TRABAJO FIN DE GRADO

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LANGUAGE: DO CHANGING STRESS PATTERNS LEAD TO CHANGES IN PERCEIVED MEANING?

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ANEXO II

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ABSTRACT

This paper aims to provide basic insight into one of the prosodic elements which has an important role in English language: the stress. The study is based on an experiment related to English stress in word pairs taken by fourteen participants. According to English grammar, compound words and nouns phrases are both word pairs which differ in the stress patterns as well as in semantics; the first type of words are thought to be morphological constructions while the second type are syntactic constructions. The experiment is designed to test 2 main things. The first one would be; do people hear any difference in stress? And the second one would be; do people associate different meaning in case they hear the difference? In spite of the fact that this topic could explore different theories dealing with how language is processed in mind, this is an elementary study focused on the two questions previously mentioned.

Spanish

Este trabajo tiene como objetivo proporcionar información básica sobre uno de los elementos prosódicos que tiene gran importancia en la lengua inglesa: la acentuación. Este estudio está basado en un experimento relacionado con el acento de algunas palabras en inglés. De acuerdo con la gramática inglesa, algunas palabras que pueden ser tanto palabras compuestas como sintagmas nominales se diferencian tanto en el acento que llevan cada una como en el significado; siendo las primeras construcciones morfológicas y las segundas sintácticas. El experimento es creado para analizar fundamentalmente dos cuestiones: si la gente percibe alguna diferencia en el acento de las palabras que escucha y si asocian diferentes significados a dichas palabras una vez que notan la diferencia en la acentuación. A pesar de ser un campo bastante complejo que explora teorías relacionadas con cómo se procesa el lenguaje en la mente, este es un estudio inicial que se basa en las dos cuestiones mencionadas anteriormente.

1. INTRODUCTION

According to English grammar, there is a stress distinction to recognise modified noun phrases, ‘’noun phrases in which the head noun is modified by a sequence of nouns’’(Sag, 1992: 131) and compound nouns of the type noun + noun " noun which itself consist of two independent nouns" (Taylor, 1991: 67). Sometimes, they can appear with a hyphen as *water-bottle*, with a space between the two independent words as *bus stop* or together as *toothpaste*. There is not a definite rule in English to use each of those three possibilities. Some compound nouns can be written in the three different ways without losing acceptability; *ice-cream, ice cream* and *icecream* (Fudge, 2015: 135).

There are many types of compound nouns as N+N (keyboard), Adj.+N (black bird), V+N (breakfast) or N+V (haircut) within others. Nevertheless, this study is focused on compound nouns of the type noun + noun. The noun +noun is the most common type of compound which is initially-stressed.

Also, there are many types of noun phrases; - phrases whose heads are nouns (Radford, 2009: 393) - those where a determiner comes before the head of the noun phrase as *the cat, a book* or *this house*; those which are formed by the head and a post-modifier of the previous one as *the man asleep*, but I am going to focus on the most "problematic" noun phrases which are those where there is a pre-modifier before the head. They have been identified as more problematic because these are the only kind of noun phrases that can be confused with compound nouns, as some of them can be both noun phrases and compound words.

According to Sag (1992), modified noun phrases have the stress on the head of the noun phrase while compound nouns have stress on the first noun. In other words, modified noun phrases have right or late stress and compound nouns left or early one. According to this view, *toy factory* can be either a noun phrase with the stress in the head of it (*factory*) or a compound noun with the stress in the pre-modifier *toy*, meaning a factory which is a toy or a factory to make toys, respectively.

Morphology is "the area of linguistics which is concerned with the internal structure of words" (Ballard, 2007:50). It deals with the set of rules that combine words and part of words into bigger words (complex words). However, syntax deals with the rules that combine words into phrases and sentences (Pinker, 2014: 24). Thus, modifiers in compound nouns are usually taken to be joint to their heads as a separate morphological component and modifiers

in noun phrases are taken to be syntactic in origin (Sag, 1992: 133). This means that, compound nouns are morphological constructions and modified noun phrases syntactic ones. There is much more variation within speakers than textbooks. Therefore, the aim of this study is to find out people's interpretation of word pairs according to the stress patterns they hear. If people do hear a difference in stress and attribute different meanings to the two types, that will support the idea that there are two different types of construction.

2. HYPOTHESIS AND OBJECTIVES

I have built this research project on the basis of the following hypothesis:

In English, compound nouns are thought to have left or early stress (as the stress falls in the pre-modifier of the head), while modified noun phrases are thought to have right or late stress (the head of the noun phrase is stressed). In spite of the fact that the study is based on compound nouns of the type noun+noun and noun phrases where the pre-modifier is a noun, I am going to show you some examples of compound nous and noun phrases of the type adjective + noun as I find them easier to visualise. For instance, is it not the same to say GREEN house (left stress) and green HOUSE (right stress)/ BLACK board and black BOARD/ ENGLISH teacher and English TEACHER.?; ENGLISH teacher (left stress) is supposed to mean a person who teaches English, while English TEACHER (right stress) is thought to mean a teacher who is from England. BLACK board is thought to be an object which is usually on the wall used by the teachers to explain the concepts. However, black BOARD is supposed to be a board which is black. Also, GREEN house is thought to mean the place used for growing plants out of season while green HOUSE is supposed to mean a house which is green.

Therefore, in word pairs with right stress (NPs) the first word is always a pre-modifier of the second word which is always the head; English, black and green would be functioning as adjectives pre-modifying teacher board and house, respectively.

This research project aims to explain:

- Whether people hear a difference in stress
- If they do hear the difference, do they associate different meanings?

- An experiment based on the stress of word pairs perceived by a group of people.
- If there are any factors like gender, age or nationality which can influence the way language is processed.

3. METHODOLOGY

The idea of working on English stress in compounds comes from a module I took last year when I was Erasmus student Anglia Ruskin University (Cambridge). The module was called *Language, Mind and Brain* and it was an introduction to psycholinguistics. It dealt with basic knowledge and concepts related to language; differences between animals and human beings, the causes of those differences, how language is used by human beings, how and when we start acquiring the first language, whether there is a critical period after which learning a language becomes impossible or very difficult, the way children learn, language diseases and whether or not they could be overcome, bilingualism or basic ideas of approaches related to language understanding and production, among others.

The assessment of this module was based on a research project about compound words and language understanding approaches. It was a project where everyone had to participate as each student had to code and analyse some data. It was an elementary research report but I found the topic so interesting that I decided to work on it by myself, analysing everything by myself and coming to my own conclusion.

3.1 Ethics procedure

As the experiment was done during my stay in Anglia Ruskin University, I had to follow their ethical procedure. To start working on an experiment involving people meant asking for permission to do it. I had to be aware of the fact that I would work with confidential and personal data which could be only used for the experiment but nothing else, so that I had to complete an ethics test on the web page of Anglia Ruskin University. This ethics test needs to be completed each time one does an experiment which involves people in order to have the consent that one can work with people, always over 18 years old. 100% in the ethics procedure was needed to be able to work on the experiment. Being a non-native speaker of English was one of the reasons why it took me so long to pass the ethics procedure as the vocabulary used was very academic, indeed. (See appendix 2)

3.2 Experimental design

Before starting the experiment, the participants were given an information sheet and consent form which they had to fill in. The first page was the information sheet where the participants were informed of the experiment. The information sheet explained that this was part of the work where people's interpretation of the words they hear would be tested. After giving some information of the research, they were invited to participate in the experiment where they had to listen to some word pairs (at the same time they saw them) and write down the meaning of the word pair. Nevertheless, they were also informed that they were free to decline to take part of the experiment for any personal reason or withdraw before the end without any penalty. The second sheet was the consent form where the participants agreed to take part in the research and they confirmed they understood what their role was. They were also informed about the confidentiality of the research and they agreed with being free to ask any questions. They were provided with a copy of the Participant Information Sheet so as to have the evidence in case something happened. There was a small section at the end of the second page where the participants were free to sign to withdraw in case the wanted (see appendix 3).

Once they signed the form and they were aware of the situation, they were able to start the experiment, which consisted on an online questionnaire. First of all, they were asked their nationality and age. Then, the questionnaire was based on twenty word pairs; each word pair was randomly repeated twice, but with different stress patterns. The participants had to listen to thirty-two (six-teen repeated twice) word pairs at the same time they appeared written and they had to write down what the word pairs meaning. This software used to create the experiment is called QuestionMark Perception (QMP) and it can be found in appendix 4. As it is above-mentioned, the same word pairs were repeated twice in the experiment, but each time, with different stress patterns. Therefore, the participants had to write down the meaning of each word pair. This six-teen word pairs were *apprentice instructor, baby cardigan, beach entrance, bitch trainer, brick yard, car seat, champagne reception, colour monitor, cupboard side, kitchen towel, leather tool, rubber plant, rubbish bin, star observation, steel warehouse* and *toy factory*.

Once the listening part was finish, the participants were asked whether or not they have noticed any changes in the word pairs.

The reason why this questionnaire was taken by some participants was due to the fact that big experiments are very expensive and there are not enough resources to do them. The experiment was designed to test whether people notice any differences in stress in the word pairs they hear and whether people associate different meanings according to the stress pattern they hear. Moreover, it will be analysed whether or not some word pairs show more tendency to be given two meanings or to be given the same one. Some factors as age or whether the participants are native or non-native speakers of English will be analysed as well, since they may influence in the interpretation of the word pair. Some examples will be shown afterwards. A picture of what the questionnaire looks like can be found in appendix 4.

3.3. Subjects

The subjects had to be over 18 years old in order to be able to participate. The same number of native speakers and non-native speakers was selected so that the results of both groups could be compared.

Finally, the group of participants was formed by 7 native speakers of English and 7 non-native speakers of English. In spite of the fact that most of the participants were around 19 and 31, there was one participant who was 41 years old.

The experiment consisted of an online questionnaire which had to be done from my own laptop as I was the person who had access to it. Thus, I met the participants with my computer so that they were able to take part in the experiment.

3.4 Data coding

In order to code the data, I decided to use the Levi's semantic relations in compounds found in *The syntax and semantics of complex nominals* (Levi, 1978).

