Barlow's corpora analysis as an ESAP reading comprehension strategy

Análisis de corpus de Barlow como una estrategia de comprensión de lectura de ESAP

Yrma Doris García Rojas[1]

Abstract

The purpose of the present article is to demonstrate that the adaptation of Barlow's corpora analysis can prove to be effective for developing reading comprehension skills in an English for Specific and Academic Purposes (ESAP) course for a group of non-English speaking nurses in a postgraduate program at a Peruvian university. The strategy is based not only on the linguistic context analysis but on the integration of other procedures associated with learners' previous knowledge as that of schemata, also known as background knowledge, which can be referred to as knowledge they possess from their nursing specialty. The results demonstrate that learners could productively cope with unknown vocabulary in a medical-based reading comprehension text.

Key words: Barlow's corpora analysis, reading comprehension, ESAP, context, schemata, specialized vocabulary

Resumen

El objetivo del presente artículo es demostrar que la adaptación del análisis de corpus de Barlow puede ser efectiva para desarrollar habilidades de comprensión lectora en un curso de inglés para fines específicos y académicos (ESAP) para un grupo de enfermeras que no habla inglés en un programa de posgrado en una universidad peruana. La estrategia se basa no solo en el análisis del contexto lingüístico, sino en la integración de otros procedimientos asociados con el conocimiento previo de los alumnos como el de los esquemas, también conocido como conocimiento de fondo, que puede denominarse conocimiento que poseen de su especialidad de enfermería. Los resultados demuestran que los alumnos pueden lidiar productivamente con el vocabulario desconocido en un texto de comprensión de lectura basado en la medicina.

Palabras clave: análisis de corpus de Barlow, comprensión de lectura, ESAP, contexto, esquemas, vocabulario especializado

1 Universidad Católica Sedes Sapientiae, Lima - Perú
E-mail: yrma.garcia.r@upch.pe

Introduction

English reading comprehension has become a vital communication skill to all professionals in the nowadays-globalized world characterized as being a knowledge society undergoing the effect of Information and Communication Technology (ICT) development. On the other hand, the importance of English reading comprehension in the life of professionals is perceived through the fact that the most updated and prolific science and technology advances come from English speaking countries via internet rather than other means of communication.

On the other hand, it is claimed that specialized language should be simple and transparent for the purpose of clarity and objectivity; nevertheless, this is not the case for many languages. For non-English-speaking health care professionals, for example, English medical terminology it does represent a major challenge. Even though some specialists state that medical English syntax, for example, can be easily managed if some instructional guidance supports the learning process, English vocabulary in reading comprehension needs a great deal of skill training for learners of English as a foreign language.

In order to cope with specialized language, English program courses have been designed falling these within English Language Teaching nomenclature as English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Specific and Academic Purposes (ESAP). In the current research, the attention will be devoted to the treatment of specialized English vocabulary in an ESAP course with the help of a pedagogical strategy that has been adapted from Barlow's corpora analysis approach.

As part of the current research, we will give account of some background features associated with English development for specific and academic purposes. Afterwards, the theoretical framework that gives support to this research paper will be provided. We make coverage on reading comprehension approach based on schemata-based theory. Saville-Troike regards vocabulary or lexicon as the most important language aspect L2 learners should develop, being this for academic or interpersonal competence. Takač strongly regards that vocabulary learning should happen in a conscious and controlled way for which explicit strategies should be provided.

In order to manage unknown words in an ESAP reading comprehension course, some procedures need to be undertaken. Corpus linguistics approach in lexical analysis has currently become a wide spread method in computer-based linguistic investigation. Barlow´s Corpora Analysis (Hunston, 2002, p. 35) is a proposal based on a qualitative analysis of computer data regarding the closest words to a target word. For the purpose of this research, we have turned this model into an ESAP reading comprehension strategy with positive results. For this, we present the research procedure; the findings and results are developed with the help of some statistics. We proceed with some discussion, and then generate some conclusions and recommendations for ELT professionals involved in ESAP courses.

Background features

It is widely accepted that English is the language of the contemporary globalized world. It has become the means of communication for a wide range of human life activities such as economy, politics, culture, education, science and technology. Hence, English language learning has been incorporated in the educational system at the tertiary level with variable degrees. In some cases, there is a great demand of proficiency in the four skills, that is to say, learners should prove their listening, speaking, reading and writing skills; while in others, it is compulsory to domain some specific skills depending on its utility. The goals and purposes for learning English may vary widely from country to country, from society to society, from community to community, from institution to institution.

