

The Effectiveness of Translation, Image-based and Video-based Methodologies for Receptive and Productive Vocabulary Acquisition.

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0. ABSTRACT

The aim of this study is to analyse and compare three different methodologies (glossed L1 translation lists, image-based and video-based) for vocabulary learning taking into account the two stages of vocabulary acquisition: receptive/passive and productive/active. The participants were 52 high school students aged from 12 to 15 who were exposed to all the methodologies. The instruments employed for this research were a pre-test to check previous knowledge and an immediate and as delayed post-tests that were equal for each methodology. The results indicate that the image-based methodology is the most effective methodology in terms of immediate and delayed recall. Focusing on receptive vocabulary and productive vocabulary, the results show that the results of the image-based methodology and the video-based methodology are better than the results of the translation methodology. The results for productive vocabulary are slightly better for translation and image-based methodologies. Students have expressed a greater preference for image-based methodology.

1. INTRODUCTION

The usage of new technologies has completely changed teaching and learning processes and the world of education is currently undergoing a second revolution (Collins & Halverson, 2010). This revolution has completely changed the way students acquire new vocabulary as now students are exposed to new multimedia input that has changed the acquisition process (Hu & Deng, 2007). In the past, multimedia input was difficult to get

or completely inexistent and the material to learn vocabulary was almost limited to traditional L1 glossed translation lists.

This new era that we are living in has brought many advances in technology that are being introduced in the EFL classroom. These advances are all supported by the Internet, which allows us access to any material at any time. Because of this, teachers can now use a wide variety of tools to make students' experiences much more attractive and effective.

In the last years some researchers have studied the impact of these new multimedia materials in L2 learning (Hu & Deng, 2007; Jones, 2004). Although there are many studies that have investigated the impact of these new types of input, to the best of my knowledge, there is no research that considers the effect of these new techniques in the receptive and productive stages of vocabulary acquisition. The studies focused on receptive and productive vocabulary acquisition have traditionally used translation methodologies (Griffin & Harley, 1996; Mondria & Wiersma, 2004; Schneider et al., 2002; Stoddard, 1929; Waring, 1997). Therefore, in this research, we are going to compare the effectiveness of traditional L1 translation methodology, image-based methodology and video-based methodology taking into consideration the receptive and the productive stages of vocabulary acquisition.

This paper starts with a review of the existing literature about the receptive and productive stages of vocabulary acquisition and the usage of new methodologies using new technologies. Later, our three research questions are presented and the method used to carry out the study is described in detail. Finally, the results are discussed, some pedagogical recommendations are made and conclusions are drawn from the results.

2. LITERATURE REVIEW

It is clear that vocabulary acquisition is one of the most important elements when learning a language. Vocabulary was neglected for many decades but in the 80's, it became a hot topic for researchers (Meara, 1980). An appropriate lexical knowledge is essential to be able to communicate in a foreign language, so it is a need for communicative competence and for the acquisition of a second language (Alqahtani, 2015).

Krashen postulated five hypotheses about second language acquisition (SLA) in 1982. The hypothesis that can be useful for this research is the first hypothesis called "*The Acquisition-Learning Distinction*". Krashen stated that adult second language learners have two different and independent ways of internalizing the second language they were learning. The first one was "acquisition" which is similar to the way that children develop their first language (L1). This is a subconscious and intuitive process of building the system of a language. The second way is a conscious process, which he called "learning", in which learners attend to form, figure out rules and are aware of their own learning process (Krashen, 2004).

On the other hand, it is important to clarify that some authors use the terms learning and acquisition in a different way when referring to vocabulary. For example, Carter & McCarthy (2014) refer to learning a language as a process towards acquisition, which is the end result. These authors consider that a second language (L2) word has been acquired when a learner can recognise and understand its meaning both in isolation and in context, and when the term can be used naturally and appropriately in different situations. As the purpose of this research is not to distinguish between whether a term is learnt or acquired, from now and on, these two terms will be used as synonyms.

When analysing the way vocabulary is learnt, it is important to consider two different stages in the process. These stages of acquiring vocabulary have been called receptive and productive vocabulary knowledge, and also passive and active vocabulary respectively (Pignot-Shahov, 2012). Receptive vocabulary or passive knowledge is usually associated with receptive skills (listening and reading), and it refers to the knowledge learners have when they are able to identify an item of vocabulary. On the other hand, productive or active vocabulary is usually associated with productive skills (writing or speaking) meaning that learners are able to produce that item of vocabulary (Laufer & Goldstein, 2004). In other words, receptive knowledge of vocabulary is to be able to understand words in their spoken or written form and productive knowledge of vocabulary means to be able to use a word correctly in written work or speech (Pignot-Shahov, 2012) Throughout the learning process, receptive knowledge precedes productive knowledge (Carter & McCarthy, 2014).

Some research has compared receptive and productive L2 vocabulary learning. For example, Stoddard (1929) conducted a research aimed to learn some French words with American high school students with no knowledge of French. Two groups were made, half of the students were taught the French word with the corresponding English translation, and the other half the English word with the corresponding French translation. He called those two ways of learning: receptive vocabulary learning and productive vocabulary learning. The former was learning the meaning of a L2 word, which is learning a word from L2 to L1, while the latter was learning a word in the L2 and being able to produce it when provided with the L1 equivalent, which is learning a word from L1 to L2. After the treatment, he administered an immediate retention test to analyse receptive and productive knowledge. The test was identical for both groups, and

tested receptive knowledge of half of the words, and productive knowledge of the other half. The results showed that:

- The results on the receptive part were significantly higher than in the productive part (about twice as high).
- The best results on the receptive part of the test were obtained by the group that learned the words receptively and the best results on the productive part were obtained by the group that learned the words productively.
- Productive learning produces a considerable amount of receptive knowledge and receptive knowledge produces a considerable amount of productive knowledge.

In line with Stoddard (1929), Griffin & Harley (1996) conducted a similar research. The participants in their research were high school students in their first year of learning French. Two groups were made where half of the students were taught the French word with the corresponding English translation (receptive vocabulary learning), and the other half the English word with the corresponding French translation (productive vocabulary learning). Half of the students of each group were tested receptively and the other half productively. These students did an immediate test and 3 delayed tests. The results showed that:

- Receptive learning produced a considerable amount of productive knowledge and productive knowledge produced a considerable amount of receptive knowledge.
- Equivalence of learning type and type of test (for example receptive learning and receptive test) shows better results than non-equivalence of learning and testing.

- The overall results on the receptive tests were higher than the results on the productive tests.
- The total retention (receptive and productive knowledge together) showed no significant difference between productive and receptive learning.
- The total retention of receptive learning decreased in a similar rate as the total retention of productive learning.

Waring (1997) conducted an experiment similar to Stoddard's (1929) experiment. A group of students were taught a set of vocabulary receptively (L2 to L1) and another set productively (L1 to L2). The knowledge of the sets was tested right after treatment, the following day, one week later and three months later. The results showed that:

- The receptive tests produced higher scores than the productive tests.
- Receptive learning produced a considerable amount of productive knowledge and productive knowledge produced a considerable amount of receptive knowledge.
- The best results on the receptive part of the test were obtained by the group that learned the words receptively and the best results on the productive part were obtained by the group that learned the words productively.
- The receptive learning process is faster than the productive learning process.

Schneider, Healy and Bourne (2002) carried out two experiments in which American college students also had to learn a set of French words. The students were divided into two different groups. One group learned the words receptively and did an immediate receptive retention test. The other group learned the words productively and did an immediate productive retention test. One week later, students were administered a delayed retention test. In this delayed test, half of the students of each group were tested

receptively and afterwards they had to relearn the words receptively. The other half of each group were tested productively and they had to relearn the words productively. The results showed that:

- The receptive retention tests (immediate and delayed) tests produced higher scores than the immediate productive tests.
- Receptive learning produced a considerable amount of productive knowledge and productive knowledge produced a considerable amount of receptive knowledge.
- The retention loss between the two tests (immediate and delayed) was bigger for the words that were learned receptively than for the words learned productively.

All the aforementioned studies were carried out using translation as the means to learn vocabulary. Traditionally, it has been one of the most popular methods for vocabulary learning and although it has been clearly proved that the usage of L1 can be beneficial in the EFL classroom (Camó & Ballester, 2015), nowadays, there are new ways of learning vocabulary associated to the technological revolution that has taken place in schools and education. This new ways of learning vocabulary in real secondary school environments might have some influence on receptive and productive vocabulary acquisition.

The technological revolution of the last years has represented a revolution in teaching methodologies. Modern approaches to vocabulary acquisition have recently stirred up the way students learn new words in English as a Foreign Language (EFL). This new methodologies of vocabulary acquisition have been based on two theoretical frameworks, which have tried to explain the cognitive processes happening while

learning vocabulary with audio and visual input and multimedia input: *The Dual-Coding Theory* (Paivio, 1971) and *The Cognitive Theory of Multimedia Learning* (Mayer, 2001).

The Dual-Coding Theory was presented by Paivio (1971) and hypothesized that memory and cognition were assisted by two separate systems: one deals with verbal information such as words and symbols, and the second one is specialized in non-verbal information such as pictures and objects. When an individual learns a language, the brain is able to distinguish between verbal and non-verbal representations, and the interconnection between both systems makes it possible to link words and images. For this reason, learners will acquire more efficiently and will retain more information if both systems are activated during the learning process.

The Cognitive Theory of Multimedia Learning was an evolution of the approach, which referred to multimedia learning, and was presented by Mayer (2001). According to this theory, the learning process was divided into three steps: the first stage is the selection of verbal and visual information from the multimodal input; the second stage is the selection of relevant information, verbal and visual, from that multimodal input; and the third stage is the integration of both visual and verbal representations with each other. From this theory, we can infer that the learning process occurs when those verbal and visual representations are built in the brain.

Both of those theories suggest that learners obtain higher benefits when they receive both textual and visual input (Paivio, 1971; Mayer, 2001).

