Attitude towards English and ESP acquisition as an L2 or L3 at university

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Abstract

Although several researchers have already investigated whether knowing more than one language will help students acquire additional languages (Edwards, 1995; Klein, 1995; Cenoz & Genesse, 1998b), one of the still unexplored areas when considering the difference between bilingualism and trilingualism is that of linguistic behaviour referred to adults (Hoffmann, 1999). The present study reflects on the socio-cultural and socio-political situation in the Basque Country and its relationship with performance in English as L2 or L3. Thus, a research was carried out by testing matched groups of Monolingual (Ml) (Spanish) versus Bilingual (Bl) (Basque/Spanish) university students, acquiring English for Specific Purposes (ESP) within the following fields: Engineering –mechanical branch–, Business Administration, and Nursing. Participants were tested on acquisition of specific technical vocabulary from their fields of study, and they were invited to complete a questionnaire on attitudes towards English. The Bls as a whole outperformed slightly the Mls, suggesting that Bls' immediate/academic aims are somewhat more easily achieved but the differences were not statistically significant. As far as their attitudes towards English are concerned, the differences between Mls and Bls were not significant either, both groups showing overall positive attitudes towards English.

Key words: LSP, attitude, linguistic competence, language acquisition, language contact

Resumen

A pesar de que bastantes investigadores ya han investigado si conocer más de una lengua ayudará a un estudiante a aprender otras lenguas (Edwards, 1995; Klein, 1995; Cenoz & Genesse, 1998b), una de las áreas no exploradas todavía al considerar la diferencia entre bilingüismo y trilingüismo es el del comportamiento lingüístico referido a adultos (Hoffmann, 1999). Este estudio reflexiona sobre la situación socio-cultural y socio-política en *Euskal Herria* y su relación con el uso del inglés como L2 o L3. Por eso, se llevó a cabo una investigación poniendo a prueba grupos iguales de estudiantes universitarios monolingües (Ml) (Español) contra bilingües (Bls) (*Euskara*/Español), que aprenden Inglés

para Fines Específicos (IFE) en los siguientes campos: Ingeniería (mecánica), Administración de Empresas y Enfermería. A los participantes se les pusieron pruebas sobre adquisición de vocabulario técnico específico de sus campos de estudio, y se les pidió que cumplimentasen un cuestionario sobre actitudes hacia el inglés. Los Bls en su conjunto superaron ligeramente a los Mls, sugiriendo que los objetivos académicos/inmediatos los consiguen un poco más fácilmente, pero las diferencias no fueron estadísticamente significativas. Por lo que a sus actitudes hacia el inglés se refiere, las diferencias entre Mls y Bls tampoco fueron significativas, mostrando ambos grupos una actitud de conjunto positiva hacia el inglés.

Palabras clave: LFE, actitud, competencia lingüística, aprendizaje de idiomas, contacto entre idiomas

Introduction

No one would deny that during the last few decades there has been an increasing need to use the English language for the expression of knowledge within specific professional fields. A clear sample of this demand is the way in which international communication takes place, no matter whether English is used in the world of science and technology, or in foreign trade activities.

As a result of this tendency, the teaching of 'English for Specific Purposes' (ESP) has become a major preoccupation mainly, but not only, in the non-English speaking world. In fact, when we talk about ESP teaching we usually have in mind the situation where a non-native speaker will be communicating with people from the UK or USA. Increasingly, however, our students will need to talk to other non-native speakers.

Learning a foreign language is a complex phenomenon which involves a large number of dependent and independent variables. There is a serious lack of research studies on attitudes in multilingual formal contexts or 'instructional settings', i.e. the teaching of English in the classroom. This study will not intend to explain all the factors involved in learning a foreign language but to focus on some very specific aspects: the attitude of adult university students towards English, and measured by contrasting performances of bilingual (Bl) and monolingual (Ml) individuals taking ESP courses within the Basque Autonomous Community (BAC). Gardner (1983) suggested that learning a foreign language is a true social psychological experiment due to the fact that the individual's response to the manipulation of independent variables can be observed and analysed. Agreement is generalized when it is stated that this affective variable, attitude (together with others such as motivation,

personality, etc.), affects the level of proficiency achieved by learners (Gardner, 1980, 1985; Oxford & Shearing, 1996), although the way it affects varies from situation to situation (Crookes & Schmidt, 1991).

According to Skehan (1989) and Gardner and MacIntyre (1993), attitudes are one of the several components of affective variables of language learning. Nevertheless, Ellis (1985) concludes that this concept is an abstract one. This means that it is not an easy task to reach a unanimous decision about what this affective variable means. Then, someone's definition of language attitudes will have to be adopted or give a new one. At this point, in our particular context (university students in the BAC), and with the sole purpose of moving forwards, I will describe language attitudes as those feelings Ml (Spanish) and Bl (Basque-Spanish) university students express towards English (an L2 for Mls, and an L3 for Bls) in the BAC, or even towards the native speakers of this language. This line of reasoning is, in broad outline, coherent with that expressed by Richards et al. (1992: 199).

There is convincing evidence of a link between age and attitudes towards language learning. In fact, Baker (1988) completed a series of research studies in Wales showing that attitudes to Welsh (the minority language in that case) and to bilingualism became less positive with age. This is a relevant fact since our students are university students and according to that evolution manifested above, the differences will very likely widen between higher education and school students.

