

Teaching and learning vocabulary: **Putting *The Four Strands* to the test**

Brian Ó hÓgain

Supervisor: Dr. Imma Miralpeix

Master Programme: Applied Linguistics and Language Acquisition in
Multilingual Settings
English Studies Department
University of Barcelona
July 2012

Acknowledgements:

First and foremost I would like to sincerely thank my supervisor Dr. Imma Miralpeix for her support, advice and patience. She was always willing to help, no matter the time or day. I have learned much from her expertise and am sure that without her, the thesis would not have been possible.

I would also like to thank the staff at *Escola Infant Jesus* where I carried out my research.

Finally, I want to thank my wife and son for being able to put up with me throughout this past six months.

Abstract

Recent research on vocabulary acquisition has proposed many different strategies a teacher can use to ensure learners increase and retain the words they are taught in class. However, many teachers have not been able to integrate these findings into their instruction. To this end, Nation (2007a) came up with an approach called *The Four Strands* to aid vocabulary instruction.

The present study aims to investigate *The Four Strands* as conceived by Nation. It examines whether its incorporation into the classroom will increase learners receptive and productive vocabularies. It also looks at retention of words after a period of 5 weeks.

Two groups of secondary school participants took part in the study: one of them received the treatment (N=26) and the other became the control group (N=27). Data were collected through different tests: post-test 1 and delayed post-test were translation tests and post-test 2 consisted in a video retelling. Results showed that the treatment group consistently outperformed the control group, which should be interpreted regarding the possible benefits for both vocabulary teaching and learning. .

Table of contents

1.Introduction	1
2.Literature review	2
Teaching strategies: the good and the bad	3
The Involvement Load Hypothesis and vocabulary retention.....	4
The Four Strands	6
3.The Study	10
Participants	10
Instruments	11
Procedure	12
Analysis.....	14
4.Results	15
5. Discussion	16
5.1 Implications of the study	18
6. Caveats and future research	20
7. Conclusion	21
8. References	22
9. Appendices 1-5	25

1. Introduction

It is now widely accepted by language acquisition researchers that vocabulary is a very important factor in proficiency in a second or foreign language (SL/FL) (see, for instance, Barcroft 2004). Although all language components and abilities should be taken into consideration in the process of learning a language, if learners lack the words required the communicative exchange is in danger of failing. Vocabulary often has to ‘fight’ with grammar to find its space in language courses and textbooks. Whatever the research into vocabulary has proven, it has often been the case that it has been overlooked by publishing houses, schools and curriculum makers, who tend to put grammar at the core of most language courses.

If we take by way of example a course book written for students of 2nd of ESO, we can find that in each unit a maximum of 20 words will be introduced. Of these 20 words half will already be known by the students, as each year similar topics are covered. In a normal school year an average of eight units will be covered in class. If we add up the amount of words learned in a year the number averages at about 100. Therefore, considering the books s/he will have used, at the end of obligatory secondary education a student will have learned on average 400 new words, which is definitely not enough for successful communication to occur (Goulden, Nation & Read, 1990). Accordingly, it is incumbent upon FL teachers to apply what research has found in their classrooms to ensure amelioration in their learners. Interestingly enough, in the Master Courses offered to future secondary teachers in our context there is no course on the instruction of vocabulary. This could in turn lead to what Peacock (2001:178) described: “erroneous beliefs may lead to classroom practices that do not reflect research and theory about effective language learning practices”.

In this paper, we will first focus on different teaching strategies which have been suggested by various experts in the field of vocabulary acquisition. We will then concentrate on a particular strategy that will be used in the experiment reported in the paper. Afterward the experiment will be described and its results discussed in the light of the possible application in a real EFL classroom.

2. Literature review

2.1 Teaching strategies: The good and the bad

A teaching strategy (also known as an ‘instructional strategy’ or ‘a technique of delivery’) was defined by Strasser (1967) as a ‘plan for a lesson or lessons which includes structure, desired learner behaviour in terms of the goals of instruction, and an outline of tactics necessary to implement the strategy’. When teaching vocabulary, a good strategy will need to teach the words the students need to know, give them examples of the words and make the students responsible for the words they are learning by providing them with practice activities and regular testing and feedback.

One of the most common strategies for teaching vocabulary in English language classrooms in our context is writing a list of words on the blackboard and then having the students copy them down and provide a translation (Folse, 2004). Then, normally as homework, the learners will have to complete a page of exercises on those words in their workbook. They will see the words once more, when they are examined on the unit. This is a practice which does actually not support what has been proved useful through years of research on vocabulary learning. Bourke (2011:5) criticised this practise by saying “teachers today, as Latin teachers did in Western Europe centuries ago, still reject second language acquisition theory and research that validates that students benefit from a more communicative approach to language teaching”. Barcroft (2004) advocated that before learners can use target words they need to process the new words as input and these same words ought to be presented frequently and on a regular basis.

One of the first things to be borne in mind when selecting a word to be taught is that knowing a word involves knowledge of different features. Which features are actually taught depend on whether the word is to be known receptively or productively (for a discussion on receptive-productive vocabularies see Melka 1997). Nation (1990) explained that receptive knowledge of a word involves being able to recognise the word when it is seen or heard. It also involves anticipation of what grammatical pattern the word will occur in, as well as knowing which words it will collocate with. Receptive knowledge also implicates ability to remember the meaning. On the other hand,

productive knowledge includes all the aspects of receptive knowledge but also embodies knowledge of the word's pronunciation, how to write and spell the word, usage in correct grammatical patterns and familiarity with those words it usually collocates with. This has myriad implications for the teacher and how they will deal with the word in class.

Laufer (1990) concurred with Nation and elucidated the difficulties learners face when required to learn a new word, adding that the complication of the meaning of the word, whether it is referential, affective, and pragmatic can prove problematic if there is a concept covered in the L2 which does not overlap in the L1. A further obstacle is lexical relations of the word to other words. This is problematic when words are synonymous in one context but not in the other. A further source of problems may be collocations, especially when they are expressed differently in different languages. Therefore, the role of teacher is crucial if students are to acquire a word correctly. Their teaching strategies will often ensure success or failure.

In order to facilitate this learning task to the learners, teaching strategies need to be implemented. Many respected researchers incline to acknowledge that repetition of the target word is fundamental. In a joint article written by Laufer, Meara and Nation (2005), all three were in agreement of the importance of repetition and of frequent vocabulary quizzes. Laufer also stated that for acquisition to occur students need to be exposed to the word at least 6 times, an estimate which Nation increased to 16. It is often the case that in course books students see the word once and, apart from a revision exercise, in the following unit will never see the word again.

