

The Role of the Learner's Native Culture in EFL Dictionaries: An Experimental Study

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Abstract: This article aims to demonstrate the hypothesis that the use of native culture (C1) in EFL learners' dictionary definitions and/or examples is useful in the comprehension of the looked-up words. This is done by means of a survey involving more than 100 lower-intermediate EFL Catalan students. The subjects were first presented with a pre-test in which they had to translate 30 English words. Then they were divided into two groups, each of whom had to take a different test. Test 1 contained the definitions of the 30 words taken from a dictionary aimed at a global audience, whereas in test 2 the definitions were taken from a culturally nativized dictionary, that is, a dictionary that included C1 elements. In the tests, the students were asked to translate again the 30 English headwords given in the pre-test. After comparing the results of the pre-test with those of the tests, the study concludes that students who use an EFL dictionary that includes C1 references have more than double the possibilities of understanding the meaning of a new looked-up word than those who do not. The results obtained confirm for the first time in the field of pedagogical lexicography the tenets of schema theory, which highlights the importance of background (e.g. cultural) knowledge to improve reading comprehension. The main implication of this finding for lexicography is that it is desirable that designers of EFL dictionaries deploy nativized versions, especially at lower levels, in order to facilitate comprehension of the foreign language.

Keywords: EFL DICTIONARIES, PEDAGOGICAL LEXICOGRAPHY, PEDAGOGICAL DEFINITIONS, FOREIGN LANGUAGE LEARNING, CATALAN LEARNERS OF ENGLISH, READING COMPREHENSION, NATIVE CULTURE, NATIVIZATION, CULTURAL REFERENCES, GLOCALIZATION, LOCALIZATION, SCHEMA THEORY

Opsomming: Die rol van die aanleerder se inheemse kultuur in EVT-woordeboeke: 'n Eksperimentele studie. Hierdie artikel het ten doel om die hipotese te bewys dat die gebruik van inheemse kultuur in EVT-aanleerderswoordeboekdefinisies en/of -voorbeelde nuttig is vir die begrip van die nageslane woorde. Dit word gedoen deur middel van 'n opname van meer as 100 laer-intermediêre EVT- Katalaanse studente. Aan proefpersone is eers 'n voortoets gegee waarin hulle 30 Engelse woorde moes vertaal. Daarna is hulle in twee groepe verdeel wat elkeen 'n verskillende toets moes aflê. Toets 1 het die definisies van 30 woorde bevat wat geneem is uit 'n woordeboek gerig op 'n globale gehoor, terwyl in toets 2 die definisies geneem is uit 'n kultureel gemotiveerde woordeboek, dit wil sê, 'n woordeboek wat C1-elemente insluit. In die toets is

die studente gevra om weer die 30 Engelse trefwoorde te vertaal wat in die voortoets gegee is. Nadat die resultate van die voortoets met dié van die toetse vergelyk is, toon die studie dat die studente wat 'n EVT-woordeboek gebruik wat C1-verwysings insluit, meer as dubbel die kans staan om die betekenis van die nuwe nageslane woord te begryp as dié wat dit nie doen nie. Die resultate wat verkry is, bevestig vir die eerste keer die beginsels van die skemateorie op die gebied van die opvoedkundige leksikografie, wat dui op die belangrikheid van agtergrond- (bv. kulturele) kennis om leesbegrip te verbeter. Die hoofimplikasie van hierdie bevinding vir die leksikografie is dat dit wenslik is vir beplanners van EVT-woordeboeke om genativiseerde weergawes te ontwikkel, veral op die laer vlakke, ten einde begrip van die vreemde taal te vergemaklik.

Sleutelwoorde: EVT-WOORDEBOEKE, OPVOEDKUNDIGE LEKSIKOGRAFIE, OPVOEDKUNDIGE DEFINISIES, AANLEER VAN 'N VREEMDE TAAL, KATALAANSE AANLEERDERS VAN ENGELS, LEESBEGRIP, INHEEMSE KULTUUR, NATIVISASIE, KULTURELE VERWYSINGS, GLOKALISASIE, LOKALISASIE, SKEMATEORIE

1. Introduction

Since the late 1980s there has been a major shift in the research field of reading comprehension. According to Ajideh (2003), there are two ways of understanding reading: the first assumes that meaning resides in the text itself, whereas the second views reading as an active process in which the reader constructs meaning by means of a series of mental operations. More precisely, the second view of reading comprehension posits that there is an interaction between the text and the reader's own background knowledge, and that it is this interaction that facilitates comprehension. The interaction between the reader's background knowledge and the text is a multifaceted process that may involve a wide array of cognitive processes, such as expectations, predictions, comparisons, prior knowledge, selection among possible meanings, inferencing, remembering, reasoning and problem solving (Nassaji 2002, Ajideh 2003). All these cognitive phenomena are key components of what is known as 'schema theory'. Schema theory began with Bartlett's classical study *Remembering: A Study in Experimental and Social Psychology* (1932), yet Bartlett's ideas did not have an important impact on cognitive psychology until the 1970s and 1980s. The basic tenet of schema theory posits that people's understanding and remembrance of events is influenced by their expectations or prior knowledge. The mental representation of these expectations or prior knowledge is called 'schema' (plural 'schemas' or 'schemata'). To put it in other words, schema theory is based on the assumption that prior knowledge or past experience helps us understand new knowledge.

It is easy to see, then, how researchers in the field of reading comprehension have taken as their basis the presuppositions of schema theory in order to carry out experimental studies that support the view that reading is a process in which readers use their previous background knowledge when interacting with new texts. It is through this interaction, they argue, that meaning is con-

strued. Many studies in reading comprehension have been carried out to support the schema theory: Nassaji (2002: 440) and Rokhsari (2012: 46) mention quite a few of them; for a summary of schema theory and its implications in EFL learning and teaching, see Cook (1997); and for studies that criticize and point out the limitations of schema theory, especially in the field of reading comprehension, see Carver (1992) and Nassaji (2002).