After needs analysis has been worked out to match English learners' needs by curriculum designers, some differentiated perspectives dealing with the lingua franca at the academic and professional levels have come up. Currently, it is commonly heard of programs such as English for Specific Purposes (ESP), English for Academic Purposes (EAP), and a third one that deals with both, English for Specific and Academic Purposes (ESAP). The development of these programs are run by educational institutions with the hope that "ELT professionals can contribute to the development of a nation by training its citizens in the academic and professional English that people need in order to acquire knowledge and generate improvements" (Orr, 2013, p. 2).

Saville-Troike has found that English communicative competence is associated with the knowledge needed for its use. She acknowledges that "L1 competence ideally involves the broad repertoire of knowledge which people need to communicate appropriately for many purposes within their native language community" (2012, p. 135). In other words, mother tongue knowledge fulfills a range of communicative purposes that emerge in authentic and spontaneous daily life situations. If this is so, what is then the role of a second or a foreign language in a speech community?

With the unavoidably events of technological, scientific and medical advances, the necessity for *acquiring* or *learning* (according to Krashen's hypotheses, but the terms will be used interchangeably here) an additional language is critical. Since cutting-edge changes and innovations come mostly from English-speaking countries, English has become the additional language for a great number of speakers all over the world while for others it represents a second language. Some clarification needs to be made in this respect. For Saville-Troike (2012, p.2), "Second Language Acquisition (SLA) refers to both the study of individuals and groups who are learning a language subsequent to their mother tongue. The additional language is called a second language (L2), even though it may actually be the third, fourth, or tenth to be acquired".

On the other hand, the additional language may be acquired/learned in informal or formal settings; that is, either in natural places where the language is the main source of communication or in instructional places such as classrooms with the help of an expert's guidance. "L2 competence is typically, perhaps unavoidably, much more restricted, especially when SLA takes place in a foreign language setting" (p. 135). This is the case for Peru where English is learned as a foreign language.

Regarding the purposes for which a second language is learned, there are "…between at least two fundamental types of communicative competence: **academic competence** and **interpersonal competence**. Academic competence would include the knowledge needed by learners who want to use the L2 primarily to learn about other subjects or as a tool in scholarly research, or a medium in a specific professional or occupational field" (pp. 135-136). This also means that learners will concentrate in the learning of the specific vocabulary of the field and on developing knowledge that will enable them to read in a specific subject matter with acceptable fluency. This does not necessarily mean that the other skills are not at all relevant for the learner. The importance of the other skills will depend on the priorities for which language should be used in the particular community context: either for academic purpose or professional purposes or both. On the other hand, interpersonal competence embodies other communicative purposes that are by far adequate for face-to-face familiar and friendship encounters. For the subject matter of the current paper, "Developing L2 academic reading, listening, and writing proficiency, however, does not necessarily require fluent speaking ability, particularly for learners studying the L2 in a foreign language context" (p. 136).

Through the table below, Saville-Troike shows us how the importance of activities in which the speaker will be involved depends on the priorities that fall into "academic versus interpersonal needs…" (p. 136).

Table 1

The priorities of language skills according to the communicative competence to be fulfilled: academic versus interpersonal.

Priorities for L2 activities	
Academic competence	**Interpersonal competence**
1. Reading	1. Listening
2. Listening	2. Speaking
3. Writing	3. Reading
4. Speaking	4. Writing

The table suggests that for foreign language learners, reading has become the skill of higher priority if academic competence is the goal, followed by listening, writing and finally, speaking. This idea is coherent with what Orr (p. 2) points out when referring to some data from an American survey that involved 4,057 working engineers. From 38 essential skills, 8 were chosen as necessary for success in engineering communication being *speed reading* one of them. In Peru, university students need academic and scientific information and knowledge generally produced in English-speaking countries if they should be kept updated.

Conceptual Framework

Reading comprehension

In the contemporary English Language Teaching (ELT) world, reading is no longer regarded a passive activity as it was before. Even though "Reading along with listening, is sometimes viewed as a *passive* skill… Both involve processing ideas generated by others that are transmitted through language. Both involve highly complex cognitive processing operations" (Nunan, 1999, p. 249). It is suggested that reading should be carried out with a purpose in mind and for the sake of it English language teachers be trained in the application of varied reading skill strategies.

