

Conjunctions in the writing of students enrolled on bilingual and non-bilingual programs

Uso de las conjunciones en las composiciones de estudiantes de programas bilingües y no bilingües

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Abstract

This study analysed the use of conjunctions by third-year and fourth-year secondary education Spanish EFL learners in their expository writings. The aim of the present paper was to contribute to clarify the question of the relationship between conjunction density and writing quality, and examine if there were any differences among the participants in terms of the frequency of use of conjunctions in their compositions. The participants were 393 secondary education students enrolled on a bilingual and a non-bilingual program. The quantitative analysis was followed by a qualitative analysis focused on the inappropriate use of individual conjunctions in participants' written compositions. Every sample composition was marked to get a score that could represent its quality. Analysis of the compositions for cohesion was performed by counting conjunctions in accordance with the taxonomy of cohesive devices provided in Halliday and Hasan (1976). Results of the quantitative analysis showed a positive significant relationship between conjunction density and the composition global score, both in the bilingual and the non-bilingual group. Bilingual program students significantly outperformed non-bilingual program students in the total number of conjunctions. Both the bilingual and the non-bilingual program fourth grade students outperformed third grade students in the use of conjunctions. Given that the use of conjunctions is a crucial component of writing quality, the current findings can to some degree show the effectiveness of bilingual programs to develop written competence and reflect the gradual maturation of older

students' written discourse competence. The qualitative analysis revealed little variety in the participants' use of conjunctions, especially among non-bilingual and third-grade students. Participants experienced difficulty in using conjunctions especially adversative and additive ones. Inappropriate use of conjunctions was more frequent among non-bilingual program students when compared with bilingual program students. Pedagogical implications are drawn from the identification of the incorrect uses of conjunctions in students' writings.

Key words: writing, conjunctions, secondary education, bilingual program, non-bilingual program.

Resumen

Este estudio analiza el uso de las conjunciones en las composiciones de tipo expositivo de un grupo de estudiantes de educación secundaria españoles. El objetivo de este estudio era contribuir a clarificar la cuestión de la relación entre la frecuencia de uso de las conjunciones y la calidad de las composiciones y examinar si había diferencias entre los participantes en cuanto a la frecuencia de uso de conjunciones en sus composiciones. Los participantes eran 393 estudiantes de tercero y cuarto de la Enseñanza Secundaria Obligatoria (ESO) inmersos en un programa bilingüe y en otro no bilingüe. El estudio cuantitativo se completó con un estudio cualitativo centrado en el uso inapropiado de las conjunciones en las composiciones de los participantes. Cada composición fue evaluada en términos de su calidad y del número de conjunciones de acuerdo con la taxonomía de Halliday y Hasan (1976) Los resultados del estudio cuantitativo mostraron una relación significativa positiva entre el número de conjunciones y la nota obtenida en la composición. Los alumnos del programa bilingüe aventajaron de manera significativa a los del programa no bilingüe y los estudiantes de cuarto a los de tercero de ambos programas en frecuencia de uso de conjunciones. Como las conjunciones son cruciales en la calidad de la escritura, estos resultados parecen demostrar la eficacia de los programas bilingües para desarrollar la competencia escrita de los estudiantes y reflejan un progresivo aumento en la madurez discursiva de los estudiantes. El análisis cualitativo mostró muy poca variedad en el uso de conjunciones, especialmente entre los estudiantes del programa no bilingüe y entre los de tercer curso. Los estudiantes experimentaron problemas en el uso de las conjunciones, especialmente en el uso de conjunciones adversativas y aditivas. El uso inapropiado de conjunciones resultó más frecuente entre los estudiantes del programa no bilingüe. Se extraen implicaciones pedagógicas.

Palabras clave: Escritura, conjunciones, educación secundaria, programa bilingüe, programa no bilingüe.

Introduction

This study analysed the use of conjunctions, as defined and classified by Halliday and Hasan (1976), by third-year and fourth-year secondary education Spanish EFL learners in their argumentative writings. Conjunction is a cohesive relation that refers to “a specification of the way in which what is to follow is systematically connected to what has gone before” (Halliday and Hasan, 1976:227). Conjunctions help readers make sense of the text as they connect information in sentences and paragraphs.

Chiang (2003) claims that cohesion can be adopted as a crucial marking criterion to judge the quality of L2 writing. Wolfe-Quintero, Inagaki and Kim (1998) classify a wide variety of measures of written production and review several studies that employ the use of connectors to analyse written data in order to, for example, compare writers at different proficiency levels, or to examine the relationships between errors and holistic ratings of second language writers.