Apart from giving new insights into the process of reading comprehension, the schema theory has also had a practical impact on instruction, and more particularly on the following aspects: (1) research into the improvement of reading comprehension; and (2) the way EFL materials are designed. As for the first aspect, namely research into how to improve reading comprehension, there have been two basic fields of development. On the one hand, a considerable number of studies (for example Ajideh 2003, Karakas 2005, and Alemi and Ebadi 2010) have focused on the beneficial effects of pre-reading activities: such activities provide background knowledge to the main text, and thus facilitate the understanding of new knowledge. On the other hand, there have been several studies that have shown that providing cultural background before reading improves reading comprehension, whether it be with native students belonging to the same racial community (Garth-McCullough 2008), with native students belonging to different racial communities (Reynolds et al. 1981) or with EFL learners (Floyd and Carrell 1987). More specifically, there have been studies (for example, Chihara, Sakurai and Oller 1989, Alptekin 1993, Post and Rathet 1996, Jiang 2000, Coffey 2001, Fuhong 2004, Alptekin 2006, Al-Shumaimeri 2006, Chang 2007, Jalilifar and Assi 2008, and Rokhsari 2012) that have focused on the role that 'nativization' has on EFL reading. Nativization is a process by which culturally unfamiliar words in texts written in the foreign language are changed into more familiar native culture (C1) words. The studies that nativize texts have found that cultural familiarity (i.e. making use of the students' prior cultural knowledge, namely native culture or C1) clearly facilitates the students' understanding of EFL texts.

As for the second aspect mentioned above, that is to say, how schema theory has affected EFL materials design, nowadays it is relatively common to find pre-reading activities in most EFL textbooks. Apart from this, though, there have been very few implementations in materials design that take advantage of the readers' prior knowledge. Alptekin (1993: 140-141) has listed some situations in which the use of the learners' schematic knowledge may be beneficial when learning a foreign language: reading comprehension, writing and information retention. And Coffey (2001) has applied schema theory to the design of classroom activities. However, the schema theory has not been empirically studied in the case of understanding the definitions in EFL learners' dictionaries: this study aims to break new ground into this hitherto neglected aspect, for the studies carried out so far centre on reading comprehension of texts (or stories), whereas here we will focus on an idiosyncratic aspect of reading, namely reading dictionary definitions, which differs from reading texts or stories mainly in the length of the text and in the number of ideas encountered (for a

typology of texts and their differences, see Hatim and Mason 1990: 153-160).

The purpose of this study, then, is to explore the role that the learner's native culture (C1) plays in the comprehension of L2 (i.e. English) dictionary definitions and/or examples. In order to do so, this article compares the effectiveness of two kinds of dictionary: the *Easy English Dictionary with a Catalan-English Vocabulary (EED)* and the *Longman New Junior English Dictionary (LNJED)*. The *EED* is aimed at 10-14 year-old Catalan learners of English and it is devised for a particular cultural background end-user, namely native Catalan speakers whose primary culture (C1) is Catalan and Spanish (Catalan students can speak both Catalan and Spanish and are immersed in both Catalan and Spanish culture). On the other hand, the *LNJED* is aimed at 10-14 year-old learners of English as a foreign language and it is devised for a non-specific cultural background end-user, that is, it does not take into account the students' primary culture. Given the differences between these two types of dictionary, this article aims to answer the following research question: does the presence of C1 in EFL learners' dictionaries improve the comprehension of the words defined? And, if so, to what extent? To put it another way, this article aims to test whether a native cultural element (C1) that appears in the L2 definition or example of an EFL learners' dictionary entry can be determining in understanding the meaning of the defined word. Our research hypothesis is that the presence of C1 in EFL learners' dictionaries significantly improves the comprehension of the words defined, a fact that would seem to be supported, a priori, by the schema theory, and which we first hypothesized in 2008, stating that when reading an EFL dictionary definition, Catalan students might activate their previous linguistic and sociocultural knowledge of their native language and culture, as well as their knowledge of the world (Pujol, Masnou and Corrius 2008). In this article, we will leave aside the students' previous knowledge of the world and the role that their native language may play when trying to understand English. Instead, we will focus only on the role that the students' native culture (C1) may have when reading the foreign language. Our 2008 hypothesis was refined in 2010, when we (Corrius and Pujol 2010: 142) hypothesized that, among other strategies, localizing and glocalizing culture are useful mechanisms to improve comprehension when reading foreign language dictionary definitions. In other words, this article uses the schema theory to confirm Corrius and Pujol's (2010) hypothesis that dictionary users rely on their already established schematic cultural knowledge (C1) when trying to understand the meaning of new words.

2. Methodology

2.1 Subjects

The subjects who participated in the study were Catalan students of English as a foreign language. Their ages ranged from 11 to 13, and their level of English

was lower intermediate. The levels tested were 6th Primary Education (the last year of compulsory primary education, i.e. between 11 and 12 years old) and 1st ESO (the first year of compulsory secondary education, i.e. between 12 and 13 years old). A total of 114 students participated in the study (58 boys and 56 girls), but only 102 were assessed. This was due to the fact that 12 tests were discarded either because of the student's extremely poor level of English (most of them were foreign students who had just arrived in Catalonia and had serious difficulties in understanding English and Catalan) or because they did not follow the procedure correctly (it was detected that they read the third part of the questionnaire before the second part, so the results were declared invalid). Out of the 102 students assessed, 50% were female and 50% male.