"Research conducted over the last decade has persuaded most reading educators that reading comprehension can be taught, ei-

ther by setting up learning conditions in the classroom so that growth in comprehension is enhanced or by teaching strategies for coping with text directly and explicitly" (Pearson, 1991, p. 2). Through years, varied models have been developed to cope with second language reading comprehension problems. According to Pearson, researchers and educators have understood reading in general and comprehension process in particular. One more clear fact is that reading comprehension is no longer seen as a series of discrete skills that can be summed to achieve comprehension ability. On the contrary, reading comprehension is understood as a complex process in which interaction between readers and texts takes place in various contexts and for various purposes (e.g., Lipson &Wixson, 1986) (p. 3).

n contrast to traditional reading models, the schema-theoretical view is an approach that relies on the learner's previous knowledge of the world. Adam and Bruce (1982:37), cited by Meurer (1985), claim that schemata also known as background knowledge, is the mechanism in which the reader connects prior knowledge with new knowledge in order to understand a complex object like a text. This knowledge is activated in the readers' mind in interaction with the text. "Readers build meaning by engaging in a series of recursive interactions" (Pearson, 1991, p. 4).

This model, furthermore, suggests that the meaning conveyed to the text by the reader will not resemble the meaning developed by the author, and similarly, nor two readers of

the same text will develop the same meaning. Pearson adds "Each of us prints a unique personal stamp on every act of reading we create" (p.4). From expert readers, researchers could know what strategies they apply and what strategies novice readers need to learn.

Saville-Troike cites Grabe (1991, p. 155) to give account of "research on fluent academic reading in terms of six component abilities and types of knowledge that are involved in the activity". We will mention only two of them in alignment with the aims of this paper.

(1) *Vocabulary and structural knowledge.* Recognition of a great number of words.

(2) *Metacognitive knowledge and comprehension monitoring.* Having knowledge about knowledge of language and the use of appropriate strategies that will ease text understanding and information processing.

The focus in the current research is devoted to demonstrate how learners' awareness of mental mechanisms to grasp lexical items can facilitate reading comprehension in the target language (English). This study embodies the use of a teaching vocabulary strategy which eventually, after explicit training, becomes a learning vocabulary strategy for reading.

Vocabulary

Saville-Troike states that vocabulary or lexicon is the most important language level L2 learners should develop, being this for academic or interpersonal competence, or even for both.

> Vocabulary will still be the largest single element in tackling a new language for the learner and it would be irresponsible to suggest that it will take care-of-itself in some ideal world where language teaching and learning are discourse driven… the challenge is to bring the

discourse dimension into vocabulary teaching alongside traditional and recent, more communicative approaches. (McCarthy, 1991, p. 64)

Another important issue McCarthy (1991, p. 64) suggests when dealing with vocabulary in reading comprehension is **context**. "Most are already in agreement that vocabulary should, wherever possible, be taught in context, but context is a rather catch-all term and what we need to do at this point is to look at some of the specific relationship between vocabulary choice, *context* (in the sense of the situation in which the discourse is produced) and *co-text* (the actual text surrounding any given lexical item)". In other words, the distinction for the two different views should be understood as the non-verbal environment context in which a word is used (which is meant to be external to the text) as in the first case, and its linguistic environment (which is meant to be internal to the text), as in the second case.

Takač's position with respect to English vocabulary teaching aided with conventional practices is that "The naturalistic approach to language teaching, for example, favored implicit incidental vocabulary learning. The emphasis was on guessing the meaning from context and using monolingual dictionaries, whereas defining and translating lexical items were to be avoided" (2008, p. 18). A shift in the way of conducting teaching of the target language lexical dimension is called upon as a hint to obtain much better results. "It has become apparent…, to all subjects involved in the processes of language teaching and learning, that vocabulary acquisition cannot rely on implicit incidental learning but needs to be controlled" (Takač, 2008, p. 18). Fortunately, there are more advocates who agree that teachers should apply more explicit strategies on vocabulary teaching. "In vocabulary teaching, teachers can apply a host of strategies and activities. According to Hatch and Brown (2000: 401), teaching strategies refer to everything teachers do or should do in order to help their learners learn" (p. 19).

Takač (pp. 20-21) offers language teaching professionals some ways of presenting lexical items to learners:

- *Connecting an L2 item with its equivalent in L1.*
- *Defining the meaning*
- *Presentation through context*
- *Directly connecting the meaning to real objects or phenomena.*
- *Active involvement of learners in presentation.*

It is agreed by current ELT scholars that learners' active involvement is paramount if they have to become autonomous; hence, independent learning is nowadays one of the educational programs goals. In order to get learners take ownership of their own learning accomplishments, assimilation of explicit language learning mechanisms needs to be ensured as part of lesson development.

Lawson and Hogben explain that in generating meaning of new words by relying on context is just interpreting the sentence or the passage coherently with no deliberate analysis of the features of the word. "By way of contrast, acquisition of meaning through analysis of surrounding contextual cues would involve deliberate use of some such procedures…" (p. 105). We round off this section by agreeing with Lawson and Hogben's idea which is developed by other contemporary theorists under the same conception.