Many course books, and therefore also teachers, introduce words at once in semantic units (e.g. my family, food, ways of 'looking'...) instead of thematic units first. This has been proven to be sometimes detrimental to acquisition (Folse, 2012). In his 1997 study on learning words in semantic sets, Waring found that learning words which have a common super-ordinate interferes with learning (Waring, 1997). This finding has also been supported by Tickham (1993). Laufer (2005). Hunt and Belgar (1998) and Nation (2006) have also warned against this unfortunately rife practice.

A common suggestion in the literature on teaching vocabulary strategies is the need for creating a space during class for reading. Nation (2007a) suggested that intensive reading is guaranteed to increase a student's vocabulary. By reading one book every two

weeks learners are assured that will see all the most common general purpose vocabulary and consequently by constant repetitions of the words, students will acquire vocabulary. This is further supported by Krashen's Input Hypothesis (1989: 440) "competence in vocabulary and spelling is acquired by comprehensible input in the form of reading". Hunt and Beglar (1998) also advocated reading to increase vocabulary. In order for a reading programme to be successful, though, students need to have a 95%-98% coverage of the text. However, there also exist detractors. Laufer (2006) said that such reading programmes are flawed, as in most FL classrooms there simply is not enough time for such a programme. She instead favours direct vocabulary learning where students are required to learn lists of words. This conviction is also shared by Nation (1982) who stated that large amounts of words can be learned in this way.

In some of the earliest studies on vocabulary acquisition, it was shown that students remember vocabulary better if they write the word to be learned on one side of an index card with the translation or definition on the other side. The cards are used to help the students learn the word and more importantly to retain it. In order for them to be successful, these cards must be reviewed frequently at the start and then with longer spacing between reviews. This strategy was discussed by Smith (1969) and is supported by Nation in many of his works. Feeny (1976) and Cornu (1979) both propose learning words visually with images or on scales, as it avoids confusion because learners have a visual representation of the word.

2.2 The Involvement Load Hypothesis and vocabulary retention

In an attempt to describe which tasks teachers should use for a more successful vocabulary acquisition, Hulstijn and Laufer (2001) coined the 'Involvement Load Hypothesis' (ILH), which has given way to a dearth of studies in the past years. The hypothesis claims that the more learners actually do with a word, the better the chance they have of retaining it. At its most basic, it posits that the retention of unfamiliar words is conditional upon the degree of involvement in processing these words. In one of their studies on the topic (Hulstijn and Laufer 2001) they compared three conditions: The first had learners do a reading comprehension with marginal glosses, the second had the same reading with a gap fill exercise after and in the third learners had to write a composition and incorporate the target words. The results showed that the group which

had to produce output outperformed the other groups; that is to say, they remembered more words than the other groups.

In a related study, Joe (1998) looked at the effects of text-based tasks and background knowledge on incidental vocabulary acquisition. She implemented the Generative model into her study, which postulates that learning is a process that involves actively transferring, interpreting, and constructing meaning for unfamiliar concepts, information and events according to one's prior knowledge, experience abilities, attitudes and background. Therefore, when learners have to produce language (i.e. output), they actively generate their own creative versions of language in response to target items, read and reformulate in their own words the meaning of a word and enrich and embellish aspects of the target item with related existing knowledge, which leads to improved retention by learners. In her study there were three treatments conditions: the first group read and retold a text with explicit generative training and without access to the text during recall, the second group read and retold a text with generative training and without access to text during recall and the third group neither read nor retold the text. They showed that reading and retelling a text promotes incidental vocabulary learning with greater levels of generative processing leading to greater vocabulary gains for unknown words. Here, as it also happened in the ILH studies with the output-oriented tasks, the idea of forced output is central, and most of the time it has been found to improve retention.

Retention of vocabulary over extended periods of time is undoubtedly a main concern of any vocabulary teaching strategy. In her study on the effects of exposure frequency on learners' incidental vocabulary acquisition and retention, Rott (1999) analyzed three groups, each of which had a different number of exposures to the target words. Group one had two exposures, the second group four and the third six. She found that six exposures to the target word, in line with what Laufer said, resulted in better long-term retention. Also on the subject of retention Kitajima (2001) compared two teaching strategies to see which would lead to better retention. The first was related to an input condition: students saw a video and the teacher asked questions about the video using the target words. However, the students were not expected to produce anything. The second was more related to output: they saw the same video but afterwards they had to talk about the video using the target words, without the teacher asking. The results

showed that the students who underwent the output condition retained more words than the students in the input condition. They also used more words than the other group. What can be observed and corroborated here is the importance of repetition and pushed output, as mentioned before. Yoshii and Flaitz (2002) investigated which annotation type lead to better retention when reading. He had students read a text which contained target words the learners were unfamiliar with. To help them understand the words, three distinct annotation types were supplied: text only, picture-only, and a combination of the two. He discovered that the group that with the combined annotations outperformed the other two groups and remembered more words in the delayed post-test.

The focus of the present study is to test a strategy, whose goal is efficient vocabulary acquisition and retention. After many years of research, Nation came up with a proposal which claims that by following what he termed as the four tiered approach, students would be guaranteed to acquire and retain vocabulary. He recommends learners use the language receptively and productively in order for it to work.

2.3 The Four Strands

In Nation's seminal work "The Four Strands" (2007a) he advocates that the process of learning and ultimately retaining vocabulary should form part of an integrated, four tiered approach in which all parts are vital to ensure the success of the same. This teaching strategy consists on focusing on four components: input, output, linguistic forms and fluency. These are all well-known terms for SLA researchers and EFL teachers and it is not the aim of this review to give a full account of these terms. However, what we do in the following paragraphs is analysing what research on vocabulary has found out in relation to these components. Knowing in which ways they are related to lexical learning is crucial to devise ways in which teaching vocabulary could be more effective.

Input: When students read or listen to a FL they are using the language receptively. In this component the main concern of the learners is to understand what they listen to and read and gain knowledge from this. What they read or listen to has to be appealing to them as this will guarantee their wanting to understand the input. In order for this strand to be successful, the idea of coverage comes into play. Some vocabulary studies show that students should understand 95% of the words or more of what they receive as input

(e.g. Laufer, 1992), others point at the 98% threshold (Schmitt, 2011). This in turn insures that unknown vocabulary will be understood through context clues and background knowledge. Activities in this strand include extensive reading, shared reading, listening to stories, watching TV and films and being a listener in a conversation.