According to Levi (1978), there are 9 different semantic relations in compounds; *cause, have, make, use, be, in, for, from* and *about*. The first three semantic relations can have two different functions; *cause* can deal with a word pair like *mortal blow* (N2 causes N1) or *drug deaths* (N1 causes N2 or N2 is caused by N1). In the case of *have,* it can be found word pairs like *apple cake* or *feminine intuition*; in the first one N2 has N1 while in the second one N1 has N2. Similarly, *make* can be used for *honey bee* (N2 makes N1) or for *snow ball* (N1 is made of N2).

However, the rest of semantic relations can be used just in one way. Firstly, *use* deals with word pairs as *solar generator* where N2 uses N1, the generator uses the sunlight to work. Some word pairs as *professional friends* would belong to the semantic relation dealing with *be*, where N2 is/are N1; friends are professional. In the case of *in*, *autumnal rains* would be an example; it rains in autumn. *Horse doctor* would be related to *for* as it is understood as a doctor for horses, N2 for N1. Also, from would deal with word pairs like *olive oil* or *apple seed* where N2 comes from N1; oil from olive and seed from apple. Finally, *about* would be related to word pairs as *linguistics lecture*, meaning that a lecture is about linguistics, N2 about N1 (Levi, 1978: 76-77).

As it has been mentioned, the six-teen word pairs were *apprentice instructor, baby cardigan, beach entrance, bitch trainer, brick yard, car seat, champagne reception, colour monitor, cupboard side, kitchen towel, leather tool, rubber plant, rubbish bin, star observation, steel warehouse* and *toy factory*.

According to Levi`s semantic relations, the expected definition for the word pairs would be the following:

Apprentice instructor

-Left stress: VERB (N2 verb; instructor **instructs** apprentices)

- Right stress: BE (the instructor is apprentice, N2 is N1, they are the same person)

Baby cardigan

-Left stress: FOR (cardigan for babies, N2 for N1)

- Right stress: BE (small cardigan, N2 is N1)

Beach entrance

-Left stress: IN (an entrance to somewhere from the beach, eg. the entrance to get inside the restaurant from the beach, N2 from N1)

- Right stress: HAVE (the entrance to get into the beach, N1 has N2)

Bitch trainer

-Left stress: VERB (N2 verb; trainer **trains** bitches)

- Right stress: BE (trainer who is a bitch, N2 is N1)

Brick yard

-Left stress: FOR (yard to store bricks)

- Right stress: MADE OF (yard made of brick)

Car seat

-Left stress: FOR (seat for the car or seat for children in a car)

- Right stress: IN (seat in a car, the seat of a car)

Champagne reception

-Left stress: VERB (the reception of champagne; **receiving** champagne)

- Right stress: HAVE (a reception with champagne)

Colour monitor

-Left stress: VERB (monitor to display colours; **monitoring** colours)

- Right stress: HAVE (a monitor which is not in black and white)

Cupboard side

-Left stress: IN (the side of something else closest to the cupboard; e.g. the dining table may have a cupboard side)

- Right stress: HAVE (one of the sides of the cupboard)

Kitchen towel

-Left stress: FOR (paper roll)

- Right stress: IN (the towel located in the kitchen)

Leather tool

-Left stress: FOR (tool used to cut leather)

- Right stress: MADE OF (tool made of leather)

Rubber plant

-Left stress: MAKE (plant which produces rubber)

- Right stress: MADE OF (plant made of rubber, fake plant)

Rubbish bin

-Left stress: FOR (bin used for the rubbish)

- Right stress: BE (bin which is rubbish, in a bad condition)

Star observation

-Left stress: VERB (the action of **observing** of stars)

- Right stress: BE (observation which is star, big, important)

Steel warehouse

-Left stress: FOR (warehouse to store steel)

- Right stress: MADE OF (warehouse made of steel)

Toy factory

-Left stress: FOR (factory that produces toys)

- Right stress: BE (factory which is a toy itself)

In some cases, the participants gave some definitions which did not make sense and had nothing to do with the previous ones. Thus, those definitions that did not make sense, where coded as "ambiguous" while others as "neither" and were not analysed. For example, in *apprentice_instructor*, someone define it as "boss/ teacher", which I considered to be ambiguous. In contrast, someone defined the same word pair as "someone who is training to become an apprentice" which in my opinion, does not make sense as someone cannot train to become and apprentice as apprentice means you are learning to become something or someone.

The data coding might be better understood having a look on appendix 1. The table contains 6 different columns; *word pair, expected definition 1, expected definition 2, definition, definition code* and *stress position*.

The *expected definition1* and *expected definition2* deal with what is expected according to textbooks; *expected definition 1* with the expected meaning for left stress while expected definition 2 with the expected meaning for right stress. However, *definition code* deals with the answers given by the participants where *1* means the definition given was the expected definition 1 (when it has left stress), *2* means the definition given is the expected definition for right stress and some cases were code as *ambiguous* or *neither*, when the definitions given were not clear or did not make sense at all, respectively.

4. THEORETICAL UNDERPINNINGS

From the beginning of this elementary study, English stress of noun phrases and compound have been introduced.

Compound nouns are thought to be morphological constructions initially-stressed and noun phrases syntactic constructions finally-stressed. According to word stress in English, compound nouns have early (left) stress and modified noun phrases have late (right) stress. In spite of the fact that there are many different types of compound nouns which differ in the way they have been formed (e.g. blackboard, adjective + noun; haircut, noun + verb; sunrise, verb + noun), this study is focused on compound nouns formed by noun + noun, eg. bus stop. Thus, it has been hypothesized that if compound words and noun phrases have different stress patterns, they should be interpreted in a different way when they are heard. This means that, for instance *car seat* can be both the seat you place in the car for the children (compound noun) or one of the seats of the car (noun phrase).

Finally, an experiment based on the stress of different word pairs have been carried out in order to find out whether or not people notice changes in stress and whether they associate different meanings in case they notice the stress changes.

A native speaker pronouncing the different word pairs was recorded. Participants had to hear the different word pairs at the same time they saw them written on the computer screen and they just had to write down the meaning of the word pair. Six-teen word pairs were repeated twice (forty in total) with different stress patterns despite the participants did not know about this until they finished the questionnaire.

In the next section, the responses given by the subjects will be analysed so as to find out whether or not they have noticed changes in stress and meaning and whether there are any specific features influencing on the interpretation of the word pairs.

5. ANALYSIS

In this section, all the data provided by the participants will be analysed. There were fourteen people participating in this experiment. The data counts with the answers provided by 7 native and 7 non-native speakers of English between 19-41 years old.

After spending long time collecting all the data and coding it and analysing it, the main points of the analysis are the following:

1. **Native speakers**

- The 71% of the native speakers did notice the change in stress when they were asked at the end of the experiment

- Also, definition changed in 41% of all native speaker cases.

2. Non-native speakers

- The 29% of the non-native participants noticed stress

- Definition changed in 19% of all non-native speakers cases

3. Overall

- If participant noticed stress, definition changed in 49% of cases

- If participant did not notice stress, definition changed in 12% of cases.

4. Definitions

- Most likely to change for *baby cardiga*n (more than 50%), then for *apprentice instructor, bitch trainer, rubber plant and steel warehouse* (all at 43%).

- Least likely for *beach entrance* (0%).

According to the statistics, the majority of native speakers of English (71%) noticed the change in stress when they were asked. However, only the 29% of the non-native speakers noticed the stress. These results suggest that native speakers have more facilities to notice stress. This is something which may be expected as English is their first language, while non-native speakers had to hear the word pairs in a language which might be their second or third language. See the following table:

5.1. Table 1: Native/ non-native speakers' stress notice

STRESS NOTICE	NATIVE SPEAKER
Didn't notice	**280**
Native	82
Non-native	198
Noticed stress	**280**
Native	200
Non-native	80
TOTAL ANSWERS	**560**

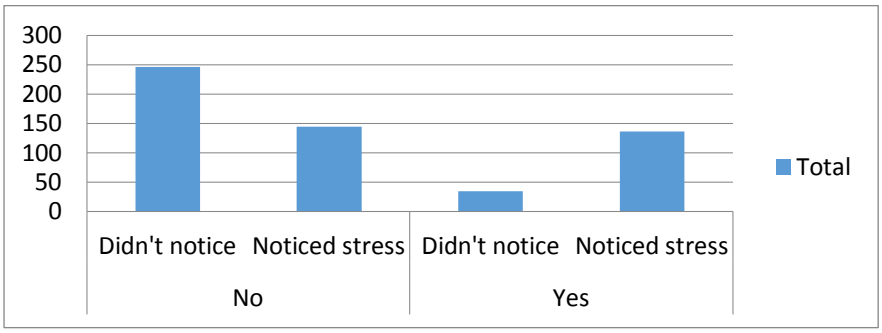
On the other hand, the definitions given by the native participants changed in 41% of all cases while the definitions given by the non-native speakers changed in 12% of the cases. This result suggests that there were more native speakers than non-native speakers who changed the definition when the word pair was heard with different stress patterns. Again, this might be a matter of proficiency as native speakers were working in their first language while non-native speakers were not. Moreover, there might be a most common definition in the majority of cases. For instance, *toy factory* has been defined in most of the cases as a factory where toys are made instead of a factory which is a toy itself. This might happen because one of the definitions is more likely to be used in general. For this reason, it is more likely that non-native speakers changed the definition in less cases than native speakers as they might give the definition which is more common for them and in some cases they might not know more than one definition.

In general, the results show that within the participants who noticed the stress patterns (including both native and non- native speakers), the definition changed in 49% of the cases. Nevertheless, within the participants who did not notice the stress changes, the definition changed in 12% of all cases. See the table and figure below:

5.2. Table 2: Definition change and stress notice

DEF. CHANGE		PART. NOTICE STRESS
No	**390**	
Didn't notice	246	
Noticed stress	144	
Yes	**170**	
Didn't notice	34	
Noticed stress	136	
TOTAL ANSWERS	**560**	

5.3. Figure 2: Definition change and stress notice



These statistics and percentages show that:

- In most of the cases (including native and non-native speakers), the participants gave one definition.
- Even if the majority gave just one definition, native speakers changed the definition in more cases than non-native speakers.

