Language Windowing through Corpora
Visualización del lenguaje a través de corpus

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Data-driven analysis on the weight of the explicit and implicit construct in ELT textbooks

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Abstract
It is generally accepted that there is a close relationship between explicit and declarative knowledge, and between implicit and procedural knowledge. Explicit is also associated with learning in which consciousness is engaged, while implicit is associated with acquisition, which takes place without a conscious control of the process. Research in explicit and implicit knowledge should have a counterpart in real language teaching and in the classroom, if research is to be the trigger of innovation and open new frontiers in ELT. The promotion of explicit or implicit knowledge (learning or acquisition of language) is necessarily present in the teaching materials and/or in the classroom action. As regards teaching materials, the minimal teaching unit par excellence, the exercise or activity, should reveal the nature of the type of knowledge aimed at. In this study a corpus with the activities of an ELT textbook was compiled. This was then analysed and systematised from the perspective of its explicit and implicit potential. The results show whether the textbook complies or not (and how much) with the requirements leading to explicit or implicit learning.
Keywords: explicit knowledge, implicit knowledge, explicit learning, implicit learning, acquisition, explicit teaching, implicit teaching, language teaching materials

Resumen
Existe un acuerdo generalizado sobre la estrecha relación existente entre conocimiento declarativo y explícito, y entre conocimiento procedimental e implícito. Explícito se asocia a aprendizaje, en el que se activa la consciencia, mientras que implícito se vincula a adquisición, cuyo proceso tiene lugar sin que intervenga la consciencia. Si partimos de la premisa de que la investigación anteriormente mencionada debe ser el motor de la innovación y abrir nuevas fronteras en la enseñanza de idiomas, es de esperar que los estudios resultantes se vean reflejados en el aula real y la enseñanza de lenguas extranjeras. El desarrollo del conocimiento explícito e implícito (aprendizaje o adquisición) se refleja ineludiblemente en los materiales para la enseñanza de lenguas y/o en la acción docente en el aula. Respecto a los primeros, la unidad mínima por excelencia es la actividad, la cual debe revelar la naturaleza del tipo de conocimiento que se pretende fomentar. En el presente trabajo hemos compilado un corpus de las actividades de un libro para la enseñanza del inglés como lengua extranjera. Posteriormente se analizaron y sistematizaron dichas actividades desde la perspectiva de su potencial para promover la enseñanza/aprendizaje de lo explícito o implícito. Los resultados muestran hasta qué punto el manual se ajusta a los requisitos necesarios para posibilitar el aprendizaje explícito e implícito.
Palabras clave: conocimiento explícito e implícito, aprendizaje explícito, aprendizaje implícito, adquisición, enseñanza explícita e implícita, materiales para la enseñanza de lenguas extranjeras

1. Introduction[1]

The terms *explicit* and *implicit* (knowledge) are nowadays at the centre of the paradigms in SLA. They correlate to two other key terms, *declarative* and *procedural* (knowledge), widely used in psycholinguistics and neurolinguistics, and are close to two other well-known terms in the Western tradition, *rationalism* and *empiricism* (Criado-Sánchez & Sánchez, 2009). *Explicit* and *implicit* are also heavily indebted to Krashen (1981). His dichotomy, *learning* vs. *acquisition*, is at the heart of SLA studies, initiated in the early 80s of the last century. Learning is typically associated with explicit, and acquisition with *implicit* (DeKeyser, 2003; Ellis, 2005; Hulstjin, 2005; Robinson, 1996; Schmidt, 1990, 1994, among others). During the last 30 years or so, research and discussion on L2 teaching and learning cannot be adequately understood unless we take into consideration the concepts and ideas developed around those pairs of words.