The use of conjunctions has been found to be problematic for second and foreign language learners from different educational contexts. No studies to the author’s knowledge have investigated the use of conjunctions in Spanish secondary education EFL learners’ writing. In order to bridge this gap, the present study compares secondary education students in Spain enrolled on a bilingual or a non-bilingual program. This study focuses on expository texts because it is the writing form most frequently used by Spanish EFL learners in secondary education.

The significance of this study is at least two-fold. First of all, the results of this study provide a better understanding of the relation between the use of these connectors and the quality of Spanish EFL writing. Secondly, the insights gained from the quantitative and qualitative analyses provide suggestions for English teachers of how to help learners make better use of conjunctions.

Literature review

One of the most significant works that has contributed to our explicit understanding of cohesion is Halliday and Hasan (1976). Cohesion refers to the range of grammatical and lexical possibilities for linking an element

of language with what has gone before or what follows in a text. This linking is achieved through the existence of relations in meaning within and across sentences (Halliday & Hasan, 1976: 10). Cohesion is divided into lexical cohesion and grammatical cohesion; the latter is subdivided into four types, that is, reference, substitution, ellipsis and conjunction (Halliday & Hasan, 1976). Halliday and Hasan (1976: 226) refer to the cohesive relation of conjunction in the following terms: "Conjunctive elements are cohesive not in themselves but indirectly, by virtue of their specific meanings; they are not primarily devices for reaching out into the preceding (or following) text, but they express certain meanings which presuppose the presence of other components in the discourse". Halliday and Hasan (1976:237) categorise conjunctions into four subcategories: additive, adversative, causal and temporal. This is the categorisation of conjunctions which will be used for the present study.

The introduction of cohesion by Halliday and Hasan (1976) has engendered a vast body of research, much of which estimated the potential role of the cohesive system in text analysis and language teaching (see, e.g., McCarthy, 1991). We focus on two main research lines: (a) Studies that have analysed the association between the employment of cohesive devices and writing quality; and (b) Studies that focus on the identification of problems in the use of cohesive devices.

No agreement has been reached so far regarding the relationship between use of cohesive devices and writing quality. Some studies found no connection between cohesion and writing quality. Among these studies are Meisuo (2000), who investigated the use of cohesive devices in expository compositions written by Chinese second-year English major students, Bae (2001) who examined children's narratives, and Castro (2004) who investigated the relationship between writing quality and cohesiveness in the argumentative essays written by a group of L2 English Filipino college freshmen.

On the other hand, some studies found a significant relationship between cohesive ties and writing quality. Lahuerta (2004) investigated the use of discourse markers in the expository compositions of Spanish undergraduates following Fraser's (1999) taxonomy of Discourse Markers. She found a statistically significant positive relationship between the scores of the compositions and the number of discourse markers used. Liu and Braine (2005), in a study using Halliday and Hasan's (1976) framework, investigated the use of cohesive devices in argumentative

essays written by Chinese undergraduate students. Their findings revealed that there was a significant relationship between the number of conjunctions used and the quality of the argumentative writing. Zhang (2010) found out that the composition scores of a group of Chinese college students were positively co-related with the total number of cohesive ties in their compositions. Yang and Sun (2012) investigated the differences and similarities in the use of cohesive devices by second-year and fourth-year undergraduate Chinese EFL learners in their argumentative writings. Results demonstrated that the correct use of cohesive devices correlated significantly positively with the writing quality, irrespective of the EFL proficiency levels.

Research works have also focused on the identification of problems concerning conjunction usage in the writings of ESL/EFL learners. Corpus-based studies have shown the underuse, overuse and misuse of conjunctions by ESL and EFL students. Granger and Tyson (1996) carried out a corpus-based study on connector usage in essays written by French students. Written essays were collected from French EFL students and native speakers, to be investigated in terms of conjunct usage. Results show that eight conjuncts—*however, instead, though, yet, hence, therefore, thus* and *then*—were underused by the French students. As for misuse, the researchers stated that learners were often insensitive to the “stylistic restrictions” of certain connectors (Granger & Tyson 1996:23).

Altenberg and Tapper (1998) examined essays written by Swedish students. They found that some conjuncts were overused (e.g. *moreover, for instance* and *on the contrary*) and others underused (e.g. *hence, therefore, thus* and *however*) by the Swedish learners. The authors suggested that the underuse of resultive and contrastive conjuncts was because the students “prefer less formal connectors (e.g. *but*) to the formal alternatives” (Altenberg & Tapper 1998:91) in their argumentative or expository writing. The underuse of contrastive conjuncts is also found in Narita, Sato, and Sugiura (2004) who carried out a corpus-based study to investigate the use of logical connectors in essays written by advanced Japanese EFL learners.