Another interesting question to be answered is the following one; When people give two different meanings, do they always correspond to the expected definitions in relation to the stress – or do they sometimes match the definition expected for left stress with right stress, and vice versa?

5.4. Table 3: Definition change and expected meaning

EXPECTED DEF.	DEF. CHANGE
No	**390**
No	207
Yes	183
Yes	**170**
No	71
Yes	99
TOTAL	**560**

According to this table, within 560 answers, the definition was changed in 390 of them while it was not changed in 170 answers. Moreover, within those 170 responses where the definition changed, just 99 responses coincided with the expected definition while 71 did not coincide with it. These results suggest that even if the definition was changed in many cases, the participants were not aware of the stress patterns.

On the other hand, it has been found that some word pairs are more likely to be given different definitions than others. See table below:

5.5. Table 4: Tendency to change meaning depending on word pair

WORD PAIR		DEFINITION CHANGE
apprentice_instructor	**28**	
No	16	
Yes	12	
baby_cardigan	**28**	
No	12	
Yes	16	
beach_entrance	**28**	
No	28	
bitch_trainer	**28**	
No	16	
Yes	12	
brick_yard	**28**	
No	18	
Yes	10	
car_seat	**28**	
No	22	
Yes	6	
champagne_reception	**28**	
No	24	
Yes	4	
colour_monitor	**28**	
No	22	
Yes	6	
cupboard_side	**28**	
No	22	
Yes	6	
kitchen_towel	**28**	
No	22	
Yes	6	
leather_tool	**28**	
No	24	
Yes	4	
rubber_plant	**28**	
No	16	
Yes	12	
rubbish_bin	**28**	
No	20	

Yes	8
star_observation	**28**
No	26
Yes	2
steel_warehouse	**28**
No	16
Yes	12
toy_factory	**28**
No	18
Yes	10

Baby cardigan is the only word pair where more than half of the participants changed the definition (more than 50%); it is the word pair which shows more tendency to be given two definitions. Most of the participants understood baby cardigan both as a compound noun, a cardigan for a baby, and as a NP, a small cardigan. It was more common to understand the word pair as a compound, a cardigan for a baby, within those who did not change the definition.

I think in this case, both definitions are very common and the participants might find both of them familiar.

After *baby cardigan*, the word pairs being more likely to be changed the definition are *apprentice instructor*, *bitch trainer*, *rubber plant* and *steel warehouse*; they have been changed the definition in the 43% of all cases. In the case of *apprentice instructor*, the participants who did not change the definition were inclined to give the meaning of the compound word. Thus, most of them understood apprentice instructor as "someone who instructs apprentices", as a compound noun (left stress). It happened the same with *bitch trainer*; the majority of participants who did not change the definition, gave the meaning of the compound, which would be "someone who trains bitches".

However, in the case of *rubber plant*, most of the subjects who did not change the meaning, gave the definition of the noun phrase; a plant made of rubber or a fake plant. Finally, *steel warehouse* was more common to be given the meaning of the compound noun within those participants who did not change the definition. Thus, it was more common to be understood

as a place where steel is stored than as a warehouse made of steel. The following table shows some of the results previously discussed:

5.6. Table 5: Stress tendency

WORD PAIR		STRESS TENDENCY
apprentice_instructor	**28**	
1	**14**	
No	5	
Yes	9	
2	**14**	
No	9	
Yes	5	
baby_cardigan	**28**	
1	**14**	
No	2	
Yes	12	
2	**14**	
No	10	
Yes	4	
beach_entrance	**28**	
1	**14**	
No	14	
2	**14**	
Yes	14	
bitch_trainer	**28**	
1	**14**	
No	3	
Yes	11	
2	**14**	
No	8	
Yes	6	
brick_yard	**28**	
1	**14**	
No	6	
Yes	8	
2	**14**	
No	9	
Yes	5	
car_seat	**28**	
1	**14**	
No	9	
No	1	
Yes	4	

2	**14**
No	3
Yes	11
champagne_reception	**28**
1	**14**
No	12
Yes	2
2	**14**
No	3
Yes	11
colour_monitor	**28**
1	**14**
No	7
Yes	7
2	**14**
No	8
Yes	6
cupboard_side	**28**
1	**14**
No	11
Yes	3
2	**14**
No	6
Yes	8
kitchen_towel	**28**
1	**14**
No	11
Yes	3
2	**14**
No	4
Yes	10
leather_tool	**28**
1	**14**
No	10
Yes	4
2	**14**
No	7
Yes	7
rubber_plant	**28**
1	**14**
No	8
Yes	6
2	**14**
No	5
Yes	9

rubbish_bin	**28**
1	**14**
Yes	14
2	**14**
No	11
Yes	3
star_observation	**28**
1	**14**
No	2
Yes	12
2	**14**
No	11
Yes	3
steel_warehouse	**28**
1	**14**
No	5
Yes	9
2	**14**
No	10
Yes	4
toy_factory	**28**
1	**14**
No	3
Yes	11
2	**14**
No	10
Yes	4
TOTAL ANSWERS	**560**

To understand the table, it should be known that *1 = expected definition1*, which means that the word pair has left stress. Thus, *2= expected definition2,* where the word pair has right stress. Then, *Yes* and *No* are related to whether or not the expected definition was given. eg. within 14 times apprentice instructor was heard with left stress (once per participant), 9 times was given the expected definition while 5 times was not.

Trying to find out why some word pairs show more tendency to definition change than others, I noticed that some of those word pairs have something in common. In the case of apprentice instructor and bitch trainer, it can be noticed that they were coded in the same way as they have the same function:

1. Apprentice instructor

-Left stress: **VERB** (N2 verb; instructor **instructs** apprentices)

- Right stress: **BE** (the instructor is apprentice, N2 is N1, they are the same person)

2. Bitch trainer

-Left stress: **VERB** (N2 verb; trainer **trains** bitches)

- Right stress: **BE** (trainer who is a bitch, N2 is N1)

Some similarities are also found in:

3. Rubber plant

-Left stress: MAKE (plant which produces rubber)

- Right stress: **MADE OF** (plant made of rubber, fake plant)

4. Steel warehouse

-Left stress: FOR (warehouse to store steel)

- Right stress: **MADE OF** (warehouse made of steel)

According to the data coding, *apprentice instructor* and *bitch trainer* have exactly the same semantic relation where the second noun works as a verb in the compound (someone who *instructs* and someone who *trains*, respectively) and the in the noun phrase, the relation *be* is involved (the instructor *is* apprentice and the trainer *is* a bitch, respectively).

On the other hand, the last two examples have something in common too. It can be noticed that in both word pairs the first noun is a material (rubber and steel, respectively). Moreover, they both share the same semantic relation when working as a noun phrase; *made of* (plant made of rubber and warehouse made of steel, respectively).

In addition, I have found out that some experts defend that there are some exceptions: if the first noun is a location, time or season, a material, geographical term or a type of thoroughfare, the compound is finally-stressed (Fudge, 2015: 144-145). Therefore, some word pairs as *kitchen towel*, *leather tool or steel warehouse* could be interpreted differently. This could explain why some word pairs as *steel warehouse* were understood as a compound in the majority of cases while it was finally- stressed.

These results would suggest that some word pairs with a verbal relation as apprentice instructor, and some word pairs where the first noun is a material, show more tendency than others to be given two definitions.

Nevertheless, there is a word pair which seems to show tendency to be given the same meaning in all the cases, *beach entrance*. According to the results of the experiment, none of the participants changed the definition for this word pair. The 100% of subjects did define this word pair as the entrance to get into the beach, which corresponds with the noun phrase. None of the participants understood it as a compound word which would be the entrance to get somewhere (eg. a restaurant) from the beach.

In my opinion, one of the meanings is often more familiar tan the other one. However, thinking of a suitable context, another possible meaning can be found, although it is hard to know the meaning unless you know the context in which they occur. I think it is really difficult to find another meaning for *beach_entrance* which does not mean the access to the beach, the way where you can enter the beach. As a non-native speaker of English, it is even more difficult. However, these pairs of meanings involve different semantic relations so that beach entrance could be entrance *to* the beach or the entrance *from* the beach to somewhere; toy factory could be a factory that *is* a toy or a factory *for* making toys; rubber plant could be a plant that *makes* rubber or a plant that is made *of* rubber. One common pattern is for one possible meaning to involve an argument of an underlying verb, while the other pattern involves the relation *be* e.g. a bitch trainer could be someone who *trains* bitches, or a trainer who *is* a bitch.

The same happens with *cupboard side* and *champagne reception*. The first one could mean the side of the cupboard (most common definition given by the participants, which is a noun phrase) or the side of something else (e.g. the room or another piece of furniture) closest to the cupboard. For example, a dining table might have a window side (the side nearest the window) and a cupboard side (the side nearest the cupboard). It might be heard something like 'Do you want to sit on the window side or the cupboard side?' For *champagne reception*, the majority gave the definition related to the NP, a reception where there is champagne.

Do certain participants show a greater tendency than others to give two meanings?

Participants 3, 9 and 11 are those who showed more tendency to change the meaning. The three of them are males and they are almost the same age, 20, 21 and 21 respectively. Participant 3 is a non-native speaker whereas participants 9 and 11 are not. They also share the fact that they noticed changes in the stress patterns when they were asked after the questionnaire. See the following table:

5.7. Table 6: participants' tendency to change meaning

PARTICIPANT		DEF. CHANGE
1	**40**	
Didn't notice	**40**	
No	40	
2	**40**	
Noticed stress	**40**	
No	26	
Yes	14	
3	**40**	
Noticed stress	**40**	
No	12	
Yes	28	
4	**40**	
Noticed stress	**40**	
No	34	
Yes	6	
5	**40**	
Didn't notice	**40**	
No	40	
6	**40**	
Didn't notice	**40**	
No	32	
Yes	8	
7	**40**	
Didn't notice	**40**	
No	26	
Yes	14	
8	**40**	
Noticed stress	**40**	
No	18	
Yes	22	
9	**40**	
Noticed stress	**40**	
No	16	
Yes	24	

10	**40**
Noticed stress	**40**
No	24
Yes	16
11	**40**
Noticed stress	**40**
No	14
Yes	26
12	**40**
Didn't notice	**40**
No	34
Yes	6
13	**40**
Didn't notice	**40**
No	38
Yes	2
14	**40**
Didn't notice	**40**
No	36
Yes	4

In general, the results show that there is more tendency within males to be given two definitions. Also, it is also more common within native speakers to change the definition although participant 3 is non-native speaker. In spite of the fact that their language level is unknown, I think this participant might have a higher level of English grammar and English language than other participants as it is the only one who changed the definition in most of the cases and who noticed that there were changes in stress patterns.

