

# Collaborative writing in the EFL Secondary Education classroom: Comparing triad, pair and individual work

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**Abstract:** This study investigates the benefits of collaborative writing (CW) tasks in a 1st of ESO setting. Based on strong socio-cognitive and communicative methodologies rationale, studies examining the benefits of CW use in Foreign Language (FL) learning are on the increase, but still scarce in Spanish Secondary Education classes. Moreover, most CW studies have compared the outcomes of individuals and pairs. Our study is a partial replication of Fernández Dobao's (2012) paper, in which students' accuracy, fluency and syntactic complexity outcomes when writing the same text individually (n=18), in pairs (n=20) and in triads (n=21) are analysed. Findings suggest CW and a higher number of participants in the collaboration generally benefit texts' accuracy, fluency and syntactic complexity. However, individually written texts showed higher complexity via subordination than the ones written collaboratively.

**Keywords:** collaborative writing; individual work; pair work; triad work; Secondary Education.

**Resumen:** Este estudio analiza los beneficios de las tareas colaborativas de escritura en un contexto de 1º de la ESO. En los últimos años ha habido un incremento de investigaciones que basándose en teorías socio-cognitivas y metodologías comunicativas han examinado los beneficios del uso de la escritura colaborativa para el aprendizaje de lenguas extranjeras, aunque estos estudios son todavía escasos en las clases de Educación Secundaria en España y la mayoría han comparado los resultados de tareas realizadas individualmente frente a las realizadas en parejas. Nuestro estudio replica parcialmente un estudio realizado por Fernández Dobao (2012), y analiza la precisión, la fluidez y la complejidad sintáctica de un mismo texto realizado individualmente (n=18), en parejas (n=20) y en tríos (n=21). Los resultados sugieren que la colaboración y un número mayor de participantes benefician la precisión, la fluidez y la complejidad sintáctica. Sin embargo, los textos escritos individualmente mostraron más subordinación que los escritos de manera colaborativa.

**Palabras clave:** escritura colaborativa; trabajo individual; trabajo por parejas; trabajo en tríos; Educación Secundaria.

## I. Introduction

Most Second Language (L2) and Foreign Language (FL) writing pedagogy so far has asked students to create their texts individually –limiting pair and group work to brainstorming and/or reviewing activities–. However, based on socio-cognitive theories and communicative focused rationale, EFL students' collaboration has indeed become common practice worldwide. Although it is still predominantly oral collaboration, there has been an increased interest in recent SLA research on FL learners' collaboration throughout the whole writing process (e.g. Fernández Dobao, 2012; Storch, 2005; Storch & Wigglesworth, 2007). Those studies that have looked at EFL learners' written collaboration (or collaborative writing [CW]) provide evidence of its benefits. CW is thought to mediate FL learning by pushing students to reflect on their language use and to collaborate with each other in solving their language-related doubts (e.g. Storch & Wigglesworth, 2007; Swain, 2006). Moreover, their co-constructed texts tend to result in higher linguistic performance (e.g. Fernández Dobao, 2012). However, most of these studies have focused on students collaborating in pairs or on comparing individual and pair work. Besides that, the studies' participants have been mainly higher education or adult FL learners (e.g. McDonough & García Fuentes, 2015).

In the current paper, we will partially replicate a study carried out by Fernández Dobao (2012), in which she compared the effect two kinds of collaborative work (in pairs and in small groups) and individual work have on the accuracy, fluency and syntactic complexity of texts written by Secondary Education EFL students. Therefore, this study aims to discover, first of all, whether students' collaboration in a writing task results in greater written linguistic performance in a Secondary Education setting (individual work vs. pair work, and individual vs. triad work). And secondly, whether texts accuracy, fluency and syntactic complexity significantly differ depending on the number of participants collaborating (pairs vs. triads). Consequently, the research questions of the present study are:

1. a) Is the same text more accurate when done individually or in pairs?  
b) Is the same text more accurate when done individually or in triads?  
c) Is the same text more accurate when done in pairs or in triads?
2. a) Is the same text more fluent when done individually or in pairs?  
b) Is the same text more fluent when done individually or in triads?  
c) Is the same text more fluent when done in pairs or in triads?

3. a) Is the same text syntactically more complex when done individually or in pairs?
- b) Is the same text syntactically more complex when done individually or in triads?
- c) Is the same text syntactically more complex when done in pairs or in triads?

In order to answer these research questions, a literature review on writing, collaboration and collaborative writing in EFL will be presented. Then, the methodology followed will be described. After that, the results will be displayed, analysed and discussed. Finally, we will reflect on our study's conclusions and provide some pedagogical implications.

## II. Literature review

### 1. *Writing in EFL*

L2/FL pedagogy has traditionally and still recognises the core importance of developing students L2/FL writing. It helps FL acquisition, it allows for students' further social and career related opportunities, and it is generally required by current Educational laws (BOE, 2013; Harmer, 2007; etc.). Nevertheless, it is not a simple skill to teach. Thus, teachers should investigate different techniques, strategies and methodologies in their writing instruction (Manchón, 2009; Reid, 1993).

