



ESL learners' vocabulary use in writing and the effects of explicit vocabulary instruction

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Abstract

This study investigated vocabulary use in writing of 65 secondary school multi-grade and multi-L1 intermediate ESL learners of a Greater Vancouver public secondary school. The investigator was their regular ESL teacher. The subjects' target recognition vocabulary, (assessed in a fill-in-the blanks test consisting of 30 single words and six lexical phrases) was significantly lower than that of 79 grade 8 native speaker students of the same school. Following a reading activity on bull fighting, the ESL subjects wrote a composition entitled "A Cruel Sport." Writing after reading instruction and comprehension exercise and before target vocabulary instruction (seven items from the reading passage) showed that 13.19% of recognized target vocabulary were productive. This increased significantly to 63.62% after target vocabulary instruction and productive use of newly learned vocabulary was impressive. Delayed writing showed no significant loss in recognized and productive target vocabulary, but newly learned and productive vocabulary was significantly reduced, with 62.10% retention. Post-instruction writing and delayed writing were judged by a native speaker teacher to be better in content than pre-instruction writing because of richer high-level vocabulary and better sentence grammar. Systematic vocabulary instruction based on teacher-directed interaction and negotiation and psycholinguistic principles of word learning are proposed.

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1. Introduction

Writing in context, with attention to vocabulary use, is a tool for general second language improvement (Muncie, 2002). Research has shown that lack of vocabulary contributes to writing difficulty for foreign language learners (Santos, 1988; Astika, 1993) and that vocabulary is one of the most important features that determine writing quality (Raimes, 1985; Uzawa and Cumming, 1989; Leki and Carson, 1994; Walters and Wolf, 1996).

Learners' lexical competence has been categorized in different ways. Nation (1984) distinguishes between receptive or recognition vocabulary (understood in reading) and productive vocabulary (used in writing or speech). Laufer and Paribakht (1998) categorize learners' recognition vocabulary as passive and productive vocabulary as active. Active vocabulary is further divided into free active vocabulary (that is, words learners voluntarily choose to use) and controlled active vocabulary (words learners can use if required). Faerch et al. (1984) define lexical knowledge as a continuum from a vague familiarity with a word form (knowing that it exists in the language) and ending with the ability to use the word correctly in free production. Henriksen (1999) proposes three dimensions of lexical competence—partial to precise knowledge, depth of knowledge, and receptive to productive use ability. Henriksen uses Cronbach's (1942) multi-dimensional model of word meaning to explain depth of word knowledge which consists of referential meaning (a word's intentional or sense relations to other words in the vocabulary of the language, including its paradigmatic relations such as synonymy, antonymy, and hyponymy); syntagmatic relations (collocational restrictions) with other words; and syntactic and morphological features. Depth of word knowledge gives learners a rich meaning representation of words, leading to precise comprehension necessary for recognition vocabulary to become active or productive vocabulary.

2. Literature review

In most models of L2 vocabulary acquisition, receptive knowledge precedes the more complex productive knowledge and use of vocabulary (Meara, 1996; Nation, 1990; Laufer, 1998). Laufer's longitudinal study shows that learners' L2 receptive vocabulary developed to a higher extent than their productive vocabulary, attributable to the lack of production tasks that elicits and provides practice for using recognized or new vocabulary. Henriksen (1999) emphasizes the importance of converting learners' receptive vocabulary into productive vocabulary by getting learners to actively use recognized and new words. Coady (1997) and Arnaud and Savignon (1997) highlight the need for explicit instruction of multiword phrases and collocations that are complex lexical units in the language.

The quality of learners' vocabulary use in writing has not been widely investigated (Laufer, 1994). Duin's (1983) study has found that explicit vocabulary instruction results in greater use of contextually appropriate words as a result of the "word

awareness” effect, influencing learners to pay more attention to word choices in subsequent writing, enriching the content, and improving sentence structure.