Phrasal verbs

Despite their frequency in spoken and written language, phrasal verbs are often perceived as 'difficult' by both English as a Foreign/Second language (EFL/ESL) teachers, and their learners. There appear to be a number of reasons for this. Much of the language that we use cannot be interpreted simply by looking at the individual words (Moon, 1997). Phrasal verbs as multi-words are no exception and many are opaque, making them difficult to interpret and understand. They often consist of a high frequency, monosyllabic, delexicalised verb (e.g. *get, give, go, make, take*) and one of a mixed number of particles (e.g. *down, in, off, on, out, over, up*), and the problem for learners is that these frequent and apparently simple components may come together to form units which are specialized, emotive, and idiomatic as these examples: *the situation is really **getting** her **down**; I can't **make out** what this says; don`t **give up** now; it was too much to **take in**.* The need to cover this issue is relevant to the current study whose text includes some phrasal verbs that usually cause troubles to learners of English as a foreign language, especially for Spanish-speaking learners as the current case.

The widespread use of phrasal verbs in authentic English texts calls for the necessity to get learners is prepared to understand their complexity at the level of semantic, syntactic, and pragmatic aspects. Making our learners be aware of their holistic composition as one word and looking for other words around them in context will facilitate reading comprehension.

Corpus linguistics approach in lexical analysis

"Over the years, educators have proposed a variety of active learning pedagogical approaches that focus on encouraging students to discover for themselves the principles and solutions that will engage them in learning and enhance their educational outcomes" (Huang, 2008, p. 20). One of the goals new education pursues is to get autonomous learners who can manage their own learning successfully with little or less instructional approach each time. With careful guidance, we can help learners know some strategies that can ease learning by researching, discovering, and reflecting on the grammatical aspect of English.

> In recent years, the teaching of vocabulary has assumed its rightful place as a fundamentally important aspect of language development. This is partly due to the influence of comprehension-based

approaches to language development, partly due to the research efforts of influential applied linguists (see for example, Carter and McCarthy (1988), and partly due to the exciting possibilities opened up by the development of computer-based language corpora (Sinclair and Renouf 1988). (Nunan, 1999, p. 103).

What is *corpora* (Latin word whose singular is *corpus*)? It is "…a collection of naturally occurring examples of language, consisting of anything from a few sentences to a set of written texts or tape recordings, which have been collected for linguistic study" (Hunston, 2002, p. 2). Some pages ahead, the author cites Scott (2000) to make a distinction between a corpus as a collection of texts and a corpus as a collection of samples of language.

Lately, incredible advances in computer technology have been of great influence in language teaching and learning development. This fact calls for the former definition of corpus to be broader. Hence, a corpus is a collection of electronic texts usually stored on a computer and which is available for quantitative and qualitative analysis (Keeffee *et al.* 2010). Among its uses, it is claimed that, a corpus has been very helpful to know how language works, compare languages, establish norms of frequency, study cultural attitudes expressed through language and facilitate language teaching and learning. With the use of digital corpora, the term *concordancing* emerged. Concordancing programs allow researchers to explore the context in which particular words and phrases occur, and the other words with which they occur (Nunan, 1999).

Barlow´s Corpora Analysis

Barlow's proposal (1996) is based on the analysis of corpora in a qualitative way; furthermore, the linguist is concerned with only the immediate environment of each word rather than with the discourse in which it occurs (Hunston, 2002). The linguist examines each word separately and analyses it in its

immediate context, that is, the target word is analyzed in relation to words around it. "Barlow's work is a typical example of its kind. He begins with a word… and examines its immediate context, comparing what is found with what intuition or grammatical theory would predict" (Hunston, 2002, p. 35). Although, in Barlow´s examination, the role of the word in the discourse is not commented on, the analytical procedure presents good points to be taken into account as a strategy for vocabulary interpretation in reading comprehension for ESAP university programs. The purpose of this paper is to prove how the adaptation of Barlow's approach could result in understanding texts lexical items with positive outcomes.

Method

Participants – Context and population

The research involves a group of 36 Spanish-speaking Peruvian registered nurses (RN) whose ages range between 30 to 50 years old. They were enrolled in a postgraduate nursing specialization program (nephrology, pediatrics, neonatology, emergency and so forth). The specialties curriculum contemplated a single 34-hour English course on a mandatory basis.