2. Explicit and implicit knowledge and learning

There has been much discussion on the adequacy of claiming two kinds of knowledge, explicit and implicit. Some scholars (Shanks, 2003) argue that knowledge is a single entity and a single source of a varied performance rooted in the way retrieval takes place, while others (Anderson, 2005; Wallach & Lebiere, 2003) are strongly in favour of such a dichotomy. Anderson's model in particular has exerted a strong influence in SLA studies. His model claims a tight interaction and interplay between both types of knowledge and strengthened the strong-interface position, which considers declarative knowledge as a springboard towards implicit or proceduralised knowledge. The debate on this issue is still undecided, but the experience of adult language learning cannot but support the view that conscious learning is an important element in the acquisition of knowledge, even if the details on how this takes place are still blurred.

Dörnyei (2009) warns about the profuse coverage of the terms *explicit/implicit* and the confusion that may derive from it, since they are applied to different concepts: knowledge (*implicit/explicit knowledge*), learning (*explicit/implicit learning*) and memory or information storing (*explicit/implicit memory*). The meaning of *explicit/implicit* keeps the core features in

the three uses, particularly that concerning the role of consciousness, but its application to knowledge, learning or memory results in important differences regarding the end-product.

With this caveat in mind, we will use the term *explicit* as implying consciousness, awareness and reasoning, while *implicit* excludes consciousness, or conscious control of the processes performed. More specifically, explicit learning generates explicit knowledge and facilitates explicit memory, and implicit learning generates implicit knowledge and facilitates implicit memory. *Explicit knowledge* is the kind of knowledge we may have access to, knowledge we can *declare*, we are aware and conscious of. This type of knowledge can therefore be verbalised and consciously controlled (Ellis, 1994; Paradis, 2009; Schmidt, 1990). *Implicit knowledge*, on the other hand, is the kind of knowledge we are not conscious about. This kind of knowledge does not require our conscious collaboration as it is automatic and proceduralised; once triggered, it proceeds automatically until it comes to a final goal (Anderson, 2005; Hulstjin, 2005; Hulstjin & De Graff, 1994; Schmidt, 1993a, 1993b).

Finally, we assume here the parallelism between explicit-declarative and implicit-procedural. Accordingly, *declarative knowledge* (DEC) or *knowledge-that*, is believed to keep the same properties as explicit knowledge, and *procedural knowledge* (PRO) or *knowledge-how*, the same properties as implicit knowledge.

3. THE TEACHING MATERIALS: THE IMPLICIT AND EXPLICIT CONSTRUCT

Matching the way of teaching with effective learning will first require that both processes agree in that they are guided by the same principles and run somehow parallel. If we focus our analysis on the role of explicit and implicit teaching and their probable influence on explicit and implicit learning, it is meaningful to analyze the degree of explicitness and implicitness of the teaching materials. Even though it is well known that students quite often learn what has not been taught, while sometimes they may actually learn what they have been instructed to learn (Lewis, 1996; Willis & Willis, 2001), the expectations are that learning by adult students in instructed acquisition will run parallel to the teaching action deployed. We may reasonably assume that explicit materials will favour explicit learning and implicit materials will result in more implicit learning. We do not attempt, however, to take a stand for explicit or implicit teaching. We just aim to offer data based on real teaching materials regarding the amount of explicit or implicit learning they may promote through the activities they offer.

The goal we pursue here requires the identification of the features and characteristics through which we will be able to decide on whether a specific activity promotes implicit or explicit learning/teaching. For that purpose, a reliable diagnosis of the *implicit/explicit* construct must count first with the tools necessary to perform such a task. The description of explicitness and implicitness in the previous sections guides us in this task.

Since the teaching action in textbooks is typically based on activities or exercises, they can be taken as the units for analysis. Activities have their own structure and the potential for promoting explicit or implicit knowledge depends on the nature of their constituent elements, which are (i) the goal they aim at, and (ii) the activated means in order to reach such a goal, that is, the strategies deployed. Accordingly, the identification and analysis of the goal and the strategies of each activity are decisive in detecting if they have been designed for promoting implicit or explicit learning.