Lexical quality is determined by lexical variation (LV) and lexical frequency profile (LFP) (Laufer and Nation, 1993; Laufer 1994). LV refers to the type-token ratio of words used by learners; the greater the number of different words used, the better the writing. LFP refers to the use of basic vocabulary and sophisticated vocabulary. A learner’s LFP is measured by the number of words that come from the four levels of vocabulary as categorized by Xue and Nation (1984), each level consisting of 1000 words. These four levels reflect their frequency in the language in general and academic use as well as their difficulty. Laufer (1994) confirms the LFP of university ESL learners to be much lower than that of native speakers who are not even college graduates, and improvement in LV does not lead to improvement in LFP. This is supported by Muncie’s (2002) study in which the LFP of Japanese university learners does not improve significantly in revisions in the process writing approach, although there is a higher percentage of more sophisticated vocabulary in later drafts. Both Laufer (1994) and Muncie (2001) recommend explicit vocabulary instruction to improve writing.

The study reported here is motivated by two concerns expressed in L2 vocabulary research. First, according to Laufer (1994), there is no empirical evidence to show the possible relationship between explicit vocabulary teaching and improvement in the lexical quality of writing, and this is still true today. Second, while the role of systematic vocabulary instruction in reading has been emphasized in the literature, what comprises systematic vocabulary instruction has not been clearly defined. Various teaching strategies, such as the key word method, listening, repeating aloud of new words, mnemonics, learning stems and affixes, and semantic fields, have been proposed in isolation, without clear indication of how these strategies may be used together to promote more effective word learning (see Huckin et al., 1993). This is a significant consideration, given the importance attached to the complexity of vocabulary knowledge, depth of word knowledge being a prerequisite for vocabulary learning and use (Richards, 1985; Nation, 1990; Ellis, 1995a and b; Harley, 1995, Viannarajan, 1997; Henriksen, 1999). A reasonable assumption is that no one single strategy can help learners learn all aspects of a word. Therefore, systematic vocabulary instruction needs to be defined. In this study, the premise is that systematic and explicit vocabulary instruction does not comprise one specific instructional strategy but a number of strategies that lead to depth of word knowledge and enhance word learning, word memory, and word recall for later use.

Meara (1984), Beheydt (1987), and Manguashca (1993) have stressed the need to exploit the findings of psycholinguistic research on L1 reading, word recognition, and word storage or memory in L2 vocabulary and reading research which may be extended to L2 vocabulary in writing. Jacoby (1978) and Bradley and Glenberg (1983) refer to the learning of the various aspects of vocabulary as making multiple associations or links for a word that has greater effect on word memory than duration and frequency of learning. L2 research has also confirmed the positive effects of promoting phonological memory for word learning. Kelly (1992) and Hill (1994) emphasizes listening or oral modeling of pronunciation and Kelly (1991), Ellis and Beaton (1993), and Service and Kohonen (1995) emphasize repetition aloud.

Current emphasis on oral acquisition in L2 research highlights the importance of learner interaction and negotiation (see de la Fuente 2002). Thus, the systematic instruction model in this study supports teacher-directed interaction and negotiation based on the following psycholinguistic principles of word learning that capture the multi-faceted view of word knowledge:

- see the word (visual or spelling representation),
- hear the word (teacher modeled pronunciation),
- understand the word (definitional meaning and part of speech, negotiation, explanation, and elaboration of meaning in context and relation with other words),
- say the word (repetition), and
- use the word in context (writing).

Here, explicit vocabulary instruction focused on word meaning rather than on ideas for writing so that the subjects would use target vocabulary to express their own ideas.

3. Research questions

The ESL subjects' recognition target vocabulary was assessed in a vocabulary test administered before reading and vocabulary instruction. "Recognition vocabulary" refers to the vocabulary items that the subjects used correctly on the vocabulary test, while "productive vocabulary" refers to the vocabulary the subjects used correctly in the post-reading writing task and delayed writing task. Subjects' recognition vocabulary that became productive in writing was designated as "recognized and productive vocabulary." The research questions were: For secondary school intermediate level ESL learners,

1. to what extent does recognition vocabulary become productive vocabulary in a post-reading writing task?
2. to what extent does recognition vocabulary become productive vocabulary after explicit target vocabulary instruction?
3. to what extent does newly learned vocabulary become productive vocabulary after explicit target vocabulary instruction? and
4. is there a significant loss in recognized and productive vocabulary and newly learned productive vocabulary in delayed writing?