An important aspect to be considered when dealing with Mls and Bls is the difference or differences presented when comparing L3 acquisition to L2 acquisition, since the previous experience of acquiring a second language and the results of this experience can influence the process of acquiring an additional language (Cenoz & Genesse, 1998b). Then, when teaching English to Ml and Bl adult university students, either for General Purposes or for Specific Purposes and within a partially or totally bilingual community, and taking into account that older learners have cognitive experience lacking in small children (Edwards, 1995), one should also consider the following question: How does knowing a second language (L2) help students acquire subsequent non-native languages, and more specifically ESP? The *a priori* hypothetical advantage may according to Klein (1995): (1) appear only under specific conditions –for example, the manner in which the L2 was learned; (2) involve particular areas of acquisition and not others –for example, lexical but not syntactic acquisition; (3)

affect the rate of development but not its course –that is, the stages of development may be relatively consistent, but how fast learners proceed through these stages and whether they reach the final stage may be aided by the richness of their prior linguistic experience.

Whether bilinguals organize their previous non-native linguistic knowledge to aid in learning a new language or not is a question many reflective teachers and/or researchers have often researched into. From their broad range of previous experiences, some bilinguals should carry over to the new language but others would change or would not be applicable. Thus, if L2 parameter setting is complex, L3 acquisition will be even more burdensome, in some areas of acquisition at least. But according to several researchers (Thomas, 1988; Valencia & Cenoz, 1992; Zobl, 1993; Klein, 1995; Cenoz, 1998) bilingualism favours the acquisition of third languages in most cases. Intuitively, one expects that the more languages learners acquire, the better they gain access to it. If the parameter settings of antecedent languages differ from those of the target language, there should be no substantial differences between Ml and Bl subjects in the stages of acquisition on the way to the target language setting. But if the situation is the other way round, bilingual subjects would evidence enhanced lexical acquisition because of an improvement in their parameter-setting capabilities that would affect the rate at which they learn (Swain et al., 1990; Valencia & Cenoz, 1992). As a result, learners who are already bilingual appear to acquire an L3 relatively more easily and perhaps more proficiently than monolinguals acquire an L2. Thomas (1992) suggests that some learners develop an ability to analyze language as an object, a clear structural system, and that Bls exhibit a greater metalinguistic awareness than Mls do. Thus, she concluded that metalinguistic knowledge aids learners in the acquisition of non-native languages and is responsible for the success of L3 over L2 learners.

Taking into consideration any group of bilinguals, one should also be aware of differences between receptive and productive bilingualism, or between balanced and dominant bilinguals. As far as bilingualism is concerned, one can also distinguish between simultaneous bilingualism (when both languages are acquired at the same time), and consecutive bilingualism (when the second language is or has been learnt once the process of acquiring the basic elements of the other has been completed), or between additive (in a bilingual additive context L2 acquisition does not have a negative effect on the development of cognitive and social skills) and subtractive bilingualism (Valencia &

Cenoz, 1992). The learning of English in the Basque Country takes place quite often in bilingual additive contexts. In those cases, bilingualism is not expected to produce negative effects and the influence of attitudinal factors is not supposed to be as important as in other contexts.

Little research has been carried out on attitudes towards language learning when three languages are somehow involved (Lasagabaster, 2001). Most studies focus on two languages, that is why this research study gives current literature on the topic, in my humble opinion, a potential status other studies may lack.

Euskal Herria and the Basque language

The specificity of the students whose performances are going to be evaluated in this paper rests on the fact that two official languages coexist in *Euskal Herria* –a territory broader than that known as the Basque Country or the BAC–, Basque/Spanish in some areas, and Basque/French in others. Basque is mainly spoken within the extent of *Euskal Herria* (20,660 km^2), a region that comprises seven provinces, three belong to the 'Pyrinées Atlantiques' (*Lapurdi, Nafarroa Beherea* and *Zuberoa*), i.e. they come under French jurisdiction, and four to two autonomous regions, the BAC and *Nafarroa*, to a great extent under Spanish jurisdiction. Basque is a minority language (≈30% of the citizens speak Basque within *Euskal Herria*) but new generations, mainly those living in the BAC, are becoming bilingual. Depending on the community people live in, one may have the possibility of acquiring Basque as an L2 in a natural context or not. Rural areas favour this contact with the language while in urban areas the situation is usually the opposite.

Basque was banned from the public domain (BAC and *Nafarroa*) for four decades during the Franco regime –the ban was lifted in 1979– but in 1982 Basque was recognized as an official language by law (Cenoz, 1998). In France, although laws forbidding regional varieties at school stayed on the books, French remained weak throughout much of the nineteenth century for the rural masses. Only with *la loi Deixonne* in 1951 was some provision made for Breton, Basque, Catalan and Occitan (Edwards, 1995).

The recent history of *Euskal Herria* described above may make an independent observer think that its inhabitants' attitudes towards any kind of cultural imperialism, in every

sense of the word, are manifested in negative feelings about the speakers of that/those language/s (French and Spanish on the one hand, and English on the other). Several studies have been conducted in the BAC to determine students' attitudes towards English (Cenoz, 1991; Lasagabaster, 1998), but very few in higher education, as opposed to school students.

The ingredients used in this linguistic research make a main dish in which a minority language, Basque, in a process of "reverse language shift" (Fishman, 1991), due mainly to its promotion in schools, and the attitude or attitudes bilingual students (Basque-Spanish) may have towards, or take over, English as an L3, are combined.

The linguistic distance between Basque and Spanish is much more outstanding that that between Spanish and English. Basque morphology and syntax are complex. Some of the characteristics of the language are, for example, that Basque is highly inflected, with 15 different noun inflections, and it includes a complex ergative case system that distinguishes subjects of transitive and non-transitive verbs. Moreover, verb morphology is particularly complex, and word order is completely different from Spanish (Cenoz, 1998).

