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Age and the Acquisition of English as a Foreign Language

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Chapter 7

Maturational Constraints on Foreign-language Written Production

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Introduction

The relationship between the age of initiation of the process of learning a foreign language and the level of proficiency attained is a crucial issue in current research. Two are the main reasons for this interest. First, there is a widespread desire for new generations to reach a high level of proficiency, at least, in one foreign language. Second, the majority of people feel entitled to take a position on this issue and it may be stated that, for the most part, there is a generalised tendency to favour the earliest possible start on foreign-language (FL) learning. In fact, in a study conducted in 1997, Torras *et al.* (cited in Muñoz, 1999) showed that a group of parents of children between 2 and 6 years of age who had started learning English in nursery school firmly believed that these children were better learners than adults. They believed that the main advantages would affect pronunciation and vocabulary acquisition and, in spite of the fact that positive results were scarce during the initial stage of acquisition, they set their hopes in the future where the advantages of the early start would be more evident. The results of this study correspond with the *consensus view* proposed by Singleton (1995), according to which the sooner the exposure to the L2 is, the better the results are in the long term. Among the theoretical reasons considered by Segalowitz (1997) (based on Ellis, 1994) to facilitate the language-learning process by younger learners, we select the following:

First, the capacity to perceive and segment sounds may become progressively impaired as a function of age. Second, there may be a loss of neurological plasticity after some critical period that inhibits an adult's ability to acquire certain aspects of new linguistics skills (e.g. phonology, grammar). Third, the older one is, the less motivated one may become to communicate with native speakers of another language or

integrate into their community. Also, the older one is, the more self-conscious and anxious one may be when communicating in the L2. . . . Fifth, younger learners may receive superior language input compared to what adults receive for language learning purposes. (Segalowitz, 1997: 87)

However, a broader review of the studies on the subject shows that the aforementioned results and ideas are not conclusive, as revealed by the fact that the hypothesis on the existence of a critical period during which L2 acquisition is facilitated is still very much at the centre of the debate among researchers of the field (see Singleton, Chapter 1, this volume). One of the main reasons for the non-resolution of the debate is the fact that it is very difficult to isolate the age factor from the numerous variables (sociological, emotional, etc.) which interact with it.

The goal of this chapter is to show that the controversy surrounding the influence of the age factor in the acquisition of foreign languages is also determined by a number of factors which are external to the students, as for example the nature and properties of the particular aspect of the linguistic competence under study. Noteworthy in this respect is the study by Sasaki and Hirose (1996) of written production by non-native speakers, which revealed that adult learners attained a higher level of proficiency than younger students.

Whatever the case may be, the issue regarding the influence of the age factor over L2 acquisition (Singleton, 1997), the subject matter of this book, has consequences both at the theoretical level (whether the innate capacity to learn languages functions beyond a certain age) and at the practical level (what the age of initiation of the teaching of the L2 in the schooling system should be). Furthermore, the increasing interest in the study of local languages as well as foreign languages necessitates a search for more or less definite answers regarding the degree of efficiency of early L2 learning with respect to specific communicative aspects.

The Age Factor and Written Production

In spite of the fact that research on written production in L2 includes research carried out on any language which differs from L1, the majority of studies take English as the object language (Reichelt, 1999). In addition, a study of the 233 projects on written production in a foreign language in the United States by Reichelt (1999) revealed that the great majority of these studies were carried out at college level, some at secondary school level and a very small percentage at primary school. This tendency is also found in the Basque Autonomous Community, where studies on written production are based on samples of college students or adult students.

Consequently, one of our objectives is to analyse and compare the results at the pre-college level, an issue which has not received much attention in current research.

It should be borne in mind that we concentrate on a formal learning context, namely, the school, where written-language competence is as important as oral competence, as reflected by the fact that university entrance exams evaluate written production exclusively. It follows from these observations that the subject-matter of this chapter is of much interest and applicability.

Celaya *et al.* (1998a) classify the existing studies of the field into two groups. One group includes research designed to revise the measures used by investigators to evaluate written production in the L2. The other group includes discussions of the data considered in the light of a number of criteria and measures. Our study belongs in the latter group, since it takes the measures and criteria used in Doiz and Lasagabaster (2001) as working tools and deals with the analysis of written production in English by students of three different age groups.

Research on written production in the L1 and the L2 has concluded that students of an L2 resort to the same strategies and follow the same guidelines whether they are writing in their L1 or in the L2. In relation to this issue, Zamel (1983) stated that students characterised by a higher level of written competence have more developed and effective strategies than their fellow students, as a result of which, it is concluded that the role of the linguistic competence is not a decisive factor for written production. By contrast, Cumming (1989) showed that the greater the linguistic competence is, the better the quality of the written production in the L2. Likewise, Pennington and So (1993), who designed a study to clarify whether the level of linguistic competence or the processing capacity is the relevant factor in the attainment of written proficiency, concluded that the former played a greater role on the quality of the compositions.

Sasaki and Hirose (1996) considered the influence of factors of a different kind on written production. In particular, they analysed the role of written practice metaknowledge in the L2, which included such notions as coherence, cohesion, topic, conclusion, thematic organisation and the practice of writing compositions in class. The results of the study undertaken by these researchers was translated into the following hierarchy of factors responsible for variation in the degree of L2 written attainment: the level of competence in the L2 was found to be the most relevant factor for differences in L2 written attainment (52%), next was the skill in the writing of compositions in the L1 (18%) and, in the third place, was the factor associated with metaknowledge which is responsible for 11% of the variation. Finally, from a different perspective Smith (1994) considered the cognitive

style used by each individual in the process of text production, text evaluation as well as the cognitive effort required by the task as the factors which determine the level of influence of the L1 and the level of written competence achieved in the L2.

