

# METALINGUISTIC AWARENESS AND THE LEARNING OF ENGLISH AS AN L3



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The huge range of bilingual situations and the lack of methodological reliability of some research studies on the cognitive effects of bilingualism have brought about that, as regards the results, the overall feeling is one of great diversity. However, there is wide agreement (Baker 1997) in the beneficial effects of bilingualism on the development of metalinguistic awareness and the learning of an additional language. Many voices have hypothesized that metalinguistic awareness can/could/may have a direct influence on the bilinguals' superiority when learning an L3. Yet no study has controlled metalinguistic awareness via a specific test to refute or bear out this assumption. The main aim of this research study was to endeavour to fill in this gap, the results showing that this very much widespread belief in the close relationship between metalinguistic awareness and third language acquisition turns out to be corroborated.

## 1. INTRODUCTION

In spite of the great advances made in the statistical processing of results, the great majority of research done on the cognitive effects of bilingualism displays a lack of the necessary rigour as much in its methodology as in its design. Studies have been carried out where non-linguistic variables as important as the socioeconomic background, sex or non-verbal intelligence have not been controlled, and even if they have, there is no equivalence in all of them among their different groups. Because of this the results are looked at with a certain amount of scepticism and mistrust on many occasions. One of the main consequences of this is that there exists a wide variety of differing opinions amongst experts as regards the cause/effect relationship between bilingualism and cognitive development. But as Cummins (1976) suggests, research results cannot be totally consistent, as bilingualism is not a simple phenomenon, there being many and very different bilingual situations.

Yet there are some exceptions, as, for example, the existence of a wide agreement on the superiority of bilingual subjects with respect to their monolingual counterparts concerning metalinguistic awareness (Ben-Zeev 1977; Lasagabaster 1998a; Merriman & Kulesic 1993; Mohanty 1982; Ricciardelli 1992; Titone 1996; Yelland, Pollard & Mercuri 1993) and third language acquisition (Bild & Swain 1989; Cenoz 1991; Klein 1995; Lasagabaster 1998b; Lasagabaster & Cenoz 1998; Thomas 1988). This has been proved in many different research studies carried out in a wide variety of contexts, as a result of which very few experts (and even laymen) would dare to put it into doubt.

Although many researchers stand up for the idea that a more developed metalinguistic awareness is the cause of bilinguals' superiority in third language acquisition, no study has controlled metalinguistic awareness via a specific test to assess its influence on the learning of an L3. In this sense, Thomas (1988) hypothesizes that the differences between monolingual and bilingual subjects are due to different levels of metalinguistic awareness. Baker (1997: 228) «One explanation for this result is the greater metalinguistic awareness

of bilinguals and their possible greater sensitivity to communication», Bild and Swain (1989: 271) «One factor which may facilitate the learning of additional languages is metalinguistic awareness», Cenoz & Valencia (1994: 205) «This metalinguistic awareness could possibly account for a higher level of linguistic competence in a third language», Cummins (1993:65) «Considerable evidence shows that the development of competence in two languages can result in greater levels of metalinguistic awareness and the facilitation of additional language learning», Klein (1995: 420) « . . . heightened metalinguistic skills . . . help to trigger the setting of UG parameters», Mc Carthy (1994) and Hurd (1993), to name but a few, are of the same opinion. All these authors agree that the fact of having learnt, and having had the possibility of comparing two languages, fosters the development of metalinguistic awareness.

Similarly, the previous opinions also lead us to conclude that these authors consider metalinguistic awareness to be a causal factor for better performance by a bilingual in learning an additional language when compared to that of a monolingual, but none of them has resorted to a specific test so as to make it an explanatory element rather than an intuition. This is the reason for there being a wide presence of the adjective «possible» (Baker 1997), the adverb «possibly» (Cenoz & Valencia 1994) and modal verbs such as «can» (Cummins, 1993), «could» (Cenoz & Valencia 1994) and «may» (Bild & Swain 1989) in the explanations given. Owing to this fact it is considered that the measurement of metalinguistic awareness by means of a specific test can bear out or refute all those explanations, which is the main objective of the research study presented here.