It is clear that the usage of new technologies has represented a revolution for teaching and learning processes. Digital technologies like computers, mobile devices, digital media creation and distribution tools, video games and social media are transforming

the way we think about teaching and learning (Collins & Halverson, 2010). The implementation of these technologies using audio-visual materials has changed completely the way students acquire a foreign language. Because of that, the use of multi-media input can improve students' vocabulary acquisition (Hu & Deng, 2007). With the help of new technologies, the learning of vocabulary using visual and audio-visual input linked to textual representations can be easily implemented in the EFL classroom. These new techniques appear to have a positive effect on vocabulary acquisition and the usage of non-verbal referents attached to new elements of vocabulary when learning a new language seems to create more efficient associations (Talaván, 2007). These visual and audio-visual supported methods have been proved to provide better results in vocabulary acquisition than textual input-enhancement (Mashhadi & Jamalifar, 2015).

Some research has studied the effects of visual elements on new vocabulary acquisition. For example, Hashemi & Pourgharib (2013) focused on how to improve vocabulary learning by using visual materials such as pictures, real objects and flash cards. They conducted a research with 39 female students divided into two groups, an experimental and a control group. In the experimental group, new vocabulary was taught using visual elements and in the control group, they were instructed using translation. The results of this research showed that the students who learnt vocabulary using visual materials had a better learning and retention.

Current research has also shown that the usage of video input, especially in early stages of learning, seems to be beneficial for learners (Sydorenko, 2010). In the same line, some research appears to demonstrate that the usage of audio-visual materials instead of only-audio listening was more effective in terms of retention immediately after exposure (Gomez Pastor, 2013). This type of input (image and audio) appears to be even

more efficient than a combination of image and text for learning unknown vocabulary. This can be because video appears to help to create a mental image of new vocabulary (Al-Seghayer, 2001).

Some research has studied the effectiveness of different types of input. For example, Al-Seghayer (2001) analysed whether any of four different kinds of input (text, graphics, video and sound) were more effective for vocabulary acquisition. For this study, 30 ESL university learners were selected coming from different countries and with different L1. The students were provided with a narrative text in English with annotations for target words consisting in hypermedia links to four modalities (text, graphics, video and sound) with the intention to aid in understanding and learning of unknown words. In order to assess the effect of each mode, two types of tests were administered: recognition and production tests. The point of view of the participants was also taken into consideration through individual face-to-face interviews. The results of this research suggest that a video clip combined with a text definition is more effective than a picture in combination with a text definition. In this study, participants learned and recalled more words when they learnt using videos than when they learnt using pictures.

In line with Al-Seghayer (2001), Mashhadi and Jamalifar (2015) conducted a research with the aim of comparing the effect of visual and textual representations on vocabulary learning. For this study, the authors selected 100 Iranian EFL learners from a local high school. Before the study, the learners' previous knowledge was tested. They created a control group where students learnt vocabulary using a translation methodology, a second group, called the input-enhancement group, where the lexical items were in bold and were translated into Persian language, and a third group provided with a variety of visual flashcards, pictures, videos and semantic maps. After the process, the students did a post-test that was compared to the pre-test. This research found that the students in

the visual group outperformed students in both the enhanced-input group and the control group.

In a similar line, Jones (2004) conducted a research with the aim of testing L2 vocabulary recognition and recall using pictorial and written items. In Jones' article, two experiments which examined the effects of pictorial and written annotations on L2 vocabulary learning from a multimedia environment were described. In both studies four groups were created: one control group, one group with written annotations, one group with pictorial annotations and one group with both written and pictorial annotations. The results of the first experiment showed that the three groups that received annotations had better results than the control group. The results of the second experiment showed that the students did better when the mode of testing was the same of the treatment mode.

Gómez Pastor (2013) also conducted a research on the usage of videos for vocabulary acquisition. In this study, the results of teaching using audio-visual material and listening materials for vocabulary development were compared. Also the recognition method, written words vs. images, was also taken into consideration. This research was carried out with a group of 16 students that were divided into two smaller groups, the experimental group and the control group. First, a pre-test was administered in order to create a corpus of unknown items. After the treatment which consisted in splitting the group into two (A and B) where A watched a video twice and B just listened to the audio of the same video, a post-test was given to students. The post-test was done three times, one immediately after the treatment, and another after two weeks and another after four weeks, in order to check retention rates. The results of this research showed that the usage of audio-visual materials instead of only-audio listening was more effective in terms of retention immediately after exposure. Nevertheless, the positive

effect was not sustained in time because both groups did equally well in the last post-test 4 weeks after the treatment.

Some research has investigated students' perceptions about these new methodologies. For example, Filgueira Garro (2014) conducted a research where students expressed their opinions about the usage of videos for learning vocabulary. In this study, she administered students a survey where they expressed their perceptions and a 70% of the students perceived this methodology as helpful to learn specific vocabulary. Winke, Gass, and Sydorenko (2010) conducted a research where students watched videos with captions and they expressed their opinions about it. Firstly, students listened to an audio clip extracted from a video and later they watched that video with captions. Students felt that the audiovisual format with the help of captions had reinforced their experience.

Even though the majority of studies support the fact that video seems to be more beneficial for vocabulary retention, there have been some classroom studies that seem to point out that image might be as beneficial (Mashhadi & Jamalifar, 2015).

Consequently, it would be interesting to compare the translation, image-based and video-based methodologies for vocabulary acquisition to test the effectiveness of those methods in a secondary school setting taking into consideration not only the methodology but also receptive and productive stages of vocabulary learning (Carter & McCarthy, 2014; Laufer & Goldstein, 2004; Pignot-Shahov, 2012).

To the best of my knowledge, I have not found any research that compares these three methods of vocabulary acquisition taking into consideration receptive and productive vocabulary. Research is also scarce regarding secondary school settings. So this study aims to compare the effectiveness of three different methods (translation, image-based

and video-based) on the acquisition of receptive and productive vocabulary in an EFL secondary school classroom.

3. RESEARCH QUESTIONS

The following research questions guided our study:

1. Is video assisted vocabulary learning more effective than image assisted or gloss translations? Do any of these techniques imply a better recall and a better delayed recall?
2. Are there any differences considering receptive and productive vocabulary learning?
3. Do EFL learners receive these methods as positive? What type of vocabulary learning do they prefer?

4. METHOD

4.1 Participants

The sample used in this study comprises a total of 52 students aged 13 to 15 in a public high school in Pamplona (Spain). These students belong to a bilingual education program, so they have been taught some subjects in English apart from English language as a subject in primary school and they are also currently being taught in English.

The sample consists of three intact groups of learners with 20, 15 and 17 learners in each group. These groups belonged to different years in secondary education: one group belonged to 1st of ESO, one to 2nd of ESO and one to 3rd of ESO. The language level of these groups was quite homogeneous ranging from A2 to B1.

4.2 Materials

Based on the diversity and heterogeneity of groups, a variety of materials were designed. A pre-test was designed with the aim of checking students' previous knowledge regarding the three sets of words that were going to be introduced during the treatment. There were three sets of fourteen words each (a total of 42 words) and students had to match words and definitions. For the treatment, three different approaches to vocabulary acquisition were used: L1 translation, image-based material and video-based material. During each treatment, different kinds of materials were presented to students to teach vocabulary. After each treatment, students did an immediate post-test to check the acquisition of that vocabulary. A delayed post-test was also done one week after the vocabulary session in order to check delayed recall. This delayed post-test was the same as the immediate post-test. Both the immediate and the delayed post-test were divided in two parts. The first part included a matching exercise designed to evaluate receptive/passive vocabulary acquisition and comprised seven words. The other seven words were included in a second part where the students had to produce them, so this part was designed to evaluate productive/active vocabulary.

A variety of activities were designed for the treatment with each method. For the translation methodology, a HotPotatoes crossword containing the seven words was designed. For the image-based methodology, a Quizlet was made. And finally, for the video-based methodology, a Kahoot activity was created. The vocabulary was extracted from the students' coursebooks in order to make the treatment as useful as possible to them and it consisted of adjectives of personality for the translation methodology, jobs around the house for the image-based methodology and animal life for the video image-methodology.

Once the treatments were done, the students answered a final questionnaire where they expressed their preferences on different types of vocabulary acquisition using questions and Likert-scales. In this final questionnaire, students also reported the advantages and disadvantages they had perceived when being taught with each method and they expressed their opinions on the processes. This final questionnaire had three choice questions where students expressed their favorite methodology, the one they had thought made the vocabulary the easiest to understand and the one they thought made it easier for them to remember the words one week later. The Likert-scales consisted of four levels from comprehension perceived for each methodology and enquired about the levels of easy, normal, hard and very hard. A final question was included in order to make students express their opinions about the process and the methods. The question enquired about advantages and disadvantages of each methodology and students' opinions about the whole process.

4.3 Procedure

The first step was to administer a pre-test where students' previous knowledge of the vocabulary that they were going to learn was checked. This pre-test was administered in the first week and contained three sets of fourteen words each, 42 words in total. Once the pre-test was done, the design of the vocabulary acquisition activities for the treatments using three different methods in each group began. The activities chosen were different for each method and have been mentioned in the previous section. After each treatment, students did an immediate post-test to check vocabulary acquisition. A delayed post-test was made a week after the treatment in order to check delayed recall production in students.

Both the immediate and the delayed post-test were identical. These post-tests consisted of a set of fourteen words. In these tests, students' vocabulary production and reception were checked by a matching exercise in order to check receptive acquisition of vocabulary and by a production exercise in order to check productive. In order to make the post-tests similar to the treatments, the translation post-tests were based on matching and translating L1 words or phrases, and both image-based and video-based were tested by matching and defining pictures.

During the treatment, some explanations were given when necessary in order to achieve an appropriate understanding. For the translation method, the words were read and translated twice to students, stressing important aspects such as false friends. For the image-based treatment, some explanations were given in order to make some clarifications. Finally, for the video-based treatment some commentaries were made in order to indicate the exact moment in the video where the expected term would be shown.