Age was not very significant in this experiment as the majority of participants were of the same age, but it could be of interest for further studies. This could be studied in more detail doing a questionnaire to people of different ages (one for people between 20-25, other for people between 30-35) because depending on the context, some words may be more used than others and the context is also related to age as some words may be more common than others at certain age.

6. CONCLUSION AND PROPOSALS

Since I took the module Language, Mind and Brain when I was Erasmus student at Anglia Ruskin University, I decided this could be a good topic for my final degree paper so I focussed more on stress patterns, a topic I have always wanted to study. As I was reading about stress, I found that the situation is much more complex, and there is much more variation between speakers, than textbooks tell us. I have tried to do my best in spite of the fact that there are some blank spaces which I would like to study in future research.

According to English word-stress, compound nouns of the type noun+noun have left stress, while modified noun phrases have right one. According to this, we would expect people to interpret them in a different way as they do not mean the same. Therefore, I wanted to prove whether people's interpretation coincided with the theory.

Through the experiment, I have realised that context is essential in this topic. All the word pairs in the questionnaire were thought to be interpreted in two different ways by the person who created the questionnaire. However, one of the meanings is often more familiar, but thinking of a suitable context, another possible meaning can be found. However, it is often quite hard to know what they mean unless you know the context in which they occur. The pairs of meanings usually involve different semantic relations, e.g. beach entrance could be entrance *to* the beach or entrance *from* the beach. For example, a restaurant situated between a beach and a street might have a beach entrance (i.e. an entrance from the beach) and a street entrance (the entrance from the street).One common pattern is for one possible meaning to involve an argument of an underlying verb, while the other pattern involves the relation *be*; for instance, a bitch trainer could be someone who *trains* bitches, or a trainer who *is* a bitch. The word pair whose meaning involves the relation *be*, is the NP.

Familiarity plays also an important role in the experiment. In my opinion, some of the participants gave only one meaning as they did not know more than one. What I mean is that, for instance, the word pair *beach_entrance* was understood as "the access to get into the beach" for the majority of participants as I think that they (at least some) have hardly ever used *beach entrance* to mean a place which has an entrance *from* the beach. Nevertheless, *baby_cardigan* was the word pair where the majority of participants noticed changes; it was both understood as the cardigan of a baby (modified noun phrase) and as a small jumper (compound noun), as both definitions might be familiar for the participants.

Thus, people's interpretation of what they hear is connected to the context and it also depends on how familiar what they hear is for them. It is true that they heard the word pairs with different stress patterns but, they were without context. Therefore, heard without a specific context, it is difficult to identify a compound noun or a noun phrase; It is not the same hearing *'baby cardigan* (compound noun) and *baby 'cardigan* (noun phrase) both alone than hearing 'I bought a baby cardigan for Maria as she is very skinny' or 'I bought a baby cardigan for Maria who has just gave birth to her first son'. Thanks to the context, it is known that *baby cardigan* means a small jumper in the first sentence and a cardigan for a baby in the second one.

According to the results, this study provides evidence to the fact that native speakers of English are better at recognising stress patterns that non-native speakers. It is something expected as English is their L1. Also, it has been found out that definitions were more likely to be changed by people who did notice the stress patterns when they were asked that those who did not.

Moreover, it was found out that some word pairs showed tendency to be given two definition while others showed the opposite tendency. Analysing the word pairs, I got to the conclusion that, in some cases, this tendency is related to the word pairs' structure. Some word pairs which imply a verbal relation (as apprentice instructor or bitch trainer) or some of those where the first noun is a material (steel warehouse or rubber plant) are more likely to be given two definitions.

On the other hand, beach entrance was given just one definition by all the participants, but in this case this is due to familiarity with the definitions.

Finally, it has been noticed that male are more likely than female to change the definition although 14 participants are not enough to verify this fact.

The research is intended to find out people's interpretation when they heard different stress patterns. However, there is no right or wrong answer in this topic and answers can vary a lot from one person to another.

In my opinion, this experiment could be improved using pictures instead of writing down the definition, taking into account the speed of the participant in choosing between two different pictures. A word pair would be played with left or right stress, i.e. *car 'seat* (right stress), and the participant would have to choose between a picture of a seat of the car or a seat which itself is a car. In this case the expected meaning would be the second one, a seat which itself

is a car. The speed of the participant would be taking into account so as to find out how long it takes him/her to choose a picture.

The nationality of the non-native speakers and the region where the native speakers of English where from, would be another interesting information to take into account.

The fact that so few people noticed a difference or gave two meanings suggests that the text books may not be correct, or at least, only correct for some speakers or in some contexts.

In spite of the fact that it is a very complex topic, I would love to continue working on it and to have the opportunity to improve the study with all those previous suggestions. This has been an elementary study to get knowledge and to get ready to extend it in future projects.

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8. APPENDICES

8.1. APPENDIX 1: Table 1: Data coding

WordPair	ED1	ED2	Definition	Dcode	SP
apprentice_ instructor	Verb	Be	instructor for aprenteses	1	Left
apprentice_ instructor	Verb	Be	an instructor for apprentices	1	Left
apprentice_ instructor	Verb	Be	An instructor who is being trained or an instructor training apprentices.	ambiguous	Left
apprentice_ instructor	Verb	Be	trainer	1	Left
apprentice_ instructor	Verb	Be	the instructor is apprentice	2	Left
apprentice_ instructor	Verb	Be	a person that trains people in a new job	1	Left
apprentice_ instructor	Verb	Be	boss	ambiguous	Left
apprentice_ instructor	Verb	Be	Some one who is an apprentice to become an instructor	2	Left
apprentice_ instructor	Verb	Be	A person who trains new workers	1	Left
apprentice_ instructor	Verb	Be	A person telling an apprentice what to do	1	Left
apprentice_ instructor	Verb	Be	an apprentice of someone wanting to be an instructor	2	Left
apprentice_ instructor	Verb	Be	An instructor for apprentice's	1	Left
apprentice_ instructor	Verb	Be	an instructor or teacher of an apprentice	1	Left
apprentice_ instructor	Verb	Be	someone who instructs apprentices	1	Left
apprentice_ instructor	Verb	Be	instructor for aprenteses	1	Left
apprentice_ instructor	Verb	Be	instructer for apprentices	1	Right
apprentice_ instructor	Verb	Be	an instructor in training	2	Right
apprentice_ instructor	Verb	Be	an instructor for an apprentice.	1	Right
apprentice_ instructor	Verb	Be	trainer	1	Right
apprentice_ instructor	Verb	Be	the instructor is apprentice	2	Right
apprentice_ instructor	Verb	Be	a person that trains. leads people in a new job	1	Right

apprentice_instructor	Verb	Be	boss/teacher	ambiguous	Right
apprentice_instructor	Verb	Be	someone who is training to ecome an apprentice	2	Right
apprentice_instructor	Verb	Be	a person who teaches new employes	1	Right
apprentice_instructor	Verb	Be	a person to teach apprentices	1	Right
apprentice_instructor	Verb	Be	someone that instructs apprentices	1	Right
apprentice_instructor	Verb	Be	A trainee instructor	2	Right
apprentice_instructor	Verb	Be	an apprentice instructing something	2	Right
apprentice_instructor	Verb	Be	an instructor that isn't quite there yet	2	Right
baby_cardigan	For	Be	cardigan for babby	1	Left
baby_cardigan	For	Be	a cardigan for babies	1	Left
baby_cardigan	For	Be	A cardigan worn by a baby or a small cardigan	1	Left
baby_cardigan	For	Be	piece of baby clothes	1	Left
baby_cardigan	For	Be	the cardigan of the baby	1	Left
baby_cardigan	For	Be	type of a sweater for a baby	1	Left
baby_cardigan	For	Be	a piece o clothing for a baby	1	Left
baby_cardigan	For	Be	a small woollen item of clothing suitable for a baby	1	Left
baby_cardigan	For	Be	garment for babies	1	Left
baby_cardigan	For	Be	a small cardigan	2	Left
baby_cardigan	For	Be	a cardigan for a baby	1	Left
baby_cardigan	For	Be	A cardigan for babies	1	Left
baby_cardigan	For	Be	a small cardigan	2	Left
baby_cardigan	For	Be	a cardigan for a baby	1	Left
baby_cardigan	For	Be	cardigan for babies	1	Right
baby_cardigan	For	Be	a small cardigan	2	Right

baby_cardigan	For	Be	A cardigan for a baby or a small cardigan	1	Right
baby_cardigan	For	Be	piece of warm sweater	neither	Right
baby_cardigan	For	Be	the cardigan for the baby	1	Right
baby_cardigan	For	Be	a type of sweater for a baby	1	Right
baby_cardigan	For	Be	a little cardigan	2	Right
baby_cardigan	For	Be	a cardigan for a baby	1	Right
baby_cardigan	For	Be	A garment for babies	1	Right
baby_cardigan	For	Be	small cardigan for babies	1	Right
baby_cardigan	For	Be	a small cardigan	2	Right
baby_cardigan	For	Be	A young cardigan	2	Right
baby_cardigan	For	Be	a cardigan babies wear	1	Right
baby_cardigan	For	Be	a cardigan made by baby	neither	Right
beach_entrance	In	Have	ntrence to the beach	2	Left
beach_entrance	In	Have	the entrance to a beach	2	Left
beach_entrance	In	Have	the entrance to a beach	2	Left
beach_entrance	In	Have	doors	neither	Left
beach_entrance	In	Have	the entrance to go to the beach	2	Left
beach_entrance	In	Have	a place where we can enter the beach	2	Left
beach_entrance	In	Have	the entrance to the beach	2	Left
beach_entrance	In	Have	entrance to the beach	2	Left
beach_entrance	In	Have	the main entrance to the beach	2	Left
beach_entrance	In	Have	access path to the beach	2	Left
beach_entrance	In	Have	the entrance of a beach	2	Left
beach_entrance	In	Have	an entrance to the beach	2	Left