The Analysis of Written Texts: The Errors

The degree of attainment in written production competence in the L2 has traditionally been determined by the study of the errors made by the language learners in the assigned written tasks. However, the interpretation and relevance of the study of systematic errors have undergone variations within the field of language acquisition with time. Thus, at first, the occurrence of systematic errors in the written texts was invariably interpreted as the result of defective knowledge of the L2 and the absence of adequate acquisition of the rules in the L2. This approach has progressively been replaced by the view that errors represent a stage of the interlanguage (Selinker, 1972), a temporal/transitional stage in the development of competence in the L2 and in the acquisition of writing abilities (Horning, 1987). Recently, errors in written production made by L2 learners have been characterised as evidence of progress in composition writing, where the criteria for language accuracy and language competence are defined in terms of the communicative and functional adequacy of the text to the assigned task. Thus, within this new perspective the appropriateness of the written language is analysed in relation to the communicative purpose of the written task, as opposed to being a product unrelated to the applicability and context of the task.

The change in the role of the study of errors as well as the change in the nature of the errors to be considered have affected the importance of the role assigned to the learner in the acquisitional process of the L2. Within this new frame, the learner is no longer a passive receptor of structures whose only task is to repeat a set of exercises but rather becomes an active agent in the learning process (Péry-Woodley, 1991).

Evaluation Procedure of the Written Production of the Study

There are two main approaches in the evaluation of written production: the holistic evaluation and frequency count. Under the holistic approach, the scores assigned to the compositions are based on the general impression that the evaluator has of the text. Under the frequency count approach, the score is determined by the presence or absence of certain elements (e.g. number of subordinators, number of grammatical errors, number of lexical errors, etc.). In this study, we take both approaches.

We followed the scale proposed by Jacobs *et al.* (1981) for the holistic

evaluation of the compositions. This scale considers the communicative effect of the speaker's linguistic production on the receptor and, therefore, comes close to the main objective of the process of language acquisition, namely, interpersonal communication. This evaluation scale has already been used in other studies and doctoral theses (Cenoz, 1991; Lasagabaster, 1998; Pennington & So, 1993; Sagasta, 2000).

Within the quantitative analysis we considered several measures classified into three groups: fluency, complexity and accuracy. In order to obtain a higher degree of reliability we followed the results obtained by Wolfe-Quintero *et al.* (1998), who examined the degree of reliability of over 100 measures used in 39 different studies on written production, and selected the measures which obtained better results in reliability and were judged to be of greater significance.

Finally, the evaluation of written production is complemented by a description of the different kinds of errors made by the three different age groups which participated in our study. We would like to point out that the errors which have been studied are a representative sample of the most frequently made errors. As in prior studies (Celaya *et al.*, 1999), the nature of the assignment entails the absence of a specific type of errors which may have been more frequent in a different kind of assignment. For example, in our study there were hardly any negative or interrogative sentences but this was a consequence of the kind of task they were assigned (i.e. writing a letter) rather than the reflection of their lack of familiarity with these structures.

Hypothesis

Previous analyses carried out in Cataluña (Celaya *et al.*, 1998b; Muñoz, 1999) as well as in the Basque Autonomous Community (Cenoz, 1999, Doiz & Lasagabaster, 2001) have revealed that students at a higher cognitive stage obtained better results in some aspects of the acquisition of English than students of a younger age. Based on these results, we propose the following three hypotheses:

Hypothesis 1:

The age factor will determine the degree of competence achieved as revealed by the holistic evaluation of the participants' written production.

Hypothesis 2:

The older the students are, the better the results obtained in fluency, complexity and accuracy will be.

Hypothesis 3:

The age of the students will influence the kind of errors made by the participants.

Our Study

The sample

In his study on the relationship between competence in the L2 and written production, Cumming (1994) concludes that the time spent learning the L2 is a decisive factor in the level of competence attained. Accordingly, our sample consists of students with a similar amount of time exposure to the foreign language thereby allowing us to isolate the influence of the age factor in the level of foreign language written competence attained.

The students who took part in our study belonged in three age groups. The first group was made up of 31 students of sixth grade of primary school (11–12 year-olds) who had started their English lessons when they were 4/5 years old; at the time in which the study was conducted, they had had a total of 704 hours of tuition in English. The second group had 18 fourth graders of secondary education (15–16 year olds) and had received their first English lessons at the age of 8/9 with a total of 792 hours. The third group, 13 students of second grade in high school (17–18 years olds) had started learning English at the age of 11/12 with a total of 693 hours of tuition in English. While there is a 101-hour difference between the groups of second graders and fourth graders, the difference is not significant since it involves an eight-year time span, that is, the older group had an extra 12 hours per year as compared to the other group. It should be stated that the decrease in the number of subjects in each group results from the exclusion of students who had had extra-curricular English lessons or some kind of external tuition in English.

The age of initiation in the foreign language tuition which characterises each of the groups is of the outmost importance for the purpose of this study: students in the sixth grade of primary school started their English classes at the age of 4/5, students in the fourth grade of secondary school were 8/9 years old when they first started learning English and students in 2nd grade of high school were 11/12 years old. That is, we intend to study the influence that the starting age of L2 learning has on their written production in three groups of students with a similar time of exposure to the L2.

The 62 participants of the study are Spanish–Basque bilinguals and participate in the D-model schooling system, i.e. a linguistic model where all curriculum instruction is conducted entirely in Basque with the exception of Spanish and Spanish literature (see Lasagabaster [2001] for further details on the Basque Educational System). Basque is the native language of 36% of the students in the sample, Spanish 18% and both languages of 45.9% of the students. Table 1 identifies the native language/s of the

Table 1 L1 of the students in each group

	<i>Sixth graders in primary school (%)</i>	<i>Fourth graders in secondary school (%)</i>	<i>Second graders in high school (%)</i>
Basque	38.7	29.4	38.5
Spanish	12.9	29.4	15.4
Both	48.4	41.2	46.2

students for each group and provides the percentages for each of the groups.