There are a number of approaches to writing that teachers may consider. On the one hand, the focus may be on the *product* or on the *process* of writing. That is, whether we are interested in the final written text (its accuracy, fluency, etc.), or in the *process* of constructing it (planning, drafting, (re-)editing and final version) (Harmer, 2007; Storch, 2013). On the other hand, we should be clear about whether our EFL students are *learning to write* or *writing to learn*. In other words, if they are learning to build coherent, appropriate texts for professional or academic purposes (*learning to write*); or whether they are writing texts in the FL to learn about the language itself (*writing to learn*) (Harmer, 2007; Manchón, 2009; Reichelt, 2009).

This study considers both the *product* (accuracy, fluency and complexity of the written texts) and the *process* of writing (by comparing individual, pair and triad work). That is, it concentrates on whether a variable (grouping) in the *process* affects three different variables (texts' accuracy, fluency and syntactic

complexity) of the *product*. As far as the *learning to write* and *writing to learn* dichotomy, the task presented is mostly focused on students learning to write a physical description of a person. Therefore, it is considered as a *learning to write* task. Students are expected to focus on the text's structure, coherence, format, characteristic vocabulary, etc. Moreover, the task for pairs and triads will be a learning experience on how to write collaboratively in the FL.

Finally, the lack of research on writing in Secondary Education in Spain should be noted. In spite of the agreed importance given to the skill, academic published papers about it in Secondary Education are scarce (Ortega, 2009). Thus, this study will try to provide small-scale further evidence to the limited existing literature on writing in this context.

## 2. *Collaboration in EFL*

Based on strong theoretical and pedagogical rationale, students' pair and group work in EFL classes is now widespread. On the one hand, its theoretical support comes from cognitive and socio-cultural theories. On the other hand, pedagogical beliefs are mostly backed by communicative methodologies such as Communicative Language Teaching (CLT) and Task Based Language Teaching (TBLT), both mostly accepted in current EFL classes worldwide.

Cognitive theories in Second Language Acquisition (SLA) today consider FL acquisition to be a non-linear process. Krashen's work (1985) already introduced the importance of comprehensible input in the L2 with features beyond the learner's interlanguage (IL)<sup>1</sup> ( $i+1$ ) (i.e. comprehensible input) for SLA. Long's Interaction Hypothesis (IH) (1985) then added the need of L2 interactions. Later on, Swain's comprehensible Output Hypothesis put forward that FL learners need also pushed output to improve their process of FL acquisition (Swain, 1993). While engaging in L2/FL practice, learners are likely to encounter language difficulties, so that gaps and/or holes in their IL might be noticed.<sup>2</sup> Noticing and focusing on them have indeed been claimed to be a necessary condition for FL acquisition (Schmidt, 2010). Several case studies have confirmed

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1. Interlanguage (IL): type of language of a L2/FL learner who is in the process of acquiring it (Richards & Schmidt, 2010: 293).

2. Students notice gaps when they become aware that their IL structure is different from the target (i.e. making a mistake). Noticing the hole makes students aware of their lack of the means to express what they want to say (Williams, 2005: 682).

these claims (e.g. Schmidt, 1984; Schmidt & Frota, 1986; Swain, 2006). In this sense, collaboration in the FL, by which students negotiate their FL use and get feedback, has been found to be beneficial for FL acquisition. It allows students' hypotheses about FL use to be tested, re-built and/or confirmed (e.g. Gor & Long, 2009; Pica, 2009).

Students' collaboration in the FL is also supported by socio-cultural theories. Since Vygotsky's work (1978), all human cognitive development (including language learning) is considered to take place through social interaction. He considered humans developed cognitively by engaging in novice-expert collaborative interactions at the formers' Zone of Proximal Development (ZPD)<sup>3</sup>. Such assistance is known in the literature as scaffolding (i.e. language learning support in SLA). In socio-cultural theories, language acquisition must be understood as social (it is directed to an audience, it enables communication and it is co-constructed with peers) and cognitive development (it facilitates the development of higher order skills [e.g. reflective thinking, problem-solving capacity, etc.]) (Storch, 2013). Swain (2006: 98) coined as 'linguaging' this «process of making meaning and shaping knowledge and experience through language [...]. In linguaging, we see learning taking place». So, when students collaborate in the EFL classroom, they use the language to solve linguistic problems and, at the same time, they are constructing new FL knowledge, understanding and/or consolidating existing one. Previous SLA research has found evidence supporting EFL student's collaboration as a means of collective scaffolding by which students could perform beyond their individual linguistic capacities; co-construct linguistic knowledge; test and build new FL hypothesis; etc. (e.g. Alegría de la Colina & García Mayo, 2007; Donato, 1994; Storch, 2005, 2013; Swain, 2006).