## 2. METHOD

### 2.1. *Sample*

The participants were 252 students from Vitoria-Gasteiz; 126 were enrolled in grade 5 (10-11 year olds) and the other half in grade 8 (13-14 year olds). 60 of these subjects (47,6%) were girls and 66 (52,4%) boys in grade 5, whereas 67 of them (53,2%) were boys and 59 (46,8%) girls in grade 8. Since both Spanish and Basque are official languages in the Basque Country, and due to the different sensibilities towards the learning of the minority language (Basque), the Basque educational system offers three linguistic models in which parents can enroll their children, the sample being made up of 42 students of each model in each grade:

*Model A:* Spanish is the vehicle language and Basque is a school subject (4 to 5 hours per week). Students have Spanish as their mother tongue. These students are given instruction only in Spanish, hence it cannot be considered to be a bilingual program. Moreover, their level of competence in Basque is very low (Gabiña et al. 1986; Lasagabaster & Cenoz 1998; Sierra & Olaziregi 1989) and they should therefore be regarded as monolinguals with a certain (rather poor in fact) knowledge of Basque.

*Model B:* Both Spanish and Basque are vehicle languages. Although this is a rather heterogeneous program, in most cases Social sciences, Basque Literature and Language, Physical Education, and Arts and Crafts are taught in Basque, whereas Spanish is used as means of instruction in Mathematics and Spanish Literature and Language classes. The vast majority of students have Spanish as their mother tongue. This program is an example of early partial immersion. Model B students achieve a higher level of competence in Basque than model A students but lower than that of model D students, and a similar one as far as Spanish is concerned (Gabiña et al. 1986; Sierra & Olaziregi 1989).

*Model D:* Basque is the vehicle language and Spanish is a subject (4 to 5 hours per week). Students may have Spanish, Basque or both languages as their mother tongue. This is an early total immersion program in the case of students whose L1 is Spanish (the majority language) and a maintenance program in the case of those students whose L1 is Basque (the minority language). Model D students are as highly proficient in Spanish as model A and B students, whereas their proficiency in Basque is significantly higher (Lasagabaster & Cenoz 1998; Sierra & Olaziregi 1990).

The model D students are also the ones who are closer to balanced bilingualism, and therefore the most able to take advantage of their bilingualism. It is worth remembering at this stage that according to the threshold level hypothesis (Cummins 1976) those students who attain high levels of competence in both languages (mostly model D students) will take advantage of some positive cognitive effects such as more developed metalinguistic abilities and a higher command when learning an additional language (English as a foreign language in our context). On the contrary, model A students, whose command of the Basque language is very poor as we have already seen, will be the ones who will take the least advantage of their contact with a second language (Basque).

The students from each of the three linguistic models in each grade were matched on age, gender, IQ (except for model B in grade 5 whose results were significantly lower than those of models A and D), socioeconomic status, English classes outside school and motivation. Since these variables have turned out to have a very significant influence on both metalinguistic awareness and English (Lasagabaster, 1998c), this matching was an indispensable condition so that we could compare the results obtained by each model without considering whether there may be some other factors affecting the results. Had the students not been matched, our results could have been put into question.

English is the foreign language learnt at school by all the subjects of the sample, which is the reason why it represents the L3 for all of them (Basque or Spanish being their L1 or L2).

## 2.2. Instruments

The controlled variables and the instruments used were as follows:

*Intelligence:* the non-verbal intellectual capacity was controlled by means of the Raven's Progressive Matrices Test.

*Background information:* students completed a questionnaire in which they answered several questions related to their personal information; gender, age, socioeconomic status, classes of English outside school, motivation, and so on.