The participants belonged to two different schools, one from Tona and one from Torelló (two Catalan villages near Barcelona, Spain). As will be seen in section 2.2, all the students took during the English class time (in May 2012) a questionnaire which consisted of three parts: (1) a section which asked for personal details (age, sex and course level); (2) a pre-test; and (3) a test (either test 1 or test 2). Out of the 102 subjects assessed, 60 6th Primary Education students answered the questionnaire: 20 from Tona plus 9 from Torelló took test 1, and 20 from Tona plus 11 from Torelló took test 2. On the other hand, 42 1st ESO students from Tona answered the questionnaire: 23 took test 1 and 19 took test 2. Thus, a total of 52 students took test 1 and a total of 50 students took test 2. These figures are summarized in table 1, where the data in italics refer to 1st ESO students and the data in bold type refer to 6th Primary students.

School	Level/(years old)	Test 1	Test 2	TOTAL
TONA	<i>1st ESO (12-13)</i>	27 (-4) = 23	26 (-7) = 19	42
TONA	6th Primary (11-12)	20	20	60
TORELLÓ	6th Primary (11-12)	10 (-1) = 9	11	
TOTAL		(23+29) 52	(19+31) 50	102

Table 1: Number of students who answered the questionnaire

The allocation of the students in each class into two subgroups (one taking test 1 and the other taking test 2) involved two different stages. First of all, we asked the teachers (in a previous interview in which we presented the experiment to them) that they divide each class into five levels according to the class marks that they had obtained during the course (from September 2011 to May 2012; the course ended in June). This, we told them, was easy to do: as in Catalonia the students' performance is evaluated on a scale from 0 to 10 (10 being the highest possible mark), the only function of the teachers was to place the students into five groups which corresponded to five grade scales: 0-2, 2.1-4, 4.1-6, 6.1-8 and 8.1-10. In this way, five subgroups were created, each of which

roughly represented 20% of the students. After this, the teachers were asked to randomly distribute the five subgroups into two groups, and to keep a note of their names so that at the time of the experiment they knew to which group each student belonged.

2.2 Materials

As stated in section 1, the aim of this study is to find out the role that C1 plays in understanding L2 (English) definitions in monolingual learners' dictionaries. In order to carry out the study, a questionnaire (reproduced in the Appendix) was used. The questionnaire had three parts, which the students had to answer consecutively and individually. The first part, which was in L1 (Catalan), was a general questionnaire on personal details (age, sex and course level). The second part, which had the instructions in Catalan, was a pre-test that consisted of a list of 30 English words which the students had to underline (if they thought they knew its meaning) and translate into their own language (Catalan). The third part of the questionnaire consisted of a test (test 1 or test 2). Both tests contained the same 30 words listed in the second part, but this time each entry was followed by an L2 definition and/or example. The students had to provide a translation for each of the defined words.

Test 1 contained the definitions from the *Longman New Junior English Dictionary (LNJED)* with the exception of the entries 'beech' and 'chestnut', whose definitions were taken from *The Oxford Illustrated Junior Dictionary (OIJD)*, and the entry 'tongue twister', whose definition was adapted from the *Easy English Dictionary with a Catalan–English Vocabulary*. These exceptions were due to the fact that the entries 'beech', 'chestnut' and 'tongue twister' did not appear in the *LNJED*. Test 2 contained the definitions from the *Easy English Dictionary with a Catalan–English Vocabulary (EED)*. The *LNJED* and the *OIJD* are aimed, as most EFL learners' dictionaries, at a global market. This means that the definitions and examples do not contain any reference to the learner's cultural background. The *EED*, on the other hand, is aimed at a local market. That is to say, the definitions and/or the examples chosen for test 2 contain a reference to the learner's cultural background.

In test 1, the entries (taken mostly from the *LNJED*) do not have any reference to Catalan or Spanish culture. In some cases (see 'draw', 'far', 'north', 'south' and 'take' in part three of the Appendix), there are references to British places such as London, Manchester or Oxford, which Catalan students (according to their teachers) cannot locate properly on a map. The rest of the examples provided are very general and aimed at a global market (see the entries 'against', 'apart', 'blind', 'branch', 'brand', 'coast', 'painting', 'picture', 'price', 'right' and 'used to' in part three of the Appendix). Thus, in either case, the examples do not mean much to Catalan students. It must be noted that there is a word in Test 1 ('beech') that was accompanied by an illustration (this is not reproduced in the Appendix, even though the indication "[+ illustration]" has been added after the definition.

As for test 2, it includes some of the entries from the *EED* which contain culturally-based material for Catalan learners of English. The entries chosen have Catalan and sometimes Spanish cultural references. Of the entries chosen, nine make reference to Catalan or Spanish places that students are familiar with (see the entries 'beech', 'coast', 'eastern', 'island', 'monk', 'north', 'sights', 'south' and 'used to' in part three of the Appendix), four make reference to famous Catalan or Spanish painters and musicians (see the entries 'cello', 'painter', 'painting' and 'picture'), three make reference to famous local football teams (see 'against', 'defeat' and 'draw'), three refer to distances between well-known cities (see 'apart', 'far' and 'take'), two refer to the European currency (see 'banknote' and 'price'), two refer to Catalan festivities (see 'chestnut' and 'firework'), one makes reference to the Spanish organisation for blind people (see 'blind'), one makes reference to the most important Catalan bank (see 'branch'), one refers to the most famous Spanish department store (see 'department store'), one makes reference to a Spanish fact (see 'right'), one makes reference to a Catalan linguistic specificity (see 'tongue twister'), one makes reference to famous airlines (see 'airline') and one refers to a very well-known toothpaste in Spain (see 'brand').

It is worth mentioning that in test 2 four of the words defined ('airline', 'right', 'take' and 'tongue twister') contain a glocal example, that is, an example which is both global and local. The *Oxford English Dictionary (OED)* defines 'glocalization' as: "The action, process, or fact of making something both global and local; *spec.* the adaptation of global influences or business strategies in accordance with local conditions." There are two key ideas in this definition: (1) the global and the local *coexist*; and (2) the global is *adapted* to the local. Coexistence and adaptation, then, are the two criteria for judging if glocalization occurs. These two ideas are confirmed by the first example of 'glocalization' recorded in the *OED*: "We've witnessed what you might have heard called 'glocalization': making a global product fit the local market." In other words: the local is adopted in global contexts, the result being a kind of hybrid that produces "simulacra of local authenticity" (*OED*, third example under 'glocalization'). Take, for instance, the entry 'tongue twister' as it appears in test 2:

tongue twister a group of words difficult to pronounce when you say them quickly: '*Setze jutges d'un jutjat mengen fetge d'un penjat*' is a Catalan tongue twister; '*She sells sea shells on the sea shore*' is an English tongue twister.