Pedagogical support for EFL students' communicative collaboration has been applied in Communicative Language Teaching (CLT) and Task-Based Language Teaching (TBLT) methodologies. Their main goal is to develop FL learners' communicative competence. This involves all linguistic, sociolinguistic, discourse and strategic competences. CLT and TBLT have resulted in an emphasis on pair and group work, as well as in a combination and integration of both form – and meaning-focused approaches (Ellis, 2006; Pica, 2009).

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3. ZPD: distance between what learners (novices) can do on their own and what they can do when assisted by a more capable individual (expert) (Richards & Schmidt, 2010: 644).

### 3. *Collaborative writing in EFL*

Even though most of the research on collaborative tasks for SLA has focused on oral tasks, linguistic forms and meaning (how and what to express) can also be jointly considered in writing tasks. Consequently, learners acquire the psycho and socio-linguistic dimensions of FL composition when writing (e.g. Cumming, 2009; Ortega, 2009). CW, in fact, provides FL learners with an opportunity to integrate the four skills: speaking and listening (peers interactions), writing and reading (task completion). It facilitates, thus, FL acquisition as well as FL learners' linguistic, cognitive and social development (e.g. Manchón, 2009; Storch, 2013). It must be noted that students' *collaboration* –i.e. individuals' «coordinated effort to complete a task together»– and not their *cooperation* –«division of labour»– is pursued (Dillenbourg et al., 1996 in Storch, 2013: 3).

We follow Storch's (2013: 2-3) definition of CW as a task in which students jointly produce a text, being all of them «co-authors» of it. Therefore, pre- and post writing collaborative activities such as group-planning or peer feedback will not be considered CW, but rather collaboration at one stage of the writing process. A great number of studies have focused on peer revision and feedback (e.g. Memari Hanjani, 2015; Stanley, 1992), but recent literature is increasingly paying more attention to students' collaboration during the whole writing process. A step by step procedure of a CW methodology with Japanese EFL university students was put forward by Mulligan & Garofallo (2011). English teachers may use their study as guidance for CW class implementation using scaffolding.

Previous research has been able to provide ample evidence for the positive effect collaboration has on students' written performance. Research has mainly focused on texts accuracy, complexity and fluency with different kinds of groupings and different types of tasks. Results have been varied regarding texts complexity and fluency, but accuracy has generally been found to be greater in collaboratively than in individually written texts.

For example, Storch (2005) compared 18 pairs and 5 individual ESL learners' performance on a short composition task at an Australian university ESL writing class. Although her findings were not statistically significant probably due to the limited number of participants in the study, she observed that pairs produced texts that were grammatically more accurate and linguistically more complex than individually written ones. In a later and bigger-scale study, Storch & Wigglesworth (2007) compared the effect collaboration had when students wrote two types of tasks: a report and an essay. They concluded that there were no significant differences in students' writings for fluency and complexity. However, pairs were significantly more accurate than individuals in both.

Their findings are consistent with McDonough & García Fuentes (2015) in an EFL setting. They investigated the effect two types of paragraphs (cause/effect and problem/solution) as well as individual vs. pair grouping had on EFL students use at a Colombian university. Participants in the study were completing an EFL course from which tasks were selected; but no previous instruction on the writing process was given to them. McDonough & García Fuentes found students used more complex language in cause/effect paragraphs, but their linguistic accuracy did not vary throughout tasks. Pairs, however, wrote more accurate paragraphs than individuals.

In an even closer context to our study, Gil Sarratea (2014) compared two first Secondary Spanish Education EFL groups writing an argumentative essay. Both had received similar instruction. In one group students wrote in pairs and in the other one individually. She found that pairs were not only grammatically more accurate, but used more complex language and wrote better structured texts than students writing on their own.

The majority of research around CW has compared students working in pairs and individually. In fact, Fernández Dobao (2012) is one of the few scholars who compared the three types of groupings: individual, pair and small group work. She analysed and compared pairs' and small groups' LREs frequency, focus (form, lexis and mechanics) and outcome (unresolved, correctly and incorrectly resolved) when FL Spanish learners recreated a story from a visual prompt. In her study, the same writing task was developed by pairs, small groups and students individually. Thus, she examined the effect the number of participants had on their final texts accuracy, fluency and complexity. She found students scaffolded each other and co-constructed linguistic knowledge in both pairs and groups interactions. Interestingly, small groups were quantitatively and qualitatively more successful than the rest, while pairs outperformed individual writing.

Kuiken & Vedder (2002) investigated the effect CW had on the quality of a dictogloss task written by groups of three/four L2 English learners, EFL Dutch and EFL Italian students with an intermediate level. They investigated FL learning strategies students used for text reconstruction, as well as the grammatical and lexical complexity of their texts. Kuiken & Vedder found that students reconstructed versions were grammatically and lexically simpler than the original texts. They could not find positive evidence that linked the strategies students had used and the complexity and accuracy of their texts. These researchers suggested text difficulty, students' level and group dynamics as possible reasons for those results. Moreover, in order to measure for the L2/FL learning benefits of students' interactions, the desirability of designing pre- and

post-tests was acknowledged. Although Kuiken & Vedder did not find evidence for their study's hypotheses, their study proved CW in small groups can indeed lead to successful written production in an EFL setting.