The explicit and implicit constructs are not neatly shaped and delimited. This brings with it an additional problem: the question of whether it is necessary or convenient to use a scale in detecting the degree of explicitness or implicitness. From our point of view, the convenience of such a scale derives from the fact that the activities analysed will probably subscribe to all, none or some of the features defining explicit or implicit teaching. The pedagogical action *per se* (instructed acquisition) tends to introduce some kind of explicitness, whether deductive or inductive. On the other hand, whenever implicitness is pursued in the classroom, the materials are very often pedagogically arranged to match the (implicit) goals previously defined. In that case, the input is previously 'manipulated' and includes many instances of a particular lexical or grammatical point even though no explicit information is given on the underlying target forms. Moreover, explicit teaching is also accompanied by abundant practice, which favours proceduralisation, that is, implicit learning.

The scale applied here is organised along a continuum from 0 to 10, with 10 being the maximum and 0 the minimum (total absence of implicit or explicit character in the activity). In case both constructs are present to some extent in the same activity, the total of the unit is always 10.

With this in mind, the scheme of the analysis and assessment of each activity regarding its potential for favouring explicitness or implicitness is adjusted to the study of the following characteristics:

Table 1: Features of implicit and explicit learning in activity goals and strategies

Type of learning promoted/favoured	Features of activities (promoting/favouring each type of learning)
Implicit learning	**1. Activity goals,** 1.1. do not require awareness of nor demands attention to form 1.2. offer linguistic input or triggers output aiming at proceduralisation 1.3. favour focus on meaning (and not on the form) 1.4. aim at fluent and efficient communication (productive and receptive) 1.5. offer genuine and authentic materials **2. Activity strategies,** 2.1. centre on the transmission of meaning (meaning centred/oriented) 2.2. do not require controlled and conscious processing of language (spontaneous practice/speech, varied responses, free use of target forms) 2.3. require the use of the target language 2.4. are interactive 2.5. 2.5. favour proceduralisation through meaningful repetition and frequent instances of use
Explicit learning	**3. Activity goals,** 3.1. look for awareness on formal aspects of language 3.2. offer declarative knowledge on the language 3.3. demand explicit attention to specific forms 3.4. aim at accuracy in the use of the language, or at the explicit understanding of language use 3.5. offer materials artificially arranged around grammar/structural aspects/vocabulary items/pronunciation **4. Activity strategies,** 4.1. centre on learning of form 4.2. demand explicit knowledge or controlled processing for performance (controlled practice, target structures, unvarying responses) 4.3. do not require the use of native language 4.4. do not aim at really interactive communication 4.5. favour declarativisation: ask for/give/points at memorisation of grammatical explanations/rules/vocabulary items/pronunciation

The implicit and explicit constructs are built around two axes: the **goals** and the **strategies** guiding each activity. We also try to detect and identify each type of knowledge through opposing features, that is, marking the presence or absence of specific features, as is for example the case of 'awareness'. This procedure allows for a clear and functional analysis.

Regarding the goals, five questions are examined:

(i) Awareness: explicit knowledge requires awareness of the linguistic elements being introduced or practiced, while implicit knowledge does not.

(ii) Activities offer some kind of input, be it for presentation or for practice. If the input is explicit, declarativisation prevails; if not, the input will favour proceduralisation.

(iii) Meaning centred activities leave form aside and attention to linguistic elements is not favoured. Hence, implicit learning is more likely to occur.

(iv) Fluency in communication is appropriate for natural language use and therefore favours proceduralisation (implicit learning). Accuracy in the use of forms usually implies explicit information of the language and is connected to declarative knowledge (explicit).

(v) Authentic and genuine materials are guided by communicative goals, because this is the natural use of language. Implicitness is the most likely outcome. Materials selected according to formal criteria emphasise specific formal elements, so explicitness is therefore be favoured.

Regarding the **strategies** through which the goals may be attained, five questions are also analysed:

(i) Strategies requiring attention to meaning (what to say) promote implicit learning, since the formal elements are not emphasised.

(ii) Strategies which require conscious control of the linguistic elements used in communication favour declarative knowledge (explicit).