Meisuo’s (2000) research study showed that in the five sub-categories of conjunction ties, additive devices formed the largest percentage of use, followed by temporal, causal, adversative and then continuative. The findings showed that the students were inclined to overuse and misuse a variety of additives (*and, also, besides, in addition, moreover,*

furthermore) and temporals (*first, first of all, secondly, thirdly, finally*), and also misuse some adversatives (*but, however, on the other hand, at the same time*). For his part, Bae's (2001) analysis shows that the most frequent of all occurrences of conjunction were temporal, followed by additive, causal and adversative.

The problematic of conjunction usage is also approached by Ting (2003), Wei-yu Chen (2006), Ong (2011), Abdalwahid (2012, cited in Hamed 2014), and Hamed (2014) who focus on the identification of inappropriate use of conjunctions.

Wei-yu Chen (2006) carried out a corpus-based connector study on the writing of graduate students in Taiwan. Results revealed that certain conjunctions (e.g. *besides, therefore*) were used inappropriately by some of the learners. Among some of the problems detected were the use of *besides* as an additive conjunction although such usage should be restricted to oral communication. Another common problem was that students often used conjunctions (e.g. *therefore*) to string sentences together without establishing any logicity.

Ting (2003) and Ong (2011) examined Chinese undergraduate EFL students' expository writings. Using Halliday and Hasan's (1976) taxonomy of cohesive devices and their framework for analysis, these authors found that inappropriate use of adversative and additive conjunctions represented the most frequent conjunction errors committed by the learners in both studies. Among the errors found in both studies were the use of adversative conjunctions without any explicit or implied contrast and the use of additive conjunctions without the cohesive effect of adding to new or additional information. In both studies, the number of errors in using temporal conjunctions was the smallest. The use of additive and adversative conjunctions was the most problematic for learners in a study conducted by Abdalwahid (2012, cited in Hamed 2014), who examined cohesion features in argumentative essays written by fourth-year EFL Libyan undergraduates, using Halliday and Hassan's (1976) cohesion theory.

Inappropriate use of adversative and additive conjunctions was also found in Hamed (2014). He investigated the use of conjunctions in argumentative essays written by English as a Foreign Language fourth-year undergraduate Libyan students majoring in English. The selection and classification of conjunctions were based on Halliday & Hasan's (1976) taxonomy. Findings showed that the students used the

conjunctions inappropriately, and that the adversative conjunctions posed the most difficulty for the learners, followed by additives and causals. The use of temporal conjunctions, however, was not a challenge for the participants. The highest frequency of inappropriate use of adversative conjunctions was *on the other hand*, followed by *but*, and *in fact*. The additive conjunctions *and* and *moreover* had the highest frequency of inappropriate use for each, followed by *furthermore*. In the inappropriate use of causal conjunctions, it was found that *so* had the highest frequency use of errors, followed by *because*.

Aims of the study

As we have seen in the review of the literature above, while some studies (Bae, 2001; Castro, 2004; Meisuo, 2000; Zhang, 2000) report no significant relationship between use of cohesive devices and writing quality, some other studies (Lahuerta, 2004; Liu and Braine 2005; Yang and Sun 2012; Zhang 2010) report some evidence of a significant relationship between them. Clearly, the research question of the relationship between the number of cohesive ties used and quality of English writing remains unresolved. The first objective of this paper is to help resolve this discrepancy.

Furthermore, we observe that there is scant information on the use of cohesive devices by ESL/EFL writers across grade levels. As our second aim, we examine to what extent the use of conjunctions is associated with EFL writers in different grades. The comparison between third and fourth year students' writings allows us to identify how the use of conjunctions develop within a school setting and may deepen our understanding of the teaching and practice of cohesive items in EFL writing.

Some recent studies carried out in Spain show that students that follow bilingual programs to learn English tend to obtain better results in written competence than those who do not follow such programs (e.g. Lasagabaster, 2008; Navés and Victori, 2010). This study compares conjunction use by bilingual and non-bilingual program students to examine the effectiveness of bilingual programs to develop written competence.

The current research is thus carried out to compare conjunction use and conjunction errors in argumentative essays of third-year and fourth-

year high schools EFL learners in Spain enrolled in a bilingual and a non-bilingual program, and to examine the correlation between their frequency of use and the quality of writing.

The following research questions are the focus of the study:

Research Question 1: Is there a positive relationship between frequency of use of conjunctions and writing quality?

Research Question 2: Are there any differences between the bilingual and the non-bilingual program students in terms of the frequency of use of conjunctions in their compositions?

Research Question 3: Are there any differences between third and fourth year students in terms of the frequency of use of conjunctions in their compositions?

The quantitative analysis is followed by a qualitative analysis. As we have seen in the literature review section, numerous research studies have been carried out to survey appropriate use of cohesive items in ESL/EFL writing. However, the majority were centred on learners of single proficiency level and were hardly conclusive. There is clearly a need for more research that tackles this issue. We will examine whether conjunctions were used appropriately or inappropriately and attempt to clarify if some conjunctions cause more difficulty than others for high school students in argumentative writing.