Research on CW has also focused on the influence of task type on students' written outcome. As Alegría de la Colina & García Mayo (2007) evidenced, EFL students' attention to linguistic features (e.g. grammatical forms, lexis use, etc.) will vary according to the type of task they are presented. In their study, they compared the attention to form of EFL beginner university students writing in pairs a dictogloss, a text-reconstruction and a jigsaw task.<sup>4</sup> They found text reconstruction was the task generating more attention to form, jigsaw for lexis, whereas the dictogloss one directed students' attention to connectors and spelling.

Finally, FL proficiency level will affect CW process and performance as well. Most studies so far have investigated intermediate level university students or adult learners, but Alegría de la Colina & García Mayo (2007) study is one of the few aimed at determining the effectiveness of CW tasks for EFL beginners. It is set, though, at a university context as well. Gil Sarratea (2014), who investigated CW at the first level of Secondary Education, is a minority in the literature. Lack of research on CW for EFL beginners and at Spanish Secondary Education level could be claimed (e.g. Ortega, 2009).

In sum, research comparing collaborative and individual writing has provided evidence of the positive effect collaboration had on texts final accuracy. This has been consistent regardless of task type, FL proficiency level and/or students' attitudes towards CW. Texts fluency and complexity have generally been found to be greater when students collaborated as well. Preceding literature tends to compare FL learners writing individually and in pairs or individually and in small groups. Besides, most have investigated intermediate adult FL learners.

Our study –a partial replication of Fernández Dobao's (2012)– aims to compare students' texts accuracy, fluency and syntactic complexity results alongside the three types of groupings reviewed: individual, pair and small group work. Furthermore, it is set in an EFL beginners Secondary Education context, and thus, it investigates two under researched issues by focusing on 1<sup>st</sup> level Secondary Education EFL students. Based on previous research findings (e.g. Fernán-

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4. Jigsaws are information gap activities in which participants are given different essential pieces of information. Students need to exchange them (thus, collaborate) for successful task completion (Alegría de la Colina & García Mayo, 2007: 97).



dez Dobao, 2012; Gil Sarratea, 2014; Storch, 2005; Storch & Wigglesworth, 2007), we expect texts written collaboratively to be more accurate –and in all likelihood more fluent and syntactically more complex– than those written individually by the students in our study. Likewise, we believe triads’ results will outperform pairs’ in all three variables.

### III. The Study

#### 1. *Method*

##### a) *Participants*

The study was conducted in three 1<sup>st</sup> year of ESO English groups at a Secondary Education School in Pamplona, Navarre (Spain). A total of 59 students participated in the study. 33 were female and 26 male, they were all around 12-13 years of age. Being in 1<sup>st</sup> ESO level, we could state they were EFL beginners. Most had been studying English for the same amount of time and had had comparable exposure to the language. None were native speakers of English.

##### b) *Context*

All participants were studying at the same school in Pamplona. Students were divided into three classes according to their English level in the school. Consequently, two similar-levelled «heterogeneous» groups and one with more advanced learners of English were formed in every course. These were not closed groups. So, students could go up or down to one or the other according to their progress in English. In order to get comparable results, we asked students in one of the heterogeneous groups to write individually, whereas pairs and triads were formed in the other two (similar-levelled one and more advanced group).

The study was carried out at the start of the 3<sup>rd</sup> term. According to their English teachers and to the researcher’s classroom observations, students were used to working both collaboratively (in pairs and in small groups of 3-4) and individually.<sup>5</sup> Therefore, collaborative working behaviour was considered to be familiar

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5. They usually collaborated not only in English classes, but also in other subjects, school projects, previous years, etc.

to the students. Moreover, English teachers at the school agreed every week on the classes to be delivered for the course. Hence, previous EFL instruction was considered to be balanced.

### c) *Instruments*

A total of 35 texts were collected, 17 written collaboratively and 18 individually. Out of the 17 CW texts, 10 were from the more advanced group (6 pairs [n= 12]) and 4 triads [n= 12]) and 7 (4 pairs [n= 8] and 3 triads [n= 9]) from one heterogeneous group.

### d) *Procedure*

The writing task was a physical description text. Our decision was based on both the need to follow the 1<sup>st</sup> ESO curriculum, as well as the intention to contextualise the writing task in the most familiar manner to students. It was also designed in order to be both challenging and manageable for them. Participants were presented the writing task of the study as part of their English course.

Both instruction and writing task performance were carried out in class time. A maximum of one week passed between the preparatory lesson and the day students wrote the text. All of the participants received equal instruction and they were given the same material as preparation for the writing task. A one-hour long explicit lesson on writing a physical description was provided in all three classes. It covered lexical (physical description adjectives), grammatical (verbs to be/have got distinction and appropriate tense use) as well as structural (organisation in paragraphs) features (see appendix A).