4. Method

4.1. Subjects

The subjects were 65 Intermediate ESL learners of a Greater Vancouver public secondary school regularly taught by the teacher-investigator. They came from

four intact mixed grade ESL classes (grade 8=16, grade 9=20, grade 10=20, grade 11=9). The subjects came from multi-L1 backgrounds (Mandarin=29, Cantonese=21, Korean=7, Tagalog=2, Russian=2, Punjabi=1, Japanese=1, Ghanaian=1, and Farsi=1). The subjects received an average of 575 minutes of ESL instruction per week and were also enrolled in other content area classes of their age appropriate grades except English and Social Studies. The subjects' ESL proficiency level had been assessed upon admission to the school. Their reading and vocabulary scores on the Gates-McGinitie Reading Test (Form D2) fell between grade 2 and grade 3 equivalent. Twenty-three subjects had attended 1 year of elementary school in Canada and length of stay in Canada was between 7 months and 3.4 years (average=2.2 years). The study was carried out in the second term of the school year and was the first extended writing assignment in which the subjects had to write a composition on a topic related to a reading activity and in which they had to use specific target vocabulary. The subjects were informed that they would carry out a number of tasks, but the number of tasks, the nature of the tasks, and dates for the tasks were not specified.

5. Materials

5.1. Vocabulary test

The subjects performed a two-section vocabulary test consisting of 36 unconnected sentences that targeted 30 single words and six lexical phrases. The target items were selected for the composition entitled "A Cruel Sport." (See Appendix A) Section 1 consisted of 30 sentences, each containing a blank for a target single word. The sentences were printed on two pages, each containing fifteen sentences. On the right hand side of each page were 45 scrambled single words—15 target words and 30 distracters. Section 2 consisted of six sentences, each containing a blank for a target lexical phrase. On the right hand column were eighteen lexical phrases—six target lexical phrases and 12 distracters. The criteria for selecting distracters were closeness in spelling, pronunciation, or meaning with the target items (e.g. *series* and *cereals* for *serious*; *audience* and *viewers* for *spectators*; *seriously wounded* and *seriously hurt* for *seriously injured*.) The subjects were required to fill each blank with the BEST word or phrase for the sentence. Seven target items from the reading passage were *cruelty*, *arena*, *fans*, *barbarism*, *infuriating*, *prohibited*, and *performance*. The remaining target items were selected by the teacher-investigator for their relevance to the topic and their frequency and usefulness in everyday communication about sports. The word *cruel*, used in the title of the composition, was not counted as a target item. In the teacher-investigator's estimation, 36 vocabulary items were adequate for a 75-min lesson. The following target single words and single words in target lexical phrases are listed according to Nation's (1984) word frequency levels. Words not listed in Nation are found in West (1957), Rinsland (1945), and Thorndike and Lorge (1963).

First 1000 words:	<i>serious, defeat</i>
Second 1000 words:	<i>injured, injury (ies), violent, violence, opponent, perform, performance, hero, worship</i>
Third 1000 words:	<i>collapse</i>
University Word List:	<i>prohibit</i>
Unlisted:	<i>cruelty, cheer, bloody, effects (West, 1957; Rinsland, 1945) thrash, champion, championship, fatal, arena, boo, spectators, furious (Rinsland, 1945). mob, jeer, barbaric, barbarism, infuriate, infuriating, fatally, negative (Thorndike, and Lorge 1963).</i> (The six target lexical phrases were <i>hero worship, fatal injuries, serious injuries, fatally injured, seriously injured, and negative effects.</i>)

For this study, the first 1000 words were considered basic vocabulary and words beyond the first 1000, including unlisted words, were non-basic vocabulary.