University in the BAC is slowly becoming multilingual since more and more students demand a teaching model where, somehow, the three languages take part. A significant number of content subjects are lectured in Basque –the number keeps growing year in, year out–, and English is present in many ways, for example, the reading lists of most subjects contain bibliographical references that are written in English. This is a situation that deserves to be analyzed in depth in order to see to what extent the different status of the three languages interfere from the point of view of the attitude of Bl students regarding their L3, English. The non-Indo-European language, Basque, whose origins are still being researched into, has to force its way, linguistically speaking, making a determined effort to survive the impact of two international languages, that is, Spanish and English.

Another piece of data that must be taken into consideration refers to the different learning possibilities students are offered in the BAC, since this gives as a result a situation in which students may either be Mls, where Spanish is used as a medium of instruction, or Bls at the end of their secondary school. In Basque-Spanish bilingual students, Basque is basically the medium of instruction, and Spanish is mainly learnt

in an informal setting ('on the street'). English is the foreign language most widely learnt by our students till secondary school, and once they start studying at university they are offered ESP courses within their fields of study. These courses are usually non-compulsory courses but taking into account, as we mentioned before, that English has become *de facto* the international language of science (Laver & Roukens, 1996), there is an obvious pressing need for English at any technical level and our students are aware of this situation. Then, it is expected that university students will exhibit positive attitudes towards English but, to what extent may the above mentioned potential negative feelings affect performance indicators in this L3, that is, English? The linguistic question is still extremely controversial in the Basque Country so the answer to this question is not easy.

Hypotheses

Taking into account what we have mentioned so far, the following two hypotheses were put forward when comparing the performances of adult university students taking ESP courses that run parallel to their content courses:

(1) Students at university will show a different attitude towards English depending on whether they are Mls or Bls.
(2) Bls and Mls will exhibit appreciable differences when tested on specific lexical learning (ESP), Bls outperforming Mls.

Hypothesis (1) predicts that Bls' attitudes towards English will somehow affect performance. Hypothesis (2) posits a correlation between metalinguistic knowledge and acquisition of non-native languages. The acquisition of specialized vocabulary is perhaps less related to language proficiency or more to previous knowledge of the subject. As is well known, this type of vocabulary usually has a very low frequency and only represents around 5% of the total needed to understand a specialized text (Nation, 1993). Then, the expected superior performance of bilinguals seems to take place when dealing with non-specialized vocabulary; this is why the present study tried to determine whether this statement keeps being true when dealing with specialized vocabulary as well.

To sum up, the paper focuses on the evaluation of differences between the performances of Mls and Bls when tested on specific lexical learning within different fields of study (Engineering [mechanical], Business Administration, and Nursing)

and the effect of attitudes towards the target language on performance. In order to justify this combination of variables, we will quote Richards et al. (1992: 199): "Expressions of positive or negative feelings towards a language may reflect impressions of linguistic difficulty or simplicity, ease or difficulty of learning, … Attitudes towards a language may also show what people feel about the speakers of that language", and will take into consideration that one of the still unexplored areas when considering the difference between bilingualism and trilingualism is that of linguistic behaviour referred to adults (Hoffmann, 1999). Moreover, if the situation analyzed comprises adult university students acquiring ESP, the scenario becomes, *a priori*, somewhat more complex.

Methodology

Sample

The study was carried out in the Basque Country; to be more precise, within the BAC. The number of students whose performances in ESP and attitudes towards English were evaluated was 123 (see Table 1 below), 66 women and 57 men. All of them had completed several English for General Purposes courses, while in primary and secondary school, and one (Nursing and Business Administration) or two (Engineering –mechanical–) ESP courses, while at university.

The mean age of the participants was 20.47 (age range: 18 to 25) and they were first (21.7%), second (40.4%), and third year (37.9%) undergraduates. These students were Ml (≈40%) or Bl (≈60%) and were enrolled in Engineering (≈32%), Business Administration (≈35%), and Nursing (≈33%).

	Bls (Basque-Spanish)	Mls (Spanish)	Total
Engineering (mechanical)	24 (61.5%)	15 (38.5%)	39 (31.7%)
Business Administration	25 (58.1%)	18 (41.9%)	43 (35.0%)
Nursing	25 (61.0%)	16 (39.0%)	41 (33.3%)
TOTAL	74 (60.1%)	49 (39.9%)	123

Table 1. Sample size

Before continuing, a relevant piece of data about the monolingual group must be pointed out. Three teaching models coexist within the BAC, namely, A, B, and D (letter C is not commonly used in Basque unless it belongs to a foreign term). School enrolments for children aged 3 and for academic year 2003-2004 show the following

figures: Model A (8.6%), Model B (30.1%), and Model D (61.3%). Percentages have changed over time since some twenty years ago (1983-1984), more or less the time these students were born, those figures were: Model A (47%), Model B (23%), and Model D (26%) –the remaining 4% still used Spanish exclusively as the vehicular language. In the Model A Spanish is used as the vehicular language –it is almost disappearing in most places due to an increasing lack of demand at least within the state school network–; in the Model B both Basque and Spanish are used as vehicular languages, each for approximately 50% of school time; and in the Model D, Basque is used as the vehicular language. In the Model A, Basque is compulsory as a school subject and in the Model D, Spanish is compulsory as a school subject. Monolingual students are then supposed to have some command of Basque. However, the sample was taken by asking the students whether they considered themselves Ml (Spanish) or Bl (Basque/Spanish) individuals. To help them interpret the concept, monolingual/bilingual, and taking into account the background previously presented, a monolingual student was described as someone who had no knowledge or just some receptive competence in Basque, but no productive competence in this language.