Most pairs and triads were randomly organised the day of the writing task by their English teachers<sup>6</sup>. Students wrote the texts the same day at the same hour in their usual English lesson. Since the researcher could not be present in all three classrooms, the instructions to be given were agreed beforehand with the English teachers. Due to individual teachers' plan for the lesson, students writing individually wrote the text at the beginning of the hour, whereas the other two did it at the end. All students were given a maximum of 25 minutes

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6. The English teacher in the heterogeneous group purposely arranged pairs and triads, so that students with higher learning difficulties did not work in the same triad or pair.

and they were all handed in the same photocopy (see appendix B). The pictures in the photocopy were going to be projected in all three classes, so that students could see them bigger and in colour. However, the more advanced group and the one where students wrote individually could not project them for technical failures. Consequently, students had their doubts about the images solved and/or were allowed to invent details about them.

### e) *Data coding and analysis*

The written texts produced by students individually, in pairs and in triads were analysed for accuracy, fluency and syntactic complexity.

Following Fernández Dobao (2012), fluency was measured by the total number of words in each text. Syntactic complexity was calculated by the number of words per clause, number of words per T-unit and number of clauses per T-unit. So, the total number of words, clauses and T-units were counted. This allowed for the reporting of three types of syntactic complexity: «subclausal complexity, overall complexity, and complexity via subordination» (Fernández Dobao, 2012: 47).<sup>7</sup>

Regarding texts accuracy, we identified grammatical, lexical and mechanical errors. All grammatical inaccuracies were counted. We categorised as lexical errors: use of words which meaning was clearly not the intended one –including false friends (e.g. *simpatico*; *fort* [instead of «strong»])–; use of an invented word (mostly translated from Spanish by the students); use of a word we could not recognise; use of a word similar to the students' intended meaning but inaccurate (e.g. *She looks friendly, intelligent and very smile* [«happy»]); and use of a Spanish word (e.g. *Shes face is /redonda/*). Finally, we defined mechanical errors as misspellings (e.g. *jinger*; *blond*; *fink*, *whit* [«white»], *iers* [«ears»]...); capital letters misuse; and punctuation mistakes.

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7. A T-unit is «an independent clause and all its attached or embedded dependent clauses [...] Sentence fragments (where the verb or copula is missing) is still counted as a T-unit [...]. A coordinate clause with no grammatical subject is counted as a separate T-unit» (Storch, 2005: 171).

Clauses can be independent –they can «stand on its own» and they contain a subject and a verb– or dependent –they contain «a finite or a non-finite verb and at least one [...] of the following: subject, object, complement or adverbial» (Storch, 2005:172).

E.g. We think that/Marion Blanche is a very good person// One T-unit (ends at //) composed of two clauses (separated by /).

In order to make accuracy results comparable to those of previous studies (e.g. Fernández Dobao, 2012; Storch, 2005; Storch & Wigglesworth, 2007), we calculated the number of total error-free clauses per total number of clauses; error-free T-units per total number of T-units; and total of errors per total number of words. Moreover, ratios of number of grammatical errors per total number of words; number of lexical errors per total number of words and number of total mechanical errors per total number of words were calculated.

An ANOVA test was conducted to analyse the data collected. Accuracy, fluency and syntactic complexity measures were set as dependent variables and type of grouping (1 = individual, 2 = pairs and 3 = triads) as the independent one. A post-hoc DMS test was conducted in order to consider statistically significant differences between groupings ( $p < 0.05$ ). DMS uses t-tests in order to compare –by pairs – the means of the groups under study (individual, dyads and triads).

## 2. *Results and discussion*

In this section, we present and discuss the results from the analysis of the data collected from students' texts: 18 written individually, 10 in pairs and 7 in triads.

### a) *Accuracy*

Table 1 presents the results for accuracy of all texts. Error-free T-units was the only measure to show statistically significant differences between type of grouping ( $F=3.717$ ,  $p=.037$ ). DMS post-hoc test showed that this difference was only statistically significant for the comparison between individuals and pairs ( $p=.037$ ) and individuals and triads ( $p=.032$ ). None of the rest of the variables analysed for overall texts accuracy (amount of errors, error-free clauses and their distribution per total of words, clauses and T-units) reached statistically significant results. However, there was a tendency for collaboratively written texts to be slightly more accurate than individually written ones.