Krashen also advocates the use of reading in the acquisition of vocabulary. He endorses The Input Hypothesis (IH) which, like Nation acknowledges later, states that “competence in vocabulary and spelling is acquired by comprehension input in the form of reading” (1989:440). He also mentioned that vocabulary acquisition through reading is beneficial since learners can encounter many words and learn their subtle or complex meanings in contexts which cannot be adequately represented by synonym or similar definition from a dictionary.

Output: When students speak or write, they use language productively and the main concern of the learner is to convey a message to someone, be that in the form of taking part in a conversation, keeping a diary, telling a story or instructing someone how to do something. Success in this strand depends on different conditions. For instance, learners should write or talk about things they are familiar with. As in the case of input, learners should be acquainted with most of the language. Most of the activities in this strand will combine meaning focused input and output.

In SLA, output has been researched by several authors, one of the first being Swain, who put forward the Output Hypothesis, which relates output to three main functions: a Noticing/Triggering one, a Hypothesis Testing function and a Metalinguistic (reflective) function (Swain 2005).

Several studies have been conducted in the field of vocabulary learning in relation to the effectiveness of different kinds of input and output. For instance, Ellis and He(1999) divided their participants into three groups, each of which received a different treatment. Group one was provided with pre-modified input. The input, in this case directions, was made simpler by making it less grammatically complex. However, learners were not allowed to ask questions. The second group received interactionally modified input. Under this condition learners were encouraged to ask clarification questions to the teacher if they had not understood the directions. The final group got modified output. Results evidenced that the group who could modify their own directions outperformed

both other groups, thus showing that interaction where learners use and negotiate new vocabulary creates better conditions for incidental vocabulary acquisition.

Language focused learning: This is the name that Nation gives to ‘focus on formS’ activities. In this strand the learner gives deliberate attention to language features, in addition to processing language deeply and attentively. They have many opportunities to give attention to the language features, in this case vocabulary. It is imperative here that the features be simple and not dependent on knowledge the learners do not have. According to Nation, this deliberate learning can contribute to learners’ language proficiency.

Laufer (2005) looked at different studies within the framework of ‘focus on form’ versus ‘focus on formS’. According to her, ‘focus on form’ is where lexical forms are taught within a communication task environment, as they are necessary for the completion of task. On the other hand, ‘focus on formS’ teaches vocabulary in non-authentic language tasks. Laufer argues that in an EFL class, where instruction takes place normally 3 hours a week ‘focus on formS’ is an efficient use of time to ensure an increase in the vocabulary knowledge. In her 2006 study, she compared the two approaches in learning new words by a group of learners of English as L2. In phase one the ‘focus on form’ group read a short text containing the target words, discussed it in groups and answered questions. The ‘focus on formS’ groups studied the words as discrete items with their meanings and wrote sentences. In phase two all learners received the target words with their meanings and studied them for a quiz. They were tested after the treatment and two weeks later. The results showed that ‘focus on formS’ group did better in phase one but this difference disappeared after phase 2. ‘Focus on formS’ therefore can bring an increase in the number of words learned incidentally at least in the short run. She also talks about incidental learning from reading which shows a small increase. She then goes on to assert that to increase vocabulary by reading would require a learner 29 years to learn 2000 words, lending support to the need for ‘focus on formS’. She closes saying that ‘focus on formS’ is necessary for developing depth of knowledge, increasing vocabulary size, improving the use of sophisticated vocabulary, increasing speed of access to words, and developing strategic competence.

Fluency: The aim of this strand is to receive and convey messages in a smooth, fluid, coherent and precise way. In order for this component to be successful learners must be

trained to perform at faster than normal. In fact, it was Nation (1989) who made popular the 4/3/2 technique, where learners have to repeat the same unrehearsed talk for four, then three and finally for two minutes in front of different classmates. According to him, the benefits are an increase in learner fluency, grammatical accuracy and control of content. In doing this activity learners perform at a level above their normal level of performance. It is argued that working at this higher than usual performance is a way of bringing about a long-term improvement in fluency.

Other recent studies have emphasised the link between vocabulary knowledge and L2 fluency development. In her (2008) study Hilton devised a corpus with samples of language by learners performing comparable tasks. The idea was to identify the linguistic characteristics of different L2 proficiency levels. Their findings showed a clear link between what learners know about the L2 and how fluently they are able to use this language in monologue type production. She found that vocabulary knowledge correlates with speech rate: the more words one knows, the more fluently one is able to speak. She also proved that the disfluent learners had small vocabularies and shows how a word missing from the lexicon can severely impair spoken fluency. In another study to substantiate the link between fluency and vocabulary, Gatbonton and Segalowitz (2005) questioned how to promote automatic fluency within the framework of communicative language teaching. She lamented the absence in CTL of provisions to promote language use to a high level of mastery through repetitive practice.

In this literature review, we have looked at various teaching strategies, some of which have been proven to be successful such as repetition, recording vocabulary on index cards, and gauging how much attention should be given to a word, depending on its idiosyncrasies. We have also talked about less successful strategies and directed our attention to The Involvement Load Hypothesis, which posits that the more deeply a word is processed, the better the chance it will be retained. Retention of vocabulary was then examined where various research findings were presented. Finally, The Four Strands was analyzed together with the elements it emphasises -output, input, focus on forms and fluency practice- and several research works on vocabulary and those elements were reviewed.

The present study attempts to test The Four Strands by Nation in a context which has not been sufficiently explored, namely Spanish high schools with learners in the twelve

to fourteen age group. More specifically this paper investigates whether this strategy to teach vocabulary leads to efficient vocabulary learning and long term retention. The research questions of the present study are:

1. Does *The Four Strands* help students to increase their receptive vocabulary?
2. Does *The Four Strands* benefit students in their productive vocabulary?
3. Does *The Four Strands* help students to retain vocabulary?

3. The study

3.1 Participants

The participants who took part in the study (N=53) were a group of students from the first two years of post primary obligatory education (ESO). They ranged in age from twelve to fourteen years and were all bilingual in Catalan and Spanish. They receive 3 hours of English a week and an additional hour under CLIL. Many go to after school classes. All students sat the X_Lex and Y_Lex vocabulary test to control for their vocabulary size and proficiency level (these tests have been shown to correlate with proficiency level, e.g. Miralpeix 2012). Their results were analyzed using SPSS and an independent samples t-test showed that there was no significant difference between the two groups of students [1st ESO M=3588.46, SD=945.548; 2nd ESO M=3829.63, SD=915.972, $t(51) = .944$, $p = .350$]. They all fell into the lower-intermediate category and it was for this reason that it was decided that the students could be judged as a homogenous group, in spite of belonging to two different grades

The students were divided into two groups: 27 students received the treatment and the remaining 26 served as a control group. As the school splits class groups for English, the 27 students comprised of two split groups, as did the 26. Additionally, and in spite of the fact that no significant differences were found between the two grades as pointed out in the previous paragraph, care was also taken to randomly include the same number of students from each grade in the treatment and control groups.