5.1.1. Reading passage

To rule out the subjects' possible previous exposure to published material, the teacher-investigator adapted a 378-word reading passage from a sports article in a provincial newspaper entitled "The matadora and the bull fight." Reading comprehension activity consisted of 8 questions that required the use of the seven target vocabulary items found in the passage (See [Appendix B](#))

5.1.2. Writing frame

This was a four-column sheet on which the subjects recorded the target vocabulary items after post-reading vocabulary instruction and before writing. The purpose of this writing frame was to provide organization so that learners focus only on vocabulary. (See [Appendix C](#))

5.2. Procedures

5.2.1. Step 1: vocabulary test

The subjects were instructed to read the instructions and the test sentences and vocabulary items (target and distracter items) very carefully before they began to write the answers and to use any word or phrase only once on the test. Dictionaries, translators, and peer help were not allowed. The vocabulary test was also administered to native speakers of English 8 classes at the same school. The purpose was to compare target vocabulary knowledge of the ESL subjects between grades 8 and 11 and that of native speakers at the first year of secondary school (grade 8). The vocabulary test was not returned to the ESL subjects or the NS subjects until the end of the project.

5.2.2. Step 2: reading comprehension

In order to blur the connection between the vocabulary test and the reading and writing activity, the reading activity was carried out a week after the vocabulary test. The teacher-investigator taught the ESL subjects the reading passage in one lesson (75 min), following a normal reading instruction procedure. After a brief warm-up to the topic, the teacher-investigator read the passage aloud to the class, pausing at appropriate points to explain vocabulary or to elaborate contexts and putting the vocabulary on the chalkboard. Following this, four students took turns to read aloud the passage to the class. This was followed by reading aloud in pairs to ensure that every subject had the opportunity to read the passage aloud. The subjects then performed a reading comprehension exercise individually. The exercise was turned in on the same day. The teacher-investigator marked the exercise and returned it to the subjects the next day. Scores ranged between 6.5 and 10 for the exercise, without penalty for grammatical errors. The answers were discussed orally and the reading passages and answers were returned to the teacher-investigator.

5.2.3. Step 3: post-reading pre-instruction writing

On the third day, the subjects performed the pre-instruction writing task. They were instructed to write about 200 words on the topic “A Cruel Sport.” No dictionaries, translators, the reading passage, and peer or teacher help were allowed. The subjects were given 40 minutes for the writing task and they completed it between 20 and 35 minutes. The subjects wrote about boxing, wrestling, ice hockey, and gladiatorial sport. The investigator scored the compositions. Correctly used target vocabulary items were check-marked and highlighted and no other feedback was offered.

5.2.4. Step 4: explicit and systematic vocabulary instruction

The following day, the teacher-investigator taught the target vocabulary to each of the four classes. The systematic vocabulary instruction model explained earlier was adopted.

- the teacher-investigator asked for a particular word or phrase to express a particular concept (e.g. what do you call the people watching a boxing match?). If students were unable to offer the target item, the teacher supplied it (negotiation and understanding);
- the teacher-investigator wrote the target word or phrase on the chalkboard (visual representation of the word or spelling);
- the teacher asked other students for elaborations on the definitional meaning given by the student (negotiation and understanding),
- the teacher allowed students to negotiate meanings by confirming or disconfirming the meanings given by other students (negotiation and understanding);
- the teacher reinforced the students’ meanings by repeating the definition and elaborating it with contexts similar to but unrelated to the writing topic (defining and contextualizing word meaning);

- whenever appropriate, the teacher emphasized the differences in meanings of words or phrases by showing contrast, e.g. *viewers*, *audience*, and *spectators*, or *serious injuries* and *fatal injuries* (understanding);
- the teacher provided different contexts and asked students if a word suited a particular context, e.g. *injured*, *hurt*, and *wounded* (negotiation and understanding);
- the teacher asked the students for the part of speech of a particular word, e.g. *injured* and *injury*, and;
- at the end of instruction, the teacher modeled the pronunciation of all the items that had been explained (hear the word); and
- the students repeated each word aloud after the teacher (say the word).

