

SECOND LANGUAGE VOCABULARY ACQUISITION UNDER TWO DIFFERENT TYPES OF INSTRUCTION: THE EFFECTS OF CONCENTRATED AND DISTRIBUTED INTRODUCTION¹ IN IMMEDIATE AND DELAYED RETENTION

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Abstract

This paper analyses the performance of university students enrolled in two different types of EFL programs, and with different time distribution. The first program (program A) offered six hours per week over two months, and it was classified as intensive or massed. The second program (program B) offered two hours per week during a period of six months, and it was classified as extensive or distributed. Acquisition was tested at two moments: just after instruction had finished and three months later. It was observed that massed introduction of vocabulary had better results than distributed introduction immediately after instruction. However, students enrolled

Resumen

El presente trabajo analiza el proceso de adquisición de estudiantes universitarios cursando dos tipos de programas de inglés como lengua extranjera, con distribuciones temporales distintas. El primer programa (A) ofrecía seis horas semanales durante dos meses, siendo así considerado de intensivo. El segundo programa (B) ofrecía dos horas a la semana durante seis meses, siendo así calificado de programa extensivo. La adquisición léxica de los alumnos se midió en dos momentos: justo al finalizar el curso y tres meses más tarde. Se observó que la introducción intensiva del vocabulario había dado mejores resultados que la introducción extensiva inmediatamente después de la finalización del curso. Sin embargo, los estudiantes que habían cursado el programa

¹ The terms concentrated, massed and intensive, as well as the terms regular, distributed and extensive will be used with the same meaning. This variation is merely stylistic.

in the extensive program could retain more vocabulary three months later.

extensivo habían podido retener más vocabulario pasados tres meses tras la instrucción.

Keywords: time distribution, L2 vocabulary instruction, language learning, extensive teaching, intensive teaching, delayed retention.

Palabras clave: distribución temporal, instrucción de vocabulario en L2, aprendizaje de lenguas, enseñanza extensiva, enseñanza intensiva, retención.

INTRODUCTION

VOCABULARY AND L2 ACQUISITION

The role of vocabulary has waxed and wane along the history of second language teaching, but it has always been present in one way or another. Attention to vocabulary learning started to grow firmly at the beginning of the 80s, when more and more studies started to highlight how vocabulary may contribute to second language learning. As Schmitt, Schmitt and Claphan argue (2001: 53) “vocabulary is the building block of languages” and we should not forget that “without grammar very little can be achieved, [but] without vocabulary nothing can be achieved” (Wilkins 1972: 111). L2 scholars observed that vocabulary has proved to be a good predictor for reading and writing skills (Laufer 1992; Schoonen, Hulstijn and Bossers 1998; Staehr 2008; Milton, Wade and Hopkins 2010; Golkar and Yamini 2007).

Laufer (1992) observed that those students with higher L2 vocabulary size got better results in reading comprehension activities. In the same line, Schoonen et al. (1998) tested around 280 students with different levels of English. They examined their L2 reading abilities and their L2 vocabulary size, among other things. Results revealed that there was a strong correspondence between their L2 reading abilities and their L2 vocabulary level, especially those with low English level. Staehr’s results also indicate correlation between the amount of vocabulary a learner knows and the learner’s ability to understand a text. Other studies support the predictive power of vocabulary in writing. This is the case of the investigation carried out by Milton et al. (2010) and Golkar and Yamini (2007). Both studies show the statistically significant relation between writing performance and L2 vocabulary size. Students with higher vocabulary level wrote longer and more accurate essays than those with lower level.

Despite the pride of place currently given to vocabulary, students' L2 proficiency level is far from the expected in many cases. The results uncovered by Jiménez Catalán and Terrazas (2008) and by Jiménez Catalán and Moreno Espinosa (2005) sample this situation. These two studies estimated that Elementary school children acquired no more than 3 words per hour of instruction. This number is roughly similar to the rate of acquisition found in López-Mezquita (2005). Her secondary school students presented a vocabulary size of around 940 receptive units in their last year of compulsory education (4° ESO in the Spanish system), which amounts to a rate of acquisition of about 2 words per contact hour. In the same line but in a different learning context, Quinn (1968) observed that university students had a very low L2 level despite they had been studied the language for several years. On average, students had only managed to acquire 1,000 word families after seven years of instruction, which does not even reach one new word acquired per hour of instruction. This situation is still found nowadays and the question of why this happens is still unanswered.

TIME DISTRIBUTION AND COGNITIVE PSYCHOLOGY

Practicing is contemplated in all types of methodology (Ericsson, Krampe and Tesch-Romer 1993). The Direct Method, the Naturalistic Method or the Communicative Method are just a few examples of this. What remains unclear is how hours of study and practice should be scheduled. Time allocations for language learning range from small amounts spread over a long period to large amounts concentrated in a limited period. Nowadays we can find a wide range of options as regards L2 programs, for instance, intensive programs of several hours a day during a few weeks or months, or two to three 45-minute sessions per week through several years.

There are several reasons why one or another option is taken. Stern (1985) explains that factors such as urgency or costs are taken into consideration when selecting the way language training programs should be organized. Intensive programs started to proliferate in Canada, partly due to the sociopolitical situation. In this country English and French are officially spoken. In the early 60s Anglophone parents demanded better opportunities for their children to learn the other official language (Roy 2008). They were motivated by the practical need to obtain high levels of proficiency in a short period of time (Netten and Germain 2004). Stern (1985) comments on the weaknesses of traditional language courses in contrast to the advantages of compact courses: specified short-term objectives, a clearly defined timespan, and the self-contained nature of each compact course within a broader system of language education. The author argues that intensive instruction allows

“pupils [to] pursue, in a more concentrated way, a series of clear and useful objectives” (Stern 1985: 13).

Cognitive psychologists advocate that organizing instruction time in spaced or distributed sequences is more beneficial than concentrating hours of instruction in short periods of time (Bird 2010; Challis 1993; Collins, Halter, Lightbown and Spada 1999; Freed, Segalowitz and Dewey 2004). This phenomenon is known as the spacing effect, which can be explained by three different theories: encoding variability, deficient-processing or study-phase retrieval. Encoding variability theories claim that spaced items are better recalled than massed because variability in memory representation provides more retrieval cues – given the fact that items appear several times in different contexts (Landauer 1969; Johnston and Uhl 1976; Glenberg 1979).

According to deficient-processing theories, spaced items are better recalled than massed because of processing depth. Authors such as Jacoby (1978) or Challis (1993) state that spaced items are more deeply processed than massed items. Items that are presented several times in a very short period of time are not so deeply processed because there is not enough time and space to being deeply fixed. Finally, study-phase retrieval theories suggest that it is essential to retrieve the first presentation of an item for a better recall in the second one (Toppino and Bloom 2002; Verkoeijen, Rikers and Schmidt 2005), as this second presentation activates retrieval of former information.

Experiments regarding the spacing effect have been conducted in the areas of both L1 and L2 learning. As for the first group, Childers and Tomasello (2002) and Ambridge, Theakston, Lieven and Tomasello (2006) could observe that distribution favored acquisition. In the first case, the researchers focused on vocabulary acquisition. Two-year-old babies were exposed to different schedules of vocabulary introduction, where vocabulary was learned under massed (eight exposures) or distributed (one exposure a day or each three days) conditions. Results revealed significant differences between the massed and distributed schedules, where the latter outperformed the former. Ambridge et al. (2006) analyzed the past tense object-cleft construction in English in children of ages between 3 and 10. Three schedules were considered: massed (10 times a day), distributed 1 (twice a day during five consecutive days) and distributed 2 (once a day during ten consecutive days). Results were similar to those in Childers and Tomasello (2002): children with distributed conditions outperformed those participants under the massed condition.

Results are similar as regards second language acquisition (Toppino and Bloom 2002; Verkoeijen et al. 2005; Bird 2010). Toppino and Bloom (2002) based their research on the study-phase retrieval mechanism within the cognitive framework. They asked participants to study a word list. The word list contained once-presented items and repetitions at respectively 0 (massed repetition), 4, and 8 intervening items. Verkoeijen et al. (2005) also worked with a word list. The list contained nouns

repeated 0 times (massed presentation, twice, and eight times). The difference between this study and the one carried out by Toppino and Bloom (2002) can be found in the students' type of learning. Toppino and Bloom focused on intentional learning, whereas Verkoeyen et al. (2005) explored both incidental and intentional learning. In general terms, both studies showed advantage of the spacing effect.

Bird (2010) also used the cognitive psychology framework to analyze whether longer intervals between sessions would help. His paper is not about vocabulary acquisition but about learning the different use of verbal tenses. Nevertheless, it is worth mentioning as it explores time effect on L2 acquisition. Verbs were tested in their use of the simple past in contrast to the present perfect in the first case, and the use of the present perfect and the past perfect in the second case. The first group of students was instructed under massed conditions, whereas instruction in the second group was distributed. Immediate testing after instruction showed improvement in both groups but no significant difference was found. In contrast, a sixty-day retention test revealed that the distributed group obtained higher retention rates.

The spacing effect and language teaching

The spacing effect has not usually been explored in the context of the foreign language classroom. One of the reasons why extensive instruction seems to have better results than intensive programs is to be found in the very nature of many of the studies dealing with this issue, which are normally carried out within the scope of cognitive psychology, where the phenomenon is normally studied in laboratory conditions which are radically different from real teaching contexts.

Some scholars have evaluated traditional language programs which provide limited hours of instruction per week in the context of non-concentrated time distribution (Milton 2009; Orosz 2009). The findings reported are not especially promising (Netten and Germain 2004; Van Patten 2002). Consequently, some of these authors suggest the design of new programs which provide enriched second language instruction (Collins and White 2011; Germain, Netten and Séguin 2004; Lapkin, Hart and Swain 1995). Serrano and Muñoz (2007) comment on some advantages, but also some requirements that students should meet if these programs are to be applied. As for the advantages they highlight that students of intensive courses have the possibility to reach certain proficiency level in a relatively short period of time. Nevertheless, the students who enroll in these courses have to be highly motivated and willing to work hard given the short period of time in which they are expected to acquire certain skills. Intensive courses of foreign language started in Canada, where several studies have explored the effect of massed

instruction on L2 learning. Authors such as White and Turner (2005) observed that those students enrolled in intensive programs surpassed other classmates, who attended traditional courses.

These studies contradict experiments in cognitive psychology, where it seems that spaced introduction of items shows better results than a more concentrated exposure. One of the reasons why this contrast exists may be found in the way knowledge testing is approached. In cognitive psycholinguistics acquisition of knowledge is merely based on memorization of a list of words. In this sense word distribution is more effective than massed introduction, as students have more time to assimilate this new information (Serrano 2012). Studies comparing traditional and intensive instruction have mainly focused on two languages: English and French. These experiments explore pairs of programs that are usually similar in number of hours, but different in the distribution of these hours (Lapkin, Hart and Harley, 1998; Hinger 2006). However, it is not always possible such as in the case of Peters (2000) or Freed, Segalowitz and Dewey (2004). These two studies compare intensive and regular L2 training programs but the number of the instruction hours differed considerably between the traditional and the concentrated programs.

Nevertheless, most authors coincide in their object of study, which is normally the combination of different communicative skills (reading, writing, listening or speaking). For instance, Lightbown and Spada (1994) compared two English programs with different time distribution: in the first one, students had 18-20 hours of instruction a week, whereas the second group of students just received two hours of instruction a week. Results showed that intensive students were superior to the traditional ones in all tasks. In the same vein, Peters (2000) also dealt with the four skills comparing intensive and traditional courses, and in this case French was the target language. Results are similar to the previous study, higher gaining on the part of intensive learners.

However, despite the reasonable number of studies that compare traditional and concentrated courses, there are several aspects that have been hardly explored. Thus, many studies offer just immediate results (Hinger 2006; Freed et al. 2004; White and Turner 2005) with no follow up tests that check whether the superiority of intensive instruction is maintained. Some exceptions are Lapkin et al. (1998) and Lightbown and Spada (1994) who measured the effect of compact models some time after instruction had finished. Delayed tests showed that superiority had been maintained. However, the number of hours was different in the pairs of programs contrasted. In the first case, the compact course contained 400 hours whereas the traditional model only had 250 hours. In the second case, the difference is higher with 350-400 hours of instruction in the intensive course versus 70 hours in the extensive one. Therefore, more studies that contemplate follow-up tests are necessary, and the number of hours in the traditional and intensive instruction should be similar.

Whereas cognitive psychology studies about time distribution deal with words, the type of knowledge that is evaluated in L2 teaching mainly relates to communicative skills. To our knowledge, few studies in the area of L2 teaching focus on other types of knowledge such as vocabulary. Collins, Harter, Lightbown and Spada (1999) is an exception. In addition to listening comprehension, reading and speaking, vocabulary recognition was tested. Results are in the same line as the ones mentioned above; students in massed courses performed better in all tasks than those enrolled in the distributed program.

The present work differs from many of the previous studies in different aspects: In the first place, most studies have dealt with L2 learning environment as opposed to a FL environment. Our study is carried out in a formal context of introduction where the target language is learned in a FL context, which means that it is not naturally practiced outside the classroom. In addition, whereas most time distribution studies in L2 teaching focus on the development of communicative skills, we work specifically on vocabulary. Finally, most studies focus on immediate results, whereas we pursue immediate and delayed results.

AIM OF THE STUDY AND RESEARCH QUESTIONS

The aim of the present study is twofold. On the one hand, it compares intensive or massed practice to extensive or distributed practice in foreign language vocabulary within the classroom context in written skills (reading and writing). On the other hand, we check whether differences (if any) are maintained some time after instruction has finished.

Therefore, we pose two research questions:

Does intensive (massed) introduction of FL vocabulary have better results than extensive (regular) practice in terms of word learning?

If differences are found in word learning as regards these two types of vocabulary introduction, are those differences maintained some time after instruction?

METHOD

PARTICIPANTS

A total of 64 students distributed in two groups (one group for a program A and one group for program B) were enrolled in the classes under research. However, three students in group A and one in group B dropped off and we decided to exclude them from the study. Eventually, 60 students (30 in the first group and 30 in the second group) took part in the experiment.

All students had similar characteristics: they were university students of the last courses in the University of Murcia and attended pre-intermediate lessons in the language school affiliated to the University. They were between 22 and 25 and were studying different degrees; 21 studied Primary Education Teaching, 18 studied Nursing, 12 studied Architecture and 9 belonged to the Business degree. They were all native speakers of Spanish and could not speak any other language. Both groups had the same teacher, who used the same textbook as the basis for the lessons. The book followed a communicative approach. Each didactic unit was organized into sections where communicative skills were practiced. Didactic units also presented several target words which were treated in different vocabulary activities and also in some communicative activities which served as a reinforcement of this target vocabulary. Vocabulary was basically treated and worked with in its written form.

PROGRAMS

Two different programs were chosen for this study. Both belonged to the same language school and in both programs students received 48 hours of instruction. However, they differed in time distribution. The intensive program (A) offered six hours a week over a period of two months. These hours were distributed in three days a week, two hours a day. The extensive program (B) offered two hours a week of English instruction. These classes continued until the end of June, over a total of six months. Program A and B had the same number of hours but instruction in program A was more concentrated. Both programs started at the same time in January just after Christmas break, but the intensive program finished at the end of February.

MATERIALS AND PROCEDURE

DATA COLLECTION INSTRUMENTS

The same data collection procedure was followed for the two types of programs. Students were tested three times with two types of tests. They took two pre-tests, two immediate post-tests and two delayed post-tests. One test consisted of evaluating receptive knowledge of the target words and the other test consisted of evaluating productive knowledge. The productive and receptive tests consisted of finding an equivalent term in the L1 in the case of receptive and in the L2 in the case of productive. We decided to use this type of tests for two main reasons. First, this format was familiar to students and was easy to understand. Second, it provided direct and valid information about the vocabulary knowledge to be assessed. Vocabulary scholars consider it a reliable technique for testing vocabulary knowledge (Read 2000, Nation 2001, Takala 1984). In fact, Nation argues that “this attitude [of rejection] is quite wrong. Translation is one of a number of means of conveying meaning and in general is no better or worse than the use of pictures, real objects, definitions, L2 synonyms and so on” (Nation 2001: 351). In fact, Takala claims that “the best pay-off between validity, reliability, and practicality was shown by test types which ask students to write FL or L1 equivalents to written stimulus words” (Takala 1984: 146).

The L1-L2 and the L2-L1 translation tests assess productive and receptive vocabulary knowledge of individual words. They consist of checking whether learners can recall a series of L2 word forms – in the case of the L1-L2 test – or recognize L2 words – in the case of the L2-L1 format. In the case of the L1-L2 translation exercise, students are presented with a list of L1 words from which they have to find L2 equivalents. In the L2-L1 test, words are introduced in English and students are asked to provide a Spanish equivalent. What is more, the use of the second language in a vocabulary test may increase the difficulty in the learner’s performance. As regards the tests used in this study, 96 words were arranged alphabetically. Each word was followed by a line of dots where the test-takers were asked to provide the L2 equivalent of the corresponding word.

The pre-test was administered 20 days before the beginning of the course just before Christmas break. It was aimed at ensuring that the students do not know the words which would be tested in the future. The immediate post-test is expected to provide a general picture of the vocabulary acquired at the end of the course. The delayed post-test pursued to check whether the target vocabulary had been retained, and it was taken ten weeks after the course had finished.

DATA COLLECTION PROCEDURE

Vocabulary testing was done in three moments: some time before the course had started, immediately after the course had finished and later in a follow-up session. Both productive and receptive tests were administered at these three moments in time. They were arranged in terms of the cognitive effort that each test implied, so the students were unable to glean hints from one test to another. In addition, participants were engaged in a short distraction activity among tests. In this sense, the first test completed by students was the L1-L2 test, followed by the distraction, and eventually the L2-L1 translation test was administered.

The scoring system was dual (0/1) for both tests. Students were expected to make minor spelling errors when providing the L2 equivalents. Those spelling errors were not penalized as long as: 1) they did not distort the meaning of the word, and 2) the word form itself was understandable.

DATA ANALYSIS

Both descriptive and inferential techniques were carried out. Tables 1 and 2 show the mean, standard deviation, median and ranging for each test and each program. In addition, a U test of Mann-Whitney – a non parametric version of the t-test - was performed in order to see possible differences between the two programs and their effect on vocabulary acquisition.

RESULTS AND DISCUSSION

Results show that both groups have increased their vocabulary size. As expected, students' acquisition was higher in terms of receptive knowledge than productive knowledge, both in program A (Table 1) and B (Table 2). The immediate post tests revealed that the mean of acquisition in program A was 72 receptive words (75%), and over 68 productive words (70.8%). As regards program B, immediate post tests show a means of acquisition of 48 words (50%) in receptive knowledge and over 43 in productive knowledge (44.8%). Delayed tests show that figures are also higher in the concentrated program.

		Imm_Rec	Del_Rec	Imm_Prod	Del_Prod
N	Valid	30	30	30	30
	Lost	0	0	0	0
Mean		72,07	64,73	68,67	60,47
Median		72,00	67,00	69,50	60,00
Std. Deviation		5,675	5,907	5,827	5,877
Range		21	23	25	25

Table 1. Descriptive statistics for Program A (Concentrated instruction).

		Imm_Rec	Del_Rec	Imm_Prod	Del_Prod
N	Valid	30	30	30	30
	Lost	0	0	0	0
Mean		48,13	46,00	43,30	38,50
Median		48,00	46,00	42,00	38,00
Std. Deviation		5,124	4,571	5,011	4,911
Range		20	20	23	23

Table 2. Descriptive statistics for Program B (Distributed instruction).

Ranks				
	Treatment	N	Mean Rank	Sum of Ranks
Imm_Rec	1	30	45,45	1363,50
	2	30	15,55	466,50
	Total	60		
Del_Rec	1	30	45,20	1356,00
	2	30	15,80	474,00
	Total	60		
Imm_Prod	1	30	45,45	1363,50
	2	30	15,55	466,50
	Total	60		
Del_Prod	1	30	45,33	1360,00
	2	30	15,67	470,00
	Total	60		

Table 3. Ranks for both types of treatments (Concentrated and distributed)

Table 3 (ranks) shows that the mean ranks from treatment 2 (distributed) are lower than mean ranks from treatment 1. This suggests that the median in treatment 1 is higher than the median in treatment 2. The sum of ranks shows that treatment 1 is more effective than treatment 2 in immediate acquisition, but delayed post-tests show that the loss of vocabulary in concentrated instruction is higher than in distributed instruction, with more retention in the latter.

Test statistics^a

	Imm_Re c	Del_Rec	Imm_Pro d	Del_Pro d
Mann-Whitney U	1,500	9,000	1,500	5,000
Wilcoxon W	466,500	474,000	466,500	470,000
Z	-6,635	-6,532	-6,639	-6,591
Asymp. Sig. (2-tailed)	,000	,000	,000	,000

a. Grouping variable: Treatment

Table 4. U test of Mann-Whitney for the two types of instruction.

The asymptotic statistical significance levels in the four types of knowledge in massed and distributed instruction – Receptive (immediate and delayed) and productive (immediate and delayed) – are much lower than .05 (p .000). Consequently we can reject the null hypothesis that there is no difference between the two types of instruction. According to the data provided by the U test of Mann-Whitney, the type of instruction does make a difference in the students’ vocabulary acquisition.

	Receptive		Productive	
	Immediate	Delayed	Immediate	Delayed
Program A (Concentrated)	72.07 (SD 5.675)	64.73 (SD 5.907)	68.67 (SD 5.827)	60.47 (SD 5.877)
Program B (Distributed)	48.13 (SD 5.124)	46.00 (SD 4.571)	43.30 (SD 5.011)	38.50 (SD 4.911)

Table 5. Means of the number of words acquired under both types of instruction.

As for the acquisition means, part of the L2 target vocabulary that immediate tests had shown to be learned was lost in the delayed post-tests. If we compare the

vocabulary loss in program A (massed) with that in program B (distributed) we observe that the loss is higher in the former. In Program A the loss is of 7.34 points as regards receptive knowledge, and this loss increases up to 8.2 in productive knowledge. Similar to massed instruction, in distributed instruction there is also a decrease in the number of words retained from immediate to delayed post-tests, but this loss is smaller. Regarding receptive knowledge, distributed instruction shows a loss of 2.13 whereas this loss increases up to 4.8 in production. Even though the loss in productive knowledge doubles the loss in receptive knowledge in distributed instruction, delayed retention is still better in program B (distributed instruction) than in program A (massed instruction).

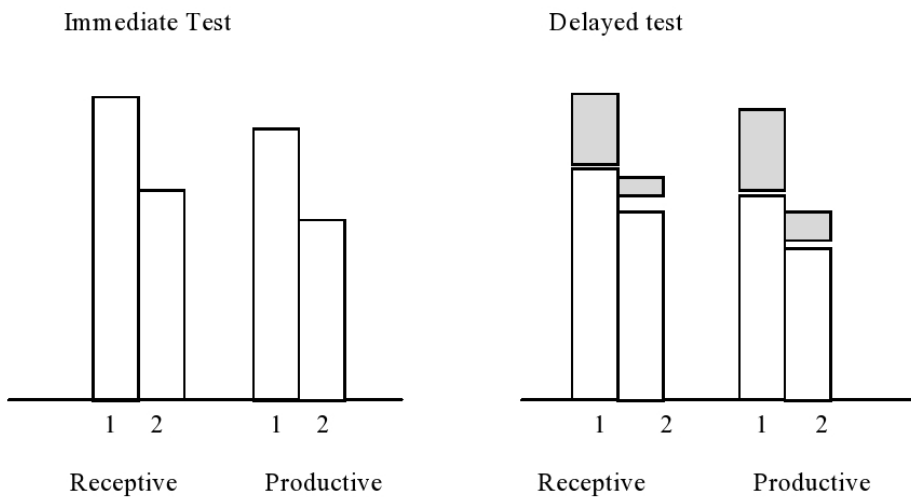


Figure 1.

Figure 2.

Our results are in the line of the existing literature dealing with massed introduction and its effects on retention, which shows that concentration has positive impact on L2 acquisition (Serrano and Muñoz 2007; Collins and White 2011; Spada and Lightbown 1993). The three studies explored the spacing effect by comparing intensive introduction to extensive introduction. They are carried out in real-world classroom context and observed that students enrolled in the intensive program outperformed those students in the extensive program. Serrano and Muñoz (2007) deserve special attention as they focus specifically on vocabulary, both in terms of receptive and productive learning, whereas Collins and White (2011) and Spada and Lightbown (1993) deal with other L2 aspects such as grammatical functions and skills. Nevertheless, this statement that massed introduction leads to better results than

distributed introduction has to be fine-tuned for outperformance of concentrated introduction was only found in immediate retention, just after the end of the program, not in delayed retention.

As regards delayed retention, the present results uncovered a different picture. Although retention is still higher under massed conditions, the loss of vocabulary is also higher. Students in the extensive program (B) outperformed those in the intensive program (A) and could retain more of the vocabulary that had been previously acquired. This is in line with other studies that have shown a positive effect of spaced introduction in L2 vocabulary acquisition. Bloom and Shuell (1981) carried out a study where massed and spaced introduction were contrasted. They showed that performance of massed and spaced introduction was similar regarding immediate retention. Yet, performance in spaced distribution was up to 35% better on a second test some days later. Sobel, Cepeda and Kapler (2011) concluded that spacing of vocabulary learning has better results than massed learning in mid-term retention. They could check that school-aged students retained a higher number of English words under spaced conditions than under massed conditions 5 weeks later. Another study by Cepeda, Coburn, Roher, Wixted, Mozer and Pashler (2009) proved that spacing can double or triple long-term retention in comparison.

Although further research should be done and our results are still preliminary, they seem to suggest that there is more acquisition in intensive instruction than in extensive instruction, yet mid-term retention seems to be favored by the second condition. Consequently, the answer to the question 'what type of instruction is better for L2 vocabulary acquisition' needs to remain open. In the light of these results there seems to be a need to adopt a teaching approach that could combine intensive and extensive instruction. As it has been shown by our results, both intensive and extensive instruction have an effect on vocabulary learning. The former seems to favour immediate acquisition whereas the latter seems to have a positive effect on delayed retention. Our results show that both intensive and extensive teaching should be considered in L2 vocabulary instruction. Consequently L2 vocabulary programs should be built upon the underpinnings of a rehearsal programme which contemplates both intensive and extensive instruction.

This suggestion implies an organization of vocabulary innovation where V-that is, new target vocabulary, is followed by V+1, then by (V+1)+1, and so on. In this sense, vocabulary introduction is developed upon a continuous line. Hence, combinations of Vs and 1s should not be understood as separate entities but as part of a cogent whole which is gradually established and reflected in vocabulary knowledge. This type of instruction might contribute towards a type of knowledge that is organized, and it is considered better for learning, retaining and accessing (see figure 3).

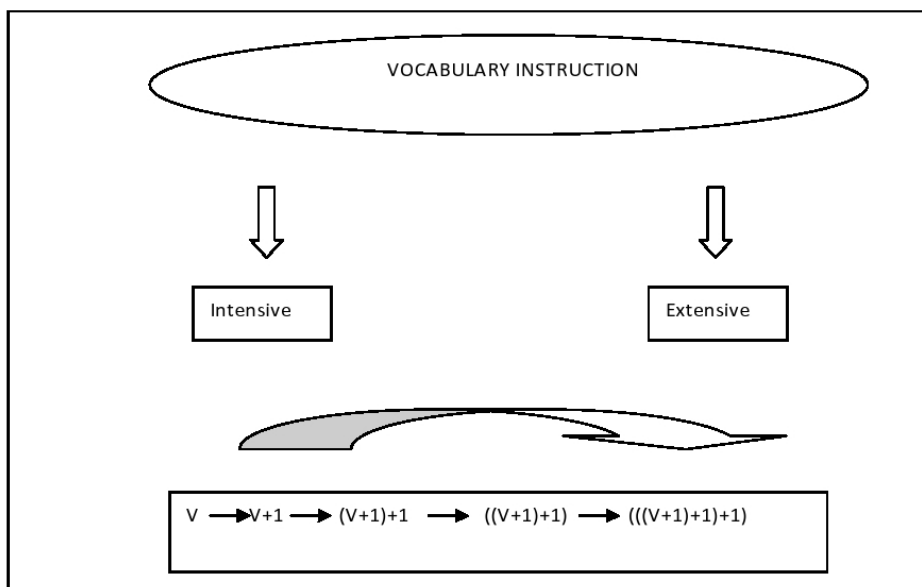


Figure 3.

FINAL REMARKS

To conclude, the present study has explored the effect of two different types of instruction on L2 vocabulary acquisition. Contrary to other studies exploring this issue from cognitive psychology – which are normally developed in laboratory conditions – the present work has been carried out in the real context of an L2 classroom. Results show that intensive instruction is better than extensive instruction in immediate acquisition, but it is extensive instruction which reveals better results some time after instruction has finished. Accordingly, the two types of approach should be combined in vocabulary programs, where recycling and rehearsal are essential.

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