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Age-related Differences in the Development of Written Production. An Empirical Study of EFL School Learners'

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ABSTRACT

The aim of this paper is to analyse the development of the written production of two groups of EFL leamers (N = 63) in a school context. The two groups started instruction at different ages (8 and 11, respectively). Their written production was measured afier 200 and 416 hours of instruction. and analysed longitudinally. Both intragroup and intergroup analyses were carried out a) to analyse the development of the participants' written production as measured by three indicators of writing proficiency (fluency, complexity and accuracy); and b) to ascertain whether the differences observed (both in terms of attainment and rate of development) could be attributed to the age at which the groups of participants initiated their contact with the L2. Results show that not all the areas of writing proficiency (fluency, complexity and accuracy) develop in parallel and that an earlier start does not seem to show clear advantages in the development of EFL written production.

KEYWORDS: accuracy, age, complexity, fluency, foreign language, leaming, school context, writing development.

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I. INTRODUCTION

The range of research into the relationship between age and language acquisition in naturalistic contexts is enormous but controversia1 (for comprehensive discussions see Birdsong, 1999; Long, 1990; Singleton, 1989). Singleton (1989: 266) states that: "The one interpretation of the evidence which does not appear to run into contradictory data is that in naturalistic situations those whose exposure to a second language begins in childhood in general eventually surpass those whose exposure begins in adulthood, even though the latter usually show some initial advantage over the former". Consequently the main advantage of children over adult learners is not their faster rate of acquisition but their higher ultimate attainment. This is the reason why the claim "the younger, the better" is still maintained today (see Singleton & Lengyel, 1995).

However, there is also evidence that these differences do not occur until the learner is 14 or 15 years old. Slavoff and Johnson (1995), for instance, carried out a study with 107 children who had arrived in the United States between the ages of 7 and 12 and whose native languages were typologically different from English. Their knowledge of English grarnmatical rnorphology and syntax was tested for a period of 3 years. The researchers found that the age of arrival played no role in predicting the rate of acquisition, since the performance of the two age groups (7-9 and 10-12) was very similar. Thus, the results of this study do not support an initial advantage for younger leamers.

Recent research, as Scovel (2000) points out, supports some aspects of the Critical Period Hypothesis for second languages[2] (Long, 1990; Singleton, 1989, 1995), especially in the area of speech but not in other areas of linguistic competence. The idea of a single critical period has been replaced by the idea of sensitive periods. There may be a sensitive period for morphology and syntax, extending until age 15 (e.g. Johnson & Newport, 1989; Patkowski, 1980), and a sensitive period for phonology, finishing around age 6 (e.g. Oyama, 1979).

With regard to formal contexts, and specifically school contexts, research is scarce. A number of studies were carried out during the 60s and 70s to analyse the results of primary school foreign language programs at the time. The studies that analysed school learners with different starting ages but with the sarne nurnber of hours of instruction indicated that rate of acquisition increases with age. As in naturalistic contexts, if the amount of exposure is held constant, older leamers learn faster than younger ones (Bland & Keislar, 1966; Ekstrand, 1978; Stankowski Gratton, 1980), especially in grammar but, in contrast to the case in naturalistic contexts, children do not always outperform adults in the mid or long term because they are not exposed to a sufficient amount of L2 input.

Since 1990, when the teaching of foreign languages became more common in primary schools in Europe, a number of empirical studies were carried out to assess the outcomes of the early introduction of a foreign language. The results obtained are gathered in a review of research studies in this area (Blondin. Candelier, Edenlenbos, Johnstone, Kubanek-German & Taeschner, 1998). These studies make comparisons in the first years of secondary education

between the competence in the foreign language of pupils who received instruction at primary school and those who did not. The results show positive effects in attitudes towards foreign languages and culture but little impact on the development of productive skills and metalinguistic competence. Only one of the studies reviewed includes writing (Genelot, 1996). The results, however, are limited to the outcomes after one year at secondary school (12 years old) and indicate that only the best pupils among those who started at primary present a slight advantage in listening. reading and writing. Studies that measure longer-term effects are not yet available.

As Singleton (1995) points out, the differences in the results from studies in formal and natural contexts may be due to two main factors related to the intrinsic characteristics of the two contexts (see also Cenoz & Perales, 2000): the mixed level of the classes and the differences in exposure time between naturalistic and instructed learners. This is why, more recently, studies on the effects of starting age in instructional settings have focused on intensity of exposure as a relevant factor in foreign language acquisition. Muñoz (1998) claims that the amount of exposure to the foreign language may be as crucial a factor as the starting age of instruction, and advocates content-based teaching, that is, using the foreign language as a medium of instruction of other curricular contents as a possible way to provide more input in formal contexts. This proposal is supported by Lightbown and Spada (1997) in their study of ESL learners in Québec. The researchers provide evidence for the higher levels of English of leamers who follow special school programs ("intensive ESL") as compared to learners in regular ESL classes in the same context.

The problem one comes across in formal contexts is that the advantage in ultimate attainment of younger learners that seems to exist in naturalistic contexts cannot always be tested empirically in instructional settings. As Singleton (1995: 3) states, "the eventual benefits of early second language learning in a formal instructional environment might be expected to show up only in rather longer-term studies than have to date been attempted". ln his view, a period of more than 18 years in a formal instructional setting would be needed to show the advantages of an earlier start, whereas this advantage is demonstrable after only one year in naturalistic contexts. So there is a need for studies that measure the longer-term effects of the early introduction of a foreign language'.