A writing frame was put on the chalkboard. The target vocabulary items were introduced in the order they would appear in the frame. For example, *barbaric*, *barbarism*, *bloody*, *cruelty*, and *violent* were taught first and written down in Column 1. After all the target items had been taught, the teacher pointed to each item on the writing frame and modeled its pronunciation. The class repeated each item aloud.

5.2.5. Step 5: post-instruction writing

For consistency, the writing topic was limited to boxing. The subjects were each given a writing frame in which they copied the vocabulary items. They were instructed to use the frame as a guide to paragraphs and to use any target item in any paragraph they wished as long as their writing was clear. The vocabulary instruction and writing took place in a 75-min lesson (35 min of instruction and 30–35 min of writing). No access to dictionaries, translators, the reading passage, and peer or teacher help was allowed.

The investigator scored the post-instruction writing which were returned to the subjects the next day. The subjects read and compared their pre-instruction writing and post-instruction writing and rewrote any sentences in the post-instruction writing that contained vocabulary errors. Then the writing frames containing the target vocabulary items as well as the pre-instruction and post-instruction compositions were returned to the investigator.

5.2.6. Step 6: delayed writing

The subjects performed delayed writing 23 days after vocabulary instruction (21 days after receiving feedback). A writing frame was projected on to a white board and the subjects were instructed to recall as many target vocabulary items as they could and write them on the margin of their paper before beginning to write their compositions. Again, no access to dictionaries, translators, the reading passage, and peer or teacher help was allowed. The subjects were allowed 40 min to write, but they took between 25 and 35 min.

To control for target vocabulary exposure and task familiarity, the teacher-investigator did not introduce new reading assignments containing the target vocabulary items, or writing assignments that required the production of specific vocabulary from reading.

5.3. Scoring

A target vocabulary item was scored as correctly used if it was correct in meaning, spelling, and part of speech according to Laufer's (1990, 1994), Nation's (1990) and Richards' (1985) taxonomy of components of "knowing a word" (except phonology). A vocabulary item that was correctly used more than once was counted only once. An item that was used more than once and was correctly used at least once was counted only once. Verb tense, subject-verb agreement, and other grammatical errors that did not affect the meaning of the vocabulary item were not counted as errors. A vocabulary item containing an error in meaning and/or spelling, and/or part of speech was marked as an attempt. Any item that had been counted as correctly used was not counted as an attempt. Errors were indicated with the following symbols: M (meaning error), sp (spelling error), and PS (part of speech error). In the post-instruction writing, if a subject expressed an idea but did not use a suitable target item, the investigator supplied the word or phrase. No item was supplied for any idea not expressed by the subject.

5.4. Native speaker teacher's evaluation

A native speaker teacher, trained in the teaching of ESL, judged the subjects' compositions. He found the compositions in post-instruction and delayed writing to be generally better than those in pre-instruction writing because they had more content and more sophisticated ideas due to the use of higher level and more varied vocabulary. Sentence syntax and overall expression were also found to be better in both post-instruction and delayed writing.

6. Results

As comparisons of vocabulary scores were made between two of the three stages of writing using repeated measures, paired *t*-tests and the alpha level of 0.01 were used. Due to the unequal number of single words and lexical phrases, their scores are not reported separately and statistical tests for significance were performed on the vocabulary scores as a whole (see Tables 1–5 for scores on single words and lexical phrases).

6.1. Vocabulary test

Table 1 compares ESL and NS subjects' scores on the vocabulary test. The vocabulary score of the ESL subjects was 613 out of a possible 2340, or 26.20% (average 9.43, range 2–17, S.D. = 4.20). The native speaker (NS) subjects' score on the vocabulary test was 2056 out of a possible 2844, or 72.29% (average 26.09, range 20–32, SD = 2.99). The one-tailed two sample *t*-test performed on the total scores on the target vocabulary items of the two groups showed that the ESL subjects had a significantly lower vocabulary score than NS subjects, $t(df\ 142) = -27.7555\ P < 0.01$.