3.2 Instruments

As a **pre-test**, a translation test was used: students were asked to translate 40 words into either Spanish or Catalan (or provide a brief explanation of them), 35 of these words would be part of the treatment (and therefore, in order to be considered for the study, participants should not know them). The remaining 5 were distracters. Only correct translations/explanations were accepted and one point was awarded for each correct one. The same test format was used as a post-test and delayed-post test, but in these cases distracters were not included (Appendix 1)

The **treatment** was comprised of: a presentation with visual aids by the teacher, a ‘focus on formS’ worksheet, a meaning-focused input task, a meaning-focused output task and a fluency task (the so-called ‘4/3/2’).

Presentation with visual aids by the teacher: The words that were part of the treatment were presented using the power point format. The first slide was an image, followed by the word. Students were explained the words and a translation was provided if necessary. (Appendix 2)

‘Focus on formS’ worksheet: A worksheet with a variety of exercise formats was also presented to the students. Exercises here comprised circling the correct term from a choice of two, explaining some terms in their own words and matching the picture with the word. (Appendix 3)

Presentations by the students (meaning-focused output task): Each student was told to prepare a presentation about a football team of their choice. In their instructions it was suggested they include as many of the new words as possible. To ensure that students actually knew the words they were using, they were not allowed to write anything on their presentations. They then related their work to their peers. Each presentation lasted approximately five minutes and students presented their work in power points with pictures/images.

Listening to other students’ presentations (meaning-focused input task): This consisted of the learners listening to the presentations of their peers.

Fluency: It was in this section that the activity 4/3/2 was used. It consists in repeating the same unrehearsed talk for four minutes, then for three and finally for two minutes

Students were asked to prepare a talk on the last time they saw a match. They were first put into groups of three people and each person was given a number from one-three. On the teacher's instructions, learners with the number one started. They gave the talk to the two other members of their group for three minutes. When the time elapsed, they moved onto another group and spoke for two minutes, and finally they reached the third group where they spoke for one minute. And so the activity continued until all students had spoken.

Apart from the translation test, an **oral video retelling** was included as a **post-test**:

Students watched a football video on Messi that lasted for 1 minute 45 seconds and in which it was possible to see the majority of the words introduced. After viewing it with no sound, they were asked to retell what they saw while they were audio-recorded. The video snippet can be found on *youtube*:

<http://www.youtube.com/watch?v=HOSwI3oI5Kg>

3.3 Procedure

Initially, 35 words on the topic of sport were selected for the treatment. To ensure that the words were suitable, a small sample of participants (N=15) in each group was selected and they were asked to translate into Catalan/Spanish the target lexical items. After the translations were handed in the percentage of known items was calculated. Any word which was known by more than 20% of the students was discarded. Words which were found to be cognates were also discarded (e.g. *sponsor, jersey*) as were words with multiple meanings (e.g. *season*). With this information, some more words were added to bring the total to 35 to be tested. At this stage five distracters were incorporated.

All students (N=53) in both the treatment and control groups did the translation pre-test. Results showed that out of the 35 target words, still six of them were known and correctly translated by more than a 20% of the students (*trainer* -40.74%-, *push* -38.89-, *congratulate* -31.48-, *defender* -27.78- *shoot* and *slide* -both 25.93%-).

As this had been not observed in the pilot test with the smaller sample, and it was decided that these words would be excluded from the study because the study was looking at acquisition and retention of unknown vocabulary. Therefore, the target items for the treatment were finally 29.

The treatment lasted for three sessions of an hour each (see table 1). In the first session, words were introduced via power-point to the students. In the presentation they saw the words matched with their corresponding picture. At this initial stage, the learners were guided by the teacher and correct Catalan translations and explanations were provided for each of the words. After the introduction of the words, the students were instructed to do the 'focus on 'formS' tasks. The exercises were corrected by the teacher in class towards the end of the session. Students were given instructions on how to prepare a presentation on the topic of famous football team. They were also advised to use the vocabulary introduced during the session. They were allowed a few days to prepare the presentation.

In the second session, students did the presentations to their classmates; each presentation took on average five minutes. While they made their presentation, the remaining students were asked to listen to the presentations carefully and try to understand them and to listen out for the words that had been introduced in the previous session. In the third session, the 4/3/2 task was performed by the students and lasted a full class period.

Shortly after session 3, students in the treatment and control group were asked to retell a video. For various reasons outside the control of the researcher, 22 students out of the treatment group (N=27) and 24 out of the control (N=26) completed the video retelling. Their task was to tell the researcher, using as much of the new words as possible, what happened in the video. The video was played once the whole way through. The second time the video was stopped after forty seconds and students were asked to describe what had happened up to that point. After they had finished, the second part was played and described. Afterwards, in the same session, the learners were again given the translation test and were asked to translate or explain the words they knew.

Finally, in order to test vocabulary retention, both groups were given the delayed post-test (translation test) 5 weeks after they had completed the video description.

Both the treatment and control groups did the translation test of words from English to Catalan- and saw the subsequent presentation of words by the teacher. All groups sat after introducing the vocabulary the 'focus on formS' activity, which is the usual practice in curricular education in secondary schools. However, only the treatment group performed the meaning focused input and output tasks as well as the fluency

activity. The two groups performed the description of video and did the translation test. Finally, five weeks after the description and translation, all participants were again tested on the words with the same translation test that had been initially used (delayed post-test).

Group	Pre-tests	Session 1		Session 2		Session 3	Post-tests		
E	Pre-test	Teacher introduces words	Focus on formS	Meaning-focused input task	Meaning-focused output task	Fluency task	Post-test 1	Video retelling	Delayed post-test
C	Pre-test	Teacher introduces words	Focus on FormS				Post-test 1	Video retelling	Delayed post-test

Table 1. Outline of the procedure in the sessions and order of tests.
E: Experimental Group, G: Control Group

3.4 Analysis

Scoring of the translation test:

The participants were awarded a point if they correctly translated into either Catalan or Spanish the English word, therefore the highest score was 29. Orthographical errors were not taken into account. If the participant could not think of the correct translation, an explanation of the term was accepted.