The issue of age has had an impact on foreign language education, and the discussion about the introduction of foreign languages in school curricula has undergone several changes over the past years. ln Spain, since the introduction of the new educational reform in 1990, the teaching of foreign languages has been affected as follows. In the old system, a foreign language was introduced at the age of 11 (6th grade Enseñanza General Básica) but with the reform the age of introduction was brought forward to 8 (3rd grade Enseñanza Primaria). In the light of these changes we thought it would be interesting to analyse the effects of introducing a foreign language at different ages, especially if we bear in mind that many of the results obtained on the age factor come from naturalistic and immersion contexts and that, consequently, not all findings

can be generalised to formal acquisitional contexts. A research project was therefore designed to study the acquisition of English as a foreign language in our state schools (Catalonia) at two different starting ages (8 and 11), following the two different curricula systems. An important component of the project was the analysis of the participants' writing development, the area the present study focuses on.

In foreign language learning contexts, research in writing has been the focus of attention in recent studies, since it is widely acknowledged that writing is a relevant activity in the foreign language classroom. Some studies have focused on the process of writing (cf. Chenoweth & Hayes, 2001; Manchón, Roca de Larios & Murphy, 2000a; Manchón, Roca de Larios & Murphy. 2000b; Roca de Larios, 1999; Sasaki, 2000; Victori, 1997) and some research has been carried out on writing as a product (cf. Celaya & Tragant, 1997; Ishiwaka, 1995; Martin-Uriz, Chaudron, Hidalgo & Whittaker, 2000; Sasaki & Hirose, 1996)(see Cumming, this volume, for a review of these two trends in research). However, research with beginning leamers, as Leki (1996) claims, is still needed; studies with young beginners, especially involving written production, as is the case in the present study, are also scarce (see, however, Harley & King, 1989; Lightbown & Spada, 1997, with studies in immersion contexts).

Studying the development of written production entails decisions regarding how to describe the characteristics of the leamer's interlanguage and how to measure linguistic change over time. As Wolfe-Quintero, Inagaki & Kim (1998) point out, the second language acquisition literature contains two types of developmental studies: developmental sequence studies and developmental index studies. The former analyse the order of acquisition of isolated formal features, as in the morpheme studies (e.g. Dulay, Burt & Krashen, 1982) or the sequence of stages followed in the acquisition of specific forms or syntactic constructions (e.g. Butterworth & Hatch, 1978; Pavesi, 1986; Torras, 1994). The latter (developmental index studies) analyse the level of development of the leamer's interlanguage by using measures that are not necessarily tied to particular forms or structures and which are assumed to progress linearly as the acquisition of the target language develops. The original aim of this second type of studies was to find a developmental index which could be used to gauge overall proficiency and which should increase uniformly as leamers proceed towards full acquisition of the language (see, for example, Cumming & Mellow, 1996; Harley, Cummins, Swain & Allen, 1990; Harley & King, 1989).

So far, the search for a single developmental index has not proved successful but researchers have proposed a wide variety of measures that Wolfe-Quintero et al. (1998) classified according to three major categories corresponding to different aspects of development: fluency, complexity. and accuracy. One question to be investigated is whether these three aspects in language development progress at the same rate or whether one of the components may progress at the expense of the others, as some researchers have suggested (Mackay, 1982; Tedick, 1990). The use of measures of this type as indicators of language development has proved promising; they have been used in second language acquisition studies to analyse both

oral and written data with different purposes, for example, to compare leamers ofdifferent levels and different ages, and to study the effect of pedagogical treatment (Bardovi-Harlig & Bofman, 1989; Carlisle, 1989; Foster & Skehan, 1996; Frantzen, 1995; Kepner, 1991).

Some authors (Cook, 1997) have stressed that classroorn foreign language attainrnent should not be cornpared with native-like cornpetence, since exposure and quality of input differ substantially frorn natural to formal classroom contexts. Consequently, the indicators of students' achievernent, that is, the rneasurernents used for the analysis of written production in a foreign language, should differ frorn those used to analyse native speakers' achievernent (Torras. Celaya & Pérez-Vidal, 1998). As Polio (1997) argues, there seerns to be a need to analyse written texts in the second language in a systernatic, rigorous way so as to be able to provide valid indicators of students' achievernent (see Connor-Linton, 1995; Hamp-Lyons, 1995).

Taking into account this theoretical background, the following hypotheses guided the present study:

1) Instructed foreign language leamers who start contact with English at different ages will progress linearly in their acquisition of writing cornpetence, rneasured in terrns of fluency, complexity and accuracy.
2) The starting age of contact with the L2 will influence both attainment and rate of acquisition in the areas of writing fluency, complexity and accuracy, with older learners progressing faster in the three dirnensions of fluency, complexity and accuracy.

Following Wolfe-Quintero et al. (1998: 4), we first hypothesise that the three aspects of development reflected in writing (cornplexity, fluency and accuracy) progress linearly in learners with different starting ages. Our second hypothesis is related to previous studies on writing within the wider project on the age factor referred to above. These studies analyzed cross-sectional data frorn school leamers with different starting ages and showed the advantage of older leamers in the acquisition of English, as gauged by a set of measurements (Celaya, Torras & Pérez-Vidal, in press; Pérez-Vidal, Torras & Celaya, 2000). In the present study, with longitudinal data, these rneasurernents were rnerged in the three areas rnentioned above to study the way in which the advantage of older leamers is reflected in the developrnent of the three areas.