The educational background of most of the postgraduate nurses is associated to Peruvian state run educational institutions where English used not to be a priority in the curriculum. That is to say, at primary level, English was not a component of the curriculum; at the secondary level, only a two-hour period (80 to 90 minutes) per week was devoted to English; at the tertiary level, English was not a compulsory course as it was at high school; the course depended more on institutional decisions.

An informal survey carried out the first day of class was useful to identify the students' English knowledge. Our main concern was to set up the course having in mind learners' level and needs. Nevertheless, after some English course lessons had been undertaken, the need for tackling the problem of vocabulary

in ESAP reading comprehension arouses. In order to manage the situation, some actions needed to be done; therefore, the application of a vocabulary teaching strategy based on Barlow's corpora analysis was one among other alternatives.

Previously to the application of the strategy, a second survey with questions referring to the levels of English in recognizable terms for participants was carried out with the following scale:

1. No English at all
2. Very basic English
3. Basic English
4. Intermediate English

Since students were not familiar with the Common European Framework of Refer-

ence (CEFR), we avoided to use the standard terminology. Another further important remark with respect to the participants is that some of them had studied in rural areas. It is known that in most of South American countries, Spanish has the status of official language; nevertheless other indigenous languages such as Quechua and Aimara are regarded official as well. In most of Peruvian rural regions, native languages rather than Spanish are used as the primary source of communication. For Quechuan and Aimaran communities for example, Spanish represents to be their second language (L2), therefore English was even unknown to them. The table below informs us of 28% of students who had no English competence at all and 58% whose English knowledge was even **below the basic level and 14% with basic knowledge.**

Table 2
Differentiated participants' English proficiency levels

ENGLISH KNOWLEDGE		TOTAL	PERCENTAGE
No knowledge at all	= No EN	10	28%
Very basic knowledge	= Very basic EN	21	58%
Basic knowledge	= Basic EN	05	14%
Intermediate knowledge		00	00%
TOTAL OF NURSES		**36**	**100%**

The data was directly provided by students by choosing one of the options to the single-question obviously done in Spanish: **How much English do you know?** 10 students (28%) stated not to have learned English formally after leaving school. Therefore, they regarded their knowledge was highly poor that it did not seem to be helpful for the English course. A second group of 21 students (58%) declared to have just studied English for two or three months either at a university language center or a language institute but on their own initiative. It is commonly accepted that because of their changeable shifts. Health care professionals are not able to end up a complete English program. Only very few students, that

is, 5 (14%), had accepted to have done a complete English basic level program which represents ten hours a week of formal exposure to the language during a regular year.
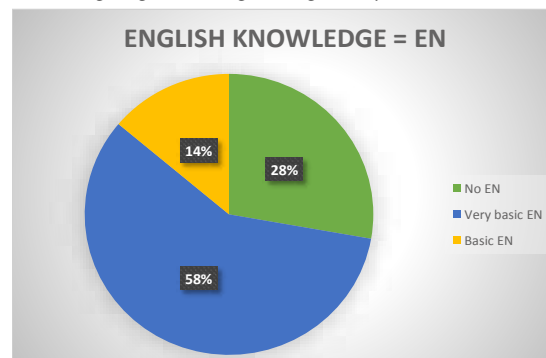

Figure 1. Nurses' English level proficiency distribution

Barlow´s Analysis as an ESAP reading comprehension strategy

Procedure

Being our main goal to prove the efficacy of an adaptation of Barlow's corpora analysis as a strategy for grasping the meaning of lexical items in an ESAP reading comprehension course, the research methodology was divided into three stages.

At the first stage, students were exposed to an instructional textbook text. The text was based on a doctor-patient conversation in an examination situation. The teacher elicited 09 words from the text between single and phrasal verbs. With no further instructions or explanation on getting their meanings, students were asked to figure them out on their own. Students were requested to write down the meanings in Spanish (their mother tongue), on a separate piece of paper. Analysis of data showed that a considerable percentage had trouble in working out the appropriate meaning of the selected words.

At the second stage, students were provided with a new short text. They were demanded to *circle* 15 targeted words that the teacher acknowledged to be unknown by the students. After that, they were asked to *underline* the word(s) or phrases that came before and/or after the circled ones. Then, attention was drawn to the underlined words in order to analyze them under the following criteria:

- Knowledge from the world
- Knowledge from a previous English course
- Knowledge from the nursing profession

The strategy was conducted by making the learner focus on each circled word in order to apply Barlow's procedure. Students were encouraged to interpret the meaning of the surrounding words closer to the targeted ones. Taking into consideration Pearson's suggestion on one hand,

students were encouraged to either rely upon knowledge they had about the world, or knowledge they got from in their Basic English courses or knowledge from their profession.