Once the students had seen the new vocabulary, the activity designed for each method was done by students under the researcher's supervision. After they had done the activity, they did the immediate post-test. Before doing it, it was made clear that the test would not be used for evaluation purposes and that they had to do it on their own. This procedure was repeated one week later for the delayed post-test.

The method we used can be considered a cross-validation method because each method (translation, images and video) was tested in each group in order to minimize any possible effect of group heterogeneity, or the feel that any set of words might be easier to remember for different reasons.

To finish the data collection procedure, a survey, including Likert-scales and other questions was administered where students showed their preferences regarding the different methods. They also expressed the advantages and the disadvantages they perceived about each method employed during the process. This way we could evaluate the teacher's and also the students' perspectives.

5. RESULTS

Due to the large amount of data obtained, I will try to start from general results and later I will continue with more particular results. All the results presented are out of 10 points.

5.1 General results

As can be seen below in Table 1 and considering all the students, in the immediate post-test the translation methodology obtained 6.68 points, the image-based 8.12 points and the video-based 7.59. Regarding the delayed post-test, the results were 6.04 for translation, 6.86 for image-based and 6.73 for video-based. In summary, the best results obtained corresponded to the image methodology in both the immediate and the delayed post-tests in contrast with the translation methodology that obtained the worst results in both tests as can be observed in Table 1. If we focus on recall, the method that had the biggest drop from the immediate post-test to the delayed post-test was the image-based methodology. This methodology underwent a drop of 1.26 points, from 8.12 points to 6.86. On the other hand, the translation methodology experienced the smallest drop which was a 0.64 points drop, from 6.68 to 6.04. The video methodology suffered a drop of 0.86 points, a decrease from 7.59 to 6.73 points.

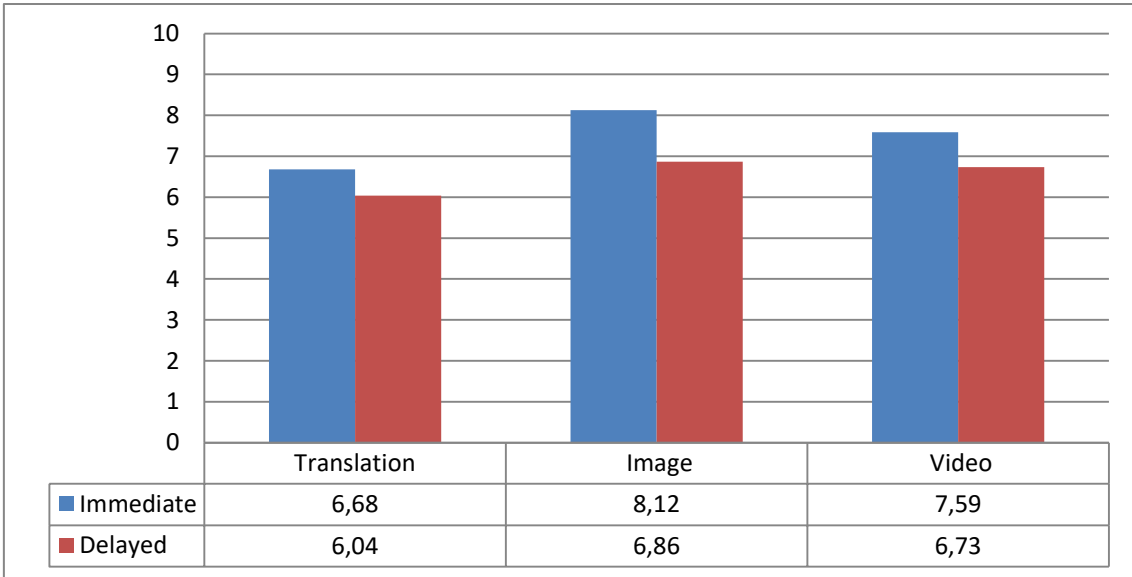
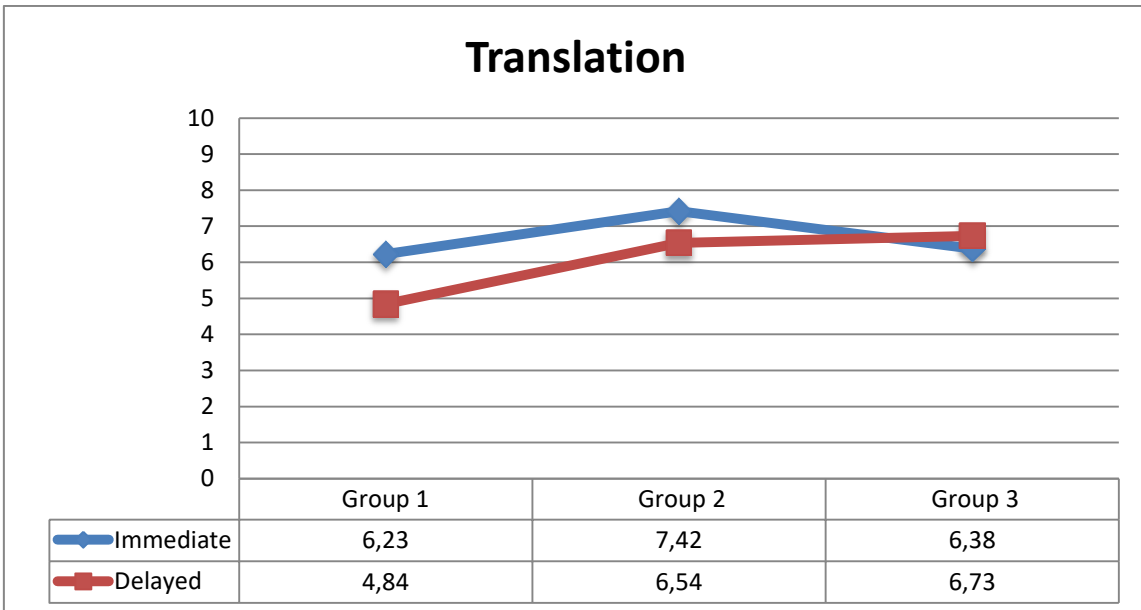


Table 1: Global results

5.2 Results of translation methodology

As Graph 1 shows, the results for the translation methodology in the immediate post-test were 6.23 points for Group 1, 7.42 points for Group 2 and 6.38 points for group 3.

The results in the delayed post-test were 4.84 for Group 1, 6.54 for Group 2 and 6.73 for Group 3.

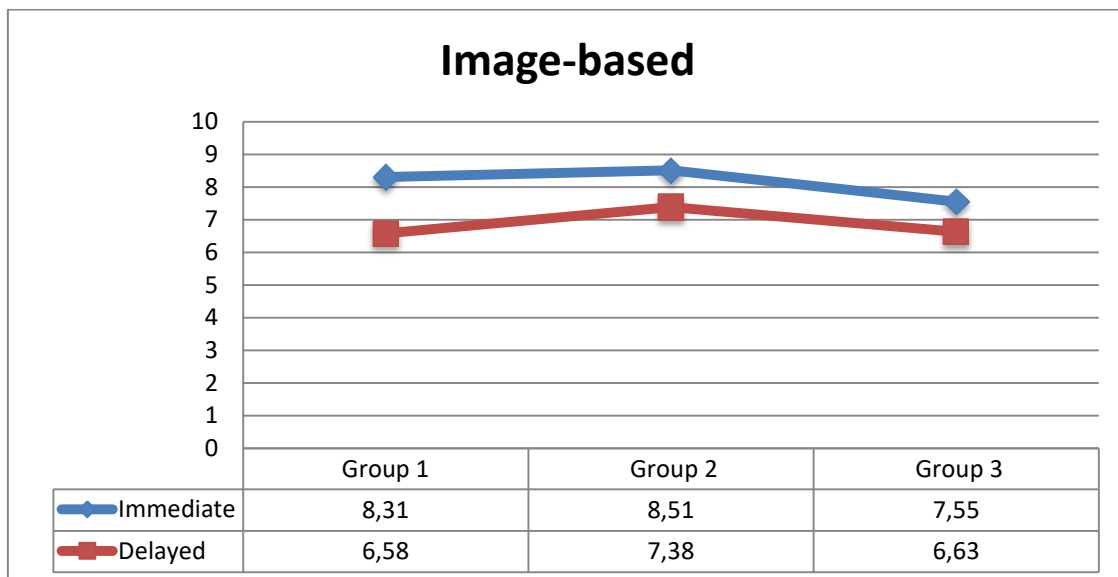


Graph 1: Translation results

Regarding the difference from the immediate to the delayed post-test, it can be observed in Graph 1 that Groups 1 and 2 underwent a drop of 1.39 (from 6.23 to 4.84) and 0.88 (from 7.42 to 6.54) respectively. Surprisingly, Group 3 results for the delayed post-test were better than for the immediate post-test, so the students of this group had a gain of 0.35 points, from 6.38 to 6.73.

5.3 Results of image-based methodology

Focusing on the image-based methodology, it can be observed in Graph 2 that the results were quite similar in the three groups. The best results in the immediate post-test were obtained by Group 2 with 8.51 points, slightly better than Group 1 who scored 8.31 points and Group 3 with 7.55 points. The difference between the highest and the lowest result is just 0.96 points. In the delayed post-test, Group 1 obtained 6.58 points, Group 2 obtained 7.38 points and Group 3 obtained 6.63 points.