Instruments

The students were invited to complete a questionnaire and two tests. The questionnaire was the one used by Lasagabaster (2001: 50) (see Appendix I). He used basically a questionnaire adapted from, and previously used by Baker (1992) for school pupils but taking into account that it "might well be suitable for adults" (Baker: 1992, 83). Lasagabaster (2001) adapted it to the particular context of the BAC. Our questionnaire was written in the three languages in order to minimize any kind of subliminal feeling –real or imaginary– of linguistic discrimination, while in Lasagabaster's subjects were given the choice of answering it in either Basque or Spanish.

Furthermore, our statements only concerned English while those used by Lasagabaster concerned English, Basque and Spanish (they had to answer the same ten statements for the three languages). A block of questions on age, faculty/college, academic year, gender, L1, etc. was also included in the questionnaires. The scores ranged from 1 (minimum) to 5 (maximum). Finally, it must be stated that despite the different origins of the students, the intended purpose for the questionnaire, both in terms of content and in terms or form, was exactly the same for all of them.

The tests were gap-filling tests (see Appendix II), where a number of specific lexical items were removed from their original texts. Cloze procedure in testing, or the restoring of the missing words from a text, is regarded as an objective technique (each blank tests only one part of language, and there should be only one correct answer). It is however regarded as integrative, since a large number of items are tested, full linguistic, semantic and stylistic context is provided for each item, the technique operates beyond the sentence level, and the learner has to draw on a wide range of language sub-skills in order to complete the test successfully.

The topics of the tests were directly connected to the students' fields of study, and were used to determine whether the learners were able to identify and discriminate the right words from long lists of words provided (≈three times as many items as gaps), thus testing their knowledge of specific technical vocabulary. The use of vocabulary lists to test vocabulary acquisition is a widely used technique (Nation, 1993; Laufer, 1995).

The intended audience for the texts as well as the types of texts and topics chosen were used to determine how candidates performed by comparison with each other (norm-referenced testing). Successful choice of texts depends largely on experience, judgement, and a certain amount of common sense. Useful advice is offered by some experts, for example Hughes (1989), who tells us: (1) the sample chosen should be as representative as possible; (2) the length of the text should be appropriate (detailed reading can be tested using passages of just a few sentences, while scanning may call for passages of up to 2,000 words or more); (3) the text should include as many passages as possible, thereby giving candidates a good number of fresh starts; (4) texts which will interest candidates should be chosen; (5) texts made up of information which may be part of candidates' general knowledge should be avoided; (6) texts which students have already read should not be used.

It is obvious that practice to carry out this task successfully is necessary. The texts administered to the members of the sample were constructed following these principles, and try to measure understanding although it is obvious that the act of reading does not demonstrate an individual's successful performance. Two colleagues from the Business Administration and Nursing Colleges helped in choosing 'their' texts and in deleting words from them.

Method

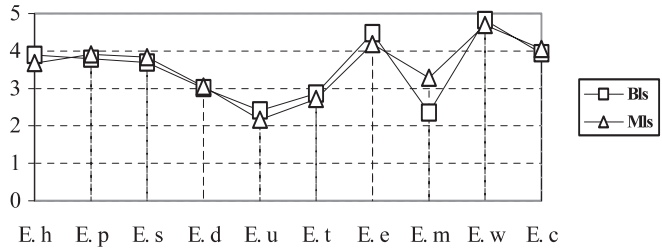
The questionnaire and tests were completed in class and the time allowed was 3 minutes for the questionnaire and 40 for the tests. Then, the answers were recorded on answer sheets, codified and, eventually, statistically evaluated. The well-known SPSS (Statistical Package for Social Sciences) was used to carry out the statistical analyses.

Results

As far as the first hypothesis is concerned, Table 2 and Graph 1 below show the mean scores of Mls and Bls on attitudes towards English (the questionnaire is included within Appendix I):

	E. hear	E. pupils	E. speak	E. diffic.	E. useful	E. taught	E. enrich	E. marry	E. worth	E. children
Bls	3.89	3.78	3.69	3.01	2.41	2.86	4.47	2.36	4.83	3.94
Mls	3.68	3.91	3.83	3.05	2.16	2.72	4.19	3.28	4.69	4.06

Table 2. Attitudes towards English



Graph 1. Attitudes towards English

These results reflect an overall favourable attitude towards English. However, if we focus on the lowest scores (<3.00), we observe that both Bls and Mls are reluctant to be taught in English (E. taught) and do not quite agree with the statement "There are more useful languages to learn than English" (E. useful). Bls do not seem to look favourably upon the idea of marrying an English speaker. On the other hand, if we focus on the highest scores (>4.00), both groups consider that learning English enriches their cultural knowledge and English is a language worth learning. The rest of the variables showed a generally positive attitude, since their scores were rather close to 4 (agree).

Table 3 gathers the main performance indicators (second hypothesis) obtained by Bls and Mls:

	Bls			Mls		
	Test 1	Test 2	Means	Test 1	Test 2	Means
Engineering (mechanical)	62.36	60.07	61.21	63.48	58.27	60.87
Business Administration	71.27	70.01	70.64	73.29	68.43	70.86
Nursing	78.51	79.07	78.79	75.48	78.34	76.91
Global figures			70.21			69.54

Table 3. Mean percentages of correct answers in the gap-filling tests

The most basic analysis shows us that Bls outperformed Mls as far as Nursing and Engineering are concerned, whereas the results were the opposite in Business Administration. However, the differences were minimal and a more comprehensive statistical test was carried out to determine whether the differences were significant or not. To this effect, the following tests were carried out for both Mls ($\chi_1 = 0.6437$; $n_1 = 74$; $S_1 = 0.2137$) and Bls ($\chi_2 = 0.6894$; $n_2 = 49$; $S_2 = 0.1683$): 1) Kolmogorov-Smirnov normality test with Lilliefers' correction (Mls → It is normal. Significance level > 0.2; Bls → It is normal. Significance level = 0.197); 2) Test on the equality of variances: It is accepted that they are equal. 3) T-test on the equality of variances: It cannot be refused that the means are equal (Significance level = 0.195). Thus, it can be stated that the differences in the gap-filling tests between Bls and Mls were not significant.