(iii) The use of the target language is a necessary ingredient for intensive exposure to the language and proceduralisation.

(iv) Interactive events are appropriate for real communication, hence implicit learning is favoured. Communicative events centred on accuracy and form can sometimes be de-contextualised (explicit).

(v) Practice (be it repetitive or not) when it is meaningful, offers instances of input for proceduralisation (see Sánchez and Criado-Sánchez, in press). Mechanical practice leads to declarativisation because it is centred on form (structures).

4. THE ANALYSIS OF A TEACHING UNIT

The teaching materials were taken from a textbook for teaching English as a foreign language: *New English File Elementary Student's Book*. The textbook is structured in 9 files or units, each of which contains 4 subfiles (A, B, C and D). We selected a unit from the second half of the book, file 7. The selection was done at random.

This unit contains several sections focused on the four skills and the grammar, vocabulary and pronunciation sub-skills, with a total of 79 activities. The activities were carefully analysed following the criteria mentioned in section 3. Due to space restrictions, a sample of the analysis carried out in one of the four subfiles of the unit, subfile 7B, is shown in Table 2. The results below refer to the data resulting from the analysis of the 79 activities of the whole unit. The weight of explicitness and implicitness in each activity is given in numbers within the scale 0-10. The sum of the figures in each column represents the weight of each one of the constructs in the unit.

Table 2: Sample analysis (subfile 7B)

Activity: promotes/favours….	Implicit (…/10)	Explicit (…/10)
B Pronunciation **18 1.a.** Listen and repeat the sounds and words. [Features met: (1.2; 2.3) (3.1, 3.3, 3.4, 3.5; 4.1, 4.2, 4.4, 4.5)	2	8
19 1.b. Listen and practice the dialogue [Features met: (1. 2; 2.3) (3.1, 3.3, 3.4, 3.5; 4.1, 4.2, 4.4, 4.5)]	2	8
Speaking **20 2.a.** Read the introduction and the questionnaire. [Features met: (1,1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
21 2.b. In pairs, interview your partner. Who drinks more water? [Features met: (1.1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
Grammar **22 3.a.** Complete the questions with *how much* or *how many*. [Features met: (1.2; 2.3) (3.1, 3.3, 3.4, 3.5; 4.1, 4.2, 4.4, 4.5)]	2	8
23 3.b. Match the sentences and pictures. [Features met: (1.2; 2.3) (3.1, 3.3, 3.4, 3.5; 4.1, 4.2, 4.4, 4.5)	2	8
24 3.c. Grammar Bank. a) Complete with How much/How many. [Features met: (2.3) (3.1, 3.2, 3.4, 3.5; 4.1, 4.2, 4.3, 4.4, 4.5)]	1	9
25. 3.c Grammar Bank. b) Cross out the wrong words. [Features met: (2.3) (3.1, 3.2, 3.4, 3.5; 4.1, 4.2, 4.3, 4.4, 4.5)]	1	9
26 3.d. Complete the questions with *how much* or *how many*. [Features met: (2.3) (3.1, 3.2, 3.4, 3.5; 4.1, 4.2, 4.3, 4.4, 4.5)]	1	9
27 3.e. In pairs, ask and answer. Answer with an expression from d or a number. [Features met: (1.2, 1.3; 2.1, 2.3, 2.4, 2.5) (3.1, 3.4, 3.5; 4.2)]	6	4
Reading **28 4.a.** Cover the magazine article *Water – facts and myths*. In pairs, look at these questions. Can you answer any of them? [Features met: (1,1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
29 4.b. Read the article. Put the questions in *a* in the gaps [Features met: ((1,1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
30 4.c. Read the article again. Match the highlighted words with these phrases. [Features met: (1.1, 1.2, 1.4, 1.5; 2.1, 2.3, 2.3, 2.4) (3.3; 4.5)]	8	2
31 4.d. Look at the questions in *a* again. In pairs, answer them from memory [Features met: (1,1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
32 4.e. Is there anything in the article you don't agree with? [Features met: (1,1, 1.2, 1.3, 1.4, 1.5; 2.1, 2.2, 2.3, 2.3, 2.4, 2.5)]	10	0
Weight of explicitness/implicitness in subfile 7B	**85**	**65**
TOTAL weight of explicitness/implicitness in the unit	**529**	**261**