**Table 1.** Measures of overall accuracy for texts written individually, in pairs and in triads

Accuracy – Overall									
	Individuals (n=18)			Pairs (10, n=20)			Triads (7, n=21)		
	Total	Mean	SD	Total	Mean	SD	Total	Mean	SD
Error-free clauses	143	7,944	3,872	106	10,6	4,47	77	11	3,873
Error-free clauses/clause		0,48	0,203		0,57	0,182		0,64	0,2109
Error-free T-units	123	6,833	3,399	98	9,8	3,55	72	10,286	3,45
Error-free T-units/T-unit		0,471	0,1921		0,5698	0,179		0,6299	0,2085
Errors	193	10,72	5,1542	96	9,6	4,427	51	7,286	5,056
Errors/word		0,116	0,05422		0,0899	0,0548		0,0701	0,061

Mean of error-free clauses in individually written texts was 7.9, whereas pair and triad means were higher (M=10.6 and M=11 respectively). This tendency was consistent for error-free clauses per clause –individuals (M=0.48), pairs (M=0.57) and triads (M=0.64)– and error-free T-units per T-unit –individuals (M=0.47), pairs (M=0.57) and triads (M=0.63). Error per words means and means of total errors produced were higher in individually written texts (M=0.12 and M=10.72 respectively) than in pairs (M=0.089 and M=9.6) and in triads (M=0.07 and M=7.28). Most CW-focused research has consistently evidenced students writing in collaboration produced more accurate texts (Fernández Dobao, 2012; Gil Sarratea, 2014; McDonough & García Fuentes, 2015; Storch, 2005; Storch & Wigglesworth, 2007). It might be no coincidence, hence, that the only analysed measure which presents statistically significant results in our study is this variable. Lack of statistically significant differences in the rest of the analysed measures between types of grouping might be related to the small sample size: only 10 pairs, 7 triads and 18 individually working students participated in the study.

Therefore, we observed means variations in individuals, pairs and triads outcomes as tendencies of the effect type of grouping may have on texts final product. In fact, means results consistently showed collaboratively written texts were more accurate than individually written ones. Similarly, triads’ texts were slightly more accurate than pairs’. Therefore, our results for general accuracy in students’ written texts support previous research findings in that CW benefited students’ written accuracy (e.g. Fernández Dobao, 2012; Storch, 2005).

b) *Grammatical, lexical and mechanical accuracy*

Table 2 presents results for grammatical, lexical and mechanical accuracy of all texts. None of these variables reached statistically significant different results. Nevertheless, as means accounting for overall texts accuracy suggested, students' collaboration and a higher number of participants benefited texts' grammatical, lexical and mechanical (not for pairs) accuracy too.

**Table 2.** Measures of grammatical, lexical and mechanical accuracy for texts written individually, in pairs and in triads

Accuracy – Grammatical, lexical and mechanical accuracy									
	Individuals (n=18)			Pairs (10, n=20)			Triads (7, n=21)		
	Total	Mean	SD	Total	Mean	SD	Total	Mean	SD
Grammar errors	109	6,056	3,7491	47	4,7	3,94550	34	4,857	2,4785
Grammar errors/word		0,066	0,0433		0,04688	0,04832		0,0454	0,0297
Lexical errors	16	0,889	0,7584	8	0,8	1,03280	4	0,571	0,7868
Lexical errors/word		0,009	0,00775		0,00782	0,01150		0,0059	0,0087
Mechanical errors	68	3,778	2,2637	41	4,1	2,23360	13	1,857	2,1157
Mechanical errors/word		0,041	0,0239		0,0352	0,01740		0,0188	0,0245

Students' collaboration especially benefited grammatical accuracy. Learners who wrote individually presented higher grammar error means (M=6.05) than pairs (M=4.7) and triads (M=4.8). The same happened for amount of grammar errors per word –individuals (M=0.065), pairs (M=0.046) and triads (M=0.045). Comparing pairs and triads means, it seems that a higher number of participants in the collaboration did not greatly favour grammatical accuracy.

Lexical accuracy was higher when students collaborated too. However, in this case, triads were lexically more accurate than pairs. In fact, the lexical accuracy results of individuals and pairs did not differ significantly. Total number of lexical errors and lexical errors per words means by individuals (M=0.889 and M=0.0094 respectively) was slightly higher than pairs (M=0.8 and M=0.0078), but triads means were considerably lower than both previous groupings (M=0.57 and M=0.0059). Therefore, a higher number of participants positively influenced the lexical accuracy of texts. Nevertheless, it must be noted that lexical mistakes were very rarely made.

Triads were the most accurate grouping regarding mechanical accuracy. Means of total mechanical errors per word were lower in triads ( $M=0.018$ ), than in pairs ( $M=0.035$ ) and in individually written texts ( $M=0.045$ ). The lowest mean of total number of mechanical errors was found in triads too ( $M=1.85$ ). However, pairs' mechanical errors mean was higher ( $M=4.1$ ) than individuals' ( $M=3.77$ ).

A higher number of participants collaborating in the writing task positively influenced all grammatical, lexical and mechanical accuracy of the texts (especially the last two). Students' collaboration particularly benefited grammatical accuracy, for which pairs and triads results were similar. The latter, however, outperformed both pairs and individuals in lexical and mechanical accuracy. Individuals and pairs results for these last two variables were similar; nevertheless, individuals' mechanical errors mean was lower than pairs'.