Method

Participants

The participants were 393 high school students enrolled in seven different state schools in Asturias, all of whom had started learning English at the age of five. The sample was divided into four groups: Two groups of students enrolled in a bilingual program, consisting of a first group made up of 101 students in the third year of compulsory education and a second group made up of 104 students in the fourth year of compulsory education. Two other groups of students did not follow a bilingual program, and consisted of a group of 98 students in the third year of compulsory education, and a group of 90 students in the fourth year of compulsory education (See Figure 1).

FIGURE I. Participants in the study

BILINGUAL GROUP		NON-BILINGUAL GROUP	
THIRD YEAR CSE	FOURTH YEAR CSE	THIRD YEAR CSE	FOURTH YEAR CSE
101	104	98	90

The students enrolled in bilingual programs had five hours of English a week from first to fourth year of compulsory secondary education. In addition, they also had three hours a week of a content subject taught in English. Those students enrolled in non-bilingual programs had four hours of English a week from first to third year of compulsory secondary education and three hours per week in the fourth year of compulsory secondary education. (BOPA num.21, 27/05/2009). There are differences in the writing instruction provided in these two types of school programs. Unlike non-bilingual programs, bilingual ones focus primarily on the learning of content. This integration of both content and language goals means that more time is spent in bilingual classes on tasks such as writing not only short compositions but also essays on various subjects. To achieve these tasks, students learn and practice quite a lot of conjunctions from first year of compulsory education and continue to use them in later years. As far as non-bilingual classes are concerned, less time is spent on the teaching of writing and fewer conjunctions are taught and practiced.

Procedure

For the present study, the data come from a written composition activity. For the written activity, students had to write on the topic ‘Do you think school uniform should be worn in high school?’ This activity was administered to participants during one of their English lessons in their own classroom. Students had to provide their name, grade and the name of their school. All the participants were given 30 minutes for the writing activity. In this way, both time and topic constraints were controlled in order to make results comparable (Wolfe-Quintero et al. 1998).

This study mainly concerned the quality of student compositions. Thus every composition was marked to get a score representing its quality. The

compositions were rated according to such factors as content, explicitness of ideas, coherence, syntax and vocabulary.

Analysis of the compositions for cohesion was performed by counting conjunctions in accordance with the taxonomy of cohesive devices provided in Halliday and Hasan (1976). They posit four categories of conjunctions, in terms of semantic function: additive, adversative, causal, and temporal.

Results

A statistical analysis was carried out with the program R Development Core Team 2012, version 2.15. Each of the research questions will be addressed in turn.

Research Question 1: Is there a positive relationship between frequency of use of conjunctions and writing quality?

As we can see in Table I, conjunction density turned out to be associated significantly with the global composition score, both in the bilingual and the non-bilingual group. The relationship between number of conjunctions and the global composition score is positive (when one increases, the other increases) in both groups.

TABLE I. Correlation between global score and number of conjunctions

	Bilingual		No Bilingual	
	<i>p</i>	p-Value	<i>p</i>	p-Value
Composition score Number of conjunction	0,59	<0,001	0,74	<0,001

Research Question 2: Are there any differences between the bilingual and the non-bilingual program students in terms of the frequency of use of conjunctions in their compositions?

As Table II shows, bilingual program students significantly outperform non-bilingual program students in the total number of conjunctions ($M=3.78$, Welch test, $p<0.001$).

TABLE II. Bilingual and non-bilingual program students' use of conjunctions

	Group	Mean	SD	P
Total Number of conjunctions	Bilingual	3,78	2,38	<0,001
	Non-bilingual	2,07	1,81	

Research Question 3: Are there any differences between third and fourth year students in terms of the frequency of use of conjunctions in their compositions?

There is a significance difference between both years in both groups (See Table III). Both in the bilingual and non-bilingual group fourth year students outperform third year students in the total number of conjunctions ($M=4.11$, Student's t-test, $p<0.05$; $M=2.78$, Student's t-test, $p<0.001$).

TABLE III. Bilingual and non-bilingual program third and fourth year students' use of conjunctions

	Year	Mean	SD	P
Num. conjunctions	Bilingual			
	Fourth	4,11	2,19	0,04
	Third	3,43	2,54	
	Non-bilingual			
	Fourth	2,78	1,93	<0,001
	Third	1,41	1,41	

In what follows, we examine the conjunction use in participants' written texts. Tables IV and V show the total number of appropriate and inappropriate uses of each type of conjunctions in participants' essays. Table IV shows a total of 999 conjunctions used in bilingual participants' written texts, of which 168 (16.8%) were used inappropriately. Table V shows a total of 564 conjunctions used in non-bilingual participants' written texts, of which 165 (29.3%) were used inappropriately. In the bilingual group, the highest percentage of inappropriately used conjunctions was the adversative conjunctions (18.7%), whereas in the non-bilingual program group it was the additive conjunctions (39.8%). In both the bilingual and non-bilingual groups, additives and casuals formed the largest frequency of use, followed by adversatives and temporals. The latter were seldom used by either group.