*Test of metalinguistic abilities:* metalinguistic awareness was measured via the THAM-2, a test created by Pinto and Titone (1995). This metalinguistic test for grade 5 students consisted of three tests (synonymy, acceptability, and ambiguity), and that for grade 8 students of four tests (synonymy, acceptability, ambiguity, and phonemic segmentation). The maximum score in the grade 5 test was 22, and 24 in the case of the grade 8 test. The grade 5 sample was divided depending on the score obtained. Thus, those students whose scores were between the best five, 18-22, were ranked as «Group 1» (those with higher metalinguistic abilities); those whose scores were between the next-best five (13-17) made up «Group 2» (those with medium metalinguistic abilities); and finally the rest (0-12) formed «Group 3» (those with lower metalinguistic abilities). In so far as grade 8, «Group 1» was made up of those whose scores were ranked among the best five, 20-24, «Group 2» of those who obtained the next-best five scores, 15-19, and the rest for-

med «Group 3» (0-14). The number and percentage of students in each grade are shown in tables I and II.

Competence in English: This variable was measured via a vocabulary and grammar test and tests corresponding to the four language skills except for the writing test in grade 5, which was not completed, since it would be rather complex for children who were not used to writing in English (they had been learning English only for a year and a few months, and writing was habitually put off until the end of this school year). The overall English score was the sum of the results in the five previous tests. Since the scales used in each test were different, we fell back on Z-scores, which allowed us to compare variables measured in different scales. Once the Z-scores were obtained, the mean of the new distribution was zero, those above the mean having a positive score and those below it a negative score. The Z-scores allowed us to divide the sample in three proportional groups, those in «Group 1» being the ones with higher English scores, those in «Group 2» the ones with medium scores, and those in «Group 3» being the students with lower scores. This was valid for both grades. The number and percentage of students in each grade appear in tables I and II:

Table I. Number and percentage of students in each group in grade 5

	Metalinguistic Awareness			English as L3		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
	N. of students	N. of students	N. of students	N. of students	N. of students	N. of students
	42	45	39	42	42	42
Percentage	33.3%	35.7%	31.0%	33.3%	33.3%	33.3%

Table II. Number and percentage of students in each group in grade 8

	Metalinguistic Awareness			English as L3		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
	N. of students	N. of students	N. of students	N. of students	N. of students	N. of students
	26	57	43	42	42	42
Percentage	20,6%	45,2%	34,1%	33,3%	33,3%	33,3%

### 2.3. Procedure

Bilingual and monolingual participants attending six schools answered the questionnaires and completed the tests. All these tests were administered in class except for the oral interview in English which was held in a separate room and administered individually. The subjects were tested in group in four sessions that lasted about 45 minutes and there was an interval of 2 or 3 days between one session and the next. The students' responses to all test items were recorded on answer sheets, except in the case of the English oral interview which was tape recorded.

A holistic approach was followed in the evaluation of the speaking and writing tests in English. These tests were evaluated independently by two blind judges. The bands used to evaluate the compositions include the components proposed by Jacobs et al. (1981): content, organization, language use, vocabulary and mechanics. In order to evaluate the oral interviews five components used in well known English language tests (CFC, FSI, OTESL, ACTFL, CUEFL, ARELS, etc.) were selected. These components were (Cenoz, 1991): content, fluency, pronunciation, vocabulary, and grammar.

Eventually, all the tests were marked and the results codified so that they could be treated statistically. All the statistical analyses were carried out by means of the SPSS (Statistical Package for Social Sciences).

#### 2.4. Hypotheses

Taking the previously reviewed studies as a basis, the following hypotheses were put forward:

- H1. The number of model D students in «Group 1» (those with higher metalinguistic awareness and better competence in English) will be bigger than that of model B and model A students, as regards both metalinguistic awareness and English. On the contrary, the number of model A students will be the lower in this group.
- H2. The number of model A students in «Group 3» (those with lower metalinguistic awareness and worse competence in English) will be bigger than that of model B and model D students, as regards both metalinguistic awareness and English. On the contrary, the number of model D students will be the lower in this group.
- H3. The relationship between the metalinguistic awareness and English scores will be significant, showing that all those assumptions in favour of metalinguistic awareness as a causal factor of a bilingual's superiority when it comes to learning an additional language, are right.