The underlying conception in this activity is coherent with what Pearson, Lipson and Wixson say with respect to reading comprehension and readers: the interaction between readers and texts is a complex one but it can be easier if we make students more aware of what happens to language in context. On the other hand, for Saville-Troike, one of the tasks in teaching reading should be the recognition of a great number of words through metacognitive knowledge and comprehension monitoring which will facilitate understanding and information processing.

The teacher's role included asking students questions about the underlined words: *What do you know about the underlined word from everyday routine? Is the word familiar to you or is it common and similar to Spanish? Is it a word that can easily be inferred from the situation? Is it a word that you learned in your Basic English courses? Is it a word that you recognize as part of nursing terminology inventory?* Students were encouraged to understand the meaning of the underlined words in association with the circled word (target word) regarding all the aforementioned possibilities (knowledge from the world, knowledge from a previous English course and/or knowledge from the nursing profession).

At the third stage, the teacher encouraged students to go over the initial text version again to circle each target vocabulary item and underline its immediate surrounding word/s and/or phrases. Again, careful observation was called upon to each immediate underlined item before and after the targeted words and ask them to recognize if that specific word was familiar to him/her through knowledge of the world, knowledge coming from his/her previous English course or knowledge coming from his professional field. The procedure developed in the third stage was carried out by students with no teacher's help. Some explanation of the process is provided:

- Knowledge from the world:

Mark weighs 51 Kg, and is 1.65 cm. tall.

Kg. is the abbreviation for **kilo** which is the same weight measure term for English as well as Spanish. The next information is **cm**, abbreviation for centimeter. This also can be implied as measure of the person's height. Additionally, numbers make sense of what they mean if measure terms are closed to it.

- Knowledge from English and knowledge of the world:

Could you take off your shoes, socks, and shirt, please?

The phrasal verb *take off* cannot be easily interpreted by language learners if shown isolated. Students with some degree of basic knowledge in English know that the underlined words belong to pieces of clothes that embody garments such as shoes, socks, shirt, pants, etc. Clothing is a collective noun that is incorporated as a topic in the vocabulary list of almost all Basic English textbooks. On the other hand, from general knowledge of the world it is accepted that in a doctor's office, patients are required to remove their clothes to be checked by the doctor.

- Knowledge from the nursing profession
  OK, Mark, now I'm just going to take your

temperature.
I`ll take your blood pressure.

The verb *take,* far from being an apparent word for English as foreign language learners, it presents a wide range of meanings in diverse linguistic contexts. We came across 33 entries in the online Longman Dictionary with meanings such as *action*, *move*, *remove*, *accept*, *hold something*, *travel*, *study*, *test*, *collect*, *consider*, *control*, etc., etc. Nurses are expected to be familiar with body vital signs as part of their professional training: *take the temperature, take the blood pressure, take the respiration rate*, etc. In order to see how students work out the meaning of the circled, they were asked to annotate the target words meaning in Spanish on a piece of paper. The results can be seen in the annexes.

The findings

After application of adapted Barlow's corpora analysis as a strategy to enhance vocabulary in English reading comprehension in an ESAP course, the findings reflect positive results.

Comparing the data from the first stage with those from the third, the results show statistically a significant difference. All the students (100%) could highly accurately work out the meaning for the words/phrases *take off, stand* and *weighs*.
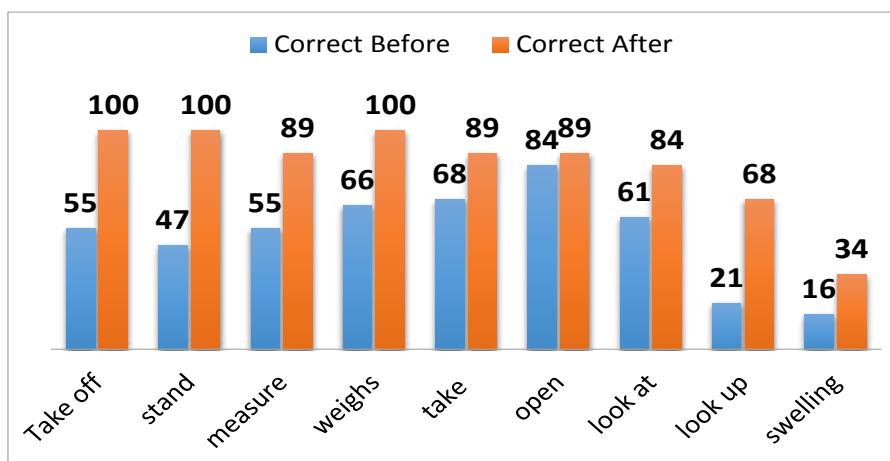