Video description:

Each participant was recorded while they were retelling the video. After this, the researcher listened to all the recordings and counted how many of the treatment words had been correctly used. Each participant's accurate employment of a target word was given a point (multiple use of the same word was counted as one). An example of a description can be found in (appendix 5)

Statistical analyses:

In order to conduct statistical analyses, the *Statistical Package for Social Sciences* (SPSS) was used and the following tests were performed: independent samples t-tests

and a Mann-Whitney U test assessed whether there were significant differences between the two groups in the different measures (receptive and productive vocabulary); that is, in order to see whether *The Four Strands* had any effect on learners' lexical performance. A paired-samples t-test was used to compare the scores in the post-test and delayed post-test within each group (vocabulary retention).

4. Results:

The descriptive statistics of the variables for both groups are presented in table 2.

	Post-test		Delayed post-test		New words in the retelling	
	mean	sd	mean	sd	mean	sd
Experimental	15.74	5.332	15.96	4.784	3.86	2.10
Control	10.19	4.534	9.92	4.117	1.13	1.57

Table 2. Results for the two groups in each test.

The normality of the data was assessed by the Kolmogorov Smirnov test. The analyses showed that scores in the translation post-tests were normally distributed (for the whole sample and for each group), while the amount of words in the treatment used in the retellings were not. Therefore, parametrical analyses were conducted for the former variable and non-parametrical for the later.

Independent-samples t-tests were conducted to compare the post-test translation scores for the control and the experimental group. There was a significant difference in the scores for the post-test [$t(51)=4.074, p=.000$] and for the delayed post-test [$t(49)=4.807, p=.000$]. In both cases, the effect size was large ($\eta^2=.98$).

A Mann-Whitney U test for differences between two independent groups was employed to compare the number of treatment words used in the video retelling for the control and the experimental group. There was a significant difference between the groups [$Z=4.257, p=.000$].

The paired-samples t-test between the post-test and delayed post-test scores within each group showed that there were no significant differences in any of the groups.

5. Discussion

In this section, the findings for the research questions proposed are discussed and related to the previous literature on the topic, some possible explanations and implications of the results are also provided in an attempt to further understand what they mean in the FL classroom context.

The first research question asked whether using *The Four Strands* helped students to increase their receptive vocabulary.

Results showed that the treatment group's receptive vocabulary was larger than that of the control group. In the translation test the treatment group significantly outperformed the control group. The treatment group knew on average 5 more words than the control. Laufer, Nation and Meara (2005) concur that in order for students to learn vocabulary, they need to be actively engaged in many different types of activities. The treatment group had ample practice with the words: they used them in output to make their presentations and later to perform the fluency activity, they heard the words as input as they listened to their classmates carrying out their presentations and as they were told about the last time their classmates saw a football match in the fluency activity, lending weight to Krashen's (1985) input theory and Nation's (2007b) explanation of experience tasks "the greater the language input the greater the learning". The treatment group heard the words on average 15 times more than the control group: they heard the words on four separate occasions as their classmates made their presentations, and in the fluency activity up to eleven times more.

The second research question inquired if the application of *The Four Strands* benefitted students in using vocabulary productively.

Again the results showed that the treatment group significantly outperformed the control group. They used more new words in the video description. The treatment group used on average 3.86 words while the control group used 1.13. Although the number of words used is quite low, the treatment group still employed three times more words than the control group. The same justification for this success can be attributed to reasons already discussed above. At the same time, it was hoped that the number of words the groups used would have been higher. Originally, a description of this particular video been chosen as it allowed the students to use the new words easily and the people and

events depicted are well known to all learners. However, it may also be possible that the nature of the activity somehow flustered the students: it could be that they were simply not used to describing a video and being recorded in front of the teacher. They may have employed all their resources into being accurate and avoiding errors, at the cost of producing the target words.

When trying to relate the results from the first and second research questions, it is important as well to see which the words that were mostly understood and/or used were.

After counting the words that the students used in the video description, it was observed that many learners actually used the same words. Out of the 29 target words, only fourteen were used in the video retelling (see appendix 4b). This means that fifteen words were not used by any participant. ‘*Supporter*’, ‘*chant*’ and ‘*header*’ were used most often. A plausible reason for this can be the learning burden of these words. Nation (1990:33) defines the learning burden as “the amount of effort needed to learn and remember it”. The most used word was ‘*supporter*’. It was employed by fifteen of the participants. As this word already exists in Catalan and has a similar meaning, the learning burden here is low. The students already know that by adding the suffix –er/or to some verbs you can make a noun. The same could be said about the word ‘*header*’, which was used by twelve learners. They already know the word to describe a part of the body, so adding a suffix, as in the former case, is not difficult, giving this word a low learning burden. ‘*Chant*’, articulated, like ‘*supporter*’, by fifteen participants, is similar in sound and meaning to ‘*cantar*’ or ‘*cánticos*’ in Spanish, thus giving this word a low learning burden again. When we look at the words that were translated well (appendix 4a), we can see the percentage of participants who gave the correct translation or explanation for each of the target words. As in the video retelling, *chant* and *supporter* came out on top with 96.29% translating ‘*chant*’ well and 89% for ‘*supporter*’. Therefore it can be concluded that the learners only used the words that they had previously translated correctly and that the words they had accurately translated more often were those with the lowest learning burden.

The third research question examined whether or not *The Four Strands* helps retention.

As the results show, the treatment group retained more vocabulary than the control group, as the mean of words retained in the delayed post test is not significantly

different from the one they had in the first post test, so there is not a significant decrease or loss. It is at the same time superior to that of the control group. These results again show the superiority of the treatment group and gives ample evidence to Nation's proposal that the *The Four Strands* leads to both the learning and retention of vocabulary. Similar results were found in Kitajima (2001), where it was observed that the group who did more with the words -in that case describe a video using target words- was the group who retained more vocabulary in the delayed post test. Rott (1999) also showed that the more a learner is in contact with a word, the more chances of retention. Furthermore, this finding upholds Hulstijn, and Laufer's(2001) Involvement Load Hypothesis -the more deeply a word is processed, the higher chances of its retention-.

5.1 Implications of the study

In the light of the results obtained in this paper, the strategy of *The Four Strands* seemed to encompass all the successful research carried out up to now on vocabulary teaching strategies and constructs a framework which could be comfortably exploited in a classroom environment without any hindrance to the routine of the students, in other words, teachers could implement this strategy by way of a theme on both the curriculum of 1st and 2nd year in high schools. Additionally, the use of this strategy in any classroom and does not actually require the adoption of an altered curriculum different from the already official one.