II. METHOD

11.1. Participants

The sarnple cornprised 63 students, who began the process of the acquisition of English at different ages. One group was fornied by 42 participants (21 girls and 21 boys) who started

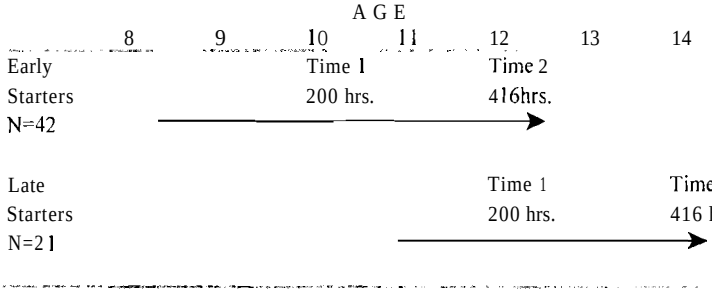
instruction in English at the age of 8. This group is referred to as Early Starters (ES). The other group included 21 participants (9 girls and 12 boys) who started studying English at the age of 11. This group is referred to as Late Starters (LS). These participants form part of the 479 learners in the larger sample of the age factor research project run by the University of Barcelona. In order to obtain a homogeneous sample of school learners, the participants had to meet the following requirements:

- They all attended state schools in a middle class district in Barcelona (Spain).
- Their instruction in English took place exclusively at school and during school hours, that is, as part of the school curricula. Students who had followed or were following private classes at the time of data collection were excluded from the sample. In this way, the number of hours of instruction was held constant for all the participants.
- Teachers' responses to questionnaires indicated that participants' instruction was based on a functional communicative approach with form-focused instruction, especially in the upper levels. These questionnaires also revealed that the textbooks used in class followed a similar approach.
- Participants had no contact with the foreign language outside the school, apart from the usual channels of music, TV and Internet, which are almost impossible to control for. Students who had spent some time in an English-speaking country or used English regularly with a friend or a near relative were excluded from the sample.

Taking these conditions into account, it is easy to see why the sample in the LS group was half the size of the ES group. As students grew older, fewer and fewer fulfilled all the requirements, since many of them either started attending private classes in the middle of our study or —especially the older students— spent some time in an English-speaking country usually during the summer holidays.

Datawere gathered from both groups at two different times, after 200 hours of instruction (Time 1 = T1) and after 416 hours (Time 2 = T2). Table 1 presents the two groups of participants in the study in relation to their starting age and their ages at the two data collection times.

Table 1: Participants and data collection times



As the table indicates, the first 200 hours of instruction received by the two cohorts are spread out over unequal periods of time, as a result of differences in the two school systems. The ES group received the 200 hours over a period of three school years (2 hours per week) whereas the LS group received the same amount over a period of two school years (3 hours per week).

11.2. Procedure

Data for the present study come from a written composition, which was part of a battery of oral and written tests in the larger study. The task was administered to participants in their own classroom by an external researcher. Both teachers and researchers made it clear to the students that the task would not be assessed as an exam. All the participants were given the same time (10 minutes) to write on the topic "Introduce yourself'. In this way, both time and topic constraints were controlled for so as to make results comparable (Wolfe-Quintero et al., 1998).

11.3. Data Analysis

First we studied the two cohorts (ES and LS) separately focusing on the development of the three areas at T1 and at T2 (intragroup analysis). We then compared the results of the two groups to check whether there were any differences due to starting age (intergroup analysis).

Table 2: Measurements for the analysis of EFL writing

FLUENCY	COMPLEXITY	ACCURACY
	Lexical Complexity	*16.* Error-free sentences (EfreeSen.)
1) Sentences (TS)	6) Noun types (Ty.Noun)	
2) Clauses (TCl)	7) Adjective types (Ty.Adj.)	
3) Number of words (TW)	8) Primary verb types (Ty.Pri.Verb)	
4) Number of nodes (TNodes)	9) Lexical verb types (Ty.Lex.Verb)	
5) Words per sentence (WpSen.)	10) Adverb types (Ty.Adv.)	
	Grammatical Complexity	
	11) Coordinated clauses (Coor.)	
	12) Number of subordinated clauses (Sub.)	
	13) Non-finite verbs (NFV)	
	14) Auxiliary modal verbs (Aux/Mod)	
	15) Nodes per sentence (N/S)	

The compositions were analysed by applying a set of measurements grouped in three broad areas: fluency, complexity (both lexical and grammatical) and accuracy, as presented in Table 2. A number of these measurements were adopted from the review by Wolfe-Quintero et al. (1998) of 39 studies that used fluency, complexity and accuracy in the analysis of second and

foreign language development in written production. Due to the scarcity of studies with low proficiency learners, other measures, in particular those concerned with grammatical and lexical complexity, were designed in order to assess the characteristics of the written data produced by most subjects in this study, who were in the first stages of the acquisition of EFL. These measurements had been used in previous work (see Celaya, Pérez-Vidal & Torras, 1998; Pérez-Vidal et al., 2000; Torras et al., 1998). The compositions were rated by the researchers according to previously established criteria that are described in detail in Celaya, Pérez-Vidal & Torras (in press).

Two types of calculation were used: a simple frequency count of a particular unit (for example, sentences, clauses or words) and a ratio measure expressed as a percentage (for exarnple, words per sentence). Since the scores obtained for the 16 variables in the three areas did not share the same scoring conventions, they were standardised so as to allow for both intra- and intergroup comparisons. This standardisation was made with the large sample of 479 subjects in the age factor project (see section 11.1. above). The maximurn raw score obtained by the subjects for each of the variables was used to carry out the standardisation on a 10 point scale for each measurement and to obtain a single score for each area. The results were analysed by means of the SPSS 10, with two statistical tests[4]. A matched t-test was applied to compare the means obtained by each cohort in each of the 3 areas at both data collection times. We were thus able to trace the development of written competence and establish intragroup comparisons. Afterwards, a t-test for independent groups compared the means obtained by the two cohorts in order to see differences due to starting age both in the rate of acquisition and in attainment. The alpha level was kept at 0.5 in both tests. Finally, since the areas of fluency and complexity include several variables whereas the area of accuracy include only one, a further analysis was carried out to compare the means in each of the variables in both groups of learners at both data collection times in order to see if all the variables in the areas of fluency and complexity yielded similar results.