TABLE IV. Total number of appropriate and inappropriate use of conjunctions in bilingual participants' writing

Subcategory	Appropriate	Inappropriate	Total
Additive	332 (84,4%)	61 (15,5%)	393
Causal	285 (84,5%)	52 (15,5%)	337
Adversative	204 (81,3%)	47 (18,7%)	251
Temporal	16 (88,9%)	2 (11,1%)	18
Total	837 (83,7%)	162 (16,3%)	999

TABLE V. Total number of appropriate and inappropriate use of conjunctions in non-bilingual participants' writing

Subcategory	Appropriate	Inappropriate	Total
Causal	177 (80,4%)	43 (19,5%)	220
Aditiva	103 (60,2%)	68 (39,8%)	171
Adversativa	111 (67,7%)	53 (32,3%)	164
Temporal	8 (88,8%)	1 (11,1%)	9
Total	399 (70,7%)	165 (29,3%)	564

We now examine the appropriate and inappropriate use of the different categories of conjunctions in bilingual and non-bilingual third and fourth year students' essays.

The appropriate and inappropriate use of additive conjunctions in bilingual learners' writings.

TABLE VI. Appropriate and inappropriate use of additive conjunctions

Subcategory	Appropriate	Inappropriate	Total
Causal	177 (80,4%)	43 (19,5%)	220
Aditiva	103 (60,2%)	68 (39,8%)	171
Adversativa	111 (67,7%)	53 (32,3%)	164
Temporal	8 (88,8%)	1 (11,1%)	9
Total	399 (70,7%)	165 (29,3%)	564

As shown by the data in Table VI, the highest percentage of inappropriate use of additive conjunctions was *for instance* followed by *and* in fourth and third year students' writings. *And* was the most frequently used conjunction by all participants.

The appropriate and inappropriate use of causal conjunctions.

TABLE VII. Appropriate and inappropriate use of causal conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
Because	117	88	16	12	113	88,3	15	11,7
Because of	2	100	0	0	7	87,5	1	12,5
So	20	71,4	8	28,6	21	63,6	12	36,4
Therefore	1	100	0	0	0	0	0	0
Then	3	100	0	0	0	0	0	0
As a result	0	0	0	0	1	100	0	0

As shown by the data in Table VII, the highest percentage of inappropriate use of causal conjunctions was *so* among fourth and third year writers. *Because* was the most frequently used conjunction in both groups. Several of the causal conjunctions were seldom used by these writers.

The appropriate and inappropriate use of adversative conjunctions

TABLE VIII. Appropriate and inappropriate use of adversative conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
But	52	72,2	20	27,7	123	85,4	21	14,6
However	5	62,5	3	37,5	5	100	0	0
Nevertheless	1	50	1	0	5	100	0	0
On the other hand	7	77,8	2	22,3	6	100	0	0

As shown by the data in Table VIII, the highest percentage of inappropriate use of adversative conjunctions were *however* and *but* in third year students' writings and *but* in fourth year students' writings. *But* was also the most frequently used conjunction by all participants. The total number of uses of *however*, *nevertheless* and *on the other hand* were extremely low.

The appropriate and inappropriate use of temporal conjunctions

TABLE IX. Appropriate and inappropriate use of temporal conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
Finally	3	75	1	25	3	100	0	0
In conclusion	2	100	0	0	0	0	0	0
In short	1	100	0	0	1	100	0	0
First	0	0	1	100	5	100	0	0
Then	1	100	0	0	0	0	0	0

As shown by the data in Table IX, the highest percentage of inappropriate use of temporal conjunctions was *first* in third year students' writings. *Finally* was the most frequently used conjunction in third year students' essays and *first* in the fourth year students' essays.

In what follows we explore the essays by of non-bilingual groups.

The appropriate and inappropriate use of additive conjunctions in non-bilingual learners' writings

TABLE X. Appropriate and inappropriate use of additive conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
And	16	38,1	27	61,9	57	68,7	27	31,3
For instance	10	91	8	9	8	88,9	5	11,1
Or	2	100	0	0	4	100	0	0
Furthermore	1	0	0	0	1	100	0	0
In addition	1	100	0	0	1	100	0	0
I mean	0	0	0	0	1	100	0	0
Besides	1	0	1	100	0	0	0	0

As shown by the data in Table X, the highest percentage of inappropriate use of additive conjunctions was *besides* and *and* in third year writers' essays and *and* in fourth year students' writings. *And* and *for instance* were the most frequently used conjunctions in third and fourth writings. *Or*, *furthermore*, *in addition*, *I mean* and *besides* were seldom used by any of these writers.