Instruments

In order to avoid any influence over the results particularly in the case of the younger students, the topic of the assignment was very general in nature and did not pose a problem for any of the groups. The students were given the following instructions:

This year you are going to spend a month in England with an English family, the Edwards. Mr and Mrs Edwards have two children, Peter and Helen, who live in Oxford. Write a letter of introduction to them and tell them about yourself, your family, your school, your hobbies and any other fact that you think might be of interest to them.

The task was carried out in class, and no time limit was given. Each of the letters was analysed according to the holistic, quantitative and descriptive evaluating systems which are discussed next.

First evaluation: the holistic analysis

The application of the holistic analysis requires two evaluators who are familiar with the grading scales. Each evaluator assigns a grade to each of the letters, so that each letter receives two independent grades guaranteeing the reliability of the results. Jacobs *et al.* (1981) have demonstrated that as long as certain conditions are followed, the reliability of this evaluating system is guaranteed. The evaluating system consists of five criteria which measure different aspects of written production:

- (1) Content (30 points): this category considers the development and comprehension of the topic as well as the adequacy of the content of the text.
- (2) Organisation (20 points): several factors are considered here, namely, the organisation of ideas, the structure and cohesion of the paragraphs and the clarity of exposition of the main and secondary ideas.
- (3) Vocabulary (20 points): this category deals with the selection of words,

expressions and their usage. The appropriateness of the register used is also taken into account.

- (4) Language usage (25 points): the use of grammar categories is taken into account, e.g. tense, number, subject–verb agreement in addition to word order and the use of complex syntactic structures.
- (5) Mechanics (5 points): this criterion includes the evaluation of spelling, punctuation or the use of capitalisation.

The results for each of the criteria are added such that the total score will be somewhere between a minimum of 34 points and a maximum of 100. The final score is the average of the total points assigned by each of the two evaluators.

Second evaluation: the quantitative analysis

Our quantitative analysis is based on an elaboration of the model used in Wolfe-Quintero *et al.* (1998). The main criteria we considered belong in the following three groups: fluency, complexity and accuracy.

Fluency: The following items were taken into account for the analysis of fluency in the production of written texts: total number of sentences (TNS), total number of subordinate clauses (TNSC), total number of words (TNW) and total number of words per sentence (TNWS).

Complexity: The degree of complexity of the compositions was measured according to the following criteria:

- Total number of non-finite verbs (TNNFV): non-finite verbs do not carry information on person, number or tense, e.g. infinitives and participles.
- Total number of different kinds of subordinate clauses (TNDKSC): since Celaya and Tragant (1997: 241) argued that coordination is more frequently used than subordination at lower levels of acquisition, it follows that the number of different kinds of subordinate clauses is indicative of the degree of complexity of the texts.
- Types of connectors (TC): the total number of the different kinds of connectors including subordinators (*that, when, etc.*) and coordinators (*but, and, etc.*) is considered. Since we are interested in the number of different kinds of connectors used, multiple occurrences of the same kind of connector are counted as one instance of that particular kind of connector.
- Types of nouns (TS): Drawing from the topic of the written task, we consider substantives referring to nine categories: substantives refer-

ring to pet animals, school, home town, family, hobbies, personal description, the trip, the Basque Country and plans for the future.

- The types of adjectives (Tadj): Six main categories are considered: comparatives, superlatives, attributives, demonstratives, quantifiers and ordinal numbers.
- The types of adverbs (Tadv): three categories are considered: temporal adverbs, adverbs of place and manner.
- Types of verbs / predicates (TVP): following Vendler's (1967) classification, we consider four main categories: states (predicates which do not designate change, such as *to be, to like*), activities (predicates designating change; e.g. *to read, to write*), accomplishments (predicates indicating an inherently bounded change, e.g. *to write a letter, to draw a house, to sing a song*) and achievements (predicates which designate a change of state, e.g. *to win, to die, to reach the summit of a mountain*).
- The types of auxiliary verbs (TAV): auxiliary verbs are divided into five types: to be, to do, to have, modals and future auxiliaries.
- The use of different types of verb tenses (DTVT): a bigger number of different verb tenses is indicative of a greater degree of complexity (Arnold, 1991).

Accuracy: The last value to be measured is accuracy, which includes the following criteria:

- Percentage of error-free sentences (PEFS): this number is the result of the multiplication by 100 of the number of error-free sentences and by dividing the resulting number by the total number of sentences.
- Percentage of spelling mistakes (PSM): the percentage is obtained from the multiplication by 100 of the number of spelling mistakes and by dividing the number by the total number of words.
- Percentage of errors (PE): The percentage is the result of multiplying by 100 the number of errors (spelling mistakes are not included here) and dividing the result by the total number of words. We make a distinction between spelling mistakes and other kinds of errors, since the latter hinder comprehension to a greater extent than the more frequent spelling mistakes.

Third evaluation: the descriptive analysis of errors

The nature of the errors included appeals to two considerations: the level of the language the error belongs at, and the nature of the cognitive process the occurrence of the error is associated with. We consider these two issues next.

Locating errors in the language: The errors that we studied were located in two levels of the language primarily: the substance level and the text level. A third level was left aside, the discourse level (James, 1998: 129) since it was taken into account by the aforementioned holistic analysis.

Errors at the level of substance: Spelling mistakes belong at this level. James and Klein (1994) note that the origin of spelling mistakes is multiple and combines one or various of the following strategies undertaken by the students: the application of phonological rules of the L1, the application of phonological rules of the L2, the graphology of the L1 and L2.