III. RESULTS

III.1. Intragroup and Intergroup Analyses

Table 3 presents the results obtained in the analysis of written production in each of the three areas at each data collection time by both groups of leamers.

The means were higher at T2 than at T1 in each of the three areas and in both groups (intragroup analysis). The three areas present a statistically significant iniprovement, as shown by results from the matched t-tests. These results (see "a", " b". and " c" in Table 3) establish significant differences between the means at T1 and T2 both for ES, on the one hand, and for LS, on the other.

***Table 3*: Fluency, Complexity and Accuracy. Intragroup comparison (matched t-test) and intergroup comparison (t-test)**

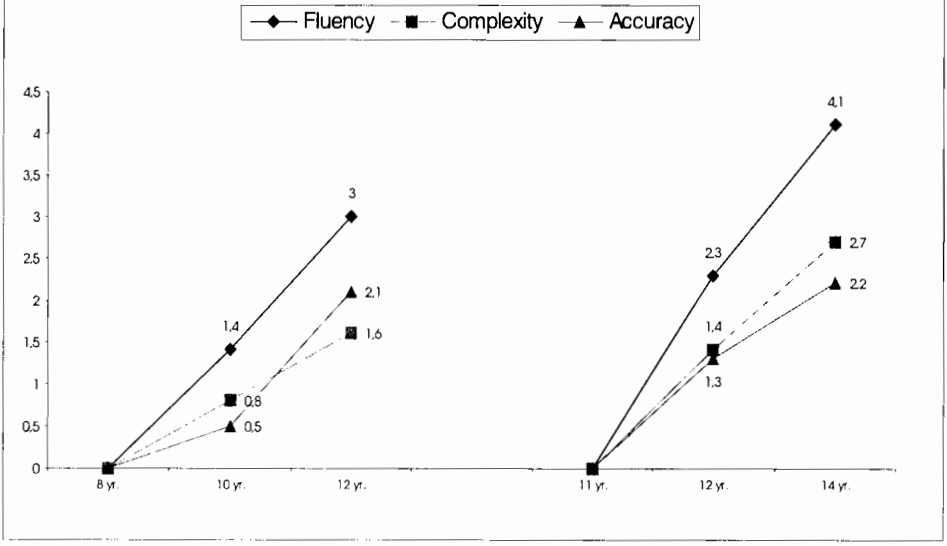
		Fluency		*Complexity*		*Accuracy*		Matched t-test		t-test Time 1		t-test Time2	
								a. F-F b. C-C c. A-A		d. F-F e. C-C f. A-A		d. F-F e. C-C f. A-A	
Group &Time		M	sd	M	sd	M	sd	*T*	*p*	*T*	*p*	*T*	*p*
Early Starters	42												
Time 1		1.4	0.7	0.8	0.4	0.5	0.6	a.-9.271	.000				
Time 2		3.0	1.2	1.6	0.6	2.1	1.6	b.-7.883	.000				
Mean increase		*1.6*		*0.8*		*1.6*		c.-6.560	.000				
										d.-4.099	.000	d.-2.239	.033
										e.-4.036	.000	e.-2.891	.008
Late starters	21									f.-2.446	.022	f.-.389	.698
Time 1		2.3	1.0	1.4	0.5	1.3	1.4	a.-5.414	.000				
Time 2		4.1	1.9	2.7	1.6	2.2	1.5	b.-4.303	.000				
Mean increase		*1.8*		*1.3*		*0.9*		c.-2.532	.020				

Note. $p < .05$

Note. a. Fluency T1 to Fluency T2; b. Complexity T1 to Complexity T2; c. Accuracy T1 to Accuracy T2; d. Fluency Early Starters /Fluency Late Starters; e. Complexity Early Starters /Complexity Late Starters; f. Accuracy Early Starters / Accuracy Late Starters.

However, contrary to our first hypothesis, the development of the three areas did not take place at the same rate and presented different patterns of development in the two age groups, as shown in Figure 1.

Figure 1. Fluency, Complexity and Accuracy in Early Starters and Late Starters



In both cohorts fluency developed faster and achieved higher levels than cornplexity and accuracy at both data collection times. Whereas the progression of fluency was quite regular in the groups, the behavior of the areas of complexity and accuracy were different. We saw a very similar pattern of development in these areas in LS, since they developed very closely up to 7'1, although from T1 to T2 there seemed to be a tendency to diverge. In the group of ES, on the other hand, the three areas seemed to progress independently from each other up to both T1 and T2.

The comparison of the means between the two groups (intergroup analysis) allowed us to establish a possible influence of the starting age of instruction. The results of the t-test show that at T1 (after 200 hours of instruction) the LS performed better than the ES in the three areas; at T2 the participants in the LS also performed better than ES, except on accuracy for which the effect of age was not statistically significant (see "d", "e" and "f' in Table 3). These results confirmed our second hypothesis that older learners are faster learners. The rneans of the two groups at T2 were very similar in the area of accuracy (2.1 in ES and 2.2 in LS). In ES the mean obtained in the area of complexity at T2 was very similar to the mean of complexity in LS at T1 (1.6 and 1.4, respectively), thus corroborating again our second hypothesis. since, at least in the area of complexity, LS developed more rapidly than ES. At T2 (after 416 hours) accuracy was higher than complexity in ES; LS presented the opposite pattem, as their accuracy was lower than their complexity at T2.