Discussion

Edwards (1995) states that strong conclusions about bilingualism are not warranted. It was previously stated that Basque as an L2 can be acquired in a natural context –plus formal instruction– provided you live in a rural area, while English either as an L2 or L3 cannot. Then, the acquisition of Basque and that of English are not always comparable in the BAC due to the different contexts for the acquisition of the languages. This difference must be taken into account before establishing any kind of conclusion of this study.

Language competence is a complex phenomenon consisting of several interrelated aspects, where the influence of the different dimensions involved varies according to the language tests administered to the sample. Nevertheless, this study was undertaken in the belief that it might help reach a better understanding of performances when certain

local variables are susceptible of affecting these performances. The variables considered in this paper include "speaking more than one language (more metalinguistic awareness according to Thomas [1992]) before a new one is approached", and "showing a particular attitude towards the new language".

One of the most relevant results our study reveals is that little or no prejudice against English speakers is perceived both in Mls and Bls. Linguistic conflicts may have been exaggerated and then, somehow, new generations seem to be closer to the so-called global village, at least as far as this *lingua franca* is concerned. However, these results should be interpreted very tactfully when compared with results obtained in other formal multilingual contexts since local socio-political characteristics contribute to favour or penalize individuals according to their attitudes to learn a foreign language (Gardner & MacIntyre, 1993).

Another revealing result this study points out is the fact that the formal tests on lexicon learning did not yield striking differences between Mls (69.54) and Bls (70.21). The study suggests that Bls might have an advantage in lexical acquisition over Mls but the differences are not significant. These results support a previous study carried out by this author (González, 2001). One possible explanation for these results could be that although Mls consider themselves Spanish speakers, we cannot forget that the teaching of Basque runs parallel to the teaching of English and, nowadays, both are compulsory this, very likely, having a positive effect in the long run on students' attitudes, and performance, towards both languages, as the results obtained by other researchers seem to confirm (Eisenstein, 1980; Thomas, 1988).

To conclude, it must be stated that most students in the sample used in this research started learning English when they were 11, whereas nowadays the teaching of English is compulsory, at least within the BAC, from the age of 4 onwards. We are sure that this early teaching of the foreign language will have a still better effect in the long run on students' attitudes towards the foreign language. However, this is just mere intuition and for scientific conclusions to be reached we will have to wait –one or two decades– until these children grow up before attempting to take new samples. In consequence, and being aware of the complexity of learning a foreign language, it is obvious that other studies, in which other factors are studied, will be necessary in order to throw additional light and thus help to explain language learning in a more scientific manner.

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Appendix I.- Questionnaire

Choose the option you identify with, by ticking the box provided.

5	4	3	2	1
Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

item no.		5	4	3	2	1
1	I like hearing English spoken (E.hear)*					
2	English should be taught to all pupils in the B. C. (E.pupils)					
3	I like speaking English (E.speak)					
4	English is a difficult language to learn (E.diffic.)					
5	There are more useful languages to learn than English (E.useful)					
6	I prefer to be taught in English (E.taught)					
7	Learning English enriches my cultural knowledge (E.enrich)					
8	I would not mind marrying an English speaker (E.marry)					
9	English is a language worth learning (E.worth)					
10	I would like my children to be also English speakers (E.children)					

* The abbreviations are used in Table II and Graph I.

Appendix II.- Specimens of tests

(1) Engineering School

Test 1(A)→Fill in the gaps in the text using words from the list provided below (one word per gap).

"Turret Lathe"

alloy	axis	bearings	bolts	boring
bulkier	CAD/CAM	capacity	cast	casting
clamped	clamping	chuck	chucking	controllers
coolant	crossrail	cutoff	gear	graphite
grasp	gripping	groove	grooving	guard
holding	honing	indexed	indexing	JIT
lighter	machines	manifold	mountings	mounts
nonrotating	pitted	plane	power	ram
reamers	saddle	shop-floor	slide	slot
spindle	stock	stroke	swivelling	tables
tapered	tensile	threading	time-lag	turret
workpiece				

The tailstock of the engine lathe can be replaced with a multisided, […1…] tool holder or turret designed to hold several tools, the machine becoming a turret lathe. The single-tool post and compound is usually replaced by a four-position indexing tool post. Power cuts may be taken from both of these tool […2…] either individually or simultaneously. Turret lathes are made in vertical models as well as horizontal.

Horizontal turret lathes are classed as either bar or […3…] machines referring to the manner in which the workpiece is held. The headstock of the bar machine is constructed so that bar […4…] may be slid through it and the collet on line with the turning axis of the lathe. The collet closes, […5…] the piece firmly. Chucking-type machines grasp a unit size workpiece in a […6…] or jawed device. Chucking devices permit work of relatively large diameters to be machined.