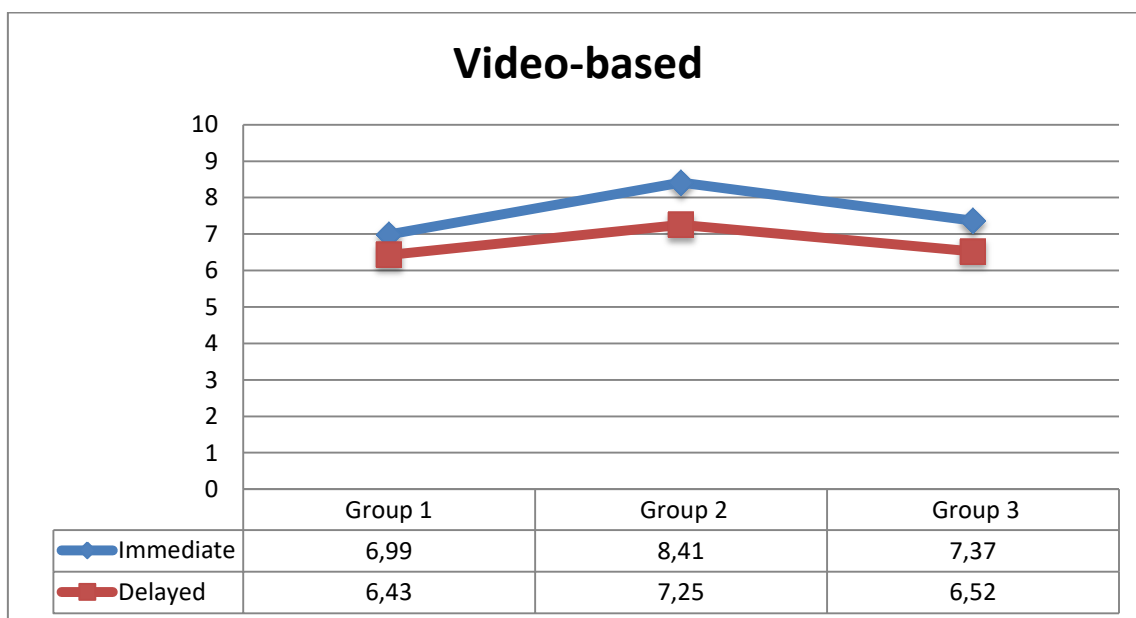
Graph 2: Image-based

Considering recall, the results of the delayed post-test show that every group had a lower mark than in the immediate post-test as could be expected. Once again the best result was obtained by Group 2 with 7.38 points (1.13 points drop), followed by Group

3 with 6.63 points (0.92 points drop) and Group 2 with 6.58 points (1.73 points drop). If we compare Groups 1 and 3, we can notice that Group 1 had the best result in the immediate post-test and Group 3 did better in the delayed post-test, which means that Group 3 had the best recall because the drop of results after a week was smaller in this group.

5.4 Results of video-based methodology

Regarding the video methodology, as we can see in Graph 3, the best result in the immediate post-test was obtained by Group 2 with 8.41 points, followed by Group 3 with 7.37 points and finally by Group 1 with 6.99 points. There is not a big difference between the best and the worst groups, only 1.42 points. The same order from the group who scored the highest (Group 2 obtained 7.25 points) to the lowest (Group 1 obtained 6.43 points) was also seen in the delayed post-test



Graph 3: Video-based

If we consider recall, the biggest drop could be observed in Group 2 (1.16 points drop) so this group had a worse recall. Recall in Group 3 experienced a 0.85 points drop, from 7.37 to 6.52, and in Group 1 a 0.56 drop, from 6.99 to 6.43.

5.5 General Results focused on learning stages

Taking into consideration the two stages of language learning, receptive or passive knowledge and productive or active language, first of all I will give the general results.

These results are shown in Table 2. The blue tones correspond to the reception stage and the green tones to the production stage.

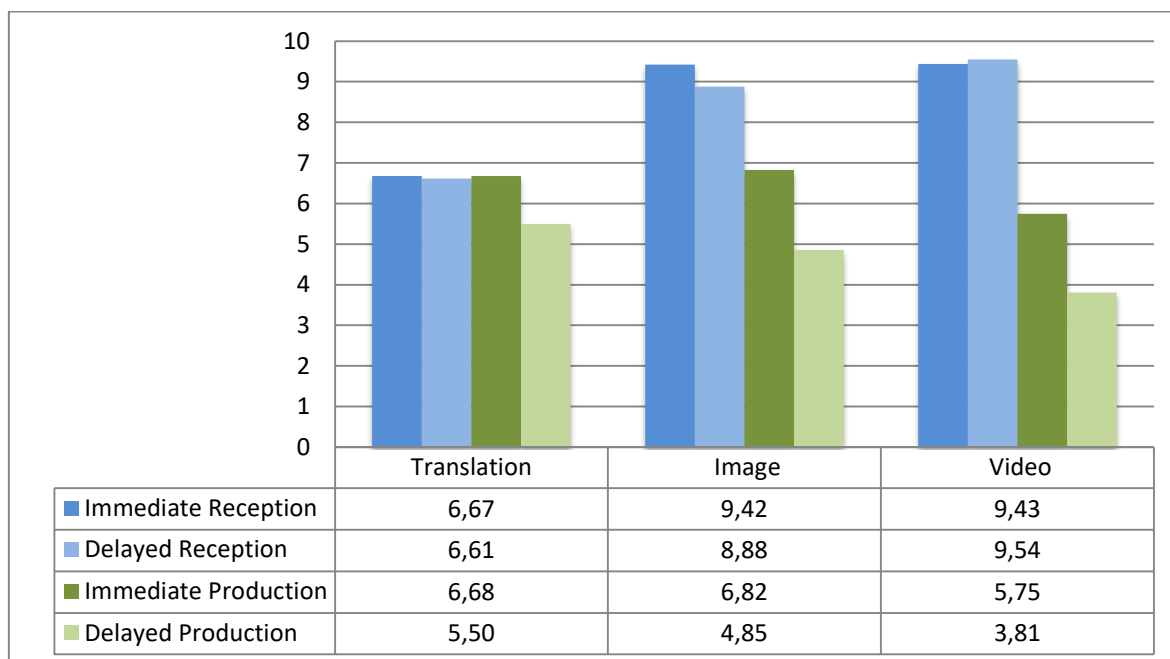


Table 2: Results based on reception and production

As can be seen in Table 2, the best results for receptive vocabulary were obtained in the image-based and video-based methodologies. The immediate reception results were 9.42 points for image and 9.43 for video so there was no remarkable difference between these methodologies in this stage of learning. In the translation methodology, results for immediate reception were quite worse (6.67). Considering delayed reception, we can see similar results in both the image-based methodology (8.88) and the video-based methodology (9.54) in contrast with a lower score in translation (6.61).

In terms of productive language, there were no significant variations between methodologies. Students scored 6.68 points with the translation methodology, 6.82 points for the image-based methodology and 5.75 points for the video-based methodology. These results mean that the gap between the best result and the worst was just 1.07 points. In terms of delayed production, the best result was for the translation methodology (5.50), followed by the image (4.85) and the video (3.81), which was the methodology which had the worst results in delayed production.

5.6 Receptive and productive results for the translation methodology

As can be seen in Table 3, blue tones correspond to the receptive stage of vocabulary acquisition and green tones to the production stage.

Focusing on the reception, the results for the immediate reception using the translation methodology were 5.71 points in Group 1, 7.47 in Group 2 and 6.84 in Group 3. The results for delayed reception, we can observe that Group 1 obtained result of 5.16 points, Group 2 obtained 6.92 and Group 3 obtained 7.76.

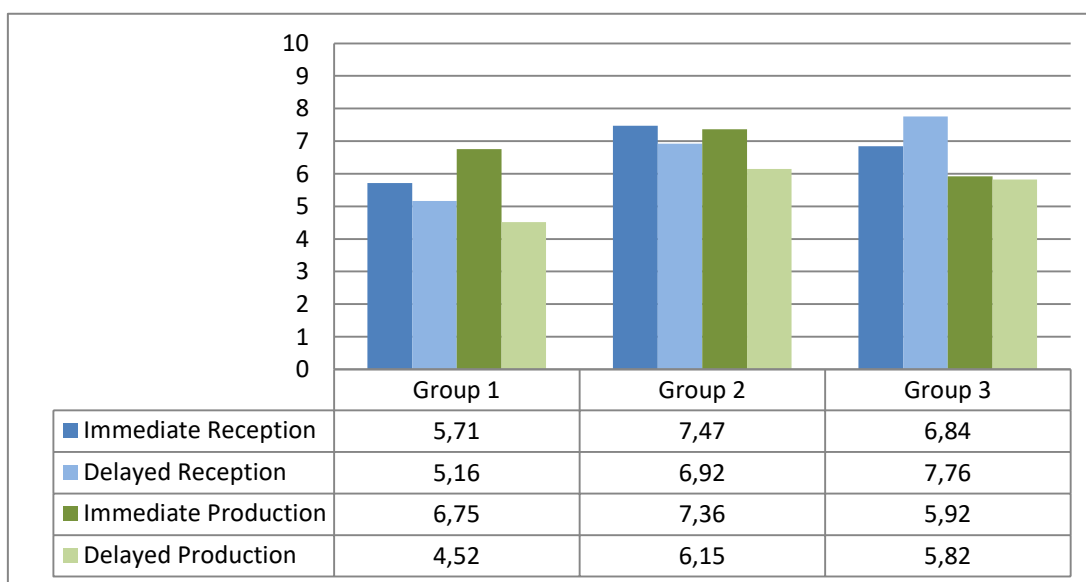


Table 3: Reception and production results for translation methodology

Considering the production of vocabulary, the results for the immediate production tests were 6.75 points in Group 1, 7.36 in Group 2 and 5.92 in Group 3. In terms of delayed production, the results were 4.52 points for Group 1, 6.15 for Group 2 and 5.82 for Group 3

Surprisingly, the results in Group 1 for the immediate reception (5.71) were worse than for the immediate production (6.75) while in the rest of the groups the immediate reception was better than the production.