The group who underwent the treatment spent two hours more than the control group while they were engaged in the input and output activities. The outcome of this extra time was that on average the treatment group could translate correctly an average of 5 words more than the control group, and in terms of the output, they tended to use the new vocabulary more often. In the delayed post-test this strategy again demonstrated its superiority as the results proved that the treatment group retained more words. In his explanation of *The Four Strands*, Nation suggested that it should form an integral part of every language course and be used to practise all aspects of the language from grammar items to language chunks. Should one incorporate his proposal into their teaching, the resulting increase in a learner's productive vocabulary is self-evident.

We have already mentioned that in a normal school year a student using the curriculum text book may learn on average only 100 words. This in turn leads to there being very little perceivable difference between two courses. This fact was proven when both 1st and 2nd demonstrated no statistical difference after they had completed the X_lex and Y_lex vocabulary levels test and were found to both belong to the lower intermediate band. Even though this software does not allow differences of less than 150 words to be seen, a total acquisition of 120 words in one school year seems woefully defective, Consequently, the incorporation of *The Four Strands* could see a learners vocabulary double over their four years of obligatory secondary schooling.

From a methodological point of view, *The Four Strands* allows the learners to focus on accuracy with the ‘focus on formS’. It also allows for ample input as students are engaged in listening to the presentations of others. Moreover, it allots the students a space in which to practise their fluency, incorporating the vocabulary they have learned. Essentially it furnishes both the teacher and the student with a framework, the results of which are seen above to be advantageous.

In the current textbooks we do not often find the materials that would allow the teacher to incorporate such teaching strategies in the curriculum. ‘Focus on formS’ is covered sufficiently well, however, there are many shortcomings. Input is usually presented via a short text and a listening comprehension. Until the next unit/theme there is no more input available (if it is not additionally provided by the teacher). Output may come in the form of such activities as “tell the person beside you...”. There is no onus on learners as Swain (1985:249) describes “ to be pushed towards the delivery of a message that is conveyed precisely, coherently and appropriately”. On the subject of repetition, the learners see the words once and they are rarely repeated during the course. Folse (2012) advocates that vocabulary should be practiced regularly, giving students many times to interact with the word. He also urges spaced rehearsals. Considering the lack of vocabulary and rehearsal opportunities in most textbooks, many times it is the teacher himself who has to take the responsibility of supplementing the book, sometimes without any teaching strategy in mind or any materials to help him/her. They sometimes have no clear framework or guidelines to do this and may have to spend a lot of time finding or creating materials. Under such circumstances many teachers, in spite of research findings available in different contexts, have no alternative but to overlook them.

6. Caveats and future research

This piece of research is an experiment carried out in a semi-state school. It is therefore obvious that the results obtained cannot be generalized to include all twelve to fourteen year olds who learn EFL in Spain. To make this study more comprehensive, the treatment would have to be analyzed under different environmental conditions, namely in public schools, semi-private schools and fully private institutions, as the context of implementation may also affect the results and its efficacy up to different extents.

Another issue was the fact that the class teacher and the researcher were the same person. As mentioned previously, the amount of words used in the video retelling was quite low. By way of explaining this trend, a possible reason could be that students were in some way inhibited in their description as they felt it more important to be accurate and not make grammar mistakes in front of their teacher. To attenuate this problem, another person could record the retelling or students could have prepared or received instruction beforehand of how best to carry out the activity. In the same vein, it could form part of a regular fluency activity during the course. In this way, the novelty of the activity is assured not to hinder their use of vocabulary. Action research is a practice that has many advantages for the teacher but also disadvantages, as pointed out in this paragraph.

In Nation's description of *The Four Strands* he advises that this methodological strategy form part of a whole course. He posits that it will help students learn language items and patterns, train them in strategies that will contribute to learning, provide fluency development activities in each of the four skills, and provide for repeated coverage of language items. As the current study was carried out during only one out of a nine month course, it would be interesting in the future to see the effects on the learners' vocabulary acquisition and fluency after a whole course. Furthermore, longitudinal studies with different sorts of words will also help to determine the best conditions under which the strategy can be used and point at ways of making it as efficient as possible.

7. Conclusion

This study set out to put *The Four Strands* to the test and observe its effect on a group of high school students. The results seem to be promising and attest to Nation's conviction that such a strategy should form part of every language course. The research presented has pointed out that the strategy can actually be seen as an amalgamation of many years of research into the areas of input, output, fluency and 'focus on formS'.

However, as Ur (2012) has recently stated, research often says one thing, but in the classroom findings seem to be ignored. Macalister (2012) reports that many new teachers have no idea which reasons were behind the different teaching strategies they employed in class: they simply used them because they were taught that this was the way it should be done. Undeniably, the goal of research is to improve students' language proficiency by the application of findings in the classroom. It is also the responsibility of every language teacher to know the justification of each and every teaching strategy they apply in the classroom and to be confident in the knowledge that they are putting in practice what years of research have started to unfold.

References

- Barcroft, J. (2004). Second Language vocabulary acquisition: a lexical input processing approach. *Foreign Language Annals*, 37: 200-208.
- Cornu, A.M. (1979). The first step in vocabulary teaching. *Modern Language Journal* 63: 262-272.
- Ellis, R and X. He. (1999). The role of modified input and output in the incidental acquisition of word meanings. *Studies in Second Language Acquisition*, 21: 285-301.
- Feeny, TP. (1976). Vocabulary teaching as a means of vocabulary expansion. *Foreign Language Annals*, 9:485-486.
- Folse, K. (Ed), (2004). *Vocabulary myths: Applying Second Language Research to Classroom Teaching*. Ann Arbor, University of Michigan Press
- Folse, K. (2012). Applying L2 lexical research findings in ESL teaching. *TESOL quarterly*, 45, (2): 362-369.
- Gatbonton, E and N. Segalowitz. (2005). Rethinking communicative language teaching: a focus on access to fluency. *Canadian Modern Language Review* 61, (3): 325-353.
- Goulden, R., P. Nation and J. Read (1990) How large can a receptive vocabulary be? *Applied Linguistics* 11, (4): 341-363.
- Hilton, H. (2008). The link between vocabulary knowledge and L2 fluency. *Language Learning Journal* 36, (2):153-166.
- Hulstijn, J. and B. Laufer. (2001). Some empirical evidence for the involvement load hypothesis in vocabulary acquisition. *Language Learning*, 51, (3): 539-558.
- Hunt, D. and D. Belgar. (1998). Current Research and Practice in Teaching Vocabulary. *The Language Teacher Online*, 22, (1): 1-9.
- Joe, A. (1998). What effects do text-based tasks promoting generation have on incidental vocabulary acquisition. *Applied Linguistics*, 19, (3): 357-377.
- Kitajima, R. (2001). The effect of instructional conditions upon students' vocabulary retention: output activities vs. input dominant activation. *Foreign Language Annals*, 34,(5): 470-482.
- Krashen, S. (1989). We acquire vocabulary and spelling by reading:additional evidence for the Input Hypothesis. *Modern Language Journal*, 73:440-464.
- Laufer, B. (1990). Ease and difficulty in vocabulary learning: some teaching implications. *Foreign Language Annals*, 23, (2): 147-155.