Horizontal machines may be further classed as being either of the […7…] or saddle type, a designation referring to the manner in which the turret is mounted on the machine. On the ram machine, the […8…] is mounted on a ram or slide, which rides on a saddle. When the turret is […9…] for successive operations, the saddle acts as a guide for the ram in its strokes to and from the work. On the saddle-type machine, designed without a ram, the turret […10…] directly on the saddle, which slides on the bedways of the lathe. Ram-type lathes with their short turret travel are generally of […11…] construction than the saddle type. Excessive overhang of the ram reduces tool rigidity. Fast in operation, they perform best on small-diameter work and light chucking jobs. The rigid construction and the longer […12…] of the saddle-type lathe enable it to handle both longer and heavier bar and chuck work than the ram-type machine.

The vertical turret lathe, similar in principle to the horizontal machine, is capable of handling heavier and […13…] workpieces. The vertical machine is constructed with a rotary, horizontal worktable whose diameter normally designates the […14…] of the machine. Machine […15…] range from 30 to 74 in. in diameter. A crossrail mounted above the table carries a turret, which indexes in a vertical […16…] with tools that may be fed either across or downward. The crossrail may also carry a vertical […17…] ram with a nonindexing tool holder which feeds in a manner similar to the turret. Below the crossrail, a side head with an indexing tool holder is sometimes provided. This tool may be fed in horizontally or moved vertically. Tools may be operated simultaneously either manually or by […18…].

Key→1: indexing; 2: mountings; 3: chucking; 4: stock; 5: holding; 6: chuck; 7: ram; 8: turret; 9: indexed; 10: mounts; 11: lighter; 12: stroke; 13: bulkier; 14: capacity; 15: tables; 16: plane; 17: swivelling; 18: power.

Test 1(B)→Fill in the gaps in the statements below using words you consider appropriate from this list.

annealed	approach	background	bracket	branches
buoyancy	clutch	conjunction	cooling	cosine
elastic	electrodes	extent	friction	fulcrum
gaol	gathered	gearbox	glance	goals
heating	hinge	jack	lever	leverage
limits	long-term	meshing	newton	nil
nought	output	overlook	phi	piston
plethora	plug	prompt	pursue	ratio
reformed	rocker	sliding	rings	shaft
slope	spanner	spool	spring	statement
stresses	swings	switchgear	tau	welding
width				

1.- The cylinder head must act as a sealing surface between the cylinder sleeve, cylinder-block top deck, and oil and (…) passages.
2.- If a bearing shows fine scratches but nevertheless its surface is smooth and (…), it can be reused.
3.- Smelted steels exhibit a distinctive anisotropy in their ductile properties, so that the position of the samples in a component must be stated in terms of length, (…) and thickness.
4.- A weld joint serves to transfer the (…) between the joined members and throughout the welded assembly.
5.- Spot welding is usually employed in the welding of thin metal sheets and is accomplished by placing the sheets between movable (…) of a copper alloy.
6.- Electric current for the (…) arc may be either direct or alternating, depending upon the material to be welded and the characteristics of the electrode used.
7.- Eutectoid steel which is fully (…) consists entirely of pearlite, which is obtained from austenite under conditions of equilibrium.
8.- Elastohydrodynamic lubrication (EHL) is a form of hydrodynamic lubrication where (…) deformation of the lubricated surfaces becomes significant.

9.- The average film thickness in a partial lubrication (…) is less than 1 pt m and greater than 0.01 pt m.
10.- Whenever an accident occurs that results in an injury (medical case), damage of equipment and material, or both, (…) accident investigation by the immediate manager is required.
11.- The driver can interrupt the transmission of power from the engine to the gearbox by using the (…).
12.- When the teeth of two gear wheels are (…), or interlocking, one gear wheel drives the other.
13.- Lubrication reduces (…) and noise inside the gearbox and also helps to prevent overheating.
14.- The gear-changing mechanism in a motor vehicle consists of a gear (…), selector rods, selector forks and collars.
15.- The propeller shaft, a strong metal shaft connected to the driven shaft, transmits power from the (…) to the final drive.
16.- The piston (…) fill the gap between the piston and the cylinder wall, so that they stop the pressure of combustion from being released.
17.- During the combustion stroke, the fuel mixture is ignited in the combustion chamber by a sparking (…).
18.- When the camshaft operates the (…) arms directly, these engines are called over-head crankshaft engines or OHCs.

Key→1: cooling; 2: reformed; 3: width; 4: stresses; 5: electrodes; 6: welding; 7: annealed; 8: elastic; 9: conjunction; 10: prompt; 11: clutch; 12: meshing; 13: friction; 14: lever; 15: gearbox; 16: rings; 17: plug; 18: rocker.

(2) Business Administration School

Test 1(A)→Fill in the gaps in the text using words from the list provided below (one word per gap).

"Companies having to wait for payment of their bills"

applies	arbitrage	bankrupt	benchmark	bid
borrowed	bribes	cash-flow	charging	checklist
commissioning	corporate	debts	dilemma	discounts
draconian	draft	drawee	embezzlement	equities
estate	finance	firms	foolscap	gearing

headquarters	invoices	invoicing	irrevocable	lading
late	lease	legislative	liabilities	liaise
outcome	outlay	outstanding	overlending	owed
recession	redemption	redundancies	returns	securities
servicing	shares	sheet	shipments	stockist
suppliers	survey	taxation	tender	venue
wages				

If you buy […1…] when they are low, they may go up a lot and allow you to make a substantial profit. If they go down, however, then you will wish you had waited a little longer before buying them. The same […2…] to property. How many of us wish we had […3…] money to buy a small property some years ago when prices were so low.

The situation is rather different in […4…] buying and selling. A company cannot wait too long for prices to come down if it is buying or to go up if it is selling. If it is buying and selling, however, then there is no […5…], except in certain circumstances when what is being sold is small and what is being bought is very large. For many of the smaller companies long delays in getting their money give rise to serious […6…] problems.