Regarding the evolution from immediate to delayed, all groups experienced a drop from immediate post-test to delayed post-test except for Group 3 which experienced an increase in reception from the immediate to the delayed post-test. In this sense, Group 1 underwent a drop from the immediate to the delayed post-test of 0.55 points in reception, from 5.71 to 5.13, and 2.23 points in production, from 7.75 to 4.52. Group 2 experienced a drop of 0.55 points in reception, from 7.47 to 6.92, and 1.21 in perception, from 7.36 to 6.15. Finally, Group 3 surprisingly underwent a gain of 0.92 in reception, from 6.84 to 7.76, and a drop of 0.10 in production, from 8.92 to 5.82.

5.7 Receptive and productive results for image-based methodology

As shown in Table 4, in terms of immediate reception, Group 1 obtained 9.32 points, Group 2 obtained 9.76 and Group 3 obtained 9.18. Regarding delayed reception, Group 1 obtained 8.57 while Group 2 obtained 9.29 and Group 3 obtained 8.78 respectively. These results show that all the groups experienced a drop from the immediate post-test to the delayed post-test

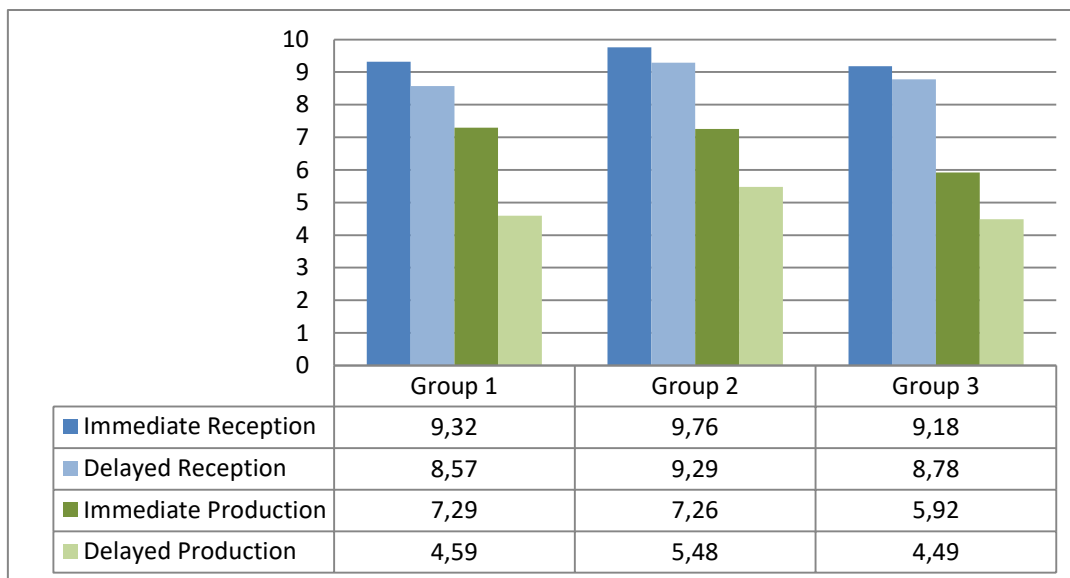


Table 4: Reception and production results for image-based methodology

If we consider immediate production, Group 1 had a result of 7.29 points, 7.26 points for Group 2 and 5.92 for Group 3. As can be expected, the results for production were lower than for reception. In terms of delayed production, the results were 4.59 points for Group 1, 5.48 points for Group 2 and 4.49 for Group 3. So the results for the productive vocabulary are smaller than the results for receptive vocabulary as should be expected.

Focusing on the drop from the immediate to the delayed post-tests, we can observe a drop in all the groups so the results were better right after the treatment than one week later. In terms of receptive vocabulary, the results of Group 1 underwent a drop of 0.75, from 9.32 to 8.57. Group 2 experienced a drop of 0.47 points, from 9.76 to 9.29.

Finally, Group 3 had a drop of 0.40 points, from 9.18 to 8.78. In terms of productive vocabulary, Group 1 results had a drop of 2.70 points, from 7.29 to 4.59, while Group 2 had a drop of 1.78 points, from 7.26 to 5.48, and Group 3 results suffered a drop of 1.43 points, from 5.92 to 4.49. The analysis of these results shows that productive language underwent a higher drop than receptive language.

5.8 Receptive and productive results for video-based methodology

Like in previous tables, in Table 5 blue tones correspond to the receptive stage and green tones to the productive. As can be seen in Table 5, for the immediate reception the result obtained by Group 1 was 9.1 points, by Group 2 10 points and for Group 3 9.2 points. Regarding delayed reception, the results were 9.17 points for Group 1, 10 points for Group 2 and 9.46 points for Group 3.

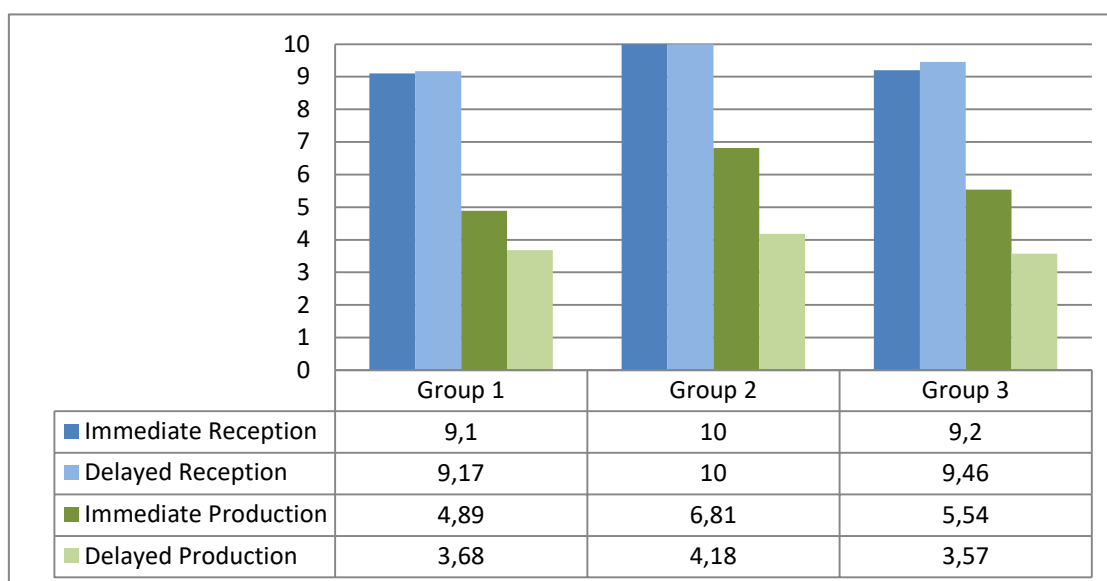


Table 5: Reception and production results for video-based methodology

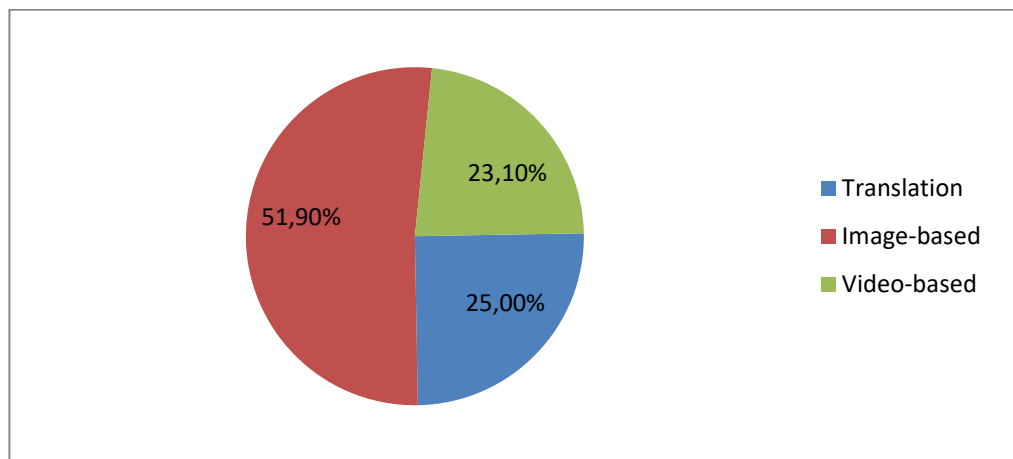
In the immediate production, the results were 4.89 for Group 1, 6.81 for Group 2 and 5.54 for group 3. The results for the delayed production were 3.68 points for Group 1, 4.18 points for Group 2 and 3.57 for Group 3. As could be expected, the results for the immediate reception were better than for production.

Considering the differences between the immediate and the delayed post-tests, we can see that the results of the receptive vocabulary in Group 1 underwent a gain of 0.07, from 9.1 to 9.17, Group 2 obtained the same punctuation (10) and Group 3 suffered a gain of 0.26, from 9.2 to 9.46. The results of productive vocabulary had a drop of 1.21 points in Group 1, from 4.89 to 3.68, a drop of 2.63 points in Group 2, from 6.81 to 4.18, and 1.98 points in Group 3, from 5.54 to 3.57.

5.9 Qualitative results

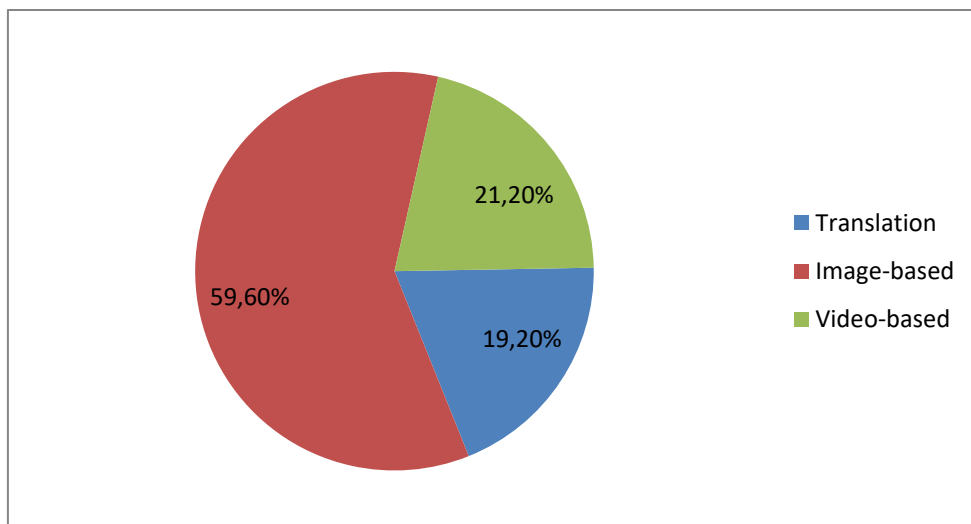
Focusing on the final questionnaire that the students completed, the results were as follows:

- Based on the answers obtained in the final questionnaire, the methodology that students liked the most was the image-based methodology with a 51.9% of the students choosing that option. A 25% of students chose translation methodology and a 23.1% video-based methodology.