beach_entrance	In	Have	an entrance to the beach	2	Left
beach_entrance	In	Have	the entrance to the beach	2	Left
beach_entrance	In	Have	entrence to the beach	2	Right
beach_entrance	In	Have	the entrance to a beach	2	Right
beach_entrance	In	Have	the way to enter the beach	2	Right
beach_entrance	In	Have	barrier between land and sand	2	Right
beach_entrance	In	Have	the entrance to go to the beach	2	Right
beach_entrance	In	Have	a place where we can enter the beach	2	Right
beach_entrance	In	Have	an entrance to the beach	2	Right
beach_entrance	In	Have	the entrance to a beach	2	Right
beach_entrance	In	Have	the main entrance to the beach	2	Right
beach_entrance	In	Have	access to the beach	2	Right
beach_entrance	In	Have	the entrance of a beach	2	Right
beach_entrance	In	Have	an entrance to a beach	2	Right
beach_entrance	In	Have	an entrance to a beach	2	Right
beach_entrance	In	Have	the enterence of a beach	2	Right
bitch_trainer	Verb	Be	femal dog trainer	1	Left
bitch_trainer	Verb	Be	a very unfriendly trainer	2	Left
bitch_trainer	Verb	Be	Someone who trains a female dogs.	1	Left
bitch_trainer	Verb	Be	tutor for bitch activities	1	Left
bitch_trainer	Verb	Be	a trainer who is bitch	2	Left
bitch_trainer	Verb	Be	a person that trains	1	Left
bitch_trainer	Verb	Be	dog trainer?	1	Left
bitch_trainer	Verb	Be	female dog trainer	1	Left

bitch_trainer	Verb	Be	A dog trainer	1	Left
bitch_trainer	Verb	Be	a female dog trainer	1	Left
bitch_trainer	Verb	Be	someone who trains female dogs	1	Left
bitch_trainer	Verb	Be	A trainer of female dogs	1	Left
bitch_trainer	Verb	Be	teaching being submissive in porn	neither	Left
bitch_trainer	Verb	Be	a person who trains bitches	1	Left
bitch_trainer	Verb	Be	femal dog trainer	1	Right
bitch_trainer	Verb	Be	a trainer for female dogs	1	Right
bitch_trainer	Verb	Be	Someone who trains female dogs.	1	Right
bitch_trainer	Verb	Be	instructor	1	Right
bitch_trainer	Verb	Be	a trainer who is bitch	2	Right
bitch_trainer	Verb	Be	a person that trains	1	Right
bitch_trainer	Verb	Be	dog trainer	1	Right
bitch_trainer	Verb	Be	a female dog trainer	2	Right
bitch_trainer	Verb	Be	a dog trainer	1	Right
bitch_trainer	Verb	Be	trainer for female dogs	2	Right
bitch_trainer	Verb	Be	someone who trains someone to be a bitch	1	Right
bitch_trainer	Verb	Be	Female dog trainer	2	Right
bitch_trainer	Verb	Be	a dog trainer	2	Right
bitch_trainer	Verb	Be	a trainer who is a bitch	2	Right
brick_yard	For	MadeOf	yard were brick are held	1	Left
brick_yard	For	MadeOf	a yard made of bricks	2	Left
brick_yard	For	Made of	a building yard or a yard built of bricks	2	Left
brick_yard	For	MadeOf	place with stones	1	Left
brick_yard	For	MadeOf	the yard is brick	2	Left
brick_yard	For	MadeOf	a place, yard that is made of bricks	2	Left
brick_yard	For	MadeOf	a yard of bricks	2	Left

brick_yard	For	MadeOf	yard for storing bricks and working	1	Left
brick_yard	For	MadeOf	a yard of bricks	1	Left
brick_yard	For	MadeOf	storage place for bricks	1	Left
brick_yard	For	MadeOf	A yard constructed of bricks	2	Left
brick_yard	For	MadeOf	A yard where bricks are kept	1	Left
brick_yard	For	MadeOf	a yard with bricks in	1	Left
brick_yard	For	MadeOf	a yard for storing bricks	1	Left
brick_yard	For	MadeOf	yard were brick are held	1	Right
brick_yard	For	MadeOf	a yard made of bricks	2	Right
brick_yard	For	Made of	A yard where bricks are stored or a yard built of bricks.	1	Right
brick_yard	For	MadeOf	place with bricks	1	Right
brick_yard	For	MadeOf	a yard which is brick	2	Right
brick_yard	For	MadeOf	brick yard	neither	Right
brick_yard	For	MadeOf	a yard of bricks	2	Right
brick_yard	For	MadeOf	a yard for brickwork	1	Right
brick_yard	For	MadeOf	a yard made with bricks	1	Right
brick_yard	For	MadeOf	A paved garden	2	Right
brick_yard	For	MadeOf	a yard where bricks are stored	1	Right
brick_yard	For	MadeOf	A yard in which bricks are kept	1	Right
brick_yard	For	MadeOf	a yard that has bricks	1	Right
brick_yard	For	MadeOf	a yard made out of bricks	2	Right
car_seat	For	In	seat in a car	2	Left
car_seat	For	In	a seat in a car	2	Left
car_seat	For	In	a seat inside a car	2	Left
car_seat	For	In	seat for babies in car	1	Left
car_seat	For	In	the seat of a car	2	Left
car_seat	For	In	a particular place in a car where we can seat	2	Left
car_seat	For	In	a seat in the car	2	Left
car_seat	For	In	a child's seat for traveling in a vehicle, it can be installed in most cars	1	Left
car_seat	For	In	where you sit in a car	2	Left
car_seat	For	In	A safety seat for children in a car	1	Left
car_seat	For	In	a seat in a car	2	Left
car_seat	For	In	A seat in a car	2	Left
car_seat	For	In	a seat in a car	2	Left
car_seat	For	In	a seat for a child in a car	1	Left
car_seat	For	In	seat in a car	2	Right
car_seat	For	In	a seat for a car	1	Right
car_seat	For	In	a seat in a car	2	Right
car_seat	For	In	children seat in car	1	Right
car_seat	For	In	the seat of the car	2	Right
car_seat	For	In	a particular place to seat in a car	2	Right

car_seat	For	In	a seat in the car	2	Right
car_seat	For	In	a seat you can put in a car for children to sit on	1	Right
car_seat	For	In	where you sit in a car	2	Right
car_seat	For	In	the seat of a car	2	Right
car_seat	For	In	a seat within a car	2	Right
car_seat	For	In	A seat in a car	2	Right
car_seat	For	In	a seat in a car	2	Right
car_seat	For	In	the seat of a car	2	Right
champagne_reception	Verb	Have	a reception were champagne is served	2	Left
champagne_reception	Verb	Have	a reception where champagne is served	2	Left
champagne_reception	Verb	Have	A reception in which champagne is served.	2	Left
champagne_reception	Verb	Have	welcome drinks	2	Left
champagne_reception	Verb	Have	the reception of champagne	1	Left
champagne_reception	Verb	Have	a party where is, and people drink champagne	2	Left
champagne_reception	Verb	Have	a table with the champagne at entrance	2	Left
champagne_reception	Verb	Have	a reception with champagne	2	Left
champagne_reception	Verb	Have	An event where champagne is being served	2	Left
champagne_reception	Verb	Have	Fancy party with champagne	2	Left
champagne_reception	Verb	Have	receiving champagne upon arrival to a reception	2	Left
champagne_reception	Verb	Have	A wedding reception	2	Left
champagne_reception	Verb	Have	a champagne party	2	Left
champagne_reception	Verb	Have	how someone would receive champagne	1	Left
champagne_reception	Verb	Have	reception that serves champagne	2	Right
champagne_reception	Verb	Have	a reception in champagne	2	Right
champagne_reception	Verb	Have	A reception with champagne.	2	Right
champagne_reception	Verb	Have	party with bubbly drinks	2	Right
champagne_reception	Verb	Have	the reception of champagne	1	Right

champagne_reception	Verb	Have	a party where is, and people drink the champagne	2	Right
champagne_reception	Verb	Have	the entrance table with champagne	2	Right
champagne_reception	Verb	Have	a wedding reception with champagne to drink	2	Right
champagne_reception	Verb	Have	An event where champagne is being served	2	Right
champagne_reception	Verb	Have	A fancy party with champagne	2	Right
champagne_reception	Verb	Have	a fancy arrival of all big and powerful where champagne is gracefully distributed amongst the lavish people	2	Right
champagne_reception	Verb	Have	A warm welcoming	neither	Right
champagne_reception	Verb	Have	champagne party	2	Right
champagne_reception	Verb	Have	a reception where you are given champagne	2	Right
colour_monitor	Verb	Have	machine used for the messure of colures	1	Left
colour_monitor	Verb	Have	a monitor that displays colour	1	Left
colour_monitor	Verb	Have	a monitor showing colours on its screen	1	Left
colour_monitor	Verb	Have	screen	neither	Left
colour_monitor	Verb	Have	the colour of the monitor	neither	Left
colour_monitor	Verb	Have	a colour screen of a computer	2	Left
colour_monitor	Verb	Have	not back/white monitor	2	Left
colour_monitor	Verb	Have	a tv screen with colour	2	Left
colour_monitor	Verb	Have	a device that shows colours	1	Left
colour_monitor	Verb	Have	a colour screen	2	Left
colour_monitor	Verb	Have	something that monitors the colour of things	1	Left
colour_monitor	Verb	Have	A monitor that registers or reads colours	1	Left
colour_monitor	Verb	Have	a system that monitors colours	1	Left
colour_monitor	Verb	Have	a monitor that is made from different colours	2	Left
colour_mon	Verb	Have	machine kthat mmoniters the diffent	1	Right