Three quarters of British businesses have to wait three months or more before their bills are paid, says a poll of 250 [...7...] directors released today. The poll found that 76 per cent of companies are not paid by their customers until an average of at least 90 days after [...8...]. Only 14 per cent receive their money within one month.

Seventy per cent of the directors believe [...9...] payment is making the recession worse, and 96 per cent say it adds to their business difficulties. However, although a quarter said invoices should be paid within 30 days, only 12 per cent of companies paid their own [...10...] within a month.

'The message at a time of [...11...] is that cash-flow, if not king, should be very high up the list of priorities', said Mr Richard Pearson, national chairman of P.K. Forster, the accountants who commissioned the [...12...].

'Companies –especially small family-run [...13...]– need to adopt a much tougher attitude towards credit control and take active measures to ensure they are paid what they are [...14...] on time', he said.

The survey showed that only 36 per cent of companies take steps such as [...15...] on early payment or interest charges on late bills. Yet, 93 per cent of those [...16...] interest did not lose customers and were glad they introduced the system.

Nearly 60 per cent of businesses want the government to introduce legislation on late payment that would force debtors to pay interest above rate on [...17...] debts after an agreed period. The report ends with an appeal for [...18...] action.

Key→1: shares; 2: applies; 3: borrowed; 4: corporate; 5: dilemma; 6: cash-flow; 7: finance; 8: invoicing; 9: late; 10: suppliers; 11: recession; 12: survey; 13: firms; 14: owed; 15: discounts; 16: charging; 17: outstanding; 18: legislative.

Test 1(B)→Fill in the gaps in the statements below using words you consider appropriate from this list.

account	accountant	afford	agenda	amortization
assets	balance	bargain	board	borrower's
budget	CEO	CFO	C.I.F.	commitments
contract	deadline	dealings	debts	deposit
downturn	earners	emolument	eroded	freight
go-slows	honour	issue	liabilities	linked
market	middlemen	mortgage	ounces	overlap
overtrading	pattern	penalty	proceeds	proceedings
profitability	R&D	redundancies	resources	route
shares	shipments	slumped	solicitor	stock
terms	trades	unemployment	venture	warehouse
wholesaler				

1.- You receive interest on the money you have in the bank if the money is in a (...) account.
2.- Home financing has been provided in the form of (...) loans for a maximum term of 30 years.
3.- As a result of the crisis, there was mass (...) and many factories closed down.
4.- The term public company or publicly held company, refers to a corporation whose (...) are available to the public at large.
5.- An overdraft is a special arrangement that you have for the bank to (...) your cheques up to an agreed amount when you have no money in your account.

6.- Yong Meng Inc. Includes a generous severance pay, (...) options or a bonus, all of which are in addition to the regular salary or remuneration of the executive.
7.- The position of Chairman is sometimes an honorary one, filled by a former company President or a large shareholder, with the real executive power resting with the (...) .
8.- The repayment term for a personal loan may vary according to the reason for the loan, the (...) capacity to repay and bank policy.
9.- In the early 1970's production (...) , but the company was revitalised by a dynamic young executive who had spent three years in the United States.
10.- The site was ideal to (...) the products ready to supply the shops of London and the surrounding area.
11.- In a revocable letter of credit the (…) and conditions of which can be changed without the prior approval of all parties to the credit.
12.- The financial accounts department is responsible for preparing the balance sheet, the profit and loss (…) and the supporting notes for the company's annual report.
13.- The internal organization of Fresh Food Plc follows an orthodox (…) and it works very well.
14.- The name Balance derives from the fact that a company's total (…) must equal its liabilities plus shareholders' equity.
15.- The Income Statement covers a specific period of time and details income (sales and other income), expenses, depreciation and (…), taxes, profits and any extraordinary charges.
16.- The combination of a buoyant (…) with an outstanding range of cars has enables the Princess Group to break all previous sales records.
17.- Troubles with suppliers that affected sales and low margins that (…) profits were reported by the D-F Group.
18.- If you have an F.O.B. arrangement then you pay the insurance and (…).

Key→1: deposit; 2: mortgage; 3: unemployment; 4: shares; 5: honour; 6: stock; 7: CEO; 8: borrower's; 9: slumped; 10: warehouse; 11: terms; 12: account; 13: pattern; 14: assets; 15: amortization; 16: market; 17: eroded; 18: freight.

(3) Nursing School

Test 1(A)→ Fill in the gaps in the text using words from the list provided below (one word per gap).

"Side-Room chemical tests on blood performed by nursing staff"

acidosis	ACTH	antibodies	basal	biotin
calculi	carcinoma	chloride	clinicians	cycles
data	diagnosis	electrode	electrophoresis	enzymes
estimating	ferritin	fetal	fibrosis	gastric
histaminase	hypercalcaemia	hyperplasia	hyperthyroidism	insulin
isoenzymes	laboratory	liver	lung	manufacturers
metabolism	monoxide	Na^+	neuroblastoma	pH
strips	neuroblastoma	oestradiol-17β	overload	performance
plasma	pregnancy	procedures	progesterone	proteinuria
recovery	regular	saliva	samples	serum
specimens	strips	systems	tissue	vasoactive
wards				

Tests have been developed for application to […1…] of blood, plasma or […2…] under side-room conditions, and some of the urine-testing materials now available commercially can also be used for qualitative or semi-quantitative tests on blood […3…]. These have been carefully compared with laboratory-based […4…], and the side-room blood glucose procedures can now be recommended for use when laboratory facilities are not readily available.