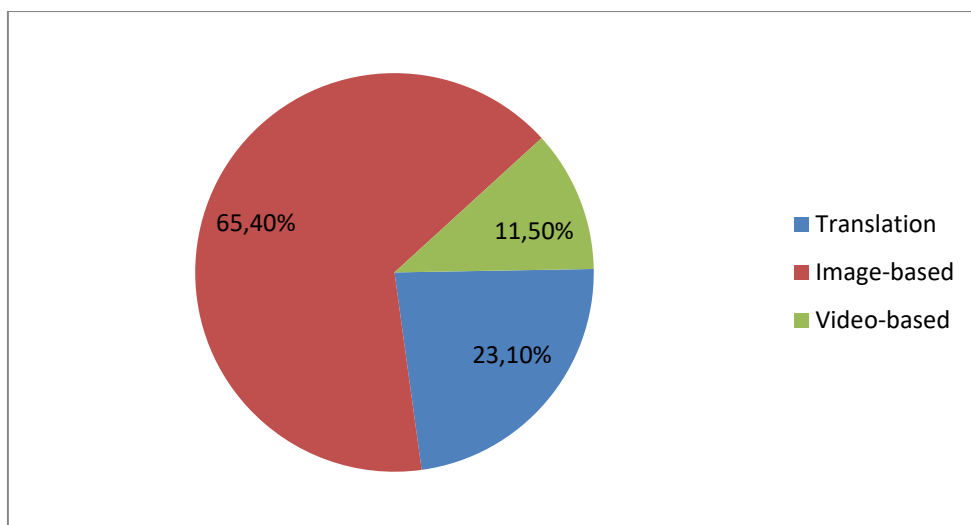
Graph 4: Favourite methodology

- The methodology that students perceived was the most effective to acquire vocabulary was the image-based methodology with 59.6% of the students followed by the video-based with 21.2% and by the translation with 19.2%.



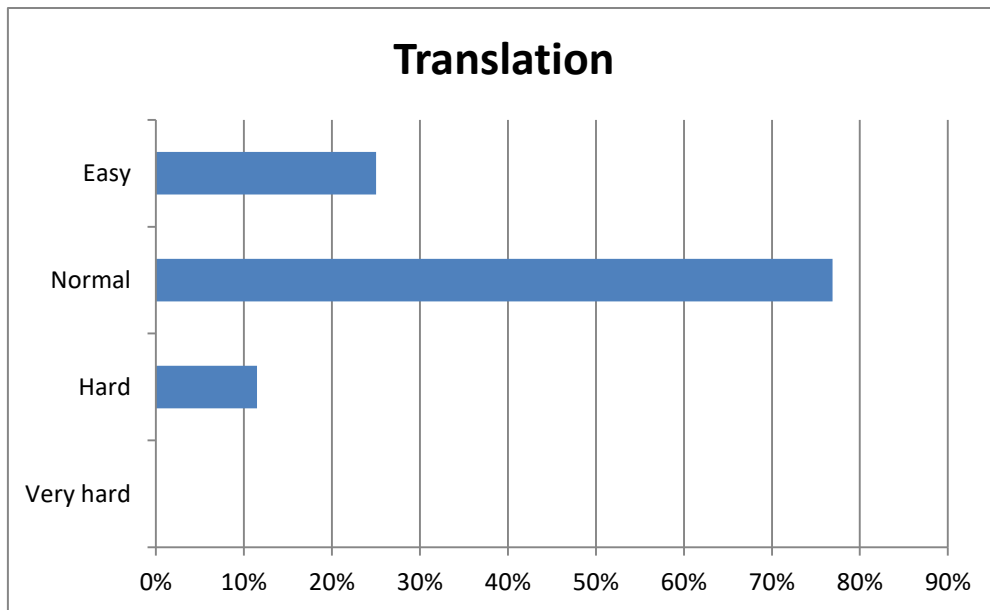
Graph 5: Most effective methodology for vocabulary acquisition

- The methodology that students perceived was the most effective to recall vocabulary one week after treatment was image-based with 65.4%, followed by translation with 23.1% and video-based with 11.5%.



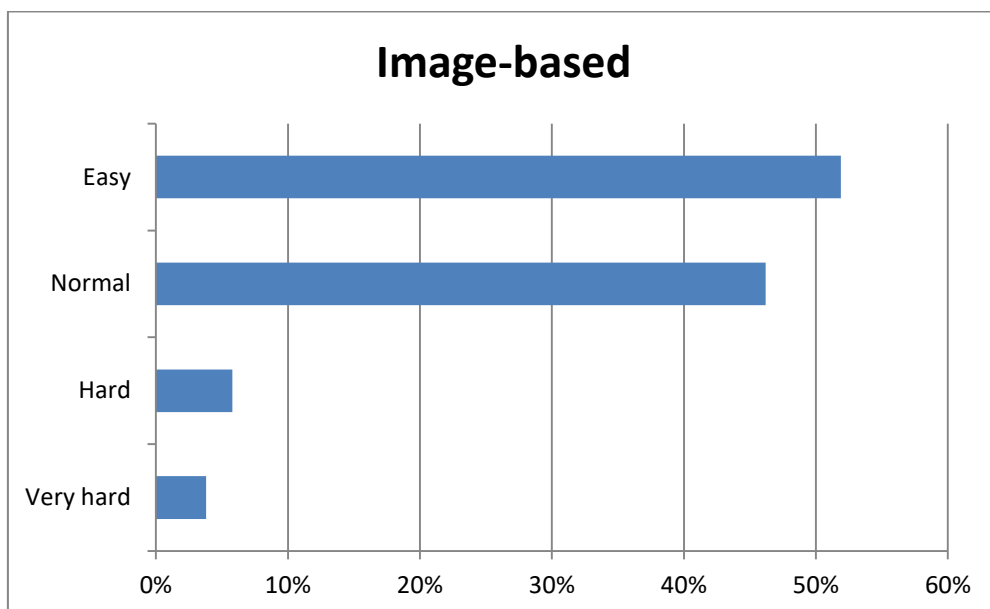
Graph 6: Most effective methodology for vocabulary recalling

- Students were asked about the difficulty they had to understand the vocabulary taught using the translation methodology and 25% of the students considered this methodology as easy, 76.9% as normal and 11.5% as hard. Nobody considered understanding using this methodology as very hard.



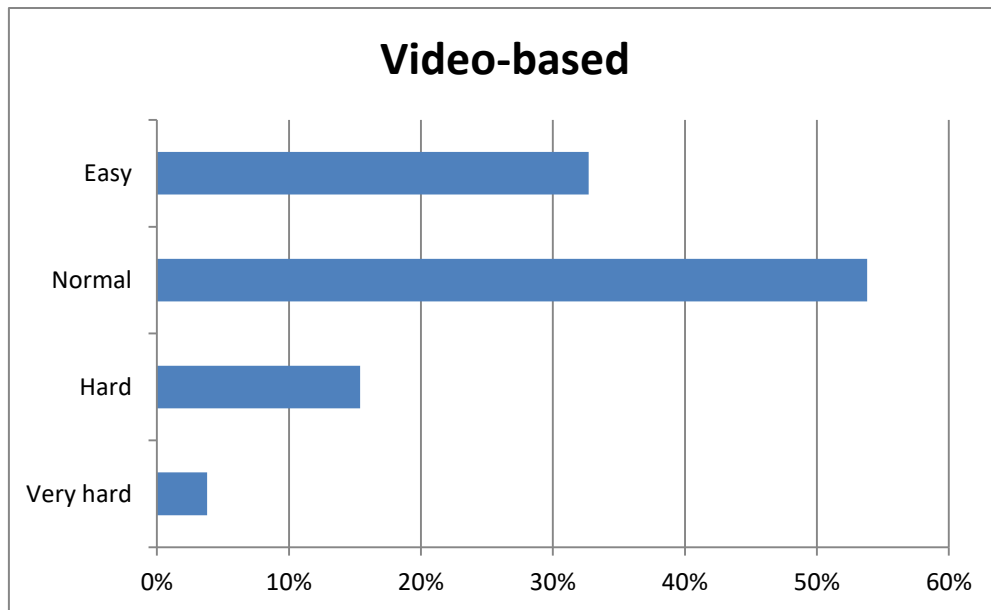
Graph 7: Difficulty of translation methodology

- Students perceived difficulty to understand vocabulary using the image-based methodology was rated as easy (51.9%), normal (46.2%), hard (5.8%) and very-hard (3.8%).



Graph 8: Difficulty of image-based methodology

- Finally, 32.7% of students considered the video-based methodology as easy to understand vocabulary, 53.8% as normal, 15.4% as hard and 3.8% as very hard.



Graph 9: Difficulty of video-based methodology

- Regarding the final question about students' opinions about the process and the methodologies the following recurrent ideas stood out:
 - Many students considered the translation methodology as boring.
 - Many students also said that they had done too many tests.
 - Some students stated that it was hard for them to infer vocabulary from the clips of video despite my indications.
 - Some students expressed that at some point the explanations were too fast and difficult to follow.