The appropriate and inappropriate use of causal conjunctions in non-bilingual learners' writings.

TABLE XI. Appropriate and inappropriate use of causal conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
Because	65	71,4	16	28,6	89	85,6	15	14,4
So	5	55,5	4	44,5	12	60	8	40
Because of	1	100	0	0	5	100	0	0

As shown by the data in Table XI, the highest percentage of inappropriate use of causal conjunctions was *so* in both third and fourth

year students' writings. *Because* was the most frequently used conjunction in fourth and third year students' essays. *Because of* was only used once by a third year student and only five times by fourth year students, but all of those uses were appropriate.

The appropriate and inappropriate use of adversative conjunctions in non-bilingual learners' writings

TABLE XII. Appropriate and inappropriate use of adversative conjunctions

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
But	19	52,8	17	47,2	56	70	24	30
However	1	14,3	6	85,7	1	14,3	6	85,7
On the other hand	2	100	0	0	31	100	0	0
In any case	0	0	0	0	1	100	0	0

As shown by the data in Table XII, the highest percentage of inappropriate use of adversative conjunctions was *however*, followed by *but* in both grades. *But* was the most frequently used conjunction by all students. *On the other hand* and *in any case* were seldom used by these writers and *however* was used equally by both groups, albeit mostly inappropriately.

The appropriate and inappropriate use of temporal conjunctions in non-bilingual learners' writings.

TABLE XIII. Appropriate and inappropriate use of temporal conjunctions in non-bilingual learners' writings

	Third grade learners				Fourth grade learners			
	Appropriate		Inappropriate		Appropriate		Inappropriate	
	N	%	N	%	N	%	N	%
Finally	2	100	0	0	1	100	0	0
In short	0	100	0	0	1	100	0	0
First	0	100	0	0	2	100	0	0
Then	0	100	0	0	1	100	0	0
At first	1	50	1	50	0	0	0	0

The writers in both groups used almost no temporal conjunctions in their essays. When they did use them, the usage tended to be appropriate, except for *at first*, which was used once appropriately and once inappropriately.

The analysis above shows that in general students experienced difficulty in the use of conjunctions, especially non-bilingual program students. Of the four categories of conjunctions, the use of adversatives and additives was the most problematic to all the participants.

Discussion

The present study investigated the use of conjunctions in the argumentative essays of a sample of 399 high school English students in Spain enrolled in a bilingual and a non-bilingual program. The main findings from the quantitative analysis are the following:

1. The frequency of use of conjunctions was associated significantly with the quality of the compositions. This agrees with research by Lahuerta, (2004), Liu and Braine (2005), Yang and Sun (2012) and Zhang (2010) in other research contexts. This result is obtained both in the bilingual and the non-bilingual program groups.
2. We found that both the bilingual and the non-bilingual program fourth year students outperform third year students in the use of

conjunctions. This is in line with Yang and Sun's (2012) study that showed that higher proficiency EFL learners outperform lower proficiency EFL learners in the ability to use cohesive devices.

3. Bilingual program students significantly outperformed non-bilingual program students in the total number of conjunctions. Given that the use of conjunctions is a crucial component of writing quality, the current findings can to some degree show the effectiveness of bilingual programs to develop written competence and seems to support previous studies (e.g. Lasagabaster, 2008; Navés and Victori, 2010).

With respect to the qualitative analysis of conjunction usage, we can see that in both the bilingual and non-bilingual groups, additives and casuals formed the largest occurrence of use, followed by adversatives and temporals. Additives were also the most frequently used conjunctions in Bae (2001) and Meiso's (2000) studies.

There was an extremely limited variety of conjunctions from each category in both bilingual and non-bilingual program students' writings. The majority of conjunctions were either underused or not used at all. Although conjunction underuse is present in several studies (e.g. Granger and Tyson, 1996; Altenberg and Tapper, 1998; Narito, Sato and Sugiura, 2004; Meisuo, 2000), this phenomenon is much more evident in the present study as it affects all the conjunction categories.

The participants used the conjunctions—adversatives, additives and casuals—inappropriately in their writing. Results showed that, of the four categories of conjunctions, adversatives were the most difficult for the bilingual program students, additives followed by adversatives were the most problematic for the non-bilingual program students. The use of temporal conjunctions, however, was seldom a challenge. This is in line with research by Ting (2003) and Hamed (2014) who also found that the number of errors in using temporal conjunctions was the smallest. When we consider individual conjunctions, we find that participants tend to misuse the additive conjunctions *for instance* and *and*, the adversative conjunctions *however* and *but*, and the causal conjunction *so*.

There were some differences in the use of conjunctions revealed by comparing the bilingual with the non-bilingual students' writings. For example, a higher percentage of inappropriate use of conjunctions was found in non-bilingual program writers, and the bilingual program

students utilise a slightly larger variety of causal conjunctions than the non-bilingual program ones. There were also some differences in the use of conjunctions revealed by comparing third year students' writings with fourth year students' essays. For example, bilingual fourth year students use a slightly larger variety of additive conjunctions than bilingual third year students do, and non-bilingual fourth year students use a slightly larger variety of temporal conjunctions than non-bilingual third year students do.

The abovementioned differences, nevertheless, cannot counteract the fact that the two groups of students in some aspects resembled each other since both of them used conjunctions only sporadically and repeatedly used the same conjunction items. This reveals that for these learners the use of conjunctions still remains at a basic stage, which inevitably affects the quality of the writings. The use of conjunctions in writing presents persistent challenges to EFL learners across different levels.

We now examine the inappropriate use of specific conjunctions in participants' written compositions. Having analysed the use of *and* in the participants' written texts, it was found that some instances of *and* were used inappropriately in their writing. In some of these instances the conjunction *and* does not add relevant new information to the previously mentioned information, and therefore fails to properly connect a sentence to the previous one. Example 1 exemplifies the inappropriate application of the conjunction *and*.

Example 1: Fast food restaurants are good when you are in a hurry and MacDonalds is the best restaurant in the world of fast food and if you don't have time, you will go there to eat.

As we can see in this example, *and* does not express the meaning that there is something more to be said. The sentence introduced by *and* is a repetition of another sentence in the same paragraph. We also find in this example an unnecessary use of *and* to link short and simple sentences,

This problematic use of *and* is also found in Hamed (2014) with Arabic-speaking students. *And* used without the cohesive effect of adding to new or more information is also present in Ong (2011) and Ting (2003).

In other instances, *and* is used instead of other more appropriate conjunction (e.g., the more emphatic *in addition*). The following sample sentences serve to illustrate this inappropriate use of *and*.

Example 2: There are a lot of fast food restaurants and they are cheap. We should eat healthy and do exercise. And the fast food makes you fat.

The proper use of *for instance* to express an exemplification relation presents problems to the participants. This conjunction is sometimes used in an inappropriate way to introduce a new topic instead of establishing a cohesive relation of exemplification. The following sample sentences serve to illustrate the inappropriate use of *for instance*.

Example 3: This food is very oily and you are going to be very fat. For instance, in the United States the majority of the people eat fast food more than twice in a week.

The sentence introduced by *for instance* is not an example of the information provided by the previous sentence. This confuses the reader and makes the meaning of the paragraph unclear.

We also found uses of *besides* as an additive conjunction in the writings although such usage should be restricted to oral communication. Example 4 exemplifies this inappropriate use of the conjunction *besides*.

Example 4: Besides I think people usually go to fast food restaurants not to spend a lot of money on food.

This inappropriate use of the conjunction *besides* is also found in Chen (2006) and Lai (2008).

Regarding the use of causal conjunctions, we find problems in the use of the conjunction *so* to express a causal relation. We find uses of *so* in the absence of a causal relationship between the sentences linked by the conjunction. Example 5 shows this inappropriate use of *so*.

Example 5: I think fast food is a good idea when you don't have much time but it is very bad to eat this many times because it has a lot of fat. Soto me it is bad, health is more important.

As we can see, in this example the conjunction *so* fails to express a causal relation. The conjunction *so* as used in this example does not mean “as a result of this”, “for this reason” or “for this purpose”. The use of *so* is confusing since readers expect that the sentence following *so* would introduce information that is a result or consequence of the preceding discourse. We also find this inappropriate use of *so* in Hamed's (2014) participants' writings.

The proper use of the conjunction *because* to express a causal relation still presents problems to the participants. One of the most frequent inappropriate uses of *because* occurs when the sentence introduced by *because* does not express the cause in relation to the previous sentence. Examples 6 below exemplifies this inappropriate use of *because*.

Example 6: Now there are a lot of fast food restaurants in the cities, and in shopping centres, because if they build them in shopping centres you can have lunch there when you are shopping.

We also find examples of *because* used to introduce an independent clause, violating the syntactic function for the use of *because*. Such inappropriate use can be found in the following example.

Example 7: You should not eat much fast food. Because later you are fat.

Errors in the use of *because* are also detected by Lai (2008) in the writing of Taiwanese EFL undergraduate students.

With respect to the use of adversative conjunctions, some students used the conjunction *but* inappropriately, without an adversative relation between the sentences connected by *but*. The passage provided in Example 8 is an instance of this inappropriate use of the conjunction *but*.

Example 8: In my opinion, people should not eat fast food, because it is not healthy; but you should be careful with the food you eat.

In this passage, *but* does not introduce information that marks corrections, contrasts, and opposites in light of previous information. Rather, the conjunction gives some advice. This inappropriate use clearly affects the adequate understanding of the meaning of the paragraph. This inappropriate use of *but* is also found in Hamed (2014) and in Meisuo (2000).

It is also found that the participants applied the conjunction *however* inappropriately in their writing.

Example 9: I think fast food is bad for your health. It is easy to make. However, people eat it.

It can be seen in this example that the *however* sentence does not express a meaning in opposition to the previously mentioned sentence. As a result, the meaning of the paragraph as a whole confusing to the reader.

Students are sometimes unaware of the fact that less formal conjuncts are not always appropriate in academic writing, something also present in Altenberg & Tapper's (1998) study. The following example shows how the use of the conjunction *but* instead of a more formal alternative.

Example 11: In my opinion fast food is bad but sometimes eating fast food is good when you haven't time. But it does not matter if you eat fast food once a month.

We also find instances of the inappropriate combination of two conjunctions. Such inappropriate combination can be found in the following example.

Example 12: I don't like fast food very much because so I do not go to fast food restaurants often.

Example 12 shows the inappropriate combination of *because* and *so*, which makes the sentence almost impossible to understand by the reader.

Conclusions

The aim of the present paper was to clarify the relationship between conjunction density and writing quality and examine if there were any differences between third and fourth year students enrolled in a bilingual and a non-bilingual program in terms of the frequency of use of conjunctions in their compositions. The quantitative analysis not only showed that conjunction density and writing quality were positively related, but also found a higher frequency of conjunction use in bilingual groups and among fourth year students as compared to third year students. Given that the use of conjunctions is a crucial component of writing quality, the current findings can to some degree show the effectiveness of bilingual programs to develop written competence and reflect the gradual maturation of older students' written discourse competence.

There are two main reasons that may explain why these programs offer sound benefits in written competence to students. On the one hand, students in bilingual programs are more frequently exposed to the English language. On the other hand, bilingual settings, which involve integrating both content and language goals, seem to provide suitable contexts in which to develop written discourse. Bilingual programs share many aspects of Communicative Language Teaching, while emphasising academic content as the substance of the communication. This is supposed to make this communication more relevant and purposeful, which may offer the necessary conditions for effective learning to take place and for written competence to develop.

The analysis of the use of individual conjunctions in participants' written compositions reveals both little variety in the participants' use of conjunctions, and inappropriate use of these cohesive devices. This was more evident in non-bilingual and third-grade students.

This study, being exploratory in nature, did contain some limitations. First, it only looked at fourth-year and third-year learners. Future investigations need to focus on learners at different proficiency levels so as to confirm the developmental trend in L2 written discourse competence observed in the present study. Moreover, this study identified some errors in students' writing like the infrequent and the inappropriate use of conjunctions which may be worthy of elaboration in future research on the characteristic of EFL writing.

Pedagogical implications

Some pedagogical implications can be drawn from the identification of the incorrect uses of conjunctions in students' writings carried out in the present study. As we have seen, the application of conjunctions in writing presents persistent challenges to our high school learners across different levels. The errors committed in the use of conjunctions affected the logical connectivity between sentences and paragraphs. Moreover, the analysis carried out in the present paper reveals that students show little variety in the use of conjunctions. Conjunctions are indispensable for the organization and interpretation of a text. The adequate adoption of conjunctions is, therefore, of great importance in the written text. As a result, conjunction errors should be attended to by both teachers and learners.

High school teachers of English as a second language should place more emphasis on the use of conjunctions, exposing students to a large quantity of these cohesive ties. They should also make students aware of the semantic distinction between conjunctions that belong to the same grammatical category. Useful exercises to make students aware of the semantic functions of conjunction and of the differences between conjunctions located within the same grammatical category could be practiced in a cloze-type test constructed by deleting conjunctions from the text or exercises based on making compound sentences by using the appropriate conjunction. These exercises could help students overcome the problems they experience in using these cohesive ties.

When selecting which conjunctions should be used, students need to go through a careful thought process to ensure the logic of the arguments is enhanced by the use of these linking devices and not hampered as it

is the case in many instances. The use of carefully elaborated exercises instead of the usual lists of conjunctions could help develop this necessary thinking process and improve their accuracy with these devices. This would be the right path to the development of the language learners' overall writing proficiency.

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