### 3. RESULTS

In order to check our first two hypotheses, the results obtained by the students in the metalinguistic abilities test and the English tests were divided into three groups: «Group 1» was made up of those with the higher scores in both metalinguistic awareness and English, «Group 2», of those with medium scores, and «Group 3» of those with lower scores in both variables. The results for grade 5 are given below:

Table III. Number of students per linguistic model in each group in grade 5

	Metalinguistic Awareness			English as L3		
	Model A	Model B	Model D	Model A	Model B	Model D
Group 1	7	17	18	10	13	19
Group 2	13	15	17	11	17	14
Group 3	22	10	7	21	12	9

As hypothesized, there are greater numbers of model D students in «Group 1» as far as both the metalinguistic awareness (18) and English (19) results are concerned, whereas the number of model A students is the smaller (7 and 10 respectively). As for «Group 3», those with lower metalinguistic awareness and worse competence in English, the results are just the opposite: model A students occupy the first position in number (22 and 21) and model D students the last; even as regards both variables (7 in metalinguistic awareness and 9 in English competence).

The results obtained by the eighth grade students in these two dependent variables, according to the three groups into which our sample was divided, may be viewed below:

Table IV. Number of students per linguistic model in each group in grade 8

	Metalinguistic Awareness			English as L3		
	Model A	Model B	Model D	Model A	Model B	Model D
Group 1	4	10	12	10	13	19
Group 2	17	18	22	16	10	16
Group 3	21	14	8	16	19	7

Once again model D students are the more numerous in «Group 1» concerning metalinguistic awareness (12) and competence in English (19), whereas the number of model A representatives in this first group is the smaller in both variables (4 and 10 respectively). In the case of metalinguistic ability and its third group, once again there are more model A students (21), whilst model D students represent the lowest number (8) of subjects per model. However, although model D students are the fewer in «Group 3» of the English scores (7), as was hypothesized, the greater number of students in this case is not that of model A students (16), but rather that of model B students (19).

With the aim of examining the relationship between the metalinguistic awareness and English scores, Chi-square analyses were performed, the results being the following in grade 5:

**English as L3. Grade 5. 3 groups**

<b>Met. Awa. Grade 5 3 groups</b>	Count Row Pct Col Pct	Group 1	Group 2	Group 3	Row total
	Group 1	22 52.4% 52.4%	17 40.5% 40.5%	3 7.1% 7.1%	42 33.3%
	Group 2	16 35.6% 38.1%	17 37.8% 40.5%	12 26.7% 28.6%	45 35.7%
	Group 3	4 10.3% 9.5%	8 20.5% 19.0%	27 69.2% 64.3%	39 31.0%
	Column Total	42 33.3%	42 33.3%	42 33.3%	126 100.0%

<i>Chi-Square</i>	<i>Value</i>	<i>DF</i>	<i>Significance</i>
-Pearson	38.02125	4	0.00000
-Likelihood Ratio	40.48187	4	0.00000
-Mantel-Haenszel test for linear association	32.43601	1	0.00000

Those who obtained the best scores in the metalinguistic awareness test are the majority (52.4%) in the group of those who exhibit a higher command of English, and therefore, are part of «Group 1» in English. Similarly, only 7.1% (3 subjects) of those who achieved higher scores in metalinguistic awareness (Group 1) are ranked as having a low command of English (Group 3 in English as an L3). On the contrary, those with the lower scores in metalinguistic awareness («Group 3») are the majority (almost 64.3%) in the «Group 3» English results. In any case, the most outstanding result of the Chi-square analyses is related to the Pearson coefficient, whose high significance ( $p=0.00000$ ) clearly demonstrates that there is a very important relationship between the results obtained in the metalinguistic abilities test and that of the English tests.