Results showed students in dyads had more difficulties regarding mechanical accuracy. A likely explanation might be that students in pairs focused more on the content than on the form of their message (since most were spelling inaccuracies) when writing. Moreover, pairs and individuals results for lexical accuracy were very similar. These findings may suggest dyads primarily concentrated on the message to convey, regardless of them knowing the accurate lexical term and/or its spelling. A possible explanation for the fact that pairs made more mechanical errors might be that because the student responsible for writing the text did not know the proper spelling. Individuals and pairs means did not differ much, so it could be the case that the other peer in dyads did not read (or they did not know) the correct spelling. On the contrary, a higher number of participants in the group allowed students a higher number of opportunities to realise and solve mechanical inaccuracies.

All grammatical, lexical and mechanical accuracy results presented were just tendencies which showed no statistically significant results. Nevertheless, as it was the case for overall accuracy of the texts, means tendencies showed CW benefited grammatical, lexical and mechanical (not for pairs) accuracy. Pairs and triads results did not differ much for grammatical accuracy of the texts. However, a higher number of participants in written collaboration positively influenced lexical and mechanical accuracy. Interestingly, pairs and individuals means for these last two variables only slightly benefited the former. In fact, individuals slightly outperformed pairs regarding mechanical errors results. However, this was the only measure for which individual work was more accurate than another type of grouping.

Therefore, although our research questions regarding accuracy cannot be positively answered based on statistically significant numbers, we can claim that higher number of participants in the task positively influences the final accuracy

of the written texts. In other words, the same text was slightly more accurate when done in pairs than individually; it was slightly more accurate in triads than individually; and it was slightly more accurate in triads than in pairs too. These results are backed by studies analysing larger data. Hence, collaboration and a higher number of participants in the group seem to benefit texts final accuracy (both overall and in the three measures analysed) as Fernández Dobao (2012) already showed for the three types of grouping.

*c) Fluency and syntactic complexity*

Fluency and syntactic complexity results are presented in Table 3. Fluency of the texts was measured by the total amount of words. Even though students were asked to write an 80-100 words long text, they did not all follow the instruction and texts' length tended to slightly vary across type of grouping. In fact, after total of error-free T-units, number of words was the only measure which was closer to getting statistically significant results ( $F=3.082$ ,  $p=.060$ ). Contrary to previous research findings (e.g. Storch, 2005), students writing individually produced on average shorter texts ( $M=93.6$ ) than students writing in pairs ( $M=118.6$ ) and in triads ( $M=113.4$ ).

**Table 3.** Measures of fluency and syntactic complexity for texts written individually, in pairs and in triads

Fluency and Syntactic complexity									
	Individuals (n=18)			Pairs (10, n=20)			Triads (7, n=21)		
	Total	Mean	SD	Total	Mean	SD	Total	Mean	SD
Words	1686	93,67	19,9765	1186	118,6	41,1456	794	113,430	18,9460
Clauses	289	16,06	3,9627	184	18,4	4,4272	120	17,143	2,1157
T-Units	257	14,28	4,0118	172	17,2	3,6757	115	16,429	2,2991
Words/clause		5,902	0,6350		6,3728	1,203		6,6530	1,0465
Words/T-Unit		6,685	0,7969		6,798	1,4303		6,9948	1,3391
Clauses/T-Unit		1,135	0,1040		1,065	0,0651		1,0465	0,0504



Previous research had already noted fluency did not increase significantly by the use of written collaboration (e.g. Storch & Wigglesworth, 2007). Contrary to our findings, though, previous studies reported collaboratively written texts tended to be shorter than individually written ones. This was explained by claiming students collaborating spent more time making decisions, scaffolding peers, etc. than students working individually, who used that time for writing (Fernández Dobao, 2012; Storch, 2005). Interestingly, we found pairs and triads texts to be slightly longer than individually written ones. This might be due to a higher number of participants allowing for a higher number of ideas, a stronger focus on details (and ultimately writing those ideas and details) than in individual writing. Since students were describing an image, they did not need much time to reach an agreement on the task content. EFL instructors might carefully consider task type if word limits are not set.

Syntactic complexity results did not reach statistically significant differences for any of the measures analysed either. Texts written in pairs and in triads tended to have one or two more T-units (M=17.2 and M=16.4 respectively) than individually written ones (M=14.3). Similarly, students collaborating wrote a higher number of clauses (M=16.05 in individually written texts, M=18.4 in pairs and M=17.14 in triads). Since students in collaboration wrote longer texts, it may be no surprise that means in the total number of clauses and T-units were higher in both types of CW than in individually written texts. In fact, they follow the tendencies of the results regarding fluency, pairs made use of more T-units and more clauses than triads and individuals. Triads wrote more T-units and more clauses than individuals too.

The rest of the variables analysed for syntactic complexity showed very similar results in the three types of groupings. However, a closer look at them might provide interesting findings. Total number of words per clause means were M=5.9 in individually written texts, M=6.37 in pairs and M=6.65 in triads. Total number of words per T-unit were M=6.68 in individually written texts, M=6.79 in pairs and M=6.99 in triads. Therefore, sub-clausal and overall complexity of the written texts were slightly benefited by collaboration and a higher number of participants in the grouping. Means of clauses per T-unit did not differ much either, nevertheless, the mean was higher in individually written texts (M=1.135), than in pairs (M=1.065) and in triads (M=1.046). Students writing individually used more subordination than students in CW, and pairs used more subordination than triads. These results should be pointed out since they are the only instance where individual students outperformed the ones collaborating and a higher number of participants negatively influenced students' linguistic performance.