6. DISCUSSION

The three research questions which were previously formulated in the initial pages of this research will be mentioned again and answered. For this reason, all the quantitative and qualitative data that have been obtained after the completion of the vocabulary pre-test, the immediate and delayed post-tests and the final questionnaire will be analysed.

RQ1: Is video assisted vocabulary learning more effective than image assisted or gloss translations? Do any of these techniques imply a better recall?

From the data obtained during the collection process, we can notice that students obtained the best results from the immediate post-test using the image-video methodology (8.12) while the results for video-based were 7.59 and for translation 6.68. This is supported by the statement made by Hu & Deng (2007) where the use of multi-media input can improve students' vocabulary acquisition. This is also supported by the research conducted by Mashhadi & Jamalifar (2015) that found that students that have a visual support when learning outperform those students who do not. In the same line, it is also supported by Paivio (1971) and Mayer (2001) because when students have a non-verbal and a verbal representation, the acquisition process is more efficient.

On the contrary, some researchers like Al-Seghayer (2001) obtained as a result of research that a video clip combined with a text definition outperformed an image with a text definition. So these results do not agree with the results shown in this research. This can be due to a possible cognitive overload (Baggett, 1989) because sometimes when using multimedia materials students receive too much information that makes the brain do a great effort that sometimes produces an overload and so the information is not acquired properly. In this sense, some students expressed in the final questionnaire that when they were watching the video they had difficulties to understand the word despite my indications because they got distracted.

If we focus on recall, the highest drop registered was in image-based methodology (1.26) in contrast with translation (0.64) and video-based (0.86). Nevertheless, the results of image-based methodology are still the best one week after the treatment. In this sense the best results one week after were for the image-based methodology. This

completely agrees with Hashemi & Pourgharib (2013) because the students who learnt vocabulary using visual materials had a better learning and retention.

Focusing on the anomalies found during the data collection process, I want to comment possible reasons that lead to Group 3 obtaining better results in the delayed post-test than in the immediate post-test for the translation methodology. As far as I know, two factors might explain those results. The first factor is that some students might have cheated on the test because I identified the same spelling errors in some students that were sitting together and surprisingly outperformed the results they got in the immediate post-test. The second factor were two tricky definitions appearing on the matching exercise where the definitions of two items (selfish and vain) were easily misunderstood. Some students failed to identify those terms in the immediate post-test maybe because they were tired and they did not read the definitions in Spanish carefully enough.

RQ2: Are there any differences considering receptive and productive stages?

From the results explained before in the results section, we can infer there are important differences between the receptive vocabulary knowledge and the productive vocabulary knowledge as expected. Except for the translation method, the results of the receptive vocabulary knowledge were better than the productive vocabulary. So the results with the image-based methodology and the video based methodology agree with the results obtained by Griffin & Harley (1996) Schneider, Healy and Bourne (2002) Stoddard (1929) and Waring (1997). For example, the image-based methodology obtained 9.42 points in the immediate reception and 6.82 in the immediate production and the video-based methodology got 9.43 points in the immediate reception and 5.75 in the immediate production. The results obtained using the translation methodology show that there are no differences between reception and production in the immediate post-test.

This does not support the results previously reported by Griffin & Harley (1996) Schneider, Healy and Bourne (2002) Stoddard (1929) and Waring (1997). As I mentioned in RQ1, this may be due to the easily confusing definitions of two items in the receptive part (vain and stubborn) that many students failed to identify correctly in the immediate post-test when they might have been tired and did not read carefully, but did it right in the delayed post-test that was administered to them at the beginning of the class when they were not tired.

Focusing on the drop between the immediate and the delayed post-test regarding productive and receptive vocabulary, we can observe that receptive vocabulary barely changes. For example, the translation methodology suffered a drop of 0.06 points from 6.67 to 6.61, the image-based methodology underwent a drop of 0.56 points from 9.42 to 8.88, and the video-based methodology had a gain of 0.13 points from 9.43 to 9.54. So we can say that the three methodologies made students maintain their receptive vocabulary in a similar way. Considering productive vocabulary we can observe a drop in all the methodologies employed. For example, the results for the translation methodology show a drop of 1.18 in the production of vocabulary from 6.68 to 5.50, a drop of 1.97 points for the image-based methodology from 6.82 to 4.85 and a drop of 1.94 points for the video-based methodology from 5.75 to 3.81. In summary, it seems that receptive vocabulary maintained their results, so there was no loss of receptive vocabulary. On the contrary, a significant loss of productive vocabulary happened from the immediate post-test to the delayed post-test.

Considering all this and being cautious with the aforementioned issue with the translation methodology results, we can say that the results for the receptive stage are better than for the productive stage. These results are supported by the results obtained

by Stoddard (1929) and Schneider, Healy and Bourne (2002) where the results for the reception were better than for the production.

RQ3: Do EFL learners receive these methods as positive? What type of vocabulary learning do they prefer?

In the comments that students included in the last open question of the final questionnaire, many students expressed positive comments about the methods. Most of the students expressed their satisfaction about all the vocabulary that they had learnt and they considered that vocabulary as very useful. Some students considered the translation methodology as boring.

A 51.9% of the students chose the image-based as their favorite, 25% the translation methodology and 23.1% the video-based methodology. These were quite surprising specially the low results obtained by the video-based methodology. In this case, that may be due to the cognitive overload that video input can provoke (Baggett, 1989) because sometimes when using multimedia materials students receive too much information.

7. PEDAGOGICAL RECOMMENDATIONS

Based on the results of this research and the experience with students during the period of data collection, some pedagogical recommendations can be given. It is clear that students' attitude is a core element in teaching and learning, so it should be taken into consideration the fact that students prefer visual and audio visual input. Students perceive the traditional translation methodology as boring. The quantitative results have also shown that visual and audio-visual input obtain better results on immediate and delayed recall, so the translation methodology should not be used very often.

The video-based methodology has obtained better quantitative results than the translation methodology in this research. On the contrary, students have expressed that it was difficult to focus their attention when watching a video. That cognitive overload makes students' comprehension and learning more difficult, so this should be taken into consideration. This methodology can be used because good results have been obtained but it should be used carefully due to the aforementioned cognitive overload limitations.

The image-based methodology appears to be the best methodology for vocabulary acquisition. This methodology has obtained the best quantitative results in this research and, on the other hand, students have expressed that this methodology is the one they liked the most. Considering these results, this image-based methodology can be highly recommendable.

8. CONCLUSION

It is necessary to consider the possible limitations of this research. Due to the type of vocabulary employed in each methodology, one set of vocabulary might be easier than other so this could affect the final results. Also the quantity of tests done by students in a short period of time, even shorter because students had some activities that made the data collection process shorter and more complicated has to be considered. As a result of this, the process of data collection was shorter than expected with a consequent decrease in students' interest.

The data obtained showed that in terms of immediate acquisition the results for image-based methodology were the best for immediate acquisition and delayed recall. These results were slightly better than for video-based and translation methodologies respectively.

Focusing on receptive vocabulary and productive vocabulary, the results showed that the results of image-based methodology and video-based methodology were quite better than the results of the translation methodology for receptive vocabulary. But we need to be cautious and it is necessary to remember the confusion generated in the immediate post-test with the vocabulary items *vain* and *selfish*. For productive vocabulary, the results of the immediate post-test were similar for the translation methodology and the image-based methodology, while the results for the video-based were slightly worse. The results for the delayed recall experienced a very little drop from the immediate post-test to the delayed post-test in receptive vocabulary, while productive vocabulary results suffered a similar drop in all the methodologies.

Considering students' preferences, most of the students prefer the image-based methodology and they perceive the translation methodology as boring and old-fashioned. Surprisingly some students did not like the video-based methodology because some of them expressed that the amount of information was difficult to process, so this methodology can produce a cognitive overload. Because of that, teachers should consider not to use too much this methodology.

In summary, if I had to choose a methodology among the three employed in this research, I would use image-based methodology due to both the qualitative and the quantitative results obtained in this research.

9. REFERENCES

- Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, 3 (3), 21–34.

- Al-Seghayer, K. (2001). The effect of multimedia annotation modes on L2 vocabulary acquisition: a comparative study. *Language Learning & Technology*, 5 (1), 202–232.
- Baggett, P. (1989). Understanding Visual and Verbal Messages. *Advances in Psychology*, 58, 101–124.
- Bogaards, P., & Laufer, B. (2004). *Vocabulary in a second language: Selection, acquisition, and testing*. Amsterdam: John Benjamins Publishing Company (pp. 173–190).
- Brown, H. (2008). *Principles of language learning and teaching*. White Plains, NY: Pearson Longman (pp. 54-82).
- Camó, A. C., & Ballester, E. P. (2015). The effects of using L1 translation on young learners' foreign language vocabulary learning. *Elia*, 15, 109-134.
- Carter, R., & McCarthy, M. (2014). *Vocabulary and Language Teaching*. Hoboken: Taylor and Francis.
- Collins, A., & Halverson, R. (2010). The second educational revolution: Rethinking education in the age of technology. *Journal of Computer Assisted Learning*, 26(1), 18–27.
- Dastjerdi, H. V., & Farshid, M. (2011). The Role of Input Enhancement in Teaching Compliments. *Journal of Language Teaching and Research*, 2(2), 460-466.
- Filgueira Garro, T. (2014). Modality of Input and Vocabulary Acquisition of English for Specific Purposes.
- Gómez Pastor, A. (2013). A Picture Is Worth A Thousand Words: The Use Of Videos In Vocabulary Acquisition. Retrieved from <http://academica->

e.unavarra.es/xmlui/bitstream/handle/2454/9783/TFM-final.pdf?sequence=1&isAllowed=y

- Griffin, G. and Harley, T. A. (1996). List learning of second language vocabulary. *Applied Psycholinguistics* 17, 443–460.
- Hashemi, M., & Pourgharib, B. (2013). The Effect of Visual Instruction on New Vocabularies Learning. *International Journal of Basic Sciences & Applied Research* 2(6), 623–627.
- Hu, H.-P., & Deng, L.-J. (2007). Vocabulary acquisition in multimedia environment, 5(847), 1539–8080.
- Jones, L. (2004). Testing L2 Vocabulary Recognition and Recall Using Pictorial and Written Test Items. *Language Learning and Technology*, 8(3), 122–143.
- Krashen, S. (2004). *Principles and practice in second language acquisition*. Oxford: Pergamon.
- Laufer, B. (1998). The Development of Passive and Active Vocabulary in a Second Language: Same or Different? *Applied Linguistics*, 19(2), 255–271.
- Laufer, B., & Goldstein, Z. (2004). Testing Vocabulary Knowledge: Size, Strength, and Computer Adaptiveness. *Language Learning*, 54(3), 399–436.
- Mashhadi, F., & Jamalifar, G. (2015). Second Language Vocabulary Learning Through Visual and Textual Representation. *Procedia - Social and Behavioral Sciences*, 192, 298–307.
- Mayer, R.E. (2001). *Multimedia Learning*. New York: Cambridge University Press.
- Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. *Language Teaching and Linguistics Abstracts*, (13), 221-246.