Figure 2. Outcomes on the application of Barlow's Corpora Analysis strategy

Table 3

Percentages differentiation between first and third stages

Target vocabulary	First stage	Third stag	Difference
Take off	55 %	100	45%
Stand	47%	100	53%
Measure	55%	89	34 %
Weighs	66%	100	34%
Take	68%	89	21%
Open	84%	89	5%
Look at	61%	84	23%
Look up	21%	68	47%
Swelling	16%	34	18%

Students' abilities to deal with lexical meaning were increased in every single case. The difference is considerably significant in the phrasal verbs *take off* (45%) and *look up* (47%) and one-word verb *stand* (53%). Another significant result is that one related to the verb *weigh* taking into consideration that its spelling is strange to the Spanish linguistic system.

Results can also be seen from the opposite way. Figure 3 below treats the percentages based on negative results by comparing only the incorrect ones before and after the strategy application. Incorrect results diminished on the third stage after the application of Barlow's corpora strategy. Three cases had no incorrect answers at all: *take off*, *stand* and *measure*. The phrasal verb *look up* presents a significant percentage of decreased incorrectness.
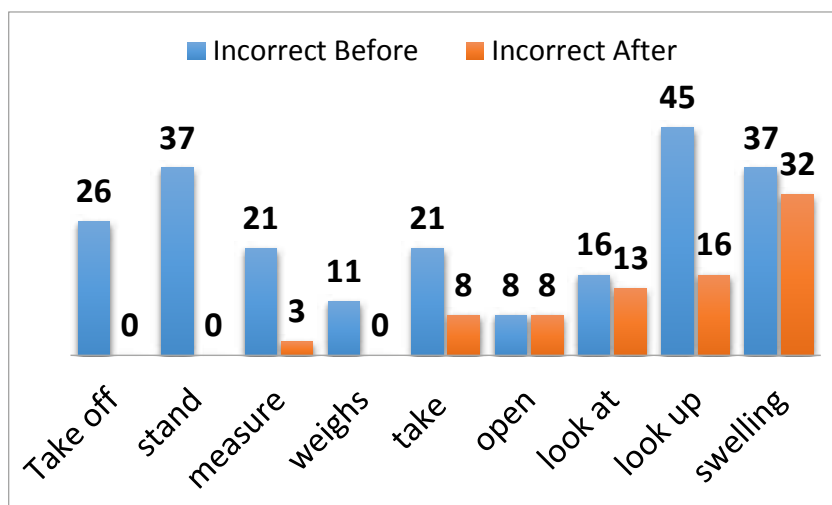

Figure 3. Percentages of decreased incorrectness change for each lexical word

The graphic below intends to show results in students' reaction. Reluctance for responding was diminished after strategy application. This can be interpreted as the students' increased accuracy and confidence to designate meaning to words. *Take off*, *stand* and *weighs* are good examples. In the same way, *looks up presents a decreased percentage* ranging from 34% to 16%. *Swelling* is a case in which the percentage might not be regarded considerable but the connotations awarded to the word are highly accurate (Table 4 in appendices).
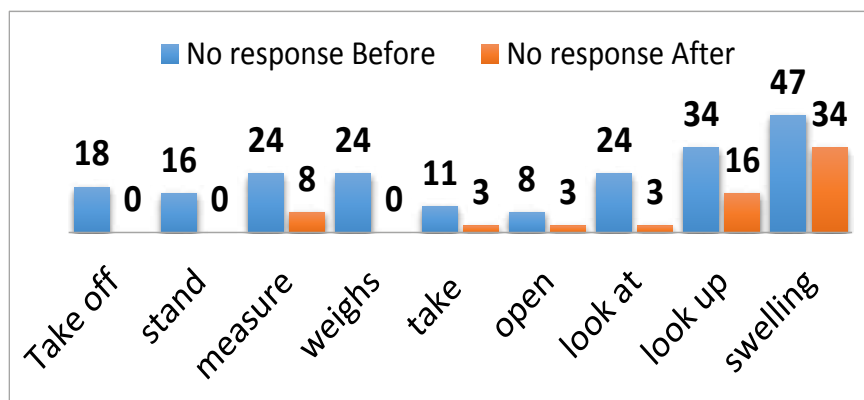
Figure 4. Percentages of students' reluctance diminished after Barlows' corpora strategy.

Discussion

The primary objective of this paper was to demonstrate that an adaptation of Barlow's corpora analysis represents a useful strategy for dealing with vocabulary in an ESAP reading comprehension course.