Previous research had already noted CW did not significantly increase the results of syntactic complexity in students written texts (e.g. Storch & Wigglesworth, 2007). This is in line with our results, since mean results did not vary as much as in the previous measures analysed. CW and a higher number of participants benefited overall and sub-clausal syntactic complexity outcomes. However, a higher number of participants in the writing task decreased students' syntactic complexity via subordination.

Our research questions regarding the effect that type of grouping may have in students' texts fluency and syntactic complexity cannot be answered with statistically significant numbers. Following our previous argument of looking at tendencies in variable means, we could claim the same text was more fluent when it was written in pairs than individually, it was more fluent in triads than individually, and it was slightly more fluent in pairs than in triads. As far as syntactic complexity is concerned, triads wrote syntactically slightly more complex texts overall and at the sub-clausal level than pairs. Pairs also produced syntactically slightly more complex texts than individuals overall and at the sub-clausal level. However, individuals wrote syntactically slightly more complex texts via subordination than pairs and triads. And pairs wrote syntactically slightly more complex texts via subordination than triads.

#### IV. Conclusion and pedagogical implications

The current study was set to investigate the benefits of CW in a Secondary Education setting. Based on socio-cognitive theories and communicative teaching methodologies, students' collaboration in the FL class is common practice worldwide. Particularly CW has become a recent focus in EFL research today and several studies have evidenced its benefits for FL learning (Fernández Dobao, 2012; Storch, 2005; Storch & Wigglesworth, 2007). This study is a partial replication of Fernández Dobao's (2012). It analysed accuracy, fluency and syntactic complexity variables for individual, pair and triad work writing a physical description text in three 1<sup>st</sup> ESO EFL classes. Based on previous research (Fernández Dobao, 2012; Gil Sarratea, 2014; Storch, 2005; Storch & Wigglesworth, 2007), we expected CW and a higher number of participants in the grouping to positively influence students' written performance. Results indeed evidenced CW and, generally, a higher number of participants in the collaboration benefited EFL students' written production in terms of accuracy, fluency and overall and sub-clausal syntactic complexity. Texts syntactic complexity via subordination was higher in individually written texts than in CW ones.

Based on the study's results and in reference to the research questions we claim that:

- a) The same text was slightly more accurate when written in pairs than individually; it was slightly more accurate when written in triads than individually; and it was slightly more accurate when written in triads than in pairs.
- b) The same text was more fluent when written in pairs than individually; it was more fluent when written in triads than individually; and it was slightly more fluent when written in pairs than in triads.
- c) The same text was syntactically more complex when written in pairs than individually; it was syntactically more complex when written in triads than individually; and it was syntactically more complex when written in triads than in pairs except for syntactic complexity via subordination.
- d) The same text was syntactically more complex via subordination when written individually than in pairs; it was syntactically more complex via subordination when written individually than in triads; and it was syntactically more complex via subordination when written in pairs than in triads.

Therefore, we believe our study may serve as additional small-scale support for CW use in EFL Secondary Education classes (unless specifically aiming at encouraging EFL students' written use of subordinate clauses). Statistically significant results were only found for error-free T-units ( $F=3.717$ ,  $p=.037$ ). Nevertheless, it was argued this might be a consequence of the small sample size of participants in the study (individually written texts ( $n=18$ ), pairs (10,  $n=20$ ) and triads (7,  $n=21$ ). Further research analysing larger number of participants might be needed in order to confirm and/or reject the statistically significant validity of our claims.

Moreover, research investigating and comparing accuracy, fluency and syntactic complexity variables in EFL students' texts for the three types of grouping reviewed (individual, pairs and small groups) is needed, especially in the Secondary Education context. However, other variables different from the ones in this study (e.g. layout, coherence, etc.) might be investigated since it could be the case that 1<sup>st</sup> ESO students writing a physical description text concentrate more on them than on the accuracy, fluency and syntactic complexity of their texts. Therefore, analysing the linguistic performance of students in the three types of grouping for other variables might provide additional and a more complete understanding of CW in the current Secondary Education setting.

Finally, this study has evidenced EFL instructors do not need to vary typically 1<sup>st</sup> ESO writing tasks for students successful CW performance. EFL instructors and researchers may consider task type and, especially its influence on the texts fluency, if word limits are not set. However, further research in comparable contexts and with different types of task are needed in order to be able to generalise our study's findings. Moreover, further research analysing and comparing results in different variables in texts written by students individually, in pairs and in small groups (and with larger amount of participants) may provide a more complete understanding of CW linguistic outcomes in EFL Secondary Education classes.

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