The example in this entry is glocal in that it is aimed both at a global (international) audience and a local (Catalan) audience: it does not prioritize one culture at the expense of the other but presents both cultures on equal terms, which is something that global dictionaries do not do. This juxtaposition of C1 and C2 obviously has the advantages of localization, a phenomenon which hypothetically "leads to a potentially richer understanding of the word defined" (Corrius and Pujol 2010: 137). It is worth noting that in the example given for 'tongue twister' the global has not been deleted; rather, it coexists with the local, the result being that the whole example for the headword defined adapts

(by means of the equation local X + local Y = tongue twisters) the global cultural information (C2: "She sells sea shells on the sea shore") to the local cultural background of students (C1: "Setze jutges d'un jutjat mengen fetge d'un penjat"). This procedure (glocalization) is in line with Alptekin's view that in ELT a new "intercultural communicative competence" is needed so that instructional materials and activities "involve local and international contexts that are familiar and relevant to language learners' lives" (Alptekin 2002: 57 and 63).

2.3 Procedures

The administrators of the questionnaire were the authors of the study themselves, but they were aided by the students' EFL teacher. The students took the time they needed to complete the questionnaire, which was about 30 minutes. No training session was given to respondents, but clear instructions were given in Catalan so as to avoid misunderstandings.

The selection of the words in the pre-test and the two tests was made on the following basis. First, the words in test 2 were selected by a random browsing of different entries in the *EED*: the condition for being a word that could be chosen was that the definition and/or example of the headword should be nativized, that is, it should contain at least one C1 item. When these words had been selected, their equivalents in the *LNJED* (or, if this failed, the *OIID* or the *EED*) were taken as the basis for the definitions and examples provided in test 1. A relatively small number of words (30) was chosen so that the students had time to answer the whole questionnaire.

When analyzing the data, it was checked whether each translation provided by the students in part two (pre-test) was correct or incorrect. The words with a proper translation were not taken into account in part three (tests 1 and 2). This methodology was followed because the conductors of the study wanted to find out exclusively the number of unknown words the students had understood by reading the definitions in part three. Therefore, each individual test had its own score and base.

It must be noted that some of the headwords (a total of 20%) in the pre-test were polysemous: they are the words 'branch', 'draw', 'picture', 'right', 'take' and 'used to'. First of all, it must be said that, among all the possible meanings for these words that appeared in the *EED*, the first (i.e. the most core) meaning was chosen for inclusion in tests 1 and 2. This drastically reduced the chance of eliciting translations in the pre-test that might potentially conflict with the meanings that appear in the tests. Nevertheless, there were a few occasions (5.3%) in which the students provided in the pre-test a correct translation for the headword which did not match the meaning provided in the tests. In these cases, it was decided, when doing the statistics, that the translations given in the pre-test and the test would not be taken into account. In other words: the polysemous words variable was controlled, the result being that there was no mathematical distortion that affected the validity of the results, as there was a correlation between the base and the score obtained by each student.

Another aspect regarding content validity affects the nature of the definitions and examples given in the tests. Because the definitions and examples of the *EED* were different from those found in the *LNJED* and the *OIID*, they are not exact parallels as far as grammar and lexical choice are concerned. The test designers were aware that these facts might affect the results, but preferred not to create artificial, ad hoc definitions for the items in test 1 for four reasons that led us to believe that the results obtained would not be invalid. First of all, even though the definitions in test 1 tend to be slightly longer, test 2 gives more examples after the definitions, so the differences in length are balanced out. Secondly, both test 1 and test 2 used a very basic vocabulary and uncomplicated grammatical structures. Thirdly, a previous interview with each of the teachers showed that, even though the definitions and examples in test 2 contained more words in the high frequency bands, there was roughly the same number of unknown words in each test. As for the grammar, the teachers told us that it would not be a hindrance insofar as all grammatical structures had already been studied. There is still a fourth reason why the testers did not create artificial definitions for items in test 1: it has been shown that in EFL learning, C1 background is more important for comprehension than linguistic complexity. Johnson (1981: 169), for example, states that "the cultural origin of the story had more effect on the comprehension of the ESL students than the level of syntactic and semantic complexity". And Carrell (1987) demonstrates that unfamiliar content causes more difficulty to the students than unfamiliar form, that is, in EFL reading comprehension, content schemata are more important than formal (i.e. linguistic and rhetorical) schemata, which implies that "reading familiar content even in an unfamiliar rhetorical form is relatively easier than reading unfamiliar content in a familiar rhetorical form" (Kang 2002: 41).

3. Results

After the students had completed the questionnaire, the data obtained were analyzed following the procedures outlined in section 2.3. The result of each test was a percentage of (previously unknown) comprehended definitions. Thus, the authors of the study made sure that they identified the successfulness of the different dictionary definitions in test 1 and in test 2.

A substantial statistical difference was found in the comprehension of new words in test 1 and test 2. As shown in table 2, in test 1 (which contained no Catalan or Spanish culturally-based references) students understood 18.9% of the words defined, whereas in test 2 (which contained Catalan and Spanish culturally-based references) students understood 46.2% of the words defined.

In 1st ESO 14.2% understood the words in test 1 and 37.1% understood the words in test 2. As far as 6th Primary Education is concerned, 21.3% understood the words in test 1 (14.9% in Tona and 27.7% in Torelló) and 50.8% understood the words in test 2 (50% in Tona and 51.5% in Torelló). These figures are summarized in table 2, where the data in italics refer to 1st ESO stu-

dents and the data in bold refer to 6th Primary students.

School	Level/(years old)	Test 1 (%)	Test 2 (%)
TONA	<i>1st ESO (12-13)</i>	14.2	37.1
TONA	6th Primary (11-12)	14.9	50
TORELLÓ	6th Primary (11-12)	27.7	51.5
TOTAL		<i>14.2 + 21.3 / 18.9</i>	<i>37.1 + 50.8 / 46.2</i>

Table 2: Percentage of headword comprehension in the whole survey

No significant statistical difference was found between boys and girls in both tests (test 1 and test 2). In test 1, the boys scored 18.5% in the comprehension of new words, while the girls scored 18.8%. In test 2, the boys scored 49.6% in the comprehension of new words, whereas the girls scored 41.7%.

4. Discussion

The results presented in the previous section show that the answer to our research question ("does the presence of C1 in EFL learners' dictionaries improve the comprehension of the words defined?") is positive. To what extent, though, does C1 improve comprehension of the words defined? The results show that students who use an EFL dictionary that includes C1 references have, on the whole, more than double (2.45 times) the possibilities of understanding the meaning of a new looked-up word than those who do not. The only exception to this are the Torelló 6th Primary subgroups, in which the correlation in headword comprehension is slightly less than double (1.8 times more). On the other hand, the subgroups that presented a higher variation were those of Tona 6th Primary level: in this case, the students who took test 2 more than triplicated (3.3 times more) the amount of word comprehension of test 1 students. The percentages in comprehension presented in table 2 are given in correlational form in table 3, where the data in italics refer to 1st ESO students and the data in bold refer to 6th Primary students.

School	Level/(years old)	Test 1	Test 2
TONA	<i>1st ESO (12-13)</i>	1	2.6
TONA	6th Primary (11-12)	1	3.3
TORELLÓ	6th Primary (11-12)	1	1.8
TOTAL		<i>1 + 1 / 1</i>	<i>2.6 + 2.3 / 2.45</i>

Table 3: Correlation of headword comprehension in the whole survey

The results presented in table 3 confirm our research hypothesis (Corrius and Pujol 2010: 142) that, among other strategies, localizing and glocalizing culture (the nativization processes found in test 2) are useful mechanisms to improve comprehension when reading foreign language dictionary definitions. The differences in headword comprehension between the students who took test 1 and those who took test 2 are both significant and meaningful. On the one hand, they are significant in that the probability that these differences occurred by chance alone is really low, if not null, owing to the methodology (see section 2 above) employed when carrying out the study, which controlled as many variables as was deemed necessary. On the other hand, the differences in headword comprehension in tests 1 and 2 are meaningful, because they are large: students who took test 2 outperformed those who took test 1 by a large margin (2.45 times more); similar comprehension results would have produced slight differences in the comprehension of the headwords in tests 1 and 2, but not more than the double.

The findings of our study, then, support the schema theory insofar as dictionary users rely on (i.e. activate) their schemata (i.e. their previous C1 knowledge) when confronted with new information (in this case, when trying to understand the meaning of new words). In other words: our results confirm the main tenet of schema theory that meaning is construed by activating previous (in our case, C1) knowledge. Apart from this, the side-by-side comparison of the results obtained in tests 1 and 2 is consistent with the findings in the literature that, given the appropriate cultural schema, "readers may be able to overcome their insufficiently developed linguistic knowledge" (Al-Shumaimeri 2006: 3). To put it another way, the findings in our study show that the absence of C1 elements in test 1 significantly hinders (and even prevents) the students' reading comprehension: the students who took test 1 had much lower scores than those who took test 2 (18.9% vs. 46.2% of words comprehended). From this it may be inferred that using C1 background knowledge in the classroom and when designing EFL dictionaries may be more effective than ignoring C1. In other words: C1 may be an aid to enhance learning, especially at lower levels in which the students' cultural and world knowledge highly exceeds their linguistic competence in the foreign language.

One final aspect worth pointing out is that, despite the high percentage of comprehension of previously unknown words (46.2% for students who took test 2), and despite the fact that C1 elements are present in every single item in test 2, a significant number of readers in test 2 (53.8%, as opposed to 81.1% in test 1) failed to understand the meaning of the word defined. These results in test 2 might be due to linguistic difficulties, to other cognitive processes not studied here (e.g. wrong inferencing or inability to process contextual information), or perhaps even to the fact that the readers' schemata do not match those of the dictionary writer. Of course, it may well be the case that readers cannot activate or invoke the relevant cultural schema necessary to understand the text they are reading. It must be acknowledged, though, that students reading texts

containing C1 encountered significantly fewer difficulties than those students who read texts in which the presence of C1 was null: C1 is an important factor (though not the only one) that contributes to reading comprehension.

5. Conclusions

By using the tenets of the schema theory, this article confirms Corrius and Pujol's (2010: 142) hypothesis that dictionary users rely on their already established cultural knowledge (C1) when trying to understand the meaning of new words. The examples found in test 1 (taken mainly from the *LNJED*) use British culture as the by-default standard when providing examples (see e.g. 'draw', 'far', 'south', 'take' and 'tongue twister' in test 1 in the Appendix), which reduces the chances that EFL students understand the meaning of the defined L2 headword. On the other hand, the examples in test 2 (taken from the *EED*) emphasize culturally-familiar (i.e. local) elements (in cases such as 'against', 'monk' and 'painter') and cross-cultural (i.e. glocal) elements (in cases such as 'airline', 'right', 'take' and 'tongue twister'), which increases the chances that students understand the meaning of the defined L2 headword.

It may be concluded, then, that C1 plays a crucial role in understanding L2 definitions at lower-intermediate level (11–13 year-old students of EFL). As shown in table 2, in test 1 (which contains no Catalan or Spanish culturally-based references) students understand 18.9% of the words defined, whereas in test 2 (which contains Catalan and Spanish culturally-based references) students understand 46.2% of the words defined. These data show that the number of students in test 2 who understand the L2 headwords more than doubles the number of students who understand the same headwords in test 1.

To sum up, the hypothesis in this study, namely that the use of the students' own culture in the words defined helps them improve comprehension, has been tested and confirmed. As Jiang (2000: 332) summarizes, learners "swim confidently and rapidly when they are familiar with the water (i.e. within their native culture), but cautiously and slowly when it is unfamiliar to them (within a foreign culture)". It has been a long time since the schema theory hypothesized that students' previous knowledge could be helpful in understanding new information. However, most of the studies carried out so far are centred not on understanding dictionary definitions but on understanding passages or whole texts. This article shows for the first time in the literature that an EFL dictionary which uses cultural previous knowledge (C1) is a significantly more effective lexicographic tool than an EFL dictionary which is culturally neutral (see e.g. 'right' in test 1) or culturally biased towards C2 (see e.g. 'tongue twister' and 'apart' in test 1; the example in 'apart' contains the word 'mile' instead of 'kilometre', the first item being a unit of measurement not well-known by Catalan youngsters).

The results of our study of the effect of C1 on EFL readers' understanding of definitions has implications for curricular design. It seems desirable that, in

order to improve students' reading comprehension (and therefore EFL learning), lexicographers devise EFL nativized dictionaries (especially at lower levels) which take into account C1, and that teachers can choose between two types of dictionary: those that are culturally neutral or culturally biased towards C2 and those that incorporate C1 in their definitions or examples. Of course, in some cases, it may be desirable to incorporate C2 alongside C1 (see 'tongue twister') so that students perceive the similarities and differences between the two cultures and can learn about the foreign culture. Also, our study may have implications for classroom teaching. On the one hand, teachers may opt for minimizing their students' reading difficulties by incorporating C1 into the classroom; on the other, teachers may wish to administer pre-reading activities exploiting the knowledge of C1 as a basis for comprehending not only the foreign language, but also C2 (see 'tongue twister'). The same procedures might be applied to textbook design.

6. Limitations and further research

The present study is not without limitations. To begin with, its empirical scope is limited and therefore it would be unwise to claim universal validity for the results obtained. It must be acknowledged that, because of the sample characteristics, the results are only generalizable to Tona and Torelló students, or at best to schools with similar students. As Brown (1998: 203) puts it, "studies are *never absolute*. They must instead be viewed in relative terms — relative to probability, relative to other students, relative to theoretical frameworks." Therefore, a larger population would need to be tested in order to generalize the findings to other schools in Catalonia (and of course, to other schools outside the Catalan cultural context). Besides, it would be desirable to expand the number of items tested and/or try different items so as to provide more generalizable results. Moreover, further studies might control possible variables such as the students' stays abroad or the fact that they may have taken private lessons outside the school. Besides, even though the last part of section 2.3 gives reasons why we believe the language differences between test 1 and test 2 are not significant enough to invalidate the results, further tests could be carried out that would allow the researchers to control more tightly possible intervening variables such as the syntactical, lexical, and rhetorical differences between the two tests. For example, two identical tests in terms of grammar and vocabulary could be created, the only variable being the difference of the cultural elements present in each test (for studies focusing on text modification through nativization, see Rokhsari 2012: 46).

The limitations outlined above are a blueprint for further research. Other research studies that could be done in the future (using perhaps different dictionaries or materials from those employed here) are:

- (1) Replication of the study with students of different ages (the study was carried out only among 11–13 year-old students, so the results cannot be

generalized to students of different ages).

- (2) Replication of the study taking into account different levels of language proficiency: is it true, as Al-Shumaimeri (2006: 12) claims to have shown, that the lack of cultural knowledge affects "the low-ability students but not the high-ability students"?
- (3) The role of C1 could be investigated in relation to the other three skills: writing, listening and speaking.
- (4) Qualitative interviews or think-aloud protocols could be used to find out how students understand new knowledge:
 - (a) Can support be provided for the hypothesis that the higher reading comprehension when schemata are activated is due to the fact that, when students have to deal with familiar concepts or knowledge, a certain amount of cognitive space can be cleared up (Nassaji 2002)?
 - (b) Which cognitive processes exactly are involved when a schema is activated: inferencing, predictions, selection among possible meanings, reasoning, problem solving, remembering? For example, when reading the example in test 2 of the headword 'brand' ("Colgate' is a brand of toothpaste"), which schema is activated *in the context of the definition*: that of 'toothpaste' or that of 'brand'? And how do students arrive at the meaning of 'brand': by inferencing, reasoning, etc.?
 - (c) Are there any other mental processes (other than activating schemata) going on in the students' minds while trying to construe meaning when reading?

References

- Ajideh, P. 2003. Schema Theory-based Pre-reading Tasks: A Neglected Essential in the ESL Reading Class. *The Reading Matrix* 3(1): 1-14.
- Al-Shumaimeri, Y.A.N. 2006. The Effects of Content Familiarity and Language Ability on Reading Comprehension Performance of Low- and High-ability Saudi Tertiary Students Studying English as a Foreign Language. *Journal of King Saud University, Educational Sciences & Islamic Studies* 18(2): 1-19.
- Alemi, M. and S. Ebadi. 2010. The Effects of Pre-reading Activities on ESP Reading Comprehension. *Journal of Language Teaching and Research* 1(5): 569-577.
- Alptekin, C. 1993. Target-language Culture in EFL Materials. *ELT Journal* 47(2): 136-143.
- Alptekin, C. 2002. Towards Intercultural Communicative Competence in ELT. *ELT Journal* 56(1): 57-64.
- Alptekin, C. 2006. Cultural Familiarity in Inferential and Literal Comprehension in L2 Reading. *System* 34: 494-508.
- Bartlett, F.C. 1932. *Remembering: A Study in Experimental and Social Psychology*. Cambridge: Cambridge University Press.