- Paivio, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart, and Winston.
- Pignot-Shahov, V. (2012). Measuring L2 Receptive and Productive Vocabulary Knowledge. *Language Studies Working Papers*, 4, 37–45.
- Schneider, V. I., Healy, A. F. and Bourne, L. E., Jr. (2002). What is learned under difficult conditions is hard to forget: Contextual interference effects in foreign vocabulary acquisition, retention and transfer. *Journal of Memory and Language* 46, 419–440.
- Sweller, J. (1994). Cognitive Load Theory, Learning Difficulty, and Instructional Design. *Learning and Instruction*, 4, 295–312.
- Sydorenko, T. (2010). Modality of input and vocabulary acquisition. *Language Learning & Technology*, 14(2), 50–73.
- Talaván, N. (2007). Learning Vocabulary through Authentic Video and Subtitles. *TESOL-SPAIN Newsletter* 31, 5-8
- Waring, R. 1997. A study of receptive and productive vocabulary learning from word cards. *Studies in Foreign Languages and Literature* (Notre Dame Seishin University) 21 (1): 94–114.
- Winke, P., Gass, S., & Sydorenko, T. (2010). The effects of captioning videos used for foreign language listening activities. *Language Learning & Technology*, 14(1), 65–86.
- Zahedi, Y., & Abdi, M. (2012). The Impact of Imagery Strategy on EFL Learners' Vocabulary Learning. *Procedia - Social and Behavioral Sciences*, 69, 2264–2272.

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ANNEXES

Annex 1: Pre-test

VOCABULARY ACQUISITION RESEARCH

PRETEST

NAME:

GROUP:

-Write an appropriate word or collocation in English for the following words in Spanish and image:

SET 1: Adjectives of personality

1. Encantador/a _____
2. Competitivo/a _____
3. Celoso/a _____
4. Vago/a _____
5. Leal _____
6. Orgullosa/a _____
7. Egoísta _____
8. Sensato/a _____
9. Sensible _____
10. Fuerte _____
11. Terco/a _____
12. Hablador/a _____
13. Considerado/a _____
14. Vanidoso _____

SET 2: Jobs around the house





SET 3: Animal world

Poner huevos

Hacer un nido

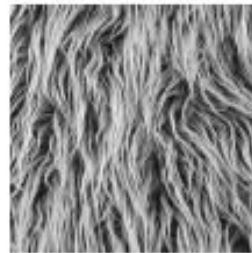
Cavar una madriguera

Desovar

Batir las alas

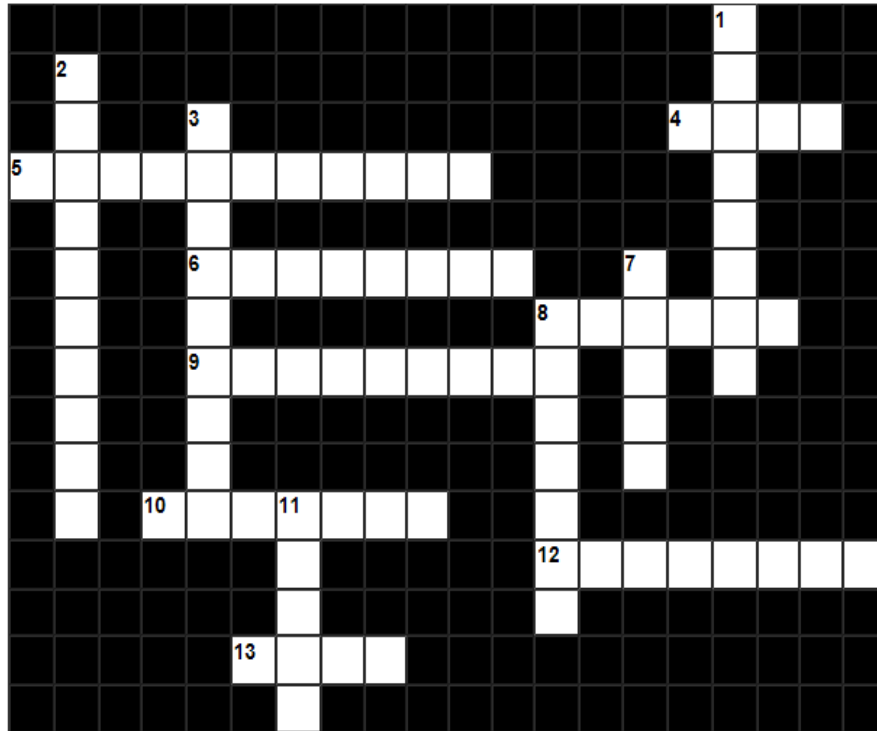
Sentirse amenazado

Acechar



Annex 2: Crossword

Crossword



Across:

- 4** Vago/a
- 5** Competitivo/a
- 6** Sensato/a, prudente
- 8** Fuerte
- 9** Hablador/a
- 10** Celoso/a
- 12** Tercero/a
- 13** Vanidoso/a

Down:

- 1** Encantador/a
- 2** Considerado/a, atento/a
- 3** Sensible
- 7** Oguloso/a
- 8** Egoísta
- 11** Leal

Annex 3: Translation post-test

Immediate post-test

NAME:

GROUP:

Match each word with its definition

- | | |
|-------------|--|
| • Lazy | • Que guarda a alguien o algo la debida fidelidad |
| • Sensible | • Holgazán, perezoso, poco trabajador |
| • Talkative | • Pertinaz, obstinado e irreductible |
| • Stubborn | • Que tiene arrogancia y la muestra |
| • Vain | • Que habla mucho, con impertinencia y molestia de quien lo oye |
| • Selfish | • Que tiene un inmoderado y excesivo amor a sí mismo, que hace atender desmedidamente al propio interés, sin cuidarse del de los demás |
| • Loyal | • Propensa a emocionarse o dejarse llevar por los sentimientos |

Write a translation in English for the following words in Spanish

Competitivo/a	_____
Sensato/a, prudente	_____
Fuerte	_____
Celoso/a	_____
Encantador/a	_____
Considerado/a, atento/a	_____
Orgullosa/a	_____

Annex 4: Image-based port-test

Immediate post-test

NAME:

GROUP:

Match each word with an appropriate image

- Set the table
- Close/open the blinds
- Mop the floor
- Vacuum the carpet
- Wipe the worktop
- Clean the dust
- Sweep the floor



Write an appropriate phrase for the following images















Annex 5: Video-based post-test

Delayed post-test

NAME:

GROUP:

Match each phrase or word with an appropriate image

- Lay eggs



- Dig a den/warren



- Beat the wings



- Stalk



- Claws



- Feathers



- Fin



Write an appropriate word or phrase for the following images















Annex 6: Quizlet

https://quizlet.com/_41362x

Annex 7: Kahoot

<https://play.kahoot.it/#/?quizId=c55f6573-f008-4e15-b0d4-0e42416f9797>

Annex 8: Final questionnaire

Encuesta sobre los diferentes tipos de adquisición de vocabulario - TFM

Recordad que el vocabulario era:
Traducción: adjetivos de personalidad
Imágenes: tareas del hogar
Vídeo: acciones y partes de animales

Instrucciones: En las tres primeras preguntas podéis marcar una o más casillas. En las tres últimas solo podéis marcar una. La última es para expresar vuestra opinión sobre el proceso. ¡Una vez más muchas gracias por vuestra ayuda!

1. ¿Qué tipo de aprendizaje de vocabulario te ha gustado más?

Marca solo un óvalo.

- Vocabulario con traducción
- Vocabulario con imágenes
- Vocabulario con vídeo

2. ¿Qué tipo te resultó más fácil de comprender en el momento del tratamiento?

Marca solo un óvalo.

- Traducción
- Imágenes
- Vídeo

3. ¿Qué tipo te pareció más fácil a la hora de recordarlo una semana después cuando se hizo la segunda prueba?

Marca solo un óvalo.

- Traducción
- Imágenes
- Vídeo

4. En cuanto al método de traducción, ¿cómo te pareció la comprensión en el momento del tratamiento?

Selecciona todos los que correspondan.

- Muy difícil
- Difícil
- Normal
- Fácil

5. En cuanto al método mediante imágenes, ¿cómo te pareció la comprensión en el momento del tratamiento?

Selecciona todos los que correspondan.

- Muy difícil
- Difícil
- Normal
- Fácil

6. En cuanto al método mediante vídeo, ¿cómo te pareció la comprensión en el momento del tratamiento?

Selecciona todos los que correspondan.

- Muy difícil
- Difícil
- Normal
- Fácil

7. Para terminar escribe lo que te ha parecido el proceso. Incluye al menos un aspecto positivo y un aspecto negativo de cada método.