Given the nature of the present study, we have been unable to conduct a detailed analysis of the origin of the spelling mistakes characterising the different age groups; however, we will make a number of observations in this regard in the discussion section.

The text level: This level includes errors in lexicon, grammar and syntax. In relation to lexical errors (James, 1998), we take into account errors in the formal appearance of the word such as change in the code – the use of Basque or Spanish for an English word – and the occurrence of errors such as the choice of an inappropriate word from a semantic point of view. Secondly, at the grammar level are errors in the use of articles, determiners, possessive pronouns, the use of gender and number morphemes; the choice of the verb tense, the presence or absence of grammatical elements such as the infinitive particle 'to' and the presence/absence of the main/auxiliary verb. Finally, the syntactic level includes the study of the order of the sentence constituents.

Description of the errors in terms of the cognitive processes involved: In addition to the classification of the errors in terms of the levels of the language they are part of, we also consider a taxonomy which groups the errors according to the ways in which a certain linguistic item deviates from the L2. In order to do so, we follow the proposal put forward by James (1998: 106), which in turn is based on Dulay *et al.* (1982: 150). The latter highlights the difference between the students' L2 written productions and the correct versions with regard to the following criteria: omission, addition, misformation and misorderings. James (1998) adds a fifth criterion: blends. These five criteria are explained here.

Omission: This cognitive process refers to the absence of an element, as a result of which the outcome is not grammatical. According to the results obtained by James (1998), the omission of function words in the early stages of the L2 language acquisition process is more habitual than that of content words. The following elements are included within the category of function words: omis-

sion of the article, possessive pronouns, the infinitive grammatical particle 'to' and the omission of the auxiliary. The most characteristic omission of content elements is that of the main verb. All these different omissions have been observed in our students' written products. Our aim is to try to find out whether the age factor has some sort of influence on the type of omission produced.

Addition: Following James's proposal, the example of oversuppliance of double marking could be regarded as a representative example of this category. Thus, this group would encompass the juxtaposition of two prepositions (*with to*) or the presence of a second plural morpheme in a word which is already plural (*childrens*). Nevertheless, and due to the limited number of examples of addition found in our students' written texts, this category was not taken into account.

Misformation: This criterion has to do with the ungrammatical use of a morpheme or structure, which comprises errors such as selecting the wrong gender, number or verb tense.

Misorderings: In this category we will only focus on the deviations associated with the order of the constituents of the sentence, such as the alteration of the sequence 'subject + verb + object' or the position of the auxiliary verb in interrogative sentences. The phrase internal deviations, such as the postposition of the adjective with respect to the noun (*house red*), were not taken into consideration because the results obtained were not statistically significant.

Blends: James added this fifth criterion to the aforementioned four. This category includes those instances in which students produce a wrong form which is influenced by the existence of two correct ones. For instance, the ungrammatical form *according to Erica's opinion* is a blend of two forms: *according to Erica* and *in Erica's opinion* (James, 1998: 111). However, and due to the small number of blends in our sample's writing, this category has been excluded from our analysis.

The errors that we examined within the descriptive analysis were the following: omission of articles and possessive pronouns, omission of main/auxiliary verb, omission of the infinitive preposition 'to', misformation of number and gender, misformation of verb tense, misformation of the word at the semantic level, misordering of the constituents within the sentence, spelling mistakes, code-switching: Spanish, code-switching: Basque. The marking of the written compositions was carried out according to the previously described parameters for each of the three types of evaluation, with the results obtained being subsequently codified. This process ended with the

analysis of the results via the SPSS (Statistical Package for Social Sciences) statistical programme.

Results

Regarding the holistic approach

With a view to corroborating our first hypothesis, *The age factor will crucially determine the degree of competence achieved as revealed by the holistic evaluation of the participants' written production*, one-way Anova analyses were performed to compare the mean scores obtained by the three different age groups. The results are exhibited in Table 2.

Table 2 Results concerning the holistic approach

	11/12 year olds		15/16 year olds		17/18 year olds		F
	Mean	SD	Mean	SD	Mean	SD	
Overall	49.43	10.24	81.13	8.74	90.80	6.78	121.113 ^b
Content (30)	17.40	2.47	25.11	2.48	27.65	2.15	106.304 ^b
Organization(20)	10.40	2.17	16.33	2.19	18.38	1.50	87.804 ^b
Vocabulary (20)	9.80	2.09	16.27	2.02	17.96	1.34	108.61 ^b
Language use (25)	9.41	3.26	19.11	2.11	21.80	2.00	124.104 ^b
Mechanics (5)	2.40	0.61	4.30	0.45	5.00	0.00	156.133 ^b

^a $p < 0.05$; ^b $p < 0.001$.

There is a clear-cut trend as regards both the five scales and the overall score; the 17/18-year-old students achieved the highest scores in all cases, whereas the 11/12-year-old students obtained the lowest scores. The differences between the 17/18 year olds and the 11/12 year olds, as well as those between the 15/16 year olds and the 11/12 year olds, turned out to be statistically significant in every single case ($p < 0.000$). Similarly the differences between the 17/18 year olds and the 15/16 year olds were significant in the scales of content ($p < 0.020$), organization ($p < 0.030$), use of language ($p < 0.032$), mechanics ($p < 0.002$) and the overall score ($p < 0.020$), while being marginally significant as regards the scale of vocabulary ($p < 0.067$).

Regarding the quantitative approach

With regard to the second hypothesis, *The older the students are, the better the results obtained in fluency, complexity and accuracy will be*, the results are shown in Tables 3, 5 and 7:

Except for the variable total number of sentences (TNS), in which the 15/16 year olds outperformed the rest (16.55), in all the other variables the 17/18

Table 3 Results in fluency

	11/12 year olds		15/16 year olds		17/18 year olds		F
	Mean	SD	Mean	SD	Mean	SD	
TNS	8.00	3.62	16.55	6.26	11.61	2.69	21.488 ^b
NTSC	0.29	0.64	2.33	2.84	4.07	2.66	17.832 ^b
TNW	86.90	44.59	163.94	53.46	167.46	38.88	22.324 ^b
TNWS	10.95	3.39	10.26	2.05	14.58	2.69	9.386 ^b

^a $p < 0.05$; ^b $p < 0.001$.

Table 4 Significant differences in fluency

	<i>Significant differences between groups</i>
TNS	2 > 1 > 3
NTSC	1 > 2 > 3
TNW	1 > 3; 2 > 3;
TNWS	1 > 2; 1 > 3;

1, 17/18 year olds; 2, 15/16 year olds; 3, 11/12 year olds.

year olds did better than the other two age groups, the lowest scores being achieved by the younger students (11/12 year olds). Despite the fact that the 15/16 year old students' written output had a higher total number of sentences (TNS = 16.55), the 17/18 year olds produced longer sentences, that is to say, sentences with a higher number of words (TNWS = 14.58). The differences which appeared to be significant between the different age groups are given in Table 4.

All these differences were statistically significant except in the case of total number of words (TNW) between Groups 2 and 1 and, in the case of total number of word per sentence (TNWS), between Groups 3 and 2.

The mean scores obtained by the three age groups in connection with the measures of complexity are given in Table 5.

As in the case of fluency, in this case the scores were closely related to the age of the participants, as the older the students were, the higher scores they obtained. The statistical significance of these differences can be seen in Table 6.

Out of the seven measures under study, four (TNNFV, TNDKSC, TC and Tadv) showed significant differences between the age groups, always in favour of the older students. Similarly, and as far as the Tadj and DTVT variables were concerned, the existing differences between groups happened to be significant, except in the case of the differences between the

Table 5 Results in complexity

	11/12 year olds		15/16 year olds		17/18 year olds		F
	Mean	SD	Mean	SD	Mean	SD	
TNNFV	1.00	1.67	2.16	2.09	4.46	2.43	14.127 ^b
TNDKSC	0.22	0.49	1.44	1.58	2.84	1.57	24.255 ^b
TC	1.25	0.63	2.38	1.61	4.15	1.99	22.080 ^b
TS	4.32	1.30	4.77	0.80	5.07	0.95	2.391
Tadj	1.67	1.10	2.77	1.35	3.23	1.58	8.218 ^b
Tadv	0.12	0.34	0.83	0.92	1.92	1.03	28.508 ^b
TVP	1.80	0.79	2.55	0.98	3.46	0.51	19.880 ^b
TAV	0.25	0.44	1.61	1.28	2.92	1.25	38.384 ^b
DTVT	1.51	0.88	2.22	1.51	4.23	1.48	22.371 ^b

^a $p < 0.05$; ^b $p < 0.001$.

Table 6 Significant differences in complexity

	Significant differences between age groups
TNNFV	1 > 2 > 3
TNDKSC	1 > 2 > 3
TC	1 > 2 > 3
TS	The differences were not significant
Tadj	1 > 3; 2 > 3;
Tadv	1 > 2 > 3
DTVT	1 > 2; 1 > 3;

1, 17/18 year olds; 2, 15/16 year olds; 3, 11/12 year olds.

Table 7 Results in accuracy

	11/12 year olds		15/16 year olds		17/18 year olds		F
	Mean	SD	Mean	SD	Mean	SD	
PEFS	8.43	13.49	26.36	10.79	39.98	17.26	29.923 ^b
PSM	16.94	11.49	2.98	2.42	1.15	0.83	24.556 ^b
PE	22.41	10.13	16.23	7.26	13.30	8.63	5.544 ^a

^a $p < 0.05$; ^b $p < 0.001$.

Table 8 Significant differences in accuracy

	Significant differences between groups
PEFS	1 > 2 > 3
PSM	1 < 2 < 3
PE	1 < 3; 2 < 3;

1, 17/18 year olds; 2, 15/16 year olds; 3, 11/12 year olds.

Groups 2 and 1, and 3 and 2. Concerning the variable Types of Nouns (TN), there was no significant difference, as the vast majority of the students dealt with each of the aspects concerned in the task, which was directly reflected in the type of nouns chosen.

As regards the accuracy measures, the results obtained can be seen in Table 7. This table clearly demonstrates that the age factor plays a paramount role in the results, as the older the students were, the better the results they obtained. Likewise, the differences between groups turned out to be significant in all cases except for the variable percentage of error (PE) when Groups 2 and 1 were compared, as can be appreciated in Table 8.

Regarding the error analysis

The last results under scrutiny are the ones related to the different error categories proposed in our study with a view to testing our third hypothesis: *The age of the students will influence the kind of errors made by the participants*. Tables 9 and 10 reflect the different category of errors and the existence (or not) of significant differences between the three age groups, which we will now examine in more detail.

The study of these results leads us to conclude that there exist three different types of trends. In the first of these trends (Figure 1), the 11/12-year-old students made more errors than the other two groups (number of spelling mistakes, misformation of number and gender, omission of main or auxiliary verb). The origin of this can be traced back both to the students' lack of written competence in the L2 (as revealed, for example, by the lack of main verb) and to the lack of linguistic competence, that is to say, the learners did not know or had not assimilated the linguistic rules and the vocabulary they needed.

In the second trend (Figure 2), the 17/18-year-old participants were the ones who made more errors (misformation of the word at the semantic level, misordering of the constituents within the sentence or omission of 'to'). However, these results have to be interpreted together with the ones obtained in the measures of fluency, complexity and accuracy: the older

Table 9 Results in the different error categories

	<i>11/12 year olds</i>		<i>15/16 year olds</i>		<i>17/18 year olds</i>		<i>F</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	
1	0.45	0.96	1.33	1.23	0.30	0.48	5.802 ^a
2	0.90	1.19	0.55	0.85	0.15	0.37	2.775 ^c
3	0.00	0.00	0.16	0.51	0.46	0.51	7.490 ^b
4	1.35	1.60	0.88	1.77	0.38	0.65	1.960
5	0.77	1.45	1.44	1.82	1.23	0.83	1.282
6	1.77	2.02	3.00	2.14	3.61	2.53	3.918 ^a
7	0.09	0.39	0.66	1.08	0.84	1.21	4.658 ^a
8	12.64	6.92	4.83	3.65	1.92	1.32	23.264 ^b
9	1.35	1.88	1.72	1.90	0.46	1.19	1.967
10	4.54	5.88	1.33	2.19	0.15	0.37	5.877 ^a

^a $p < 0.05$; ^b $p < 0.001$; ^c $p < 0.09$.

1, Omission of articles/possessive pronouns; 2, Omission of main/auxiliary verb; 3, Omission of the infinitive preposition 'to'; 4, Misformation of number and gender; 5, Misformation of verb tense; 6, Misformation of the word at the semantic level; 7, Misordering of the constituents within the sentence; 8, Spelling mistakes; 9, Code-switching: Spanish; 10, Code-switching: Basque.

Table 10 Significant differences in errors

	Significant differences between age groups
Omission	1 < 2; 3 < 2
Misformation of number/gender	1 < 3;
Omission of main/auxiliary verb	1 < 3;
Misformation of verb tense	3 < 1;
Omission of 'to'	3 < 1;
Misordering of constituents within the sentence	3 < 2; 3 < 1
Misformation of word at semantic level	3 < 2; 3 < 1
Code-switching: Spanish	1 < 3; 1 < 2
Code-switching: Basque	1 < 2 < 3
Spelling mistakes	1 < 2 < 3

1, 17/18 year olds; 2, 15/16 year olds; 3, 11/12 year olds.

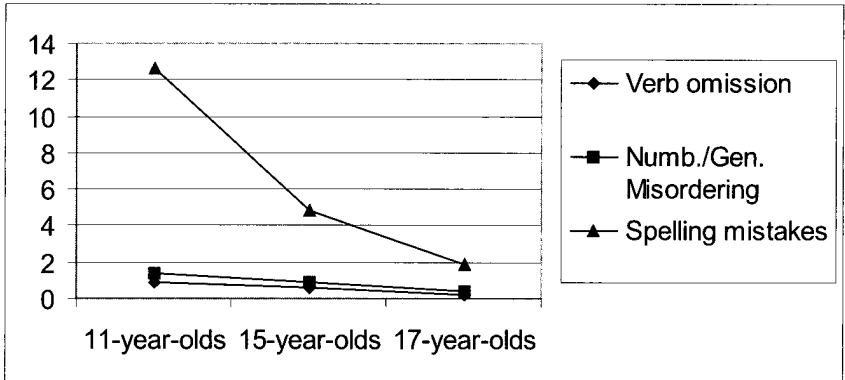


Figure 1 Trend 1 in errors

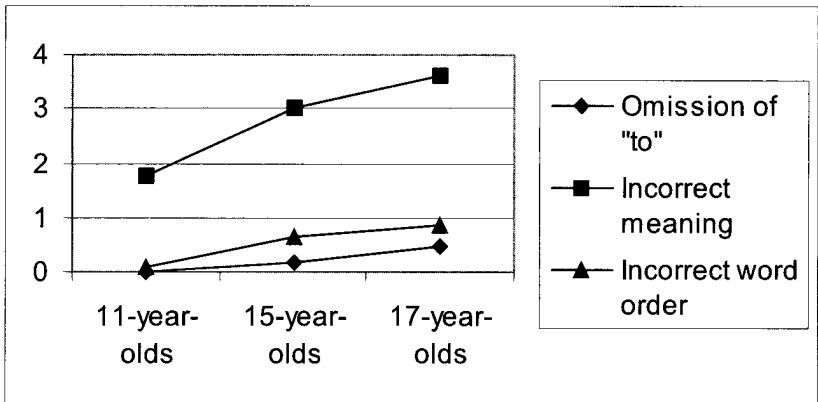


Figure 2 Trend 2 in errors

students produced texts of greater length and complexity, as a result of which the number of errors in the following categories was higher.

Concerning the third trend (Figure 3), the intermediate age group (15/16 year olds) made more mistakes than the other two groups (omission of the article and misformation of the verb tense). In the 'omission of the article' category, two points are worthy of mention: (1) the 15/16-year-old students made more mistakes than the 11/12 year olds because the former made more use of articles; and (2) the 15/16 year olds omitted the article more habitually than the 17/18 year olds, because the former had not yet assimilated the rules related to the use of the article. In the case of the 'misformation of the verb tense' category, the 15/16-year-old students were again the subjects of our sample who made the most errors, although

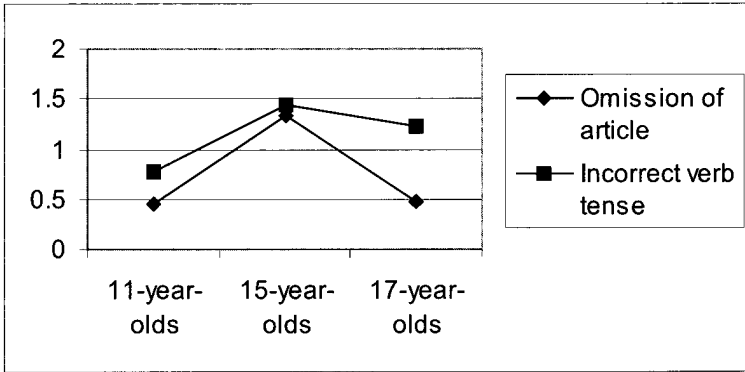


Figure 3 Trend 3 in errors

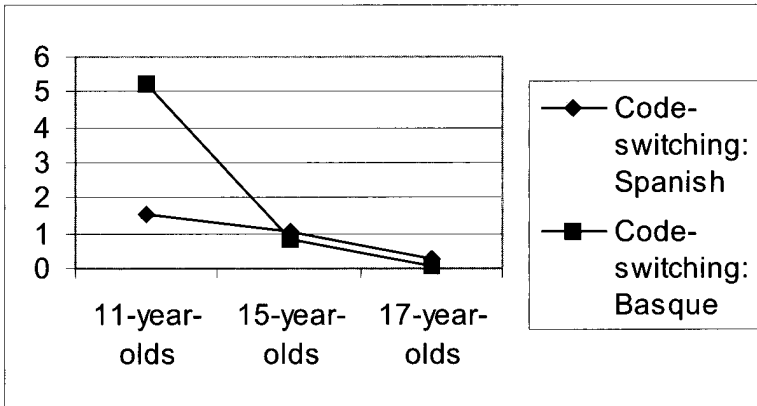


Figure 4 Code-switching

this time followed by the 17/18 year olds, who, despite using a wider range of verb tenses, utilised them more correctly. Grade 6 primary students (11/12 year olds) made the fewest errors, yet this was due to the fact that the vast majority of their writings were circumscribed to the use of only two verb tenses (present simple and present continuous).

The code-switching results merit further consideration. In the case of the younger students, the two official languages (Basque and Spanish) exerted greater influence on their work than in the other two age groups. Curiously enough, the youngest age group showed a clear preference for Basque when code-switching took place (for instance, among the 11/12 year olds the percentage of code-switching into Spanish amounted to 1.55%,

whereas this percentage was much higher – 5.22% – when it came to Basque). Nevertheless, this trend reversed in the case of the oldest students, who fell back more on Spanish (0.27%) than on Basque (0.08). The explanation of these results could be that the older students were more aware of the existing typological relatedness between English and Spanish and also of the typological distance between English and Basque, the latter being a non-Indoeuropean language (these results coincide with those of other studies undertaken in the Basque context: [Lasagabaster, 1999]). This would mean that when students faced a lexical gap, the primary education students resorted to the vehicle language (Basque), whereas the older high school students (more aware of the differences/similarities between the three languages in contact) resorted more to Spanish. The intermediate age group (16/17 year olds) followed the pattern of the 17/18 year olds (their percentage of Spanish code-switching was 1.04% and 0.81% that of Basque), the influence of both languages being higher in their written output. This trend is clearly depicted in Figure 4.

The following are typical examples of code-switching into Basque among the 11/12-year-old participants: ‘Only is 250 in this town and *gehiena* (most of it) is *baserriak* (rural houses)’; ‘This town is in the *iparraldean* (north) of Espain, in the *euskal autonomi elkarte* (Basque Autonomous Community)’; ‘My teacher is Gema and is *xintxoa* (nice)’. In the case of the older students, code-switching is basically into Spanish, while they endeavour to give the Spanish word an English appearance: ‘he works in an *officine* (*oficina* is Spanish for office)’; ‘to *pass* one month (*pasar un mes* is Spanish for “to spend a month”)’; ‘My family *composse* (*está compuesta* is Spanish for “consists of”)

Conclusions

The main conclusion to be drawn from this study has to do with the ineluctable influence exerted by the age factor on a particular aspect of the individual’s linguistic development, namely the written production. It can be stated that those students who are at a more advanced cognitive stage take advantage of the school learning experience in general, and the writing experience in particular, as reflected in their written production in the foreign language. In fact, we could speak of the existence of maturational constraints concerning writing, since the effect of age turned out to be evident and unquestionable when considering the three different perspectives taken into account at the time of evaluating the written texts. These results bear out those of previous studies (Celaya *et al.*, 1998a and 1998b; Doiz & Lasagabaster, 2001; Muñoz, 1999).

In the first type of analysis, the so-called holistic approach, the effect of the age factor becomes evident. The older the students are, the more devel-

oped communicative ability is displayed in their texts, so much so that the differences between the three age groups happen to be significant as regards both the five scales (content, organisation, vocabulary, use of language and mechanics) and the overall score, always in favour of the older group.

The results obtained in the second type of analysis lead us to the same conclusion, since the older the students are: (1) the more extended their texts are, made up of longer sentences (fluency); (2) the greater lexical, syntactical and discoursal complexity is shown in their texts; and (3) the lower the number of errors encountered by the evaluators is, as the older students' texts are more accurate. Therefore we can assume that these three characteristics of the linguistic development evolve simultaneously, as the more competent students produce longer, more complex and more accurate texts than those students with a lower degree of competence (Wolfe-Quintero *et al.*, 1998). In this sense it should be remembered that in the early stages of the learning process, older students learn the lexical and morphosyntactic aspects of the L2 faster than their younger counterparts (Harley & Wang, 1997).

The last type of evaluation focused on the variability of the nature of the errors depending on the students' age. As pointed out in the results section, three main trends stood out. In the first trend the younger students (11/12 year olds) made a higher number of what we could define as basic errors such as spelling mistakes, omission of the verb or misformation of number and/or gender. The origin of this type of errors is clear-cut: poor linguistic competence and lack of experience in foreign-language writing. However, in the second trend it is the older students (17/18 year olds) who committed the largest number of errors, with the omission of the infinitive particle 'to' (which is not present in the 11/12-year-old students' texts), misordering of the constituents within the sentence and misformation of the word at the semantic level, errors whose origin seems also to be unequivocal: since their texts are more complex and longer, they are more liable to commit errors of this nature. Finally, in the third trend it is the intermediate group (16/17 year olds) who made more errors such as the omission of the article or the incorrect use of a particular verb tense, which, on the one hand, stem from their poorer linguistic competence when compared with the oldest students and, on the other hand, from the inexistence of this kind of errors among the youngest students due to their lack of linguistic competence. Consequently, these three trends are based on two basic parameters: degree of competence and complexity of the utilised structures, parameters on which the age factor has once again a great impact.

Hence, the three hypotheses put forward in this study have been borne out. But what conclusions can be reached with these results in mind? First of all, it seems clear that the youngest students in our sample need to practice

and improve their writing skills. This could be the effect of the methodology currently implemented in the Basque Autonomous Community, where little heed is paid to the writing skill until the beginning of secondary education (from the age of 13/14 onwards). Although the distinction between written and the oral production is not so evident as some authors pretend, the former is characterised by the presence of several factors which help to distinguish them, such as a greater structuration of written language or the need for an editing and correcting process (Horning, 1987).

Second, a greater influence of the L1 (Basque and/or Spanish) was observed among the 11/12-year-old students. Thus, their writings were highly influenced by the L1 pronunciation and spelling (*I* ⇒ 'ai'; *tall* ⇒ 'toll'; *mother* ⇒ 'mader'; *very, very beautiful* ⇒ 'bery, bery biutifol'; *my house* ⇒ 'mai jaus'; *English* ⇒ 'English'), whereas its influence on the older students' writing was much less. Similarly, the younger group showed a high percentage of code-switching into Basque and Spanish (the former above all), whereas the older students tend to use Spanish words as the basis for their *English-ized* or *anglicized* words, as they seem to be more aware of the typological relatedness issue. Identification of this type of error allows us to discover which aspects of the L2 happen to be more difficult to assimilate by students in each group age, and will help the teacher to focus on and pay attention to them in everyday teaching practice.

It would be very interesting to determine whether or not the inclusion of translation and contrastive linguistic tasks in the foreign-language classroom could be beneficial when dealing with the errors observed in this study (Hawkins, 1999; James, 1999). This tendency seems to strike back into L2 methodology, as there is a need to talk about language more than has been the case in the last few decades as a result of certain misconceptions linked to the development of the communicative approach (Lasagabaster & Sierra, 2001). There are ever more authors (Duff, 1994; James, 1996; Mott, 1996; Uzawa, 1996) who consider that translation activities can be very beneficial as a means of overcoming hurdles such as the ones depicted in our study. These activities enable the student to set out and organise their ideas both in the L1 and L2, allowing the differences and similarities between all the languages in contact to be compared, resulting in an improvement in their writing skill. In this way the benefits are linked not only to the foreign language but also to Basque and Spanish, while the risk of having the languages appear as linguistic islands with little or no relation to the neighbouring islands is avoided.

Despite the fact that the final conclusion of this study is that the older the students are, the better their written competence, is, this is the result not only of a higher degree of competence but also of a higher writing competence in general, as a result of a longer exposure to formal education. It is

important to point out that the age factor cannot be isolated from a series of factors that interact with it, such as the influence of experience and the level of competence achieved in the L1 and L2 (Lasagabaster, 2000), affective factors like attitudes and motivation and the students' cognitive style or personality, to name but a few.

Last but not least, there are a few points we would like the reader to bear in mind. First, it is necessary to complete a comparative study of the students' written competence in the three languages, which would allow us to analyse the similarities and differences between their two other languages (Basque and Spanish) and the foreign language. Second, it has to be underlined that the present study is part of a longitudinal one, and therefore definitive conclusions can only be drawn once all the students have reached the age of 17/18 (the oldest group in our sample). Only then will we be able to consider whether the economic, human and institutional efforts required by the early introduction of a foreign language are worthwhile and do really bear the expected fruit.

It is, therefore, necessary to clearly establish from the very beginning exactly which objectives need to be achieved in each linguistic skill in the foreign language, as these objectives will mark the strategies to be followed. Common-sense tells us that 11/12-year-old students cannot be expected to achieve the same written performance as their 17/18-year-old counterparts but nor can we forget that it is fundamental to establish realistic objectives so that false expectations are not created. We would like to draw the reader's attention to the results obtained by the older two age groups. The 16/17-year-old students, albeit only two years younger, achieved significantly lower results when compared with the older group, which leads us to conclude that, when the time of exposure has been similar, the age factor becomes determinant as regards the writing skill.

Even so, and as Baker (1997) points out, the early teaching of a foreign language in a formal context entails a series of advantages: it is an intellectual stimulus, apart from the added value it represents for the curriculum; it encourages acquaintance with a new culture; it yields benefits as a result of learning an L2 throughout a longer period of time in contrast with a shorter and more intensive exposure. It is also important to emphasise that from a theoretical point of view these early teaching experimental programmes derive their impetus from the positive attitudes of learners, teachers and parents, the existence of adequate didactic materials and the need to turn learning into an alluring, enjoyable and enriching experience, unlike in subsequent school years where the motivation of the learners becomes a much more arduous question to tackle.

There is still much to do in the study of the influence of the age factor on the learning of a foreign language in a formal setting (the school), but in our

opinion research is needed not only from an empirical perspective, but also from a social viewpoint. Although research studies do not usually have much social echo, due to the widespread social interest in this all too real issue, it is important that the results should reach the largest possible numbers of readers, despite the fact that for the time being the conclusions are not as conclusive as we would like them to be. We believe the need for further studies as regards this matter is evident.

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