- Brown, J.D.** 1998. *Understanding Research in Second Language Learning: A Teacher's Guide to Statistics and Research Design*. Cambridge: Cambridge University Press.
- Carrell, P.L.** 1987. Content and Formal Schemata in ESL Reading. *TESOL Quarterly* 21(3): 461-481.
- Carver, R.P.** 1992. Effect of Prediction Activities, Prior Knowledge, and Text Type upon Amount Comprehended: Using Rauding Theory to Critique Schema Theory Research. *Reading Research Quarterly* 27: 165-174.
- Chang, Y.-L.** 2007. The Cross-cultural Background Knowledge in the EFL Reading Comprehension. *Chia-nan Annual Bulletin* 33: 383-393.
- Chihara, T., T. Sakurai and J.W. Oller.** 1989. Background and Culture as Factors in EFL Reading Comprehension. *Language Testing* 6(2): 143-151.
- Coffey, S.** 2001. The L1 Culture in the L2 Classroom. *Modern English Teacher* 10(2): 54-58.
- Cook, G.** 1997. Key Concepts in ELT: Schemas. *ELT Journal* 51(1): 86.
- Corrius, M. and D. Pujol.** 2010. Linguistic and Cultural Strategies in ELT Dictionaries. *ELT Journal* 64(2): 135-142.
- Easy English Dictionary with a Catalan-English Vocabulary.* 2004. Vic: Eumo Editorial.
- Floyd, P. and P.L. Carrell.** 1987. Effects on ESL Reading of Teaching Cultural Content Schemata. *Language Learning* 37: 89-108.b
- Fuhong, T.** 2004. *Cultural Schema and Reading Comprehension*. [Tianjin]: Nankai University. <http://www.celea.org.cn/pastversion/lw/pdf/TanFuhong.pdf>.
- Garth-McCullough, R.** 2008. Untapped Cultural Support: The Influence of Culturally Bound Prior Knowledge on Comprehension Performance. *Reading Horizons* 49(1): 1-30.
- Hatim, B. and I. Mason.** 1990. *Discourse and the Translator*. Harlow: Longman.
- Jalilifar, A.R. and R. Assi.** 2008. The Role of Cultural Nativization in Comprehension of Short Stories in EFL Reading Contexts. *The International Journal of Language Society and Culture* 26: 62-79.
- Jiang, W.** 2000. The Relationship between Culture and Language. *ELT Journal* 54(4): 328-334.
- Johnson, P.** 1981. Effects on Reading Comprehension of Language Complexity and Cultural Background of a Text. *TESOL Quarterly* 15(2): 169-181.
- Kang, Y.** 2002. A Review of: Carrell, Patricia L. Content and Formal Schemata in ESL Reading. *LORE Journal* 11 March 2002: 39-42. http://rhetoric.sdsu.edu/lore/2_1/08_kang.pdf. Also available at <http://www.lorejournal.org/2002/03/review-content-and-formal-schemata-in-esl-reading-by-yunkyoung-kang>.
- Karakas, M.** 2005. The Effects of Pre-reading Activities on ELT Trainee Teachers' Comprehension of Short Stories. *Journal of Theory and Practice in Education* 1: 25-35.
- Longman New Junior English Dictionary.* 1993. Burnt Mill, Harlow: Longman.
- Nassaji, H.** 2002. Schema Theory and Knowledge-based Processes in Second Language Reading Comprehension: A Need for Alternative Perspectives. *Language Learning* 52(2): 439-481.
- The Oxford English Dictionary.* 2013. Oxford: Oxford University Press. <http://www.oed.com>.
- The Oxford Illustrated Junior Dictionary.* 1991. Oxford: Oxford University Press.
- Post, R. and I. Rathet.** 1996. On their Own Terms. Using Student Native Culture as Content in the EFL Classroom. *English Teaching Forum* 34(3): 12-17.
- Pujol, D., J. Masnou and M. Corrius.** 2008. Pedagogical Criteria for Effective Foreign Language Learning: A New Dictionary Model. Bernal, E. and J. DeCesaris (Eds.). 2008. *Proceedings of the XIII EURALEX International Congress, Barcelona, 15-19 July 2008*: 763-769. Barcelona: Universi-

tat Pompeu Fabra, Institut Universitari de Lingüística Aplicada.

Reynolds, R.E., M.A. Taylor, M.S. Steffensen, L.L. Shirey and R.C. Anderson. 1981. *Cultural Schemata and Reading Comprehension*. Champaign, Illinois: University of Illinois at Urbana-Champaign. https://www.ideals.illinois.edu/bitstream/handle/2142/17592/ctrstreadtechrepv01981i00201_opt.pdf?sequence=1.

Rokhsari, S. 2012. The Effect of Text Nativization and Schema-based Pre-reading Activities on Reading Comprehension of EFL Students. *Journal of Academic and Applied Studies* 2(5): 45-75.

Appendix: questionnaire

The appendix includes the questionnaire given to the students. Parts I and II were common for all students. Part III consists of two tests: students in group 1 took test 1 and students in group 2 took test 2. For ease of comparison, the definitions of each test are placed side by side. For the sake of clarity, a translation is provided in square brackets, after the original instructions in Catalan.

I. INFORMACIÓ PERSONAL [PERSONAL DETAILS]

Quants anys tens? [How old are you?]: _____

Ets noi o noia? [Are you a boy or a girl?]: _____

Quin curs fas? [Which course level are you taking?]: _____

II. CONEIXEMENT PREVI I TRADUCCIÓ DE PARAULES [PREVIOUS TEST: PREVIOUS KNOWLEDGE AND TRANSLATION OF WORDS]

Subratlla totes les paraules de les quals coneixes el significat i posa al costat el que volen dir en català. [Underline the words you know and write their meaning in Catalan next to the word.]

against
airline
apart
banknote
beech
blind
branch
brand
cello
chestnut
coast
defeat
department store
draw
eastern
far
firework
island
monk
north
painter
painting
picture
price
right
sights

south
take
tongue twister
used to

III. TEST [TEST]

Llegeix les definicions de més avall i escriu en català, al costat de cada paraula, el que creus que vol dir la paraula en **negreta**. [Read the definitions below and write in Catalan, next to each word, what you think the word in **bold** means.]

TEST 1	TEST 2
against not agreeing with someone or something: <i>I'm against killing animals for their fur.</i>	against <i>F.C. Barcelona is playing against Real Madrid.</i>
airline a company which carries people or goods by plane.	airline an aeroplane company: <i>Iberia and British Airways are international airlines.</i>
apart separately; away from another, or others: <i>The two villages are 6 miles apart.</i>	apart away from each other: <i>Barcelona and Vic are 60 km apart.</i>
banknote a piece of paper money.	banknote paper money: <i>a €10 banknote/a 10-euro banknote.</i>
beech a kind of tree [+ illustration].	beech a type of tree: <i>La Fageda d'en Jordà is a forest near Olot with lots of beeches.</i>
blind not able to see because you have something wrong with your eyes: <i>She was born blind.</i>	blind a blind person cannot see: <i>ONCE is an organisation for blind people.</i>
branch one part or one office of a business: <i>The bank has branches in all the big towns.</i>	branch an office in a big organization: <i>'La Caixa' has many branches in Catalonia.</i>
brand the name of a particular kind of goods made by one company: <i>What brand of soap do you like?</i>	brand the name of a product: <i>'Colgate' is a brand of toothpaste.</i>
cello a musical instrument like a large violin which you hold between your knees.	cello a musical instrument similar to a violin, but bigger: <i>Pau Casals played the cello.</i>
chestnut the shiny brown nut that grows on a chestnut tree.	chestnut a brown dry fruit that we usually cook and eat in October and November: <i>My mum always buys chestnuts on 1st November.</i>
coast the land next to the sea: <i>a town on the coast.</i>	coast the seaside: <i>The Costa Brava is a very famous coast in Catalonia.</i>
defeat to beat an opponent in a war, game, etc.	defeat to win: <i>F.C. Barcelona defeated Real Madrid: Barça 3 – Madrid 0.</i>
department store a type of shop that is divided into several parts, each of which sells a different kind of goods.	department store A very big shop that is divided into several floors: <i>El Corte Inglés is a famous department store.</i>

draw to end a game or match with an equal result so that nobody wins: <i>We drew with the London team. To draw a match.</i>	draw not to win or lose a match: <i>F.C. Barcelona drew with Real Madrid, 1–1.</i>
eastern in or of the east.	eastern from or in the east: <i>Catalonia is in the eastern part of Spain.</i>
far distant from a place: <i>How far is it to London? It isn't very far. It's too far to walk.</i>	far at a long distance from a place: <i>Miami is very far from Barcelona; Sabadell is very near Terrassa.</i>
firework a cardboard tube filled with special chemicals, which burns with a loud noise and makes bright lights in the air.	firework a small tube that explodes in the air and produces lights of beautiful colours: <i>We went to watch the fireworks on Saint John's Day.</i>
island a piece of land surrounded by water.	island a piece of land surrounded by water: <i>Minorca, Tenerife and Hawaii are islands.</i>
monk one of a group of men who live together and have given their lives to a religion.	monk a man that lives in a religious community: <i>Montserrat is a monastery where lots of monks live.</i>
north the direction that is on the left when you look towards the rising sun: <i>Manchester is in the north of England. The north part of the house doesn't get a lot of sun. Birds fly north in summer.</i>	north a cardinal point: <i>The Pyrenees are in the north of Catalonia.</i>
painter a person who paints pictures.	painter a person that paints: <i>Salvador Dalí was a famous Catalan painter.</i>
painting a painted picture: <i>a painting of a boat.</i>	painting a picture made with paint: <i>The art gallery was full of Picasso's paintings.</i>
picture something represented on paper as a drawing, painting, or a photograph: <i>She drew a picture of me.</i>	picture a drawing or a painting of a person, a place, etc.: <i>I like pictures by Dalí.</i>
price the money that you must pay to buy something: <i>The price of that house is too high.</i>	price the cost of something: <i>The price of this bicycle is €180.</i>
right towards the right side: <i>Turn right at the corner.</i>	right the opposite of 'left': <i>In Great Britain people drive on the left, but in Spain we drive on the right.</i>
sights the places that are interesting to visit in a city, country, etc.	sights interesting places that tourists visit: <i>The Sagrada Família is one of the most important sights in Barcelona.</i>
south the direction that is on the right when you look at the sun at the start of the morning: <i>London is in the south of England. The south side of the city, to travel south, living south of Oxford.</i>	south a cardinal point: <i>Andalusia is in the south of Spain.</i>
take to need a particular amount of time: <i>The journey to London takes three hours.</i>	take to need time: — <i>How long does it take from Barcelona to London? — It takes two hours by plane.</i>

<p>tongue twister a group of words difficult to pronounce when you say them quickly: <i>'She sells sea shells on the sea shore' is an English tongue twister.</i></p>	<p>tongue twister a group of words difficult to pronounce when you say them quickly: <i>'Setze jutges d'un jutjat mengen fetge d'un penjat' is a Catalan tongue twister; 'She sells sea shells on the sea shore' is an English tongue twister.</i></p>
<p>used to used with another verb to show that something was done often in the past, but is not done now: <i>He used to play football every Saturday when he was young. My father didn't use to smoke, but now he does.</i></p>	<p>used to 'used to' indicates that we did something regularly in the past: <i>When I lived in Platja d'Aro I used to go to the beach every day.</i></p>