As far as the grade 8 sample is concerned, the results of the Chi-square analyses are reproduced below:

**English as L3. Grade 8. 3 groups**

	Count Row Pct Col Pct	Group 1	Group 2	Group 3	Row total
<b>Met. Awa. Grade 8 3 groups</b>	Group 1	18 69.2% 42.9%	5 19.2% 11.9%	3 11.5% 7.1%	26 20.6%
	Group 2	15 26.3% 35.7%	24 42.1% 57.1%	18 31.6% 42.9%	57 45.2%
	Group 3	9 20.9% 21.4%	13 30.2% 31.0%	21 48.8% 50.0%	43 34.1%
	Column Total	42 33.3%	42 33.3%	42 33.3%	126 100.0%

<i>Chi-Square</i>	<i>Value</i>	<i>DF</i>	<i>Significance</i>
-Pearson	22.72752	4	0.00014
-Likelihood Ratio	21.74780	4	0.00022
-Mantel-Haenszel test for linear association	16.26264	1	0.00006

Once again those who scored higher in the metalinguistic awareness test represent the majority (42.9%) of all the subjects included in the «Group 1» of English proficiency. Similarly, almost 70% (18 subjects) of all the students (26 students) who were ranked as «Group 1» in the metalinguistic awareness test scored higher also in the English test and therefore belonged to the English «Group 1», whereas only 5 (19.2%) were ranked as belonging to the «Group 2» and 3 (11.5%) to «Group 3» of English competence. On the other hand, those who were part of the third group in the metalinguistic abilities test were the more (50.0%) in the third group of English proficiency. As happened in the case of the grade 5 sample, in this school year the Pearson coefficient also turns out to be highly significant ( $p=0.00014$ ).

#### 4. DISCUSSION

As Baker (1997) points out, the evidence of advantages for bilinguals in terms of metalinguistic awareness seems fairly strong, as well as the support for the assertion that bilinguals are better at learning a new language than monolinguals. The results obtained in this study support this idea, as bilingual students (models B and D) outnumber their monolingual (model A) counterparts in «Group 1», the group made up of those students who achieved higher scores in the metalinguistic awareness and English tests. Similarly, and as it was put forward in our first two hypotheses, in both grades the representatives of model D students were more numerous in this first group of the two variables, whereas those of



model A were the majority in the third group, the one composed of those who attained the lowest scores in the metalinguistic awareness test. Nonetheless, and contrary to what was expected, the greater number of students in the third group of the English grade 8 results belonged to model B.

In any case, there is no disguising the fact that these results come to terms with those of other research studies (Díaz 1985; Duncan & De Avila 1979; Edwards & Christophersen 1988; Galambos & Hakuta 1988; Merino 1984; Thomas 1988) in which, in accordance with the threshold level hypothesis (Cummins 1976), balanced bilingual students (represented by model D students in our sample) are the ones to take the most advantage of the positive cognitive effects of bilingualism. Likewise, and generally speaking, the results obtained by model B students are better than those of their model A monolingual counterparts as regards both metalinguistic awareness and competence in English.

However, the most remarkable result is that related to the high significance attached by the Chi-square analyses to the relationship between metalinguistic awareness and the learning of English as an L3. In both grade 5 ( $p=0.00000$ ) and grade 8 ( $p=0.00014$ ) this connection happens to be highly significant. Subsequently it can be affirmed that this relationship, hypothesized by many authors (as was seen in the introduction) but never before tested via a specific test aimed at measuring metalinguistic awareness, has received empirical support and confirmation in the research study described here. This allows us to forget about the use of modals (can/could/may) and adjectives and adverbs such as «possible» and «possibly» when referring to the bilinguals' better results at learning an L3, and gives us the possibility to state that it *is* caused by their more developed metalinguistic awareness.

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