itor			spectors of colour		
colour_monitor	Verb	Have	a monitor that displays colour	1	Right
colour_monitor	Verb	Have	A monitor showing colours	1	Right
colour_monitor	Verb	Have	monitor	neither	Right
colour_monitor	Verb	Have	the colour of the monitor	neither	Right
colour_monitor	Verb	Have	a colour screen of a computer	2	Right
colour_monitor	Verb	Have	opposite to black/white monitor	2	Right
colour_monitor	Verb	Have	someone who has to monitor the colour (e.g. in a primary school classroom.)	2	Right
colour_monitor	Verb	Have	a device that shows colours	1	Right
colour_monitor	Verb	Have	a computer screen with colour	2	Right
colour_monitor	Verb	Have	a monitor that displays images in colour	2	Right
colour_monitor	Verb	Have	A laptop/desktop screen	2	Right
colour_monitor	Verb	Have	a screen which shows colour	1	Right
colour_monitor	Verb	Have	a monitor that can produe colours	1	Right
cupboard_side	In	Have	side of a cuboard	2	Left
cupboard_side	In	Have	a place to the side of the cupboard	1	Left
cupboard_side	In	Have	The side where a cupboard is or the side of a cupboard.	ambiguous	Left
cupboard_side	In	Have	furniture with cups	neither	Left
cupboard_side	In	Have	specific side	1	Left
cupboard_side	In	Have	a place for cups	2	Left
cupboard_side	In	Have	a side of the room with the cupboards	1	Left
cupboard_side	In	Have	the side of a cupboard	2	Left
cupboard_side	In	Have	the side of a cupboard	2	Left
cupboard_side	In	Have	the side of a cupboard	2	Left
cupboard_s	In	Have	the side of a cupboard	2	Left

ide					
cupboard_side	In	Have	Side of a cupboard	2	Left
cupboard_side	In	Have	a side of a cupboard	2	Left
cupboard_side	In	Have	the top of a cupboard	2	Left
cupboard_side	In	Have	side of a cupboard	2	Right
cupboard_side	In	Have	the side of a cupboard	2	Right
cupboard_side	In	Have	The side of a cupboard or the side in which a cupboard is	ambiguous	Right
cupboard_side	In	Have	shelves with cups	neither	Right
cupboard_side	In	Have	the side where the cupboard is	1	Right
cupboard_side	In	Have	a place for cups	2	Right
cupboard_side	In	Have	side of the room with the cupboards	1	Right
cupboard_side	In	Have	on the side with the cupboard	1	Right
cupboard_side	In	Have	the side of the cupboard	2	Right
cupboard_side	In	Have	the side of a cupboard	2	Right
cupboard_side	In	Have	the side of a cupboard	2	Right
cupboard_side	In	Have	A side of a room where there are cupboards	1	Right
cupboard_side	In	Have	the side of a cupboard	2	Right
cupboard_side	In	Have	the top a cupboard	2	Right
kitchen_towel	For	In	towel used near the kitchen	2	Left
kitchen_towel	For	In	a towel used to dry dishes in the kitchen	2	Left
kitchen_towel	For	In	a cloth for use in the kitchen	2	Left
kitchen_towel	For	In	towel for kitchen staff	2	Left
kitchen_towel	For	In	the towel used in the kitchen	2	Left
kitchen_towel	For	In	a cloth used in the kitchen to wipe surfaces etc.	2	Left
kitchen_to	For	In	towel used in the kitchen	2	Left

wel					
kitchen_towel	For	In	paper towel used in kitchen	1	Left
kitchen_towel	For	In	a piece of cloth to wipe your hands with	2	Left
kitchen_towel	For	In	tissue paper to wipe up in the kitchen	1	Left
kitchen_towel	For	In	a towel used to clean items in the kitchen	2	Left
kitchen_towel	For	In	A Towel kept and used in the kitchen	2	Left
kitchen_towel	For	In	a towel used for kitchen purposes such as washing up	2	Left
kitchen_towel	For	In	pollyroll used for wiping	1	Left
kitchen_towel	For	In	towel used in the kitchen	2	Right
kitchen_towel	For	In	kitchen roll (paper)	1	Right
kitchen_towel	For	In	A towel for use in the kitchen	2	Right
kitchen_towel	For	In	paper towel	1	Right
kitchen_towel	For	In	the towel used in the kitchen	2	Right
kitchen_towel	For	In	a cloth used in the kitchen to wipe the surfaces etc.	2	Right
kitchen_towel	For	In	a towel used in the kitchen	2	Right
kitchen_towel	For	In	towel for drying hands in the kitchen	2	Right
kitchen_towel	For	In	A piece of cloth to wipe one's hands or dishes	2	Right
kitchen_towel	For	In	thick tissue for wiping up in the kitchen	1	Right
kitchen_towel	For	In	a towel used in the kitchen	2	Right
kitchen_towel	For	In	A towel used and kept in the kitchen	2	Right
kitchen_towel	For	In	a towel used in the kitchen	2	Right
kitchen_towel	For	In	pollyroll used for wiping	1	Right
leather_tool	For	MadeOf	tool with a leather handle	2	Left
leather_tool	For	MadeOf	a tool made of leather	2	Left
leather_tool	For	MadeOf	A tool for leather craft.	1	Left
leather_tool	For	MadeOf	sex toy	neither	Left
leather_tool	For	MadeOf	the tool to work with leather	1	Left

leather_tool	For	MadeOf	an object, tool that is leather	2	Left
leather_tool	For	MadeOf	a tool made of leather	2	Left
leather_tool	For	MadeOf	tool for shaping leather	1	Left
leather_tool	For	MadeOf	an object made of animal hide	2	Left
leather_tool	For	MadeOf	a tool to adjust leather	1	Left
leather_tool	For	MadeOf	a tool made out of leather	2	Left
leather_tool	For	MadeOf	A tool made of leather	2	Left
leather_tool	For	MadeOf	a bondage sex toy	2	Left
leather_tool	For	MadeOf	a tool made out of leather	2	Left
leather_tool	For	MadeOf	a tool with leather handle	2	Right
leather_tool	For	MadeOf	a tool made of leather	2	Right
leather_tool	For	MadeOf	A tool used for leather work.	1	Right
leather_tool	For	MadeOf	sex toy	neither	Right
leather_tool	For	MadeOf	the tool used for leather	1	Right
leather_tool	For	MadeOf	an object, tool that is leather	2	Right
leather_tool	For	MadeOf	a tool made of leather	2	Right
leather_tool	For	MadeOf	a tool for using on leather	1	Right
leather_tool	For	MadeOf	an object made of leather or animal skin	2	Right
leather_tool	For	MadeOf	tool for adjusting leather	1	Right
leather_tool	For	MadeOf	a tool used to carve and work leather	1	Right
leather_tool	For	MadeOf	A tool made of leather	2	Right
leather_tool	For	MadeOf	a tool made of leather	2	Right
leather_tool	For	MadeOf	a tool used for making or altering leather	1	Right
rubber_plant	Make	MadeOf	plant made out of rubber	2	Left
rubber_plant	Make	MadeOf	a plant made of rubber	2	Left
rubber_plant	Make	MadeOf	A waxed leafed green plant which may produce rubber	1	Left
rubber_plant	Make	MadeOf	fake plant	2	Left
rubber_plant	Make	MadeOf	a plant which works with rubber	1	Left
rubber_plant	Make	MadeOf	a special type of a plant	ambiguous	Left
rubber_plant	Make	MadeOf	a plant made of rubber	2	Left
rubber_plant	Make	MadeOf	plant where the manufacture rubber	1	Left
rubber_plant	Make	MadeOf	a plastic plant	2	Left
rubber_plant	Make	MadeOf	the plant you get rubber from	1	Left
rubber_plant	Make	MadeOf	A plant made of rubber	2	Left
rubber_plan	Mak	MadeOf	A rubber plant/tree	1	Left

t	e				
rubber_plant	Make	MadeOf	a plant made of rubber	2	Left
rubber_plant	Make	MadeOf	a plant that makes rubber	1	Left
rubber_plant	Make	MadeOf	fake plant	2	Right
rubber_plant	Make	MadeOf	a plant that grows rubber	1	Right
rubber_plant	Make	MadeOf	A green leafed plant and a factory where rubber is made.	1	Right
rubber_plant	Make	MadeOf	fake plant	2	Right
rubber_plant	Make	MadeOf	a plant of rubber	2	Right
rubber_plant	Make	MadeOf	a special type of plant	ambiguous	Right
rubber_plant	Make	MadeOf	a plant made of rubber	2	Right
rubber_plant	Make	MadeOf	a plant made of rubber	2	Right
rubber_plant	Make	MadeOf	a fake plant	2	Right
rubber_plant	Make	MadeOf	where rubber is manufactured	1	Right
rubber_plant	Make	MadeOf	a plant that grows rubber	1	Right
rubber_plant	Make	MadeOf	A plant made of rubber	2	Right
rubber_plant	Make	MadeOf	a plant made of rubber	2	Right
rubber_plant	Make	MadeOf	a plant made from rubber	2	Right
rubbish_bin	For	Be	black bin	1	Left
rubbish_bin	For	Be	a bin to put rubbish in	1	Left
rubbish_bin	For	Be	A container for rubbish.	1	Left
rubbish_bin	For	Be	trash can	1	Left
rubbish_bin	For	Be	the bin to throw the rubbish	1	Left
rubbish_bin	For	Be	a `box` where we can throw away he rubbish	1	Left
rubbish_bin	For	Be	a bin for rubbish	1	Left
rubbish_bin	For	Be	a bin for storing rubbish	1	Left
rubbish_bin	For	Be	a caddy	1	Left
rubbish_bin	For	Be	Where you dispose of rubbish	1	Left
rubbish_bin	For	Be	a bin in which rubbish is placed	1	Left
rubbish_bin	For	Be	A bin where litter/rubbish is put	1	Left
rubbish_bin	For	Be	a bin where rubbish is put	1	Left

