Vocabulary learning: The effect of instruction type and methodological choices in the context of French as a second language

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Abstract

Research indicates that lexical gains through reading are limited (Nation, 2001). Based on the literature about form focused instruction (FFI) (instruction that draws learners' attention to the formal properties of the target language) in second language (L2) acquisition, Laufer (2005) states that it is necessary to combine reading with FFI targeting vocabulary. The objective of this study is to examine the effects of different FFI teaching approaches and methodological choices on vocabulary learning. Nine intermediate adult Iranian learners of French as an L2 participated in this experimental multiple-case study. The experimental intervention was spread over a period of two weeks and targeted 36 vocabulary items. It comprised three experimental conditions (integrated FFI, isolated FFI and repetition) and a control condition (incidental learning through reading). Results indicate significant benefits of FFI on receptive immediate posttests. The intervening effects of recency and receptive and productive tests administration order are also evaluated.

1. Introduction

There are two opposite theoretical perspectives on what L2 learning entails. Hulstijn (2008), summarizing these two perspectives, indicates that in the first vision,

learning a language means months of intentional learning involving a conscious effort to memorize thousands of words. On the other hand, and in the second vision, the burden of intentional learning should be decreased by involving students in communicative activities such as reading and listening where the learner's attention is focused on the text meaning rather than the language forms. This type of activity promotes incidental learning of words and language structures. Several studies have

shown the beneficial effects of reading on L2 vocabulary learning. Horst, Cobb and Meara (1998), Horst and Meara (1999) reported an increased vocabulary as a consequence of engaging in reading. This same pattern of results was also reported by Cho and Krashen (1994), Pigada and Schmitt (2006) and Rott (1999). However, without denying the positive effects of reading on vocabulary learning, researchers believe that it is not sufficient.

Raptis (1997) estimates that there is little evidence to support the substantial contribution of incidental vocabulary learning. Indeed, incidental learning through reading is a slow, unpredictable and error-prone process, leading to a limited vocabulary gain and its effect varies considerably from one student to another (Bensoussan & Laufer, 1984; Laufer, 2005; Paribakht & Wesche, 1999; Parry, 1993). Moreover, reading for meaning does not automatically lead to vocabulary acquisition (Huckin & Coady, 1999). One risk of learning from reading is that the richness of information provided by the text can sometimes affect learner's attention to individual words, because he does not need to understand the meaning of every single word to understand the text (Nation & Coady, 1988; Pigada & Schmitt, 2006; Zahar, Cobb, & Spada, 2001). Research results that demonstrate the limitation of comprehensible input have raised various arguments supporting the use of FFI in conjunction with activities based on the communicative approaches. FFI finds its theoretical basis in various L2 acquisition hypotheses including the noticing hypothesis (Schmidt, 1993), the input processing hypothesis (VanPatten, 1996), the interaction hypothesis (Long, 1996) and the output hypothesis (Swain, 1985) which highlight the importance of attention to form and language production. How to attract learners' attention to the formal aspects of language in an L2 class? FFI is presented as a way to meet these requirements. Emerging research focusing on the effects of FFI on vocabulary learning reported some positive effects of these approaches (De La Fuente, 2002; Ellis & He, 1999; File & Adams, 2010; Genç & Savaş 2011; Horst, Cobb & Nicolae, 2005; Laufer, 2006; Watanabe, 1997), but because of some methodological issues, discussed later, more research in this area is needed to examine the efficiency of FFI to vocabulary learning.

2. Literature Review

In the L2 learning literature, there is a consensus that FFI helps learners acquire aspects of the language that they cannot manage with exposure only (Spada &

Lightbown, 2008). This teaching can be presented in an integrated or an isolated manner (Spada & Lightbown, 2008). In integrated approaches, learners' attention is drawn to form during a communicative activity. The integrated FFI occurs in classroom activities during which the main concentration is on meaning, but some feedback or brief explanations are offered to learners to help them express the meaning more accurately. In the area of vocabulary specifically, integrated FFI involves among other options, the explanation of the meaning or other aspects of lexical knowledge (ex. morphology) during reading (Genç & Savaş, 2011). On the other hand, in isolated FFI, the focus on the form is separated from the communicative task. It may be provided before or after the communicative activity (Spada & Lightbown, 2008). Regarding vocabulary, it can be provided before or after reading activities to attract the learners' attention to word forms (File & Adams, 2010; Genç & Savaş, 2011).

2.1. FFI and vocabulary learning

In the area of vocabulary teaching, several studies examined the effects of FFI. Hulstijn (1992) studied the impact of text margin glossaries on vocabulary acquisition with Dutch learners as an L2. In this study, the use of glossaries, considered as an integrated FFI, resulted in significantly higher lexical gains compared to incidental learning through reading. The studies of Ko (1995), Luppescu and Day (1993) and Watanabe (1997) show also the beneficial effects of integrated FFI on vocabulary learning compared to incidental learning of vocabulary. Paribakht and Wesche (1997) conducted a study with English learners as an L2 in order to compare the incidental vocabulary learning through reading with vocabulary learning through reading associated with the vocabulary exercises considered as an isolated FFI. The obtained research results show significant gains in both study conditions, with the isolated FFI condition showing superior learning scores than the condition of the read-only. Zimmerman (1997) found that the interactive vocabulary instruction after reading activities considered as an isolated FFI resulted in better vocabulary learning than reading only. Some other studies (File & Adams, 2010; Genç & Savas, 2011; Hill & Laufer, 2003) have compared the effects of isolated and integrated FFI. However, the search results are not conclusive regarding the superiority of the effects of either of the two approaches. While the results of Hill and Laufer (2003) are in favor of isolated FFI, those of File and Adams (2010) show no significant differences between

the two approaches. The study of Genç and Savaş (2011) is more nuanced, because it considers vocabulary learning in two different contexts, that is to say, production and comprehension. Words benefiting from integrated FFI are best learned receptively, while those learned through isolated FFI seem more accessible to productive use. Spada and Lightbown (2008) state that it is not necessary to choose between the integrated and isolated FFI and we must instead discover the conditions under which the integrated FFI and isolated FFI are the most appropriate.

2.2. Repetition effects on vocabulary learning

Teaching activities that involve learners in repeated exposure to words and that provide opportunities to manipulate the vocabulary in different contexts increase vocabulary learning (Grabe, 2009). According to Nation (2001), without repetition, a word is not completely learned, because firstly, there are several aspects of word learning (form, meaning, collocations, etc.). Secondly, the learner can only deal with a limited amount of information at the same time. Saragi, Nation and Meister (1978) found a correlation of 0.45, indicating that repetition accounts for 20% of the factors involved in vocabulary learning. However, it is difficult to prescribe an exact number of required repetitions to learn words (Schmitt, 2008; Webb, 2007). De Groot (2006) found that following six exposures of ten seconds to pairs of translated words and three receptive tests, students learned between 43% and 70% of the target vocabulary in the delayed post-test. Rott (1999) and Pigada and Schmitt (2006) found respectively that at least six to ten exposures are necessary for a word to be acquired. Whatever the required number of repetitions, it is important to retrieve the vocabulary, otherwise a lot of words that are partially learned will be forgotten (Nation, 1990). Recent studies (Tse Lee & Hirsh, 2012; Wong & Pyun, 2012) show that frequency of exposure to words has a greater impact on vocabulary learning than exercises which involve learners in vocabulary activities. However, more studies are necessary to examine this question.

Although the research presented in our literature review sheds light on the major questions of vocabulary acquisition, some methodological issues prompt us to take these results with precaution. We discuss some of these problems in the next section.

2.3. Methodological issues

In the interpretation of results from studies examining vocabulary learning gains, we have to consider several points in relation with methodological choices that could influence the obtained results. In this study, we will discuss some methodological problems related to the target vocabulary number, to the lexical evaluation tools and to the length of the experimental intervention. While trying to avoid the problems related to these methodological choices, we examine empirically in our study issues concerning the test administration order and recency effect in vocabulary learning.

One of the methodological limitations is the fact that the evaluation of the intervention impact does not allow learners to show all the knowledge they acquired during the experimental intervention (Horst, 2005). Several studies administered tests on a limited number of words (ex. 12 words in Hulstijn, 1992; Laufer 2006; Rott, 1999). This limited number of words does not provide a complete description of vocabulary learning during an experimental intervention.

The test format is another important element in the assessment of lexical knowledge. Several studies (ex. Dupuy & Krashen, 1993; Rott, 1999) opted for multiple choice tests. This type of test can encourage learners to guess the answer from the options (Nation, 2001). In other cases, lexical knowledge scales were used (ex. Paribakht & Wesche, 1997; De la Fuente, 2002). The disadvantage with such tools is that they tend to focus on self-assessment of the learner's knowledge, which may cast doubt on the reliability of the obtained results.

In order to evaluate lexical knowledge, some researchers use both receptive and productive tests (ex. Genç & Savas, 2011; Schneider, Healy, & Bourne, 2002). Whereas the receptive measures are tasks in which learners are asked to retrieve the word meaning when the form in the L2 is provided, the productive measures involve the production of the word form when the meaning is provided (Nation, 2001). Research shows that receptive knowledge is greater than productive knowledge and productive learning requires more time and effort than receptive learning (Schneider, Healy & Bourne, 2002). The use of multiple measuring tasks (ex. both receptive and productive vocabulary tasks) is advised to better evaluate vocabulary learning (Schmitt, 2010). In addition, research indicates that the type of instruction correlates with the test type. Learners who engage in receptive teaching where the meaning is provided

by the teacher and no productive task is required, perform better in receptive tests and those who engage in productive teaching perform better in productive tests (Griffin & Harley, 1996). Besides test type, research on vocabulary learning has to account for the effects of the test administration order on vocabulary learning. It has to determine whether administering a test type before the other (ex, receptive before productive) at the beginning of the evaluation could influence the obtained results. Test order can alter overall performance and ambiguate the effects of any vocabulary teaching treatment. This aspect has not been examined in research analyses regarding the impact of FFI on vocabulary learning.

The duration and operationalization are another limitation of the research. First, in some studies (ex. Ellis.R., Tanaka & Yamazaki, 1994), the whole intervention did not exceed 45 minutes and was provided on the same day. Besides, this short-lived intervention was immediately followed by the posttest (ex. Laufer, 2006). This methodological limitation ambiguates the significance of the obtained results and does not allow to account for important moderator variables such as recency effects. Ideally, the intervention should be longer and should be spread over more than one single day. By doing so, the effects of administering the posttest on the same day as the last intervention period is reduced, therefore allowing for a better control of recency effects.

Recency effect is the assumption that we recall better items encountered last (Colman, 2009). In this study, the recency effect refers to the delay between exposure (during the intervention) and evaluation (posttest). When the time gap between last exposure and evaluation is shorter we suppose to have better results. In fact, this aspect of learning has been often neglected in the research on FFI and vocabulary learning. Administering the immediate post-test immediately after the experimental intervention ends could affect the obtained results. More precisely, we need to know, notwithstanding the vocabulary learning approaches, if the vocabulary learned immediately before the immediate posttest is always recalled better than the vocabulary learned at the beginning of the experimental intervention and if yes, if this learning could be maintained in the long run (i.e., at the delayed posttest).

3. Research Questions

The objective of this study is to examine the effects of different vocabulary teaching approaches and methodological choices on vocabulary learning in the

context of French as an L2. The analysis of the current research allows us to formulate the specific questions of this study:

- 1- What is the impact of text reading, integrated FFI, isolated FFI and word repetition on the learning of the vocabulary targeted in this study measured by a receptive and a productive task?
- 2- Does the test administration order (receptive and productive) have an impact on vocabulary learning?
- 3- What is the effect of recency of exposure on vocabulary learning?

4. Methodology

4.1. Participants

Nine intermediate adult Iranian learners (five males and four females) of French as an L2 in Montreal participated in this experimental multiple-case study. Learners participating in this study are part of the economic class immigrants living in Canada. They have obtained an academic degree in Iran and have a good level of English. They speak all Farsi as their mother tongue and are aged from 28 to 40. Because of availability issues, the treatment could not be provided to the nine participants at once. Instead, participants were divided into two groups.

4.2. Materials

An argumentative (*L'amour et L'amitié*¹) and a narrative (*Les amours de Fannie*²) text were selected for this study. The texts were selected because they represent interesting topics about love, friendship and linguistic-cultural identity and are rich in vocabulary. These two texts were read during three experimental sessions. The argumentative text (about one page) was chosen for the first session and the narrative text (about three pages) was divided into two equal parts for the second and third reading sessions.

4.3. Target vocabulary

In the selection of the target vocabulary, two criteria were used. The number of words to be targeted is the first consideration, as it is closely linked to the reliability

¹ Text partially drawn from Favrod, Alain and MORRISON, Louise. *Mise en pratique : manuel de lecture, vocabulaire, grammaire et expression écrite*. Pearson, Longman, 5e édition, 2008, pp. 6-11.

² Text partially drawn from Favrod, Alain and MORRISON, Louise. *Mise en pratique : manuel de lecture, vocabulaire, grammaire et expression écrite*. Pearson, Longman, 5e édition, 2008, pp. 38-44.

issue. Nation (2001) suggests that at least 30 words are needed to ensure the reliability of the research. In this study, 36 words (18 from each of two texts) are targeted. The list of target vocabulary is provided in Appendix A. The second criterion is based on the fact that the selected words should not be part of the 2,000 most frequent family words in French. This criterion allows us to control for pre-treatment knowledge of target words.

4.4. Experimental conditions

In this study, the experimental intervention was carried out through three experimental conditions (integrated FFI, isolated FFI and repetition) and a control condition (incidental learning through reading). Like the procedure used by Genç and Savaş (2011), each participant benefited from all the conditions of the study. In other words, among the 36 target words, 6 words were examined through incidental learning, 12 words through integrated FFI, 12 words through isolated FFI and 6 words were repeated three times in the texts. In order to have these three repetitions, both texts were slightly manipulated. Since the intervention texts were not very long, we opted for three repetitions. More than three repetitions would have made the texts unnatural and artificial. Each of the two texts contained 18 words (three words for incidental learning, six words for integrated FFI, six words for isolated FFI and three words repeated three times), that were randomly assigned to on the conditions in the text.

4.5. Evaluation instruments

To assess learners, two tasks were administered, namely a task to measure learners' receptive knowledge of the target vocabulary and a task to measure learners' productive knowledge of the target vocabulary. The target vocabulary tasks (receptive and productive) were administered three times, that is to say a pretest, an immediate posttest and a delayed posttest. The receptive task in which learners were asked to retrieve the meaning of French words in Farsi contained 45 items including the 36 target words and nine distractors. These distractors are included to validate the learners' comprehension of the task and to reduce their attention to the target vocabulary. The productive test involved providing the French equivalent of Farsi words. It contained 45 items including the 36 target words and nine distractors. For

each receptive and productive task, two versions with different item orders and different distractors were designed to reduce the saliency of the target vocabulary.

For data analyses, each task item was assigned a maximum score of 2 when the correct word was provided. A partially correct answer (ex. words from the same word family but from a different grammatical category, for example, verb instead of adjective, or words with more than two orthographic errors in French) was assigned a score of 1 and a wrong answer resulted in a zero score. Percentage accuracy scores were calculated.

An interview was conducted to measure learners' beliefs and preferences about vocabulary learning. The interview contained questions about learners' belief about vocabulary learning in L2, about the FFI conditions in vocabulary learning and their favorite way to study and memorize the new vocabulary.

4.6. Procedure

The experimental intervention lasted three learning sessions of 45 minutes each, spread over a period of two weeks (for a total of 135 minutes per group). Before the beginning of the first session, the receptive and the productive tasks were administered. For the pretest, the first version of the task was administered to the first group (n=6) and the second version to the second group (n=3). The test administration order was also different among the two groups. While the first group started with the productive task, the second group started with the receptive task. Each learning session started with the isolated FFI condition words. The teacher gave a short explanation of the word meaning in French and an example of its use in a sentence. Then, the teacher read the text aloud and each time a word from the integrated FFI condition was encountered, he gave a short explanation of the word meaning in French and an example of its use in a sentence. The teacher constantly checked the text comprehension by learners without providing any information about the words assigned to the incidental learning and the repetition conditions. After the text was read aloud for the second time by the teacher, its content was discussed. A week later, the second and the third sessions were held on the same day with a 15 minute break between the two sessions. The same procedure as the first teaching session was followed. To prevent further processing of the target vocabulary by the most motivated participants outside of the experimental intervention, all texts were collected at the end of each intervention period and learners were not authorized to

take notes. At the end of the third session, the immediate receptive and productive posttests (the second version for the first group and the first version for the second group, the first group starting with receptive task and the second with productive task) were administered to measure learners' lexical gains. One week later, the delayed posttest (the same tasks that pretest and in the same order) was administered. Eight participants were interviewed about their vocabulary learning beliefs and preferences.

5. Results

5.1. FFI and vocabulary learning

The first objective of this study is to examine the impact of text reading, integrated FFI, isolated FFI and word repetition on vocabulary learning. Two gain scores, namely the gain score from the pretest to the immediate post-test and the gain score from both posttests, were calculated. A one-way analysis of variance (ANOVA) was run to determine if the differences between the groups were statistically significant. Table 5.1 provides the descriptive statistics regarding vocabulary gains in receptive tests.

Table 5.1

Descriptive statistics for gains in receptive task (scores calculated by %)

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
From pretest to immediate posttest	Integrated FFI	9	27.7778	19.12229	6.37410	13.0791	42.4765	-8.40	54.20
	Isolated FFI	9	31.4667	18.06253	6.02084	17.5826	45.3508	12.50	58.30
	Incidental	9	1.8444	13.04081	4.34694	-8.1796	11.8685	-16.70	16.70
	Repetition	9	9.2667	21.01077	7.00359	-6.8836	25.4170	-16.60	50.00
	Total	36	17.5889	21.34709	3.55785	10.3661	24.8117	-16.70	58.30
From immediate posttest to delayed posttest	Integrated FFI	9	9.7222	19.86855	6.62285	-5.5501	24.9945	-20.80	41.60
	Isolated FFI	9	-.4444	14.96196	4.98732	-11.9452	11.0563	-16.70	20.90
	Incidental	9	.9444	13.47211	4.49070	-9.4111	11.3000	-16.70	16.70
	Repetition	9	9.2667	29.27943	9.75981	-13.2395	31.7728	-16.60	83.30
	Total	36	4.8722	20.02710	3.33785	-1.9040	11.6484	-20.80	83.30

The mean results indicate that isolated FFI and integrated FFI outperformed incidental learning and repetition conditions. It can be argued that pedagogically this difference is significant.

Table 5.2 about homogeneity of variance indicates significance values of 0.702 and 0.649, which means that homogeneity of variance was not violated.

Table 5.2

Test of homogeneity of variances for receptive task

	Levene Statistic	df1	df2	Sig.
Gain from pretest to immediate posttest	.475	3	32	.702
Gain from immediate posttest to delayed posttest	.555	3	32	.649

Results of the ANOVA analyses are presented in table 5.3. They indicate that the differences in pretest and immediate posttest gain scores are significant : $F(3, 32) = 5.649, p = .003$. The difference in immediate and delayed post gains is not significant : $F(3, 32) = .626, p = .603$.

Table 5.3

ANOVA for gains in receptive task

		Sum of Squares	df	Mean Square	F	Sig.
Gain from pretest to immediate posttest	Between Groups	5521.978	3	1840.659	5.649	.003
	Within Groups	10427.458	32	325.858		
	Total	15949.436	35			
Gain from immediate posttest to delayed posttest	Between Groups	778.752	3	259.584	.626	.603
	Within Groups	13259.220	32	414.351		
	Total	14037.972	35			

In order to determine where the differences lie, Tukey post-hoc analyses were conducted. The obtained results are provided in Table 5.4.

Table 5.4

TUKEY HSD for gain in receptive task from pretest to immediate posttest (scores calculated by %)

Dependent Variable	(I) GROUPE	(J) GROUPE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Gain from pretest to immediate posttest	Integrated FFI	Isolated FFI	-3.68889	8.50958	.972	-26.7444	19.3666
		Incidental	25.93333*	8.50958	.023	2.8778	48.9889
		Repetition	18.51111	8.50958	.152	-4.5444	41.5666
	Isolated FFI	Integrated FFI	3.68889	8.50958	.972	-19.3666	26.7444
		Incidental	29.62222*	8.50958	.008	6.5667	52.6777
		Repetition	22.20000	8.50958	.063	-.8555	45.2555
	Incidental	Integrated FFI	-25.93333*	8.50958	.023	-48.9889	-2.8778
		Isolated FFI	-29.62222*	8.50958	.008	-52.6777	-6.5667
		Repetition	-7.42222	8.50958	.819	-30.4777	15.6333
	Repetition	Integrated FFI	-18.51111	8.50958	.152	-41.5666	4.5444
		Isolated FFI	-22.20000	8.50958	.063	-45.2555	8.555
		Incidental	7.42222	8.50958	.819	-15.6333	30.4777

*. The mean difference is significant at the 0.05 level.

Results indicate that there are significant differences between the integrated FFI and incidental learning ($p = .023$), on the one hand and between isolated learning and incidental learning ($p = .008$), on the other hand.

The same procedure was followed in the analysis of the productive task data. Table 5.5 provides the descriptive statistics regarding vocabulary gains in the productive task.

Table 5.5

Descriptive statistics for gains in productive task (scores calculated by %)

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
From pretest to immediate posttest	Integrated FFI	9	27.7444	24.90819	8.30273	8.5983	46.8906	-4.20	66.60
	Isolated FFI	9	30.1000	22.33881	7.44627	12.9289	47.2711	-4.10	70.90
	Incidental	9	14.3444	13.36695	4.45565	4.0697	24.6192	.00	33.40
	Repetition	9	17.6000	27.47208	9.15736	-3.5169	38.7169	-8.30	66.70
	Total	36	22.4472	22.68078	3.78013	14.7731	30.1213	-8.30	70.90
From immediate posttest to delayed posttest	Integrated FFI	9	-2.2889	17.05773	5.68591	-15.4006	10.8228	-37.50	20.80
	Isolated FFI	9	-11.1111	17.18469	5.72823	-24.3204	2.0982	-29.20	25.00
	Incidental	9	.9444	9.74527	3.24842	-6.5464	8.4353	-16.70	16.70
	Repetition	9	4.6222	23.59363	7.86454	-13.5134	22.7579	-33.30	58.30
	Total	36	-1.9583	17.82758	2.97126	-7.9903	4.0737	-37.50	58.30

As we can see again, isolated FFI and integrated FFI outperformed incidental learning and repetition conditions in productive tasks too.

Table 5.6 about homogeneity of variance indicates significance values of 0.117 and 0.620, which means that homogeneity of variance is not violated.

Table 5.6

Test of homogeneity of variances for productive task

	Levene Statistic	df1	df2	Sig.
Gain from pretest to immediate posttest	2.120	3	32	.117

	Levene Statistic	df1	df2	Sig.
Gain from pretest to immediate posttest	2.120	3	32	.117
Gain from immediate posttest to delayed posttest	.599	3	32	.620

The one way ANOVA was run to establish if the differences between the four groups' gain scores were statistically significant (Table 5.7).

Table 5.7

ANOVA for gains in productive task

		Sum of Squares	df	Mean Square	F	Sig.
Gain from pretest to immediate posttest	Between Groups	1581.985	3	527.328	1.028	.393
	Within Groups	16422.644	32	513.208		
	Total	18004.630	35			
Gain from immediate posttest to delayed posttest	Between Groups	1220.512	3	406.837	1.315	.287
	Within Groups	9903.276	32	309.477		
	Total	11123.788	35			

Results indicate no significant difference in gains from pretest to immediate posttest between the four conditions : $F(3, 32) = 1.028, p = .393$, and from immediate posttest to delayed posttest : $F(3, 32) = 1.315, p = .287$.

In summary, as we have noted, FFI resulted in much better scores in receptive and productive vocabulary tasks compared to incidental learning, even if the significant difference was only observed for receptive gains between the pretest and the immediate posttest.

As mentioned already, after the delayed posttest, participants answered questions about the FFI efficiency in vocabulary learning and their favorite way to study and to memorize the new vocabulary. Seven of the eight interviewed participants believe that FFI increases vocabulary learning. Five expressed preference

for integrated FFI. Regarding learner's preferences to learn a new vocabulary, all participants reported that when they encountered a new word for the first time, they looked for its meaning in a dictionary and wrote its meaning in a notebook to be able to review all the new vocabulary. All eight participants highlighted the importance of repetition in vocabulary learning.

5.2. Results from the impact of test administration order on vocabulary learning

As explained above, the receptive and productive task administration order was different for each evaluation time and also among the two groups of participants. Tables 5.8 and 5.9 show the participants mean scores in receptive and in productive tasks regardless of experimental conditions.

Table 5.8

Mean score of receptive and productive task for group 1 (scores calculated by %)

Number of participants	Pretest: productive first	Pretest: receptive second	Immediate posttest: receptive first	Immediate posttest: productive second	Delayed posttest: productive first	Delayed posttest: receptive second
6	15	22.6	42.3	47.4	36	53.4

Table 5.9

Mean score of receptive and productive task for group 2 (scores calculated by %)

Number of participants	Pretest: receptive first	Pretest: productive second	Immediate posttest: productive first	Immediate posttest: receptive second	Delayed posttest: receptive first	Delayed posttest: productive second
3	7.8	11.5	19.8	33.2	25.4	31.9

The descriptive statistics show that regardless of task type (receptive or productive), students always obtained higher mean scores on the test that was the

second to be administered. Most of interviewed participants reported that the first administered test greatly helped them remember words in the second test. This applied to both test types.

5.3. Results from recency effect of learning

In order to examine the recency effect on vocabulary learning, the gains of all participants for each three series of words, that is to say the 18 words of the first experimental session, the 10 words of the second experimental session and the eight words of the third experimental session, from pretest to immediate posttest and from immediate posttest to delayed posttest were calculated separately and compared to each other for both receptive and productive tasks (Tables 5.10 & 5.11).

Table 5.10

Gains in receptive task for each three series of words all conditions combined (scores calculated by %)

	Gain from pretest to immediate posttest	Gain from immediate posttest to delayed posttest
First session words	10.1	8.3
Second session words	30.5	-2.2
Third session words	36.1	5.5

Table 5.11

Gains in productive task for each three series of words all conditions combined (scores calculated by %).

	Gain from pretest to immediate posttest	Gain from immediate posttest to delayed posttest
First session words	18.2	-3.1
Second session words	31.6	-11.1
Third session words	29.1	4.8

As explained in the procedures, the intervention was conducted in two weeks. The first experimental session was held the first week and the second and the third sessions were held the following week on the same day with a 15 minute break

between the two sessions. The immediate posttest was administered straight after the second and the third sessions.

Results for both receptive and productive tasks indicate that even if the words of the second and the third experimental sessions, held right before the immediate posttest, and therefore benefiting from the recency effect, attest an important gain in the immediate posttest (30.5 and 36.1 for receptive task and 31.6 and 29.1 for productive task respectively) compared to the words of the first session (10.1 for the receptive task and 18.2 for productive task), the gain seems to fade away in the delayed posttest (-2.2 and 5.5 for receptive task and -11.1 and 4.8 for productive task respectively) compared to the words encountered in the first experimental session (8.3 for receptive task and -3.1 for productive task).

6. Discussion

This study was intended to examine the impact of different vocabulary teaching approaches and the impact of mediating factors like test administration order (receptive and productive) and recency effects on vocabulary learning.

Results indicate a significant difference between the different FFI conditions (isolated and integrated) and incidental learning in the pretest-immediate posttest for the receptive vocabulary gains. This result suggests that either FFI condition seems to be more effective to teach vocabulary (File & Adams, 2010; Genç & Savaş, 2011; Laufer, 2006) than reading only. However, no significant differences have been found between FFI conditions on one hand and between FFI conditions and repetition on the other hand indicating that repetition could fill the role of FFI. Regarding the production tests, no significant differences between all conditions has been observed. One reason could be the type of instruction provided during the intervention. As research suggests (Griffin & Harley, 1996), type of instruction, namely receptive and productive correlates with the type of test. Learners who were exposed to receptive teaching are better in receptive tests and those who exposed to productive teaching are better in productive tests. In this study, the instruction provided is purely receptive. So the type of instruction could partly explain the lack of significant differences between the conditions of this study in productive tests. However, we have to recall that the gains, although not significantly different partly due to the big standard deviation values, may be considered as pedagogically important.