The results above greatly support the strategy efficacy in dealing with non-transparent vocabulary in professional and academic papers. After application of the strategy in question, the differentiated outcomes in three statistic graphs show an increased vocabulary comprehension in the first case (Figure 2), a decreased confusion degree in incorrect answers in the second (Figure 3) and a diminished percentage of students' reluctance in the third case (Figure 4).

An issue to point out here is that all the targeted words have no graphic resemblance in Spanish, a linguistic fact that we consider makes reading comprehension for specific and academic purposes much more problematic. The presence of phrasal verbs whose verb and preposition combination differ from the original verb meaning on one hand, and that the same single phrasal verb can convey more than one meaning, on the other, represents a constraint for reading comprehension.

To sum up, the most important fact in this research is what the strategy does for a language learner. It helps learners tackle unknown vocabulary by grasping the words meaning in a more conscious and trained way. This mental activity is aligned with trendy language learning pedagogy models. Current English Language Teaching (ELT) leading specialists advocate learner autonomy as one of paramount importance and upgrading learners' cognitive skills is something that will contribute to this. We strongly believe that the adaptation of Barlow's analysis strategy proved to be of great help. Furthermore, the strategy can indirectly help to develop other reading abilities such as that one related to English learners' speed reading. This, in turn, can encourage nursing professionals for doing extensive reading on a more regular basis.

Conclusion

Through this research, we could demonstrate that the adaptation of Barlow's corpora analysis strategy based on Barlow's corpus linguistics model turns out to be such an effective strategy for grasping words meanings in an ESAP reading comprehension course addressed to a group of post-graduate nursing Spanish-speaking students with a remarkably low level of English knowledge.

After explicit strategy training took place, learners show positive results that can be interpreted as the strategy efficacy for facilitating understanding of unknown single words

as well as phrasal verbs, characterized as polysemous and with no transparent but opaque meaning. The strategy requires students to make analysis of the targeted word context by looking closely to the surrounding words and see their meanings by associating them to conscious analysis that relies on other knowledge learners possess such as that of schemata or background knowledge, knowledge from a previous English course and/or knowledge from the nursing profession.

The strategy in question contributed not only to the improvement of our learners' vocabulary interpretation, but also to the control with a greater or lesser extent of their own reading comprehension undertaking certain cognitive mental processes in autonomous way. This, in turn, can encourage the learner to get involved in more extensive ESAP reading.

Recommendations

Developing reading comprehension skills in an ESAP course should be a major priority at tertiary level since most updated scientific and academic information proceeds from English speaking countries. And yet, a dilemma comes out between teachers who believe that students should first be taught English for achieving interpersonal competence before academic competence or those who believe otherwise. That is to say, to teach them English for attaining academic competence rather than interpersonal English which in turn may be of little use at university.

We strongly advocate Orr's ideas when he states that "Rather than wait to teach ESP for academic or professional purposes until after students have completed all of the textbooks that are required in a general English program, teachers can build bridges early to their students' target English environments by adding additional dialogues, exercises, and explanation that fit better with their students' actual future needs" (2013, p.7).

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Appendix

Table 4

Participants' annotation of the meaning of English target vocabulary in Spanish.

Targeted words	Equivalents in Spanish (Taken from students responses)
1. Take off your shoes, socks, and shirt	Quitarse una prenda de vestir.
	Sacar(se) una prenda de vestir
	Retirar(se) algo del cuerpo
2. Stand on the scales	Suba a la balanza
	Párese en la balanza
3. Measure your height and weight	Medir su estatura y peso
	Controlar su peso
4. Weighs 55 kilos	Pesa 55 kilos
	Tiene 55 kilos
5. Take the temperature	Tomar la temperatura Tomar la presión
	Medir la temperatura Medir la presión
	Controlar la temperatura Controlar la presión
6. Open your mouth	Abra la boca
7. Look at your eyes	Mirar tus ojos
	Observar tus ojos
	Examinar tus ojos
	Ver tus ojos
	Revisar tus ojos
8. Look up to the ceiling	Mirar arriba Mirar hacia arriba Mirar al techo
	Levantar la mirada
	Observar el techo
	Dirigir la mirada a techo
	Ver arriba
9. Swelling of the thyroid gland	Inflamación de la glándula tiroide
	Hinchazón de la glándula tiroide
	Edema en la glándula tiroide
	Protuberancia de la glándula tiroide
	Nódulo en la glándula tiroide
	Masa en la glándula tiroide
	Bulto en la glándula tiroide
	Endurecimiento de la glándula tiroide