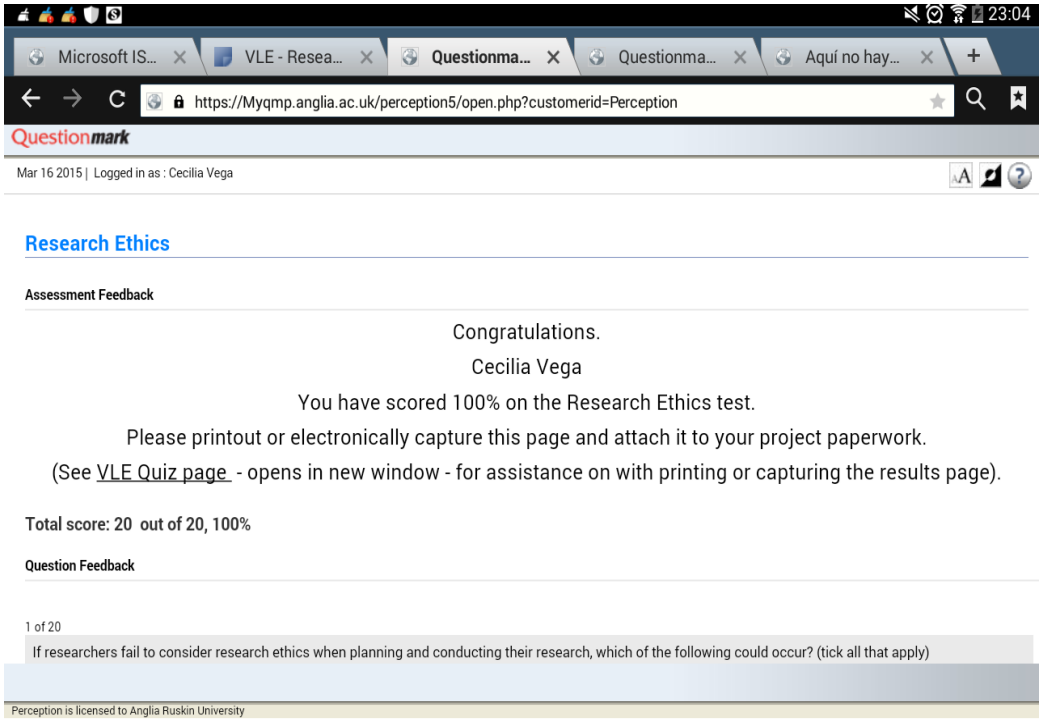
rubbish_bin	For	Be	a bin the takes rubbish	1	Left
rubbish_bin	For	Be	black bin	1	Right
rubbish_bin	For	Be	a bin that doesn't work very well	2	Right
rubbish_bin	For	Be	a bin for the rubbish	1	Right
rubbish_bin	For	Be	trash bin	1	Right
rubbish_bin	For	Be	the bin to throw the rubbish	1	Right
rubbish_bin	For	Be	a 'box' where we can throw away the rubbish	1	Right
rubbish_bin	For	Be	a bin for rubbish	1	Right
rubbish_bin	For	Be	bin for storing rubbish	1	Right
rubbish_bin	For	Be	a caddy	1	Right
rubbish_bin	For	Be	a not very good	2	Right
rubbish_bin	For	Be	a bin where rubbish is placed	1	Right
rubbish_bin	For	Be	A bad or broken bin	2	Right
rubbish_bin	For	Be	a bin where rubbish is kept	1	Right
rubbish_bin	For	Be	a bin that is rubbish	2	Right
star_observation	Verb	Be	high observation point	2	Left
star_observation	Verb	Be	observing stars	1	Left
star_observation	Verb	Be	The observance of stars.	1	Left
star_observation	Verb	Be	Looking at stars	1	Left
star_observation	Verb	Be	the observation is star	2	Left
star_observation	Verb	Be	an activity, observing, looking at the stars	1	Left
star_observation	Verb	Be	looking at stars	1	Left
star_observation	Verb	Be	observation of space	1	Left
star_observation	Verb	Be	looking at stars	1	Left
star_observation	Verb	Be	watching the stars	1	Left
star_observation	Verb	Be	observation of the stars	1	Left
star_observation	Verb	Be	Looking at and observing stars	1	Left
star_observation	Verb	Be	watching the stars in the sky	1	Left
star_observation	Verb	Be	the observation of stars	1	Left
star_observation	Verb	Be	high observation point	2	Right
star_observ	Verb	Be	observing celebrities	1	Right

ation					
star_observation	Verb	Be	The observation of terrestrial bodies.	1	Right
star_observation	Verb	Be	Looking at stars	1	Right
star_observation	Verb	Be	the observation is star	2	Right
star_observation	Verb	Be	an activity, observing the stars	1	Right
star_observation	Verb	Be	observing stars on the sky	1	Right
star_observation	Verb	Be	observation of stars	1	Right
star_observation	Verb	Be	looking at stars	1	Right
star_observation	Verb	Be	Watching the stars	1	Right
star_observation	Verb	Be	observing a star	1	Right
star_observation	Verb	Be	Good observation	2	Right
star_observation	Verb	Be	watching stars such as celebrities	1	Right
star_observation	Verb	Be	looking at the stars	1	Right
steel_warehouse	For	MadeOf	warehouse made out of steel	2	Left
steel_warehouse	For	MadeOf	a warehouse where steel is stored	1	Left
steel_warehouse	For	MadeOf	A warehouse in which steel is stored or one built of steel	1	Left
steel_warehouse	For	MadeOf	building eith metal storage	neither	Left
steel_warehouse	For	MadeOf	a warehouse made of steel	2	Left
steel_warehouse	For	MadeOf	a big place where we can find the steel	1	Left
steel_warehouse	For	MadeOf	a warehouse of steel	1	Left
steel_warehouse	For	MadeOf	a warehouse that produces steel	1	Left
steel_warehouse	For	MadeOf	a place for objects made of steel	1	Left
steel_warehouse	For	MadeOf	where steel is stored	1	Left
steel_warehouse	For	MadeOf	a warehouse constructed of steel	2	Left
steel_wareh	For	MadeOf	Warehouse where steel is used/"made"	2	Left

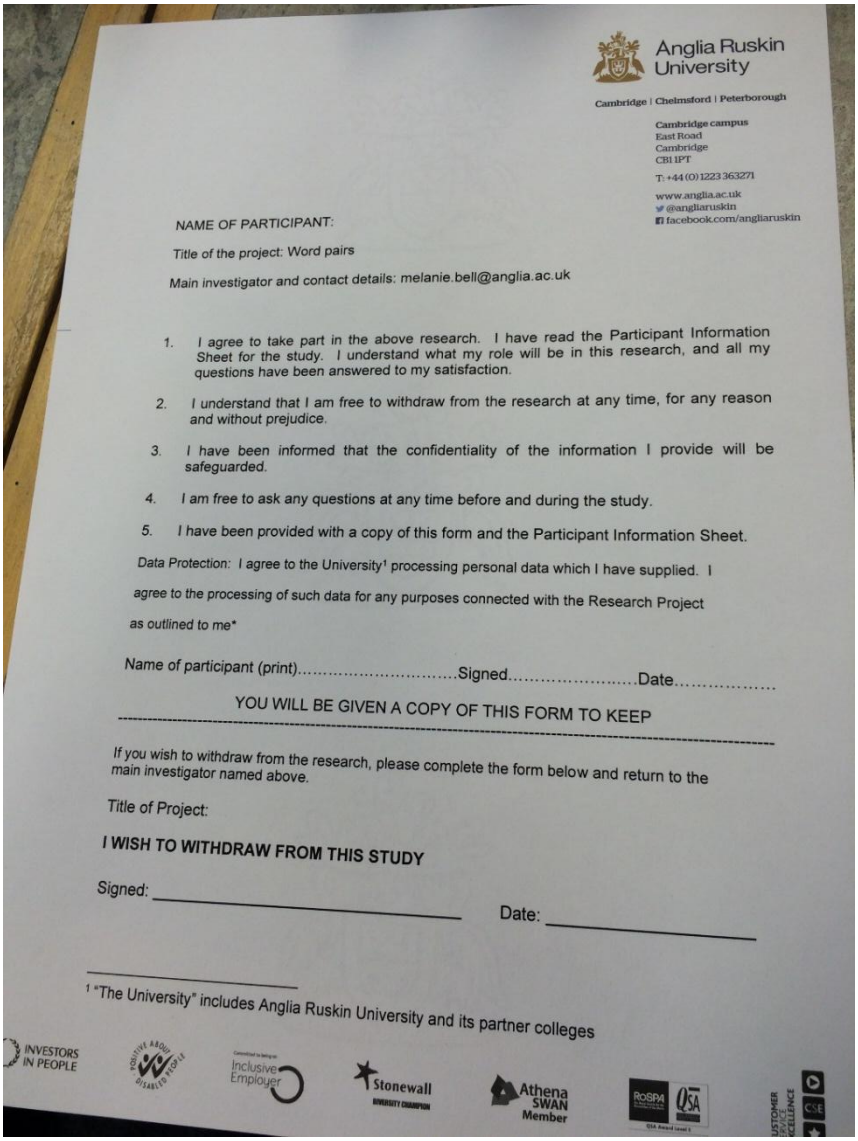
ouse					
steel_warehouse	For	MadeOf	a warehouse which sells or holds steel	1	Left
steel_warehouse	For	MadeOf	a warehouse which makes steel	1	Left
steel_warehouse	For	MafeOf	warehouse made out of steel	2	Right
steel_warehouse	For	MadeOf	a warehouse made of steel	2	Right
steel_warehouse	For	MadeOf	A warehouse where steel is stored or a warehouse built of steel.	ambiguous	Right
steel_warehouse	For	MadeOf	factory with metal	1	Right
steel_warehouse	For	MadeOf	a warehouse of steel	1	Right
steel_warehouse	For	MadeOf	a big place where we can find steel	1	Right
steel_warehouse	For	MadeOf	a warehause with steel	1	Right
steel_warehouse	For	MadeOf	factory for making steel	1	Right
steel_warehouse	For	MadeOf	a place where steel objects are displayed	1	Right
steel_warehouse	For	MadeOf	where steel is stored	1	Right
steel_warehouse	For	MadeOf	a warhouse that contains steel	1	Right
steel_warehouse	For	MadeOf	A warehouse made of steel	2	Right
steel_warehouse	For	MadeOf	a warehouse made of steel, or keeps steel	2	Right
steel_warehouse	For	MadeOf	a warehouse which makes steel	1	Right
toy_factory	For	Be	factory that produces toys	1	Left
toy_factory	For	Be	a factory where toys are made	1	Left
toy_factory	For	Be	A factory in which toys are manufactured	1	Left
toy_factory	For	Be	place to produce toys	1	Left
toy_factory	For	Be	a factory of toys	1	Left
toy_factory	For	Be	a place where the toys are produced	1	Left
toy_factory	For	Be	a factory producing toys	1	Left
toy_factory	For	Be	factory where toys are made	1	Left
toy_factory	For	Be	a factory that produces toys	1	Left
toy_factory	For	Be	a pretend factory for playing with	2	Left
toy_factory	For	Be	a factory where toys are made	1	Left
toy_factory	For	Be	Factory where toys are made.	1	Left
toy_factory	For	Be	a factory to play with as a toy	2	Left
toy_factory	For	Be	a factory run by toys	2	Left