5. ANALYSIS OF DATA

The prevailing implicit character of the activities in the whole unit analysed in the previous section is evident: out of a total of 790 features, 529 favour implicit learning, while only 261 favour explicit learning. The weighting given to implicitness almost doubles that granted to explicitness (Graph 1).
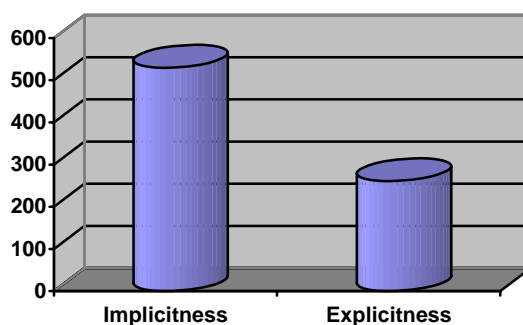
Graph 1: Total weight of implicitness vs. explicitness as revealed in the activities

This fact is not innocuous from a methodological point of view. It reveals that teaching is clearly biased towards a 'natural approach', that is, exposure to and practice with the input as a way of learning is given more emphasis than learning about the language or just practising with (artificially arranged) phrases or forms. Additionally, the input and practice associated with it are most often centred on meaning, close to authentic materials and real use of language, and aim at communicative functions appropriate to language within communicative settings or situations. On the other hand, grammar, form or information on the linguistic system, rules, abstract and explicit explanations of the language are not avoided but are given a secondary role in the overall work promoted by the activities. The result of this global appraisal is that the prevailing method is clearly communicative (CLT), even though elements from other methods emphasising the formal aspects of language are also present.

This global conclusion should be nuanced, however. Since the file is structured in partially autonomous sections and each section promotes a specific skill or sub-skill, the weight of the construct explicit/implicit in the sections by necessity reveals whether their distribution of this construct is homogeneous or varies depending on the nature of each one of the sections. To begin with, Graph 2 shows the total of activities assigned to each one of the sections or skills/sub-skills. It is important to take this information into account. The data

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shows a clear imbalance in the amount of activities reserved for listening (14), for example, versus the activities reserved for writing (3), while the activities for teaching grammar (19) are significantly higher than those assigned to vocabulary teaching (11) and pronunciation (11).
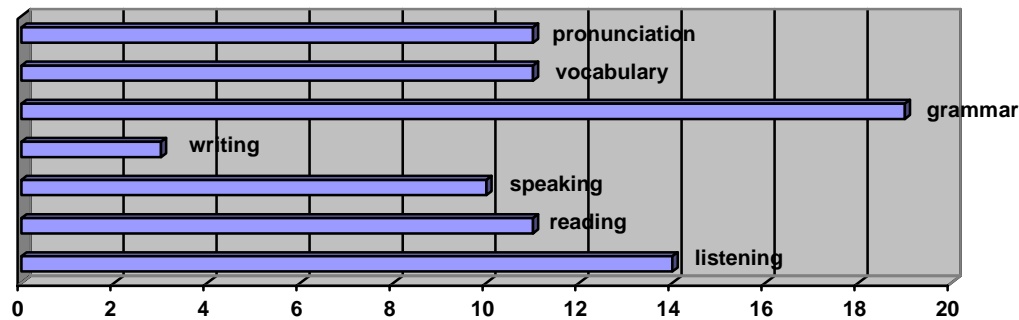
Graph 2: Number of activities per skill and sub-skill