FFI seems also to be appreciated by learners. Results from the interview indicate that for adult learners of French as an L2, FFI is considered as an efficient way to learn vocabulary. The integrated FFI seems to be particularly welcomed. Most learners believe that it is very useful to study the new vocabulary in its context of use to promote reading comprehension. For some others, the isolated FFI is more appropriate, because the integrated FFI interrupts the reading process and therefore diminishes learners' attention to text comprehension. All learners considered that without repetition, they were likely to quickly forget the encountered vocabulary. Consequently, they had the tendency to write the word meaning in a notebook so they can study the new vocabulary later. These results corroborate research findings highlighting the importance of repetition for L2 vocabulary learning (Pigada & Schmitt, 2006; Rott, 1999).

In this study, we have also focused on methodological issues about vocabulary learning results. In order to avoid the effects of a limited number of words, we targeted 36 words in this study. To reduce the problems associated with assessment tools, we designed a translation task measuring receptive and productive vocabulary knowledge. This methodological choice allowed us to examine the question of the test administration order. Finally, to avoid the effects of duration and operationalization of treatment, we planned an intervention in two days a week apart, which allowed us to account for the recency effects.

Descriptive results show that notwithstanding task type (receptive or productive), students always obtained higher mean scores on the task that was the second to be administered, be it productive or receptive. This finding suggests that apart from type of instruction (receptive vs. productive), the test administration order can impact vocabulary learning results. This result can also shed light on another aspect of research often overlooked until now. Apart from the effects of intervention on learning a new vocabulary, a part of learning gains can come from evaluation procedures. Given that the test administered second always displayed a higher score in this study, it can be assumed that the test administered first helped the participants retrieve words for the second test. This assumption was confirmed by participants' interview results indicating that learning resulted from the first test improved second test scores. Therefore, the scores of an evaluation cannot be only attributed to the effect of learning approaches, but also to the test administration order and this point should be considered in the interpretation of existing and future research results.

Finally, this study indicated that recency of vocabulary exposure and instruction plays an important role in scores for both receptive and productive immediate posttest. Recency of vocabulary exposure would influence results of different vocabulary learning approaches. However, this important factor has been often neglected in results analyses about vocabulary gains. In this study, we analyzed the vocabulary gains not only by comparing different learning approaches, but also by comparing the recency of vocabulary exposure. Notwithstanding the teaching conditions, words encountered last show better scores in the immediate posttest. But this effect seems to fade away in delayed posttests. This finding would emphasize again the importance of attention to mediating factors in results analyses about vocabulary gains.

7. Conclusion

In this study, the importance of FFI in vocabulary learning is emphasized from a theoretical and empirical perspective and some of the factors affecting the effects of these approaches are also examined. The incidental learning through reading does not seem to be sufficient for vocabulary learning in L2, and as Schmitt (2000) specifies, the best method of teaching vocabulary is a combination of direct instruction and learning activities in which the incidental learning occurs, so that the repeated exposure to the words extends the knowledge of words in different contexts and helps learners to better retrieve the vocabulary.

This study provides answers to some questions in the field of vocabulary in French as an L2 and raises important methodological issues. In this study we opted for an ecological design which is equivalent to a study in which four different conditions were examined with four groups of nine participants each. This design allowed us to have more representative results. But, in spite of the creative nature of the study design, because of the limited number of participants and the brevity of the experimental intervention, the generalizability of the obtained results is reduced. More studies involving a larger samples would be necessary to examine the methodological issues identified in the present study such as intervening effects of recency or receptive and productive tests administration order and to better determine the impact of FFI on vocabulary learning. In the study of FFI in the field of vocabulary, some other factors should also be considered such as the individual differences between learners including motivation, capacity of working memory and

intelligence. These issues can present interesting avenues for future research in the area of vocabulary learning in L2.

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Appendices

APPENDIX A

1. Target vocabulary of the text “ *L’amour et l’amitié*”

affaiblir, autrefois, avide, la bassesse, commettre, les convenances, exagérément, fade, fortifier, le millénaire, le mépris, piètre, la réciprocité, le ressort, romanesque, subordonné, le vertige, vil.

2. Target vocabulary of the text “ *Les amours de Fannie*”

avaler, avertir, cadette, clouer, cracher, décrocher, fleurir, flotter, la gifle, hausser, murmurer, la quenouille, renier, les sourcils, tendrement, la trahison, trembler, turluter.