Due to the different developrnental rate of the three areas, a further analysis of the means through the gains from T1 to T2 was thought necessary to obtain more information on the behavior of each area. Mean increases or gains from T1 to T2 are shown in Table 3 above. As we can see, in the ES group fluency and accuracy presented the same gains (1.6) from T1 to T2 even if accuracy was much lower at T1 (0.5) than fluency (1.4). This means that ES progressed much more in the area of accuracy than in fluency after a certain period of instruction. Complexity was the area that seerned to develop the least from T1 to T2 in the participants in the ES group.

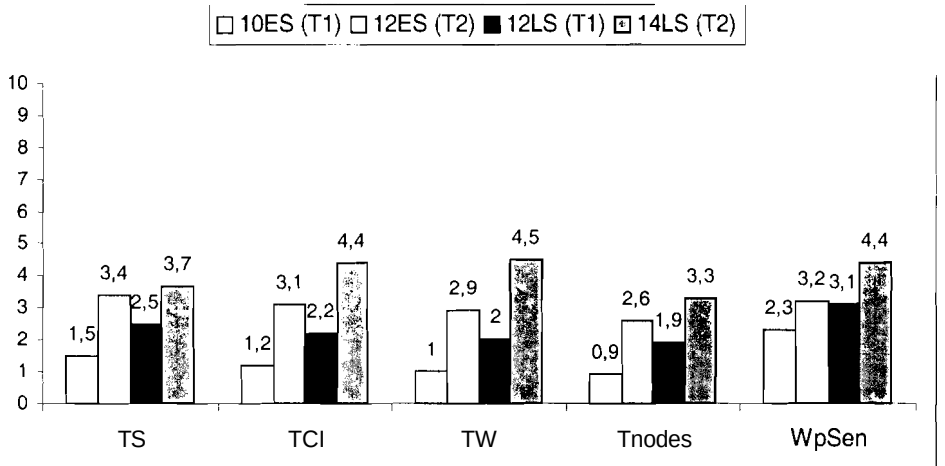
In the LS cohort, fluency was the area that presented most gains (1.8) from TI to T2. Although the means for complexity and accuracy were very similar at T1 (1.4 and 1.3, respectively), we observed more gains in complexity than in accuracy from T1 to T2. Accuracy, then, was the area that developed the least from T1 to T2 in the group of LS.

In order to analyse these developmental patterns in more detail, the results in each of the areas are presented separately in what follows, except for the area of accuracy, which, as explained above, consists of only one measurement.

111.2. Fluency

Figure 2 displays the means obtained by the participants in ES and LS at the two data collection times (T1 and T2) for the five variables included in the area of fluency.

Figure 2. Fluency



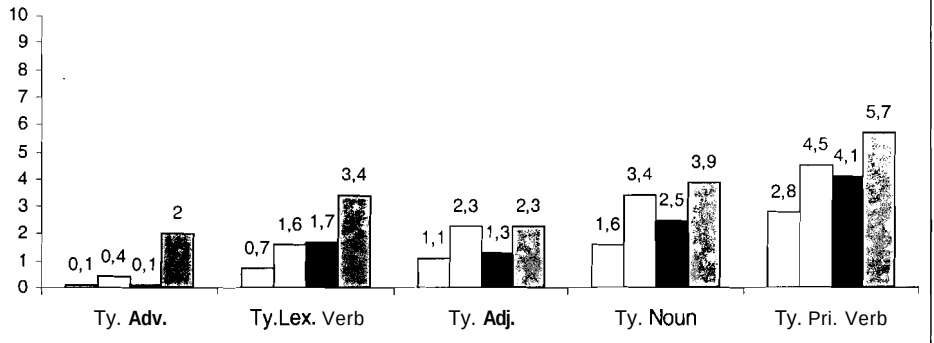
Note.TS=Sentences; TCl= Clauses; TW=Number of words; Tnodes=Number of nodes; WpSen= Words per sentence

The graph shows that both groups of learners (ES and LS) presented regular behavior for most of the variables included in the area of fluency. since they obtained similar means for each one of the variables after 200 hours (T1) and 416 hours of instruction (T2). The comparison of the two groups. with time held constant, shows that the participants in the older cohort (LS) achieved higher means than the younger ones in all the measurements and at both data collection times.

111.3. Complexity

The ten variables in this area were grouped in two subareas, namely, lexical and grarnmatical complexity (see Wolfe-Quintero et al., 1998). When the means of the variables included in each subarea were compared, the results did not present the regularity found in the area of fluency. Figures 3 and 4 show the means obtained by the ES and LS cohorts for the measurements included in the subareas of lexical and grammatical complexity, respectively.

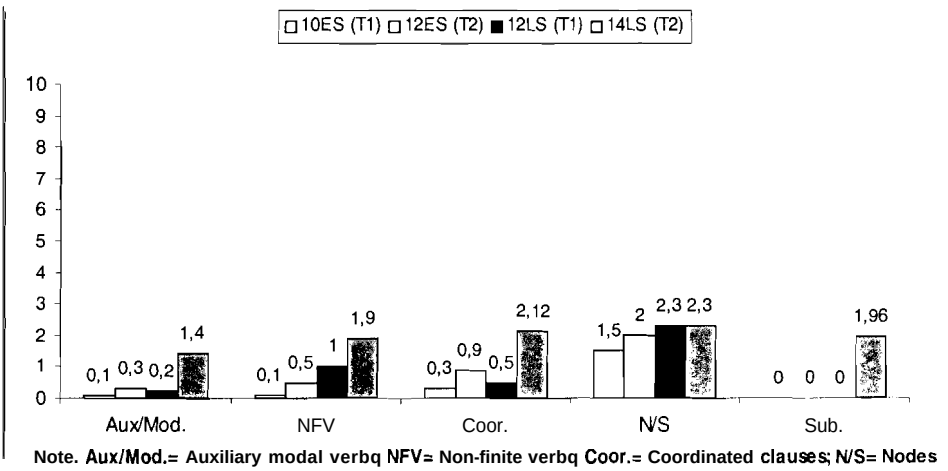
Figure 3. Lexical complexity



Note. Ty.Adv.= Adverb types;Ty.Lex. Verb=Lexical verb types; Ty. Adj.= Adjective types; Ty. Noun= Noun types; Ty. Pri.Verb= Primary verb types

These outcomes suggest that using a single value as the result of measuring complexity might

Figure 4. Grammatical complexity



Note. Aux/Mod.= Auxiliary modal verbq NFV= Non-finite verbq Coor.= Coordinated clauses; N/S= Nodes per sentence; Sub.= Subordinated clauses

hide important aspects of language development. Therefore, we first assigned two separate values to lexical and grammatical complexity in order to obtain a clearer profile of the development of complexity (see Figure 5). Second, we carried out matched t-tests and t-tests to find out intra and intergroup comparisons, as shown in Table 4.

Figure 5. Lexical and Grammatical complexity in Early Starters and Late Starters

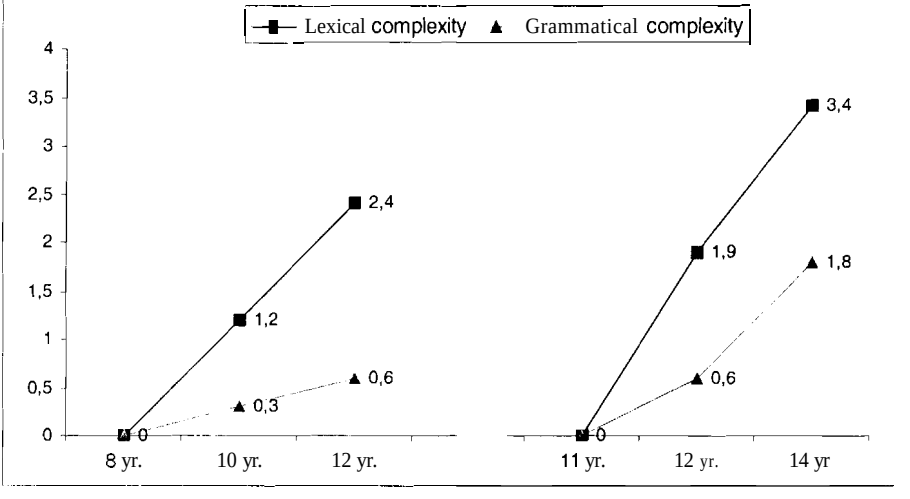


***Table* 4: Complexity. Intra group comparison (matched t-test) and intergroup comparison (t-test)**

		Lex.Compl.		*Gram.Compl.*		Matched t-test		t-test Time 1		t-test Time 2	
Ciroup & Time						a LC-LC b.GC-GC		c. L.C.-LC d. GC.-GC		c.LC-LC d.GC-GC	
***Early** Starters*	42										
Time 1		1.2	0.7	0.3	0 2	a.-8.378	.000				
Time 2		2.4	0.9	0.6	0.5	b-4.1 19	.000				
Mean increase		*1.2*		*0.3*							
								c.-3.505	.001	c.-2.898	.005
								d.-2.595	.016	d.-2.595	.008
Late Starters	21										
Time 1		1.9	0.7	0.6	0.6	a-5.184	.000				
Time 2		3.4	1.8	1.8	1.8	b.-3.070	,006				
Mean increase		1.5		1.2							

Note. $p < .05$

Note. a. Lexical complexity T1 to Lexical complexity T2; b. Grammatical complexity T1 to Grammatical complexity T2; c. Lexical complexity Early Starters/Lexical complexity Late Starters; d. Grammatical complexity Early Starters/Grammatical complexity Late Starters

As far as lexical complexity is concerned, the results of the matched t-tests showed that there was a significant improvement from T1 to T2 in both groups (see "a" in Table 4). This improvement was greater in the LS cohort at both times, as the results of the t-test showed (see "c" in Table 4). The comparison between mean scores for each variable in this subarea. which were all related to types of content words (see Figure 3), revealed that both groups followed a similar and gradual progression in the development of lexical complexity. This means that the range of word types available to our learners increased with both age and hours of instruction.

The results for grammatical complexity also showed a significant improvement from T1 to T2 in both groups (see "b" in Table 4); this improvement was also greater in the LS cohort at both times (see "d" in Table 4). Nevertheless, if we compare the groups in terms of gains, the LS group not only presented a higher mean at T1 but also a large increase at T2 (1.2) compared to the ES group (0.3). In this case, the differences between the mean scores of the variables included in this subarea (see Figure 4) showed that. except for the variable Nodes per sentence, age was a decisive factor, since the use of a greater variety of syntactic patterns (coordination. subordination, etc.) developed during the age period of 12 to 14 years old.

IV. DISCUSSION

In this study we investigated English language development as reflected in writing in two groups of learners with different ages. Three indicators of writing proficiency (fluency, complexity and accuracy) were used to measure the development of the two cohorts of learners. The results show that instruction made learners progress in the three areas, although, on the one hand, not all the aspects of language analysed developed at the same rate and, on the other, the two groups of learners differed in their rate and level of attainment. Therefore, our first hypothesis was not confirmed since the development of the three areas was not co-linear. The second hypothesis was confirmed. since the participants in the LS group were faster learners and progressed further.

The results show that assigning two separate values to the two subareas of complexity (lexical and grammatical complexity) was a key factor in explaining differences between the two cohorts. In both groups fluency was the area that developed furthest. Both groups presented lower development in complexity and accuracy than in fluency, but there were differences in their rate and attainment, possibly due to the effect of age. The higher means in the subarea of lexical complexity as compared to grammatical complexity in both ES and LS may favor greater development in the area of fluency in both groups. Our learners seemed to use all the lexical resources available even when their syntax was not yet sufficiently complex.

The ES cohort presented a lower development of grammatical complexity than the LS group. especially at T2. Because of this low development, ES relied on a narrow range of basic structures to produce their written texts. It may be assumed that this low development of grammatical complexity explains the higher development of fluency and accuracy, since

repetition of patterns allows them to write more (fluency) and better (accuracy). There is evidence that clüssroom learners in their early stages of acquisition use formulaic language or memorised strings of language that they practice in class (Weinert, 1995; Wray, 1999). This was the case of the cohort of ES, who. in order to produce a written text, made extensive use of memorised sequences or patterns which recombine with open class items. The resulting text is an aggregation of simple sentences with very little cohesion (see the Appendix for examples).

In the case of LS, on the other hand, the higher development of grammatical complexity at T2, and the wider range of structures available to them, allowed them to produce longer and more varied types of sentences. This favored fluency over accuracy. These opposed trends may be explained by the fact that an increase in complexity and fluency, with students taking more risks and writing more, involves a decrease in accuracy, as confirmed by our results (see the Appendix for examples of LS). These results are in line with Wolfe-Quintero et al.´s suggestion that "one aspect of language may progress at the expense of the other" (1998: 4). The authors refer to Casanave (1994) and Tedick (1990) who found that when writers took more risks and increased the length of their T-units (one main clause plus any subordinate clause attached to or embedded in it) the accuracy of their written products decreased. In the same way, it can be observed that when the LS in our study increase their grammatical complexity the growth of accuracy slows down.

The results of the present study are in line with previous research that has focused on age comparisons in formal school contexts (e.g. Blondin et al., 1998; Burstall, Jamieson, Cohen & Hargreaves, 1974). These studies show that older learners are generally faster and more efficient than younger learners. However, a further comment is in order at this point. The ES group received instruction in English during the age period 8 to 12, whereas the LS group was instructed from 11 to 14, with more intensive exposure up to 12 than the ES, as noted above (200 hours from 11-12 and 200 hours from 8 to 10, respectively). This suggests that the age of 12 might be a tuming point in the foreign language acquisition process; this is reflected in the written production of the participants, especially in the development of grammatical complexity, for which the LS group presented the same mean (0.6) at T1 as the ES group at T2. Three issues should be mentioned here:

1) Before the age of 12, and regardless of amount of exposure. certain features of language are used minimally (see Adverbs in Figure 3 and Auxiliary modals in Figure 4) or are not incorporated at all (see Subordination in Figure 4).
2) At the age of 12, those who have had more exposure (ES T2) present benefits only in the area of fluency and in lexical complexity, although the growth of the latter can be mainly attributed to an increase of Adjectives, Nouns and Primary verb types (see Figures 1 and 5).
3) From the age of 12 onwards there seems to be a sudden spurt in grammatical development (see Figures 4 and 5).

These findings suggest that the overall higher linguistic cornpetence in English of older leamers (the LS group) rnay be explained by the fact that they have received instruction at an age when rnaturity has started; their cognitive and conceptual developrnent is higher, as are their literacy skills in their L1, and the learning strategies that the school context provides.

These results should also be considered in the light ofthe methodology used by teachers. As they stated in the interviews, it is frorn 11-12 onwards that explicit teaching of the linguistic systern is introduced and more forrn-focused activities are developed in class. Thus, the superiority of adolescents rnight be attributed not only to age but to rnethodological changes in the teaching approach, that is, the cognitive rnaturity inherent in age irnplies, in turn, changes in the pedagogical approach with the inclusion of rnetalinguistic activities which consequently, favor linguistic awareness. This is not the case of leamers younger than 12, who seldom receive explicit instruction on the linguistic systern of the foreign language.

Although this study has focused on the analysis of the written products of the participants, and not on their writing composing abilities, sorne further cornrnents are in order, since rnost of the data in this study came frorn a cornposition by low proficiency learners in a school context, aged 12 or younger. As Curnrning (1989) has pointed out, second language writers who are at interrnediate and advanced levels can benefit not only frorn their higher linguistic proficiency. but also frorn the cornposing strategies they use in writing in their L1. Young EFL beginners do not take advantage of such knowledge and abilities, since their linguistic resources are very lirnited and they have not fully developed writing strategies in their L1. The written cornpositions analysed in this study, especially those of the younger participants (See Appendix 1 for exarnples), show little rnastering of text cornposing; however. the developrnental analysis carried out in this study shows that, at different rates, both cohorts of learners do irnprove their linguistic cornpetence along the initial stages of interlanguage. Although beyond the scope of this study, it would be interesting for the pedagogical field to investigate whether the introduction of free writing tasks could help young school beginners to develop their English, as Ishikawa (1995) proved to be the case with low proficiency college students. It would also be of great interest for language education in prirnary and early secondary school to explore how teaching *to write* could be faced as an interdisciplinary work when two or more languages are included in the school curricula.

V. CONCLUSION

The results of our study indicate a possible influence of the starting age of instruction in the acquisition of English as a foreign language, as reflected in writing. The results indicate, contrary to our first hypothesis, that the three areas of fluency, cornplexity. and accuracy do not progress in parallel. Differences in their developrnent regarding rate and attainrnent can be attributed to age. All the areas present higher rneans both at T1 and at T2 in LS, thus confirrning our second

hypothesis that older learners are faster in the first stages of acquisition. The design of our project establishes a third time of data collection (T3), when data will be elicited from learners at the end of their school years. This period of time may then be enough to either confirm the results presented here or, on the contrary, to reveal differences in favor of an earlier start (8 vs. 11), as reported in studies on naturalistic contexts. Or it may be the case that no such advantages exist in formal contexts. It would therefore be wrong to imply from these results that the introduction of foreign language teaching instruction should be postponed, since our results only refer to linguistic competence as reflected in writing. These results may provide teachers with valuable insights into classroom foreign language development. Although this study may not have direct implications for teaching practice, it can contribute to expand teachers' awareness of the process and outcomes of foreign language learners at different ages.

We are aware of the limitations of the study. First, it does not exhaust all the possible aspects that can be investigated in writing. For instance, we did not deal with discursive elements, an area which would undoubtedly give a better insight into written products. Secondly, the area of accuracy consists of only one measurement (Error-free sentences). A deeper analysis of this area could be further developed by introducing new measures to control different accuracy levels such as spelling, vocabulary or morphosyntactic errors that might show differences due to age. Finally, our results cannot be generalised to the whole school population, since we have restricted the sample to meet certain requirements. A different socio-economic and cultural context, for instance, might yield different results. We hope, however, that the research reported in this paper can shed light on the understanding of foreign language acquisition by school learners.

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[1] The authors acknowledge the support of the Ministerio de Educación y Ciencia through projects PB94-0944 and PB97-0901.

[2] According to the Critical Period Hypothesis younger second language learners are globally more successful than older learners, and puberty marks the onset of a decline in second language capacity.

[3] The research project on the age factor now in progress at the University of Barcelona may shed some light on the issue by means of cross-sectional data regarding all the school years of learners with two different starting ages.

[4] We are grateful to Antoni Sans, Universitat de Barcelona, for his advice on statistics

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Appendix
Examples of written compositions

EARLY STARTERS

Subject 3

Time 1: 10 years old (200 hrs.)
I can playing football and basketball
I like kake, pizza and coca-cola
My favourite team of football is Betis. And my favourite team of basketball is Globers Troters

Time 2: 12 years old (416 hrs.)
Hello! I'rn David.
I'rn 12 years old.
I'rn the best. I'rn clever, I'rn strong...
I'rn the tallest boy of the class.
I like play football, basketball and play to computer games too.
I play in a footbàll tearn called P.C., from I'H.
I'rn training on Sunday, Wednesday and Friday.
I live in the 20 of the B.Street.
I've gota brother and his name is l., and my mother and my father are calleds E. i M.

Subject 18

Time 1: 10 years old (200hrs)
I'rn Joan, live Barcelon. My father is MR. Juan. My mum Miss. Ana And finali brother is Pau. You is nine years old.

Time 2: 12 years old (416hrs)
I am Joan, my brother is Pau, my mother is Ana, my father is Joan, I live in Barcelona, my school is S.T, I have thertin years old My favorite homework is E.F. and History. My favourite day is saturday and monday. My teacher is Marta. My old school is D.B. I was born in year is 17.2.85

LATE STARTERS

Subject 4

Time 1: 12 years old (200 hours)
Hellow, my name is Richard. 1 am have a 13 years old. I play a football, voleyball

Time 2: 14 years old (416 hours)
My name is Ricard Claveguera Delgado and I have got 14 years ago. 1 play football and 1 like more.
1 listening to music for sleep.
My house is very short but I like.
1 have got a brother. This is more than I.
I like the animals but more like a dogs.
When I will be old I like a veterinari.

Subject 7

Time 1: 12 years old (200 hours)
I am Laura. 1 have the eyes blues. I love listen the music, see the television and go to the park with my friends. I love the ice-creams. I am tall. 1 hate the fish and the vegetables. I hate the milk. 1 love my father and mother. 1 love the dogs and cats. 1 love the days sunny and 1 hate the days rain.

Time 2: 14 years old (416 hours)
I'm a girl. I'm fourteen years old. 1 live in Barcelona. When 1 was ten years old I live in the street …, but now I live in … . 1 haven't any brothers or sisters. Since 1 was a little girl 1 like a lot write and read some books. Now 1 like very much the Japanese comics, "the manga", read, write, watch TV, play with my computer.
In my next holydays I will go to Villanova i la Geltrú, a town next to Barcelona. 1 don't know what 1 want to bee when 1 was older. I would like to be teacher, because 1 like children. The lawyer profession is very interesting too. When 1 will be older I supose that I finished my classes and I will marry with a pretty man. I would like to have to children, one boy and one girl,
We will live in a beautiful house, with a big garden. 1 will have a Husky Siberian (a dog). The dog would be black and white with blue eyes. I would like that I continued visiting my friends.