The proportion of the number of activities devoted to each skill or sub-skill does not correspond however to the weight of explicit or implicit features they actually favour. There are important differences regarding the presence of explicitness and implicitness in each section, regardless of the number of activities in each section. A case in point is the section devoted to grammar: the percentage of activities centred on grammar within the whole file is 24.05%. However, within this same section the weight of the implicit construct reaches only 13.37% of the features within the whole subfile, while the promotion of explicitness reaches 44.08%. The four skill sections show a homogeneous distribution though, with a neat and clear prevalence of the implicit construct in all of the skills (see Graph 3, where Voc, Gr, Pro, Lis, Sp, Read and Wr respectively stand for Vocabulary, Grammar, Pronunciation, Listening, Speaking Reading and Writing). In the same graph, the data shows that teaching of the three sub-skills (grammar, vocabulary and pronunciation) abound in explicitness, while the teaching of the four skills is very poor in this respect. Within the three sub-skills, only vocabulary shows a balance in the weight of implicitness and explicitness. The unbalance in favour of explicitness is evident in the teaching of grammar and pronunciation. Similarly, the imbalance in favour of implicitness is evident in the sections of listening, speaking, reading and writing.
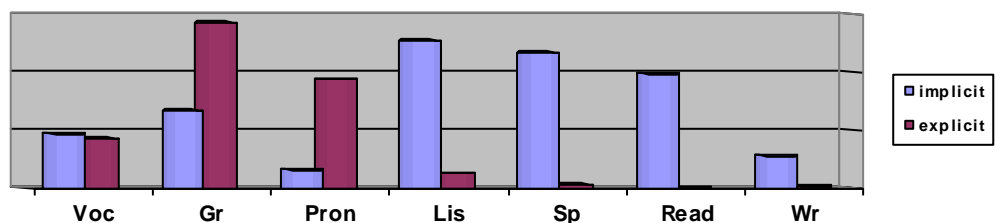
Graph 3: Weight of the features of the implicit and explicit constructs per skill and sub-skill

The distribution of the explicit/implicit constructs across skills and sub-skills shows what should probably be considered a traditional belief in the role of skills and sub-skills. Skills are approached from a global and comprehensive perspective. Skills are conceived with meaning playing a leading role, since they are by necessity holistic and meaning centred. In that sense, it can be affirmed that the prevalence of implicitness is a logical outcome, since explicitness tends to stress specific linguistic elements (form) at the expense of meaning, which would be assigned a secondary role.

Sub-skills show a more complex picture. Grammar has been traditionally associated with methods displaying a heavy emphasis on the teaching of form. The higher index of explicitness is therefore to be expected in the grammar section, as is the case in the unit analysed here. Pronunciation, however, can be said to have been present throughout the history of teaching. The traditional grammar-translation method emphasised correct pronunciation, and mostly emphasised correct grammar and vocabulary use. But the same stress is found in natural methods, from the Direct to the Communicative Method. Vocabulary knowledge shares a similar role across all methods. In the unit analysed, however, only the vocabulary section keeps a balance in the role assigned to explicitness and implicitness. Pronunciation is taught here with a heavy emphasis on the role of explicit knowledge.

6. CONCLUDING REMARKS

Learning is a complex process, a fact which is clearly acknowledged in SLA. The analysis of this unit from the perspective of implicit/explicit teaching reveals a similar situation. Activities throughout the unit favour both the acquisition of explicit and implicit knowledge, although the weight of implicitness almost doubles that of explicitness. The unbalance of implicit vs. explicit load pervades seven of the eight sections structuring the unit. The

unbalance in favour of implicitness is condensed in the activities for teaching the four skills, while the sections reserved for teaching the sub-skills are unbalanced toward explicitness, particularly in the case of grammar and pronunciation. Research and findings in favour of implicit teaching appear in this unit in close association with traditional practices and convictions.

No doubt, recent trends in SLA may have exerted a decisive influence on the methodological and pedagogical design of this unit. In this case, it proves that research in language acquisition and learning does affect teaching and the elaboration of teaching materials. If this is so, the kind of analysis carried out here deserves more attention, in the sense that it brings together the application of SLA insights to FLT research and practice.

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