Good correlations have been reported between laboratory results for blood [glucose] and results obtained by […5…] on specimens examined under side-room conditions using the Dextrostix-Eyetone (Ames Co.) and the Reflotest-Glucose (Boehringer Mannheim) […6…]. Both side-room techniques depend on the use of test […7…] that contain glucose oxidase and peroxidase, and the intensity of the colour developed on the test strip is measured in a simple colorimeter obtained from the manufacturers. These tests are quick to perform, and have found their main application in the investigation of hyperglycaemia. They have also been used (1) to monitor the control of diabetic patients on a […8…] (e.g. day-to-day) basis, and (2) to monitor the […9…] of insulin-induced hypoglycaemia tests; they should be used for the latter purpose by experienced operators because of the dangers of inaccurate observations at low blood [glucose].

Less good correlations have been obtained between commercially developed side-room methods for […10…] blood [urea] and laboratory-based measurements. Also, the kit for measuring blood [paracetamol] is less sensitive than […11…] procedures, is time-consuming to perform and only semi-quantitative. Despite these criticisms, more side-room methods capable of providing reliable […12…] for analyses on blood are likely to be developed.

As far as equipment is concerned, many labour […13…] have for some years had pH-measuring equipment for monitoring […14…] blood [H+] on capillary samples obtained from the scalp, and this equipment has been used successfully by clinicians and other non-laboratory personnel. More recently, several […15…] have introduced fully automated blood gas analysis equipment, suitable for laboratory use but intended also for use in operating theatres and […16…] rooms, assisted ventilation units and elsewhere, under circumstances where acid-base data are required with the minimum of delay, or in hospitals situated at a distance from a clinical chemistry laboratory. The fully automated blood gas analysers depend on specific and reliable […17…] systems, but of equal importance is the simplicity of their operation and the effort that has been expended to avoid or to detect misuse of the equipment. The sequence of operations includes automatic calibration, quality control checks, wash […18…] and fault-recognition procedures, precisely controlled by a mini-computer or by a microprocessor.

Key→1: samples; 2: serum; 3: specimens; 4: procedures; 5: clinicians; 6: systems; 7: strips; 8: regular; 9: performance; 10: estimating; 11: laboratory; 12: data; 13: wards; 14: fetal; 15: manufacturers; 16: recovery; 17: electrode; 18: cycles.

Test 1(B)→ Fill in the gaps in the statements below using words you consider appropriate from this list.

albumin	alkaline	ascorbic	biliary	bilirubin
biotin	Ca^{++}	carcinoma	cirrhosis	coagulation
collecting	corticosteroid	depletion	diurnal	Dubin-Johnson
electrolytes	embolism	examined	exogenous	formaldehyde
fractional	gland	hazards	H_2CO_3	hypercalcaemia
intake	intestinal	intracellular	invasive	issued
leucocyte	liver	malignant	metabolic	neonatal

obstruction	outpatient	overdosage	pituitary	plasma
pleural	poisoning	protein	requests	rota
secretion	specimens	spleen	stones	suspected
synthesis	tissues	upright	via	μmol/l
γ-globulins				

1.- Doctors expect clinical chemistry laboratories to provide reliable data in response to (…) for investigations.
2.- Most quantitative chemical investigations are carried out on blood specimens, the next most frequently (…) material being urine.
3.- The following factors should be considered before (…) a specimen: diet, drugs and time of day.
4.- Most hospital laboratories employ technical staff on a single-shift system, but these same staff takes part in a (…) system, thus providing an on-call service for emergency duties.
5.- Most reports (…) by clinical chemical laboratories contain sets of numerical data, sometimes accompanied by comments on the results.
6.- All proteins and protein-bound constituents show significant differences in concentration between blood samples collected from (…) and from recumbent individuals.
7.- Formation of (…) may cause renal damage, and the damage is often progressive; renal function tests then show deterioration of function.
8.- Serum protein electrophoresis and urine protein electrophoresis should be carried out in all (…) cases of paraproteinaemia.
9.- Acid phosphatase measurements are used mainly for the diagnosis and monitoring of metastatic or invasive prostatic (…) .
10.- Malabsorption as a cause of deficiency of the water-soluble vitamins is uncommon unless there is moderately severe general disease of the (…) mucosa.
11.- Confirmation of the diagnosis of hyperparathyroidism is obtained by measurement of (…) [calcium].
12.- It is convenient to include lead poisoning in the discussion of the porphyries as there are similarities in both the clinical and (…) features.
13.- The increased plasma [testosterone] in idiopathic hirsutism has been shown to be associated with increased testosterone (…) rates.
14.- The properties of the dissociation curve for oxyhaemoglobin (HbO2) enable O2 to be carried from the lungs to the (…).

15.- Potassium excess is a potentially dangerous condition, caused by the ingestion or administration of K+ in excess or the body's ability to eliminate it (…) the kidneys.
16.- The proper interpretation of chemical results on (…) from individual patients ideally requires a set of baseline data obtained for each individual before becoming ill.
17.- In pregnancy and in patients taking the contraceptive pill, plasma TIBC rises whereas in (…)-losing states, infections, neoplasms and after trauma it tends to fall.
18.- Medullary carcinoma of the thyroid is a rare tumour of the parafollicular, calcitonin-producing cells (the C-cells) of the thyroid (…).

Key→1: requests; 2: examined; 3: collecting; 4: rota; 5: issued; 6: upright; 7: stones; 8: suspected; 9: carcinoma; 10: intestinal; 11: plasma; 12: metabolic; 13: secretion; 14: tissues; 15: via; 16: specimens; 17: protein; 18: gland.