- Laufer, B. (1992). How much lexis is necessary for reading comprehension? In P. Arnaud & H. Béjoint (Eds.), *Vocabulary and Applied Linguistics* (pp. 126-132). London: MacMillan.
- Laufer, B. (2005). Focus on form in second language vocabulary acquisition. *EuroSLA Year Book*, 5:223-250.
- Laufer, B. (2006). Comparing focus on Form and Focus in FormS in second language vocabulary learning. *Canadian Modern Language Review*, 63, 149-166.
- Laufer, B and J. Hulstijn. (2001). Incidental Vocabulary Acquisition in a Second Language: The Construct of Task Induced Involvement. *Applied Linguistics*, 22, (1): 1-26.
- Laufer, B., P. Meara and P. Nation. (2005). Ten best ideas for teaching vocabulary. *The Language Teacher*, 29(7): 3-6.
- Macalister, J. (2012). Pre-service Teacher Cognition and Vocabulary Teaching. *RELC Journal*, 43, (1): 99-111.
- Melka, F. (1997). Receptive vs. Productive aspects of vocabulary. In N. Schmitt and M. McCarthy (Eds), *Vocabulary: Description, Acquisition and Pedagogy* (pp 84-102). Cambridge: CUP.
- Miralpeix, I. (2012). X_Lex and Y_Lex: A validation study. 22nd VARGA Conference, Gregynog, Wales.
- Nation, P. (1982). Beginning to learn a foreign vocabulary: a review of the research. *RELC Journal*, 13, (1): 14-36.
- Nation, P. (1989). Improving speaking fluency. *System*, 17, (3): 377-384.
- Nation, P. (1990). What is involved in learning a word? In P. Nation Teaching and Learning Vocabulary (pp. 29-50). New York: Newbury House.
- Nation, P. (1997). Helping learners take control of their vocabulary learning. *Greta*, 6, (1): 9-18.
- Nation, P. (2006). Language Education-vocabulary. In K. Brown (ed.) *Encyclopaedia of Language and Linguistics*, 2nd Ed. Oxford: Elsevier. Vol 6: 494-499.
- Nation, P. (2007a). The four strands. *Innovation in language learning and teaching*, 1, (1): 1-12.
- Nation, P. (2007b). Vocabulary learning through experience tasks. *Language Forum*, 33, (2):33-43.
- Nation, P. (2011). Research into practice. *Language Teacher*, 44, (4): 529-539.

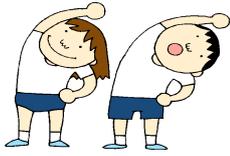
- Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition and retention through reading. *Studies in Second Language Acquisition* , 21,(4): 589-620.
- Smith, P. (1969). Vocabulary teaching. *Modern Language Journal* , 53, 8:531-537.
- Strasser, B. (1967). A conceptual model of instruction. *Journal of Teaching Education* 18, 1: 63-74.
- Swain, M. (1985) Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass and C. Madden (eds.), *Input in Second Language Acquisition* (pp235-253). Rowley, Mass: Newbury House.
- Swain, M. (2005). The output hypothesis: Theory and research. In E. Hinkel (Ed.), *Handbook on research in second language teaching and learning* (pp. 471-83). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ur, P. "Where do we go from here? An overview of English teaching methodology in 2012". APAC Solid Learning for Liquid Times [Conference]. Barcelona. 24 Feb. 2012.
- van Gelderen, A, R. Oostdam and E. van Schooten. (2011). Does foreign language writing benefit from increased lexical fluency? Evidence from a classroom experiment. *Language Learning*, 61, (1):281-321.
- Yoshii, M. and J. Flaitz. (2002). Second language incidental vocabulary retention: the effect of picture and annotation types. *CALICO Journal* 20, 33-58.
- Waring, R. (1997). The negative effects of learning words in semantic sets. *System*, 25, (2):261-274.

Appendix 1:

1. an owner (n)	20. tackle (v)
2. a supporter (n)	21. skid (v)
3. a trainer (n)	22. slide(v)
4. a referee (n)	23. push(v)
5. a pitch (n)	24. congratulate(v)
6. a court (n)	25. commiserate (v)
7. cheer on someone (v)	26. a defender (n)
8. chant (v)	27. a forward (n)
9. sunscreen (n)	28. crestfallen
10. a rucksack (n)	29. show off (v)
11. a tracksuit (n)	30. a header (n)
12. bounce (v)	31. midfielder (n)
13. kick (v)	32. a linesman (n)
14. shoot (v)	33. volley (v)
15. stretch (v)	34. keep possession (v)
16. a foul (n)	35. clearance (n)
17. egotistical (adj)	36. <i>football (n)</i>
18. skilful (adj)	37. <i>ball (n)</i>
19. send off (v)	38. <i>team (n)</i>
	39. <i>score (n)</i>
	40. <i>player (n)</i>

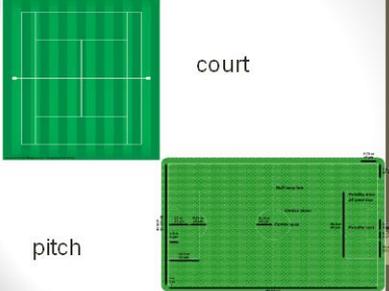
Appendix 1 Translation test with target words and distracters (in italics)

Appendix 2:

 <p>stretch</p>		  <p>sunscreen rucksack</p>	
 <p>show off</p>		  <p>volley a header</p>	
 <p>skilful</p>		 <p>crestfallen</p>	
 <p>egotistical</p>		  <p>clearance keep possession</p>	
  <p>linesman skid</p>			

 <p>supporters chant cheer on</p>	 <p>referee send off</p>
--	--

Appendix 2

 <p>trainer tracksuit trainers</p>	 <p>slide push</p>
 <p>tackle</p>	 <p>forward defender midfielder</p>
 <p>shoot kick bounce</p>	 <p>congratulate commiserate</p>
 <p>foul</p>	 <p>court pitch</p>

Appendix 3

Choose the correct word:

1. Messi is very **skilful** with the ball. This means that he is:
a) expert b) terrible
2. Ronaldino is **egotistical**. This means he is:
a) humble b) arrogant
3. A **foul** is when a player:
a) scores a goal b) does something illegal in the game
4. When a team wins a match their manager:
a) **congratulates** them b) **commiserates** with them
5. Football is played on a:
a) **pitch** b) **court**
6. You wear this to protect you from the sun:
a) **sunscreen** b) a **rucksack**
7. If you have something in your possession you are its:
a) **referee** b) **owner**
8. When a goalie kicks the ball out of his teams area, this is called:
a) **clearance** b) **keep possession**

Answer these questions in a sentence:

9. The Barca players **chant** oe, oe, oe when their team wins. Describe what they do
10. What is a **referee's** job in a football match?
11. How do Barcelona fans **cheer their team on**?
12. Why is a player **sent off** at a match?
13. What do Barcelona **supporters** wear?
14. Who is the **trainer** of Barcelona FC and what does he do?
15. Describe a situation where you can be **crestfallen**. Also, describe your feelings.
16. Describe how a **show-off** acts.
17. What is a **tracksuit** and what is it made up of?

Match the correct words with the correct picture

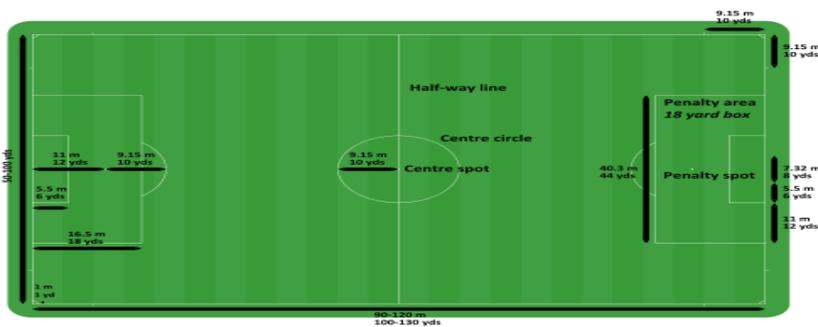
1. Match the pictures with the verbs

-bounce, volley, shoot, kick, stretch

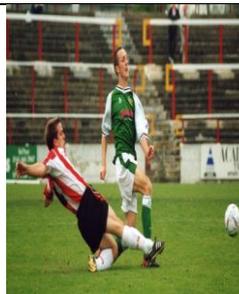
				

2. This is a football **pitch**. Mark where the following people should be

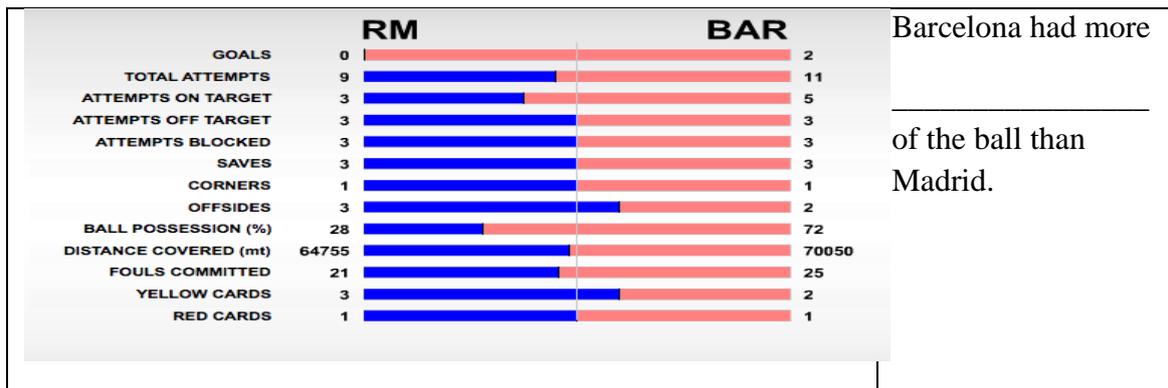
-linesman, forward, defender, midfielder.



3. How do you call each of these moves in football? Unscramble the words:

				
ilsed	hsup	Leactk	A eahdre	dsik

4. What does this picture show? Look at stat. 9.



Appendix 4

Words	Translated well	% out of 29 words	% out of 27 participants
chant	26	89.66	96.29
supporter	24	82.76	88.88
pitch	23	79.31	85.18
foul	23	79.31	85.18
midfielder	23	79.31	85.18
owner	22	75.86	81.48
referee	21	72.41	77.77
egotistical	21	72.41	77.77
sunscreen	20	68.97	74.07
header	20	68.97	74.07
keep possession	20	68.97	74.07
crestfallen	19	65.52	70.37
linesman	19	65.52	70.37
send off	18	62.07	66.66
forward	16	55.17	59.25
court	14	48.28	51.85
rucksack	14	48.28	51.85
kick	12	41.38	44.44
tracksuit	11	37.93	40.74
tackle	11	37.93	40.74
cheer on	10	34.48	37.03
skilful	10	34.48	37.03
clearance	8	27.59	29.62
volley	7	24.14	25.92
bounce	6	20.69	22.22
commiserate	6	20.69	22.22
stretch	4	13.79	14.81
show off	4	13.79	14.81
skid	2	6.90	7.40

Appendix 4a Number and percentage of words correctly translated post test

Words	Used
a supporter	15
chant	15
a header	12
midfielder	8
kick	8
tackle	6
skilful	5

Words	Used
a pitch	5
cheer on	5
crestfallen	4
clearance	4
a foul	3
a forward	3
keep possession	3
a referee	1

Appendix 4b Number of participants (treatment) who used words in video retelling

Appendix 5

This is an example of a video retelling by a student in treatment group. 2nd ESO.

@Begin

@Language: en

@Transcribed by: researcher

@Participant name: example, 2nd ESO

@Time : 2:05

@Comment: This learner used 6 different words in their retelling.

The goal keeper catch the ball and he **clearance** to the to the another part of the court.

hmm@p another player to the other football team do a **header** and and < clear

>[/]**clearance** the ball and Messi **tackle** with another player <and>[/] and hmm@p<

he>[/] he <como es>[/-] and he robs the ball another player of the other team slide and

tackle Messi but Messi hmm@p hmm@p goes to the other side and he shoot the ball

and he does a goal. The **supporters** are very happy because Messi do a goal and they

chant and hmm@p the manager Guardiola are very happy <and>[/] and they do the

<como es the ola?>[/-] and they do the ola and the players of the team say to Messi that

they are **skilful**.