toy_factory	For	Be	factory that produces toys	1	Right
toy_factory	For	Be	a toy that is a factory	2	Right
toy_factory	For	Be	a factory where toys are made	1	Right
toy_factory	For	Be	place where producing children's toys	1	Right
toy_factory	For	Be	a factory of toys	1	Right
toy_factory	For	Be	a factory where toys are produced	1	Right
toy_factory	For	Be	a factory producing toys	1	Right
toy_factory	For	Be	a factory where toys are made	1	Right
toy_factory	For	Be	A factory that produces toys	1	Right
toy_factory	For	Be	Where toys are made	1	Right
toy_factory	For	Be	a factory toy	2	Right
toy_factory	For	Be	A factory made of toys/ A factory that is not real	2	Right
toy_factory	For	Be	a factory that makes toys	1	Right
toy_factory	For	Be	factory that makes toys	2	Right

8.2. APPENDIX 2: Research Ethics test



8.3. APPENDIX 3: Information sheet and consent form



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facebook.com/angliaruskin

NAME OF PARTICIPANT:

Title of the project: Word pairs

Main investigator and contact details: melanie.bell@anglia.ac.uk

1. I agree to take part in the above research. I have read the Participant Information Sheet for the study. I understand what my role will be in this research, and all my questions have been answered to my satisfaction.
2. I understand that I am free to withdraw from the research at any time, for any reason and without prejudice.
3. I have been informed that the confidentiality of the information I provide will be safeguarded.
4. I am free to ask any questions at any time before and during the study.
5. I have been provided with a copy of this form and the Participant Information Sheet.

Data Protection: I agree to the University[1] processing personal data which I have supplied. I agree to the processing of such data for any purposes connected with the Research Project as outlined to me*

Name of participant (print).....Signed.....Date.....

YOU WILL BE GIVEN A COPY OF THIS FORM TO KEEP

If you wish to withdraw from the research, please complete the form below and return to the main investigator named above.

Title of Project:

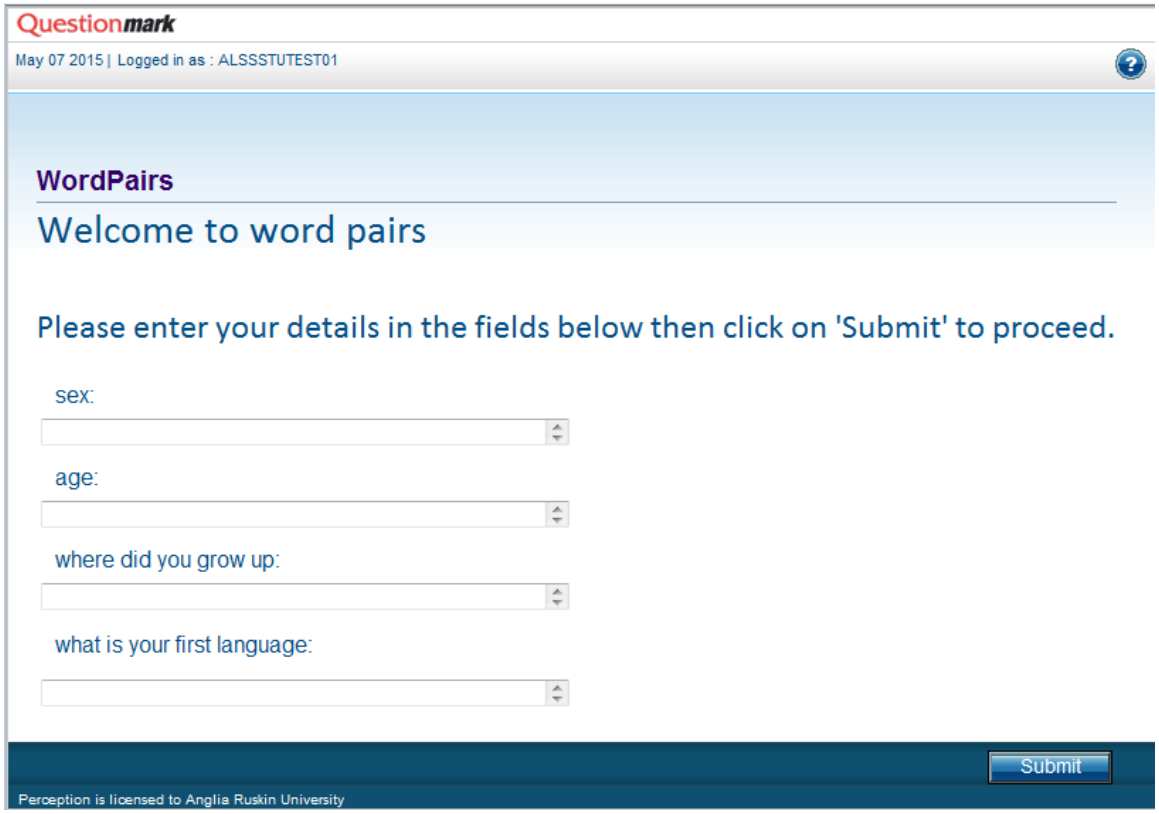
I WISH TO WITHDRAW FROM THIS STUDY

Signed: _____ Date: _____

[1] "The University" includes Anglia Ruskin University and its partner colleges

INVESTORS IN PEOPLE · Inclusive Employer · Stonewall · Athena SWAN Member · RoSPA · QSA

8.4. APPENDIX 4:QuestionMark Perception (QMP)



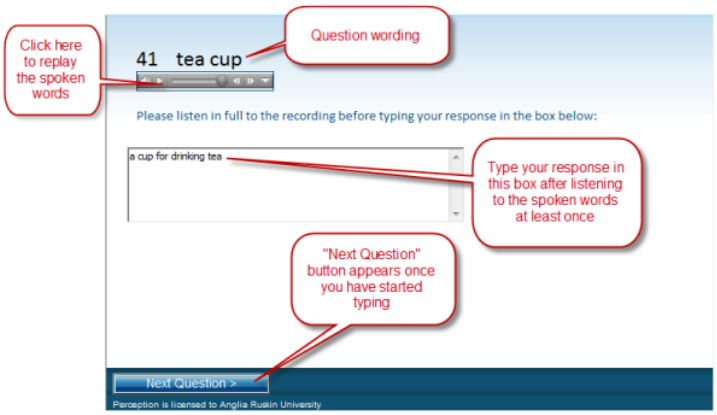
Instructions

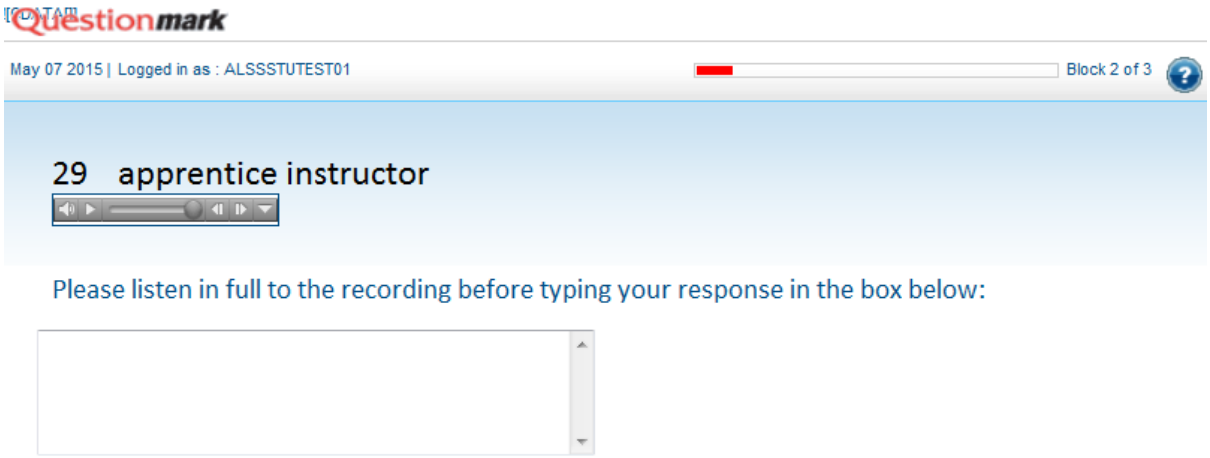
You will see and hear some pairs of words. For each pair, please listen to the recording in full then type what you think it means into the online form, paying attention to how it is said as well as how is written.

e.g. If you see and hear 'tea cup', you might write 'a cup for drinking tea'
If you see and hear 'desk top', you might write 'the top of a desk' or 'the home screen on a computer'.

You may hear some pairs twice, or some very similar pairs. Just answer each time, whether or not you think you have heard the pair before.

If you need to hear a pair again, click on the white play arrow. When you have written your answer, click the 'Next Question' button to move onto the next pair. There are 34 pairs in total.




[D] TAB
Questionmark
May 07 2015 | Logged in as : ALSSSTUTEST01
Block 2 of 3
29 apprentice instructor
Please listen in full to the recording before typing your response in the box below: