the conclusion with the position statement.	There are some mistakes in the structure: in the introduction that introduces the topic, in the body with for and against arguments or in the conclusion with the position statement.	The essay does not follow the format or structure of an argumentative text.
Organization of ideas	Fluent expression; good range of cohesive devices and clear statement and organization of ideas.	Adequate fluency; adequate use of linguistic devices although there can be a mistake which does not impede communication and quite good organization of ideas.	Quite low fluency; narrow repertoire of cohesive devices with some errors which do not impede communication and quite mixed organization of ideas.	Low fluency; very basic cohesive devices and errors which make communication difficult and organization is lacking.
Register	Demonstrates a clear understanding of the potential reader. Use of formal register; personal register when stating the position statement and impersonal/objective when supporting arguments.	Demonstrates a general understanding of the potential reader. Quite formal register although personal-impersonal register is not so well-distinguished. Sometimes, arguments are exposed in a personal and subjective manner.	Demonstrates some understanding of the potential reader. In general, formal register but mistakes in personal-impersonal. Many arguments are exposed in a personal and subjective manner.	It is not clear who the author is writing for. It is too informal and little knowledge about the distinction of personal-impersonal register.

8.6. LREs

Table 10: Explanations and examples of LREs

Focus area	Explanation	Example
F-LREs	Episodes in which learners deliberated over morphology (e.g. word forms) or syntax (e.g. length of sentence).	14 EG4; today,... today children 15 EG3: uses 16 EG4: use, it's plural 17 EG3: yes, yes
L-LREs	Episodes in which learners searched for words (in L1 or L2), considered alternative expressions, or explained the meaning of words or phrases	50 EG1: more ambitious 51 EG2: yes, but also we could say that they are more with themselves 52 EG1: more selfish? 53 EG2: no selfish is... 54 EG1: individualist? 55 EG2: aislado... but I don't know how to say "aislado" in English so.... 56 EG1: isolated? 57 EG2: OK isolated
M-LREs	Episodes in which learners focused on the spelling of words or the use of punctuations.	160 EG2: wait, between children 161 EG1: between? 162 EG1: tw double e e... 163 EG2: between,, 164 EG1: two ee, I am not sure... 165 EG2: Ok, so between children. 166 EG1: full stop.

8.7. Coding of episodes

Table 11: Explanation and examples for coding of episodes

	Explanation	Example
Task management	Episodes where learners read or discuss the given instructions or clarify what the task requires them to do and episodes dealing with issues such as writing conventions and task management (e.g. Who should be the scribe)	<p>4 EG3: yes it is very good, so you write and I will say what to write, but you get ideas too</p> <p>5 EG4: OK, new children.... (read instructions)</p> <p>6 EG3: so we have to write a for and against essay, with for arguments and in others the against</p>
Generating ideas	Episodes where learners generate and reformulate ideas	<p>2 EG8: you can communicate</p> <p>3 EG9: with friends...then against... It can cause addiction...</p> <p>4 EG8: another advantage can be that if you for example, if you want to find information in the internet to find in the mobile phone like in a computer</p> <p>5 EG9: ok, so you can use like a mobile phone to look for information...</p>
Structure	Episodes where learners focus on the organization of ideas in the text, or in one paragraph (e.g. Introduction)	<p>18 EG1: and advantages and disadvantages?</p> <p>19 EG2: we have to write both of them</p> <p>20 EG1: yeah but in what order? What do we write first? Advantages or disadvantages?</p> <p>21 EG2: I suppose that depends... we are in favour or against?</p> <p>22 EG1: we will do against?</p> <p>23 EG2: ok, we will do against, so firstly advantages or disadvantages?</p> <p>24 EG1: against? or</p> <p>25 EG2: advantages?</p> <p>26 EG1: Ok, so advantages first and then disadvantages</p>
Revision	Episodes where learners simply read or re-read the text they had composed and/or commented on their writing	<p>85 EG1: is that good for them?</p> <p>86 EG2: at all, OK, is that good for them at all? (re-reading) , at all, yeah perfect</p>
Other	Off-task talk, including discussions which took place in L1	<p>19 EG10: zerbatte pasatzen zaionen beste, hoi ona edo txarra izan datteke, hoi zer da ona o txarra?</p> <p>20 EG11: eso es como informarte no? hemos puesto parties, and now other's life... hor egin dezakeu kontraargudioa ezta?</p> <p>21 EG10: bai, bale oain jarri txarrak</p>

8.8. Results of fluency, accuracy and complexity for the CG and EG

Table 12: Measures of fluency, accuracy and complexity for the EG pre-test

Pre-test EG	Words	T-units	Clauses	DC	C/T	DC/C (%)	EFT	EFT/T (%)	EFC	EFC/C (%)	Errors	Erros/w	G	G/w	L	L/w	M	M/w
EG1	177	22	33	12	1,50	36,36	15	68,18	24	72,73	9	0,05	7	0,04	0	0,00	2	0,01
EG2	157	8	23	15	2,88	65,22	3	37,50	16	69,57	10	0,06	6	0,04	0	0,00	4	0,03
EG3	194	14	26	12	1,86	46,15	3	21,43	11	42,31	21	0,11	16	0,08	1	0,01	4	0,02
EG4	156	15	25	10	1,67	40,00	6	40,00	13	52,00	17	0,11	13	0,08	2	0,01	2	0,01
EG5	216	16	29	12	1,81	41,38	2	12,50	8	27,59	30	0,14	25	0,12	4	0,02	1	0,00
EG6	148	11	21	10	1,91	47,62	4	36,36	10	47,62	12	0,08	7	0,05	2	0,01	3	0,02
EG7	152	9	21	12	2,33	57,14	2	22,22	8	38,10	16	0,11	11	0,07	3	0,02	2	0,01
EG8	151	13	25	11	1,92	44,00	3	23,08	13	52,00	19	0,13	11	0,07	4	0,03	4	0,03
EG9	150	12	19	6	1,58	31,58	2	16,67	5	26,32	18	0,12	11	0,07	1	0,01	6	0,04
EG10	218	18	31	14	1,72	45,16	6	33,33	17	54,84	21	0,10	17	0,08	2	0,01	2	0,01
EG11	131	11	17	7	1,55	41,18	4	36,36	6	35,29	19	0,15	14	0,11	2	0,02	3	0,02
EG12	154	14	25	10	1,79	40,00	1	7,14	6	24,00	36	0,23	19	0,12	5	0,03	12	0,08
EG13	176	13	24	10	1,85	41,67	1	7,69	7	29,17	28	0,16	18	0,10	6	0,03	4	0,02
EG14	147	15	21	6	1,40	28,57	2	13,33	4	19,05	33	0,22	20	0,14	6	0,04	7	0,05
EG15	164	11	19	8	1,73	42,11	1	9,09	3	15,79	32	0,20	19	0,12	6	0,04	7	0,04
EG16	78	5	9	3	1,80	33,33	0	0,00	0	0,00	31	0,40	24	0,31	2	0,03	5	0,06
Total	2569	207	368	158			55		151		352		238		46		68	
Mean	160,56	12,94	23,00	9,88	1,83	42,59	3,44	24,06	9,44	37,90	22,00	0,15	14,88	0,10	2,88	0,02	4,25	0,03

Table 13: Measures of fluency, accuracy and complexity for EG CW

CW EG	Words	T-units	Clauses	DC	C/T	DC/C (%)	EFT	EFT/T (%)	EFC	EFC/C (%)	Errors	Erros/w	G	G/w	L	L/w	M	M/w
EG1-2	148	12	18	7	1,50	38,89	8	66,67	14	77,78	6	0,04	3	0,02	0	0,00	3	0,02
EG3-4	159	13	22	10	1,69	45,45	6	46,15	11	50,00	11	0,07	7	0,04	0	0,00	4	0,03
EG5-6	191	14	28	15	2,00	53,57	9	64,29	22	78,57	8	0,04	7	0,04	0	0,00	1	0,01
EG7-8	137	12	19	7	1,58	36,84	6	50,00	11	57,89	10	0,07	7	0,05	0	0,00	3	0,02
EG9-10	191	18	31	12	1,72	38,71	9	50,00	20	64,52	17	0,09	8	0,04	4	0,02	5	0,03
EG11-12	135	10	17	7	1,70	41,18	5	50,00	9	52,94	11	0,08	7	0,05	1	0,01	3	0,02
EG13-14	167	13	21	8	1,62	38,10	3	23,08	6	28,57	24	0,14	17	0,10	4	0,02	3	0,02
EG15-16	160	14	23	9	1,64	39,13	4	28,57	9	39,13	30	0,19	17	0,11	3	0,02	10	0,06
Total	1288	106	179	75			50		102		117		73		12		32	
Mean	161	13,25	22,38	9,38	1,68	41,48	6,25	47,34	12,75	56,18	14,63	0,09	9,13	0,05	1,50	0,01	4	0,03

Table 14: Measures of fluency, accuracy and complexity for the CG pre-test

Pre-test CG	Words	T-units	Clauses	DC	C/T	DC/C (%)	EFT	EFT/T (%)	EFC	EFC/C (%)	Errors	Erros/w	G	G/w	L	L/w	M	M/w
CG1	152	10	24	15	2,40	62,50	1	10,00	10	41,67	15	0,10	10	0,07	1	0,01	4	0,03
CG2	141	12	22	10	1,83	45,45	4	33,33	10	45,45	16	0,11	12	0,09	3	0,02	1	0,01
CG3	134	11	21	11	1,91	52,38	4	36,36	14	66,67	9	0,07	5	0,04	0	0,00	4	0,03
CG4	197	13	30	18	2,31	60,00	4	30,77	17	56,67	18	0,09	14	0,07	0	0,00	4	0,02
CG5	167	12	22	9	1,83	40,91	4	33,33	11	50,00	18	0,11	12	0,07	1	0,01	5	0,03
CG6	161	13	21	7	1,62	33,33	4	30,77	6	28,57	24	0,15	15	0,09	2	0,01	7	0,04
CG7	201	17	31	14	1,82	45,16	3	17,65	11	35,48	30	0,15	19	0,09	6	0,03	5	0,02
CG8	149	13	25	10	1,92	40,00	1	7,69	8	32,00	29	0,19	20	0,13	4	0,03	5	0,03
CG9	156	15	24	9	1,60	37,50	3	20,00	10	41,67	29	0,19	22	0,14	6	0,04	1	0,01
CG10	156	11	21	10	1,91	47,62	2	18,18	7	33,33	27	0,17	21	0,13	0	0,00	6	0,04
CG11	193	13	30	16	2,31	53,33	0	0,00	7	23,33	45	0,23	26	0,13	11	0,06	8	0,04
CG12	184	17	29	12	1,71	41,38	0	0,00	6	20,69	41	0,22	32	0,17	1	0,01	8	0,04
CG13	142	14	20	8	1,43	40,00	1	7,14	8	40,00	23	0,16	13	0,09	1	0,01	9	0,06
CG14	167	14	28	14	2,00	50,00	0	0,00	3	10,71	55	0,33	37	0,22	11	0,07	7	0,04
CG15	161	10	23	12	2,30	52,17	1	10,00	5	21,74	33	0,20	27	0,17	1	0,01	5	0,03
CG16	164	13	26	13	2,00	50,00	0	0,00	2	7,69	49	0,30	34	0,21	1	0,01	14	0,09
Total	2625	208	397	188			32		135		461		319		49		93	
Mean	164,06	13,00	24,81	11,75	1,93	46,98	2,00	15,95	8,44	34,73	28,81	0,17	19,94	0,12	3,06	0,02	5,81	0,04

Table 15: Measures of fluency, accuracy and complexity for CG

CG	Words	T-units	Clauses	DC	C/T	DC/C (%)	EFT	EFT/T (%)	EFC	EFC/C (%)	Errors	Erros/w	G	G/w	L	L/w	M	M/w
CG1	172	9	25	16	2,78	64,00	3	33,33	15	60,00	12	0,07	12	0,07	0	0,00	0	0,00
CG2	160	9	19	10	2,11	52,63	3	33,33	6	31,58	20	0,13	16	0,10	3	0,02	1	0,01
CG3	153	8	19	10	2,38	52,63	1	12,50	8	42,11	15	0,10	9	0,06	1	0,01	5	0,03
CG4	225	18	29	11	1,61	37,93	7	38,89	16	55,17	21	0,09	16	0,07	2	0,01	3	0,01
CG5	148	10	18	7	1,80	38,89	5	50,00	12	66,67	10	0,07	5	0,03	1	0,01	4	0,03
CG6	152	14	21	7	1,50	33,33	5	35,71	8	38,10	19	0,13	16	0,11	0	0,00	3	0,02
CG7	192	22	28	7	1,27	25,00	9	40,91	14	50,00	31	0,16	23	0,12	3	0,02	5	0,03
CG8	153	11	22	11	2,00	50,00	2	18,18	10	45,45	18	0,12	13	0,08	2	0,01	3	0,02
CG9	180	16	20	4	1,25	20,00	4	25,00	5	25,00	39	0,22	34	0,19	0	0,00	5	0,03
CG10	164	15	26	11	1,73	42,31	1	6,67	10	38,46	38	0,23	26	0,16	3	0,02	9	0,05
CG11	134	14	20	6	1,43	30,00	1	7,14	7	35,00	24	0,18	10	0,07	3	0,02	11	0,08
CG12	240	17	34	18	2,00	52,94	1	5,88	4	11,76	68	0,28	53	0,22	4	0,02	11	0,05
CG13	91	6	12	6	2,00	50,00	0	0,00	2	16,67	13	0,14	10	0,11	1	0,01	2	0,02
CG14	211	13	25	10	1,92	40,00	0	0,00	4	16,00	64	0,30	49	0,23	4	0,02	11	0,05
CG15	164	15	19	3	1,27	15,79	3	20,00	5	26,32	19	0,12	15	0,09	0	0,00	4	0,02
CG16	180	16	23	7	1,44	30,43	2	12,50	6	26,09	31	0,17	16	0,09	4	0,02	11	0,06
Total	2719	213	360	144			47		132		442		323		31		88	
Mean	169,94	13,31	22,50	9	1,78	39,74	2,94	21,25	8,25	36,52	27,63	0,16	20,19	0,11	1,94	0,01	5,50	0,03