Table 1
ESL subjects' and NS subjects' recognition vocabulary

	ESL	NS
Recognized single words	562/1950 = 28.82%	1812/2370 = 76.46%
Range	2–17	17–28
Average	8.65	22.94
Std. Dev.	3.87	2.62
Recognized lexical phrases	51/390 = 13.08%	244/474 = 51.48%
Range	0–4	1–6
Average	0.78	3.09
Std. Dev.	0.98	1.13
Total recognized target vocabulary	613/2340 = 26.20%	2056/2844 = 72.29%
	Range 2–17	20–32
Average	9.43	26.09
Std. Dev.	4.20	2.99

$t(df\ 142) = -27.7555\ P < 0.01$.

Table 2
ESL subjects' recognition vocabulary and pre-instruction productive vocabulary

	Total	Range	Average	Std.Dev.	% Productive
Recognized single words	562	2–17	8.65	3.87	
Productive single words	73	0–4	1.12	1.14	12.99
Recognized lexical phrases	51	0–3	0.78	0.98	
Productive lexical phrases	8	0–2	0.12	0.38	15.69
Total recognition target vocabulary	613	2–17	9.43	4.20	
Total productive target vocabulary	81	0–4	1.25	1.15	13.19

$t(df\ 64) = 15.1910\ P < 0.01$.

6.2. Pre-instruction writing

In pre-instruction writing, only 31 ESL subjects out of 65 used between one and four target single word items out of 30 possible target single word items. Only seven subjects used one target lexical phrase each out of six possible items.

Table 2 compares the ESL subjects' recognition vocabulary and their productive vocabulary in pre-instruction writing. The total vocabulary score was 81 for recognized target vocabulary, that is, 13.19% of recognized vocabulary was productive (average 1.25, range 0–4, S.D. = 1.15). To determine if productive vocabulary was significantly lower than recognition vocabulary, a one-tailed *t*-test was performed. The difference was significant, $t(df\ 64) = 15.1910\ P < 0.01$.

Only five tokens of the seven target single words from the reading passage became newly learned productive single words for three subjects in pre-instruction writing. There were thirteen attempts to use target single words (average 0.20, range 0–1, S.D. = 0.44). Of these, nine attempts were single words from the reading passage. No

Table 3
ESL subjects' productive vocabulary in pre-instruction and post-instruction writing

	Pre-instruction writing	Post-instruction writing
Recognized and productive single words:	73	350
Range	0–4	1–14
Average	1.12	5.38
Std. Dev.	1.14	3.01
% Productive	12.99%	62.28%
Recognized and productive lexical phrases	8	40
Range	0–2	0–3
Average	0.12	0.62
Std. Dev.	0.38	0.86
% Productive	15.69%	78.43%
Total recognized and productive target vocabulary	81	390
Range	0–4	3–17
Average	1.25	6.00
Std. Dev.	1.15	3.39
% Productive	13.19%	63.62%
		$t(df\ 64) = -10.6984\ P < 0.01.$
Newly learned productive single words		603
Range		2–18
Average		9.28
Std. Dev.		4.33
Newly learned productive lexical phrases		141
Range		0–6
Average		2.17
Std. Dev.		1.44
Total newly learned and productive vocabulary		744
Range		3–22
Average		11.49
Std. Dev.		5.27

subjects who had scored correct on the vocabulary test used these single words from the reading passage. There were no attempts for lexical phrases. The subjects also used 34 tokens of non-basic words and phrases that were non-target vocabulary but were appropriate to the context.

6.3. Post-instruction writing

Table 3 reports the results of the ESL subjects' vocabulary scores on the pre-instruction writing and post-instruction writing.

The score for recognized and productive target vocabulary items on post-instruction writing was 390 (average 6.00, range 1–17, S.D. = 3.39). Thus, 63.62% of recognition vocabulary was productive in post-instruction writing, compared to 13.19% in pre-instruction writing. A one-tailed paired t -test was performed to compare the production of recognized target vocabulary in pre-instruction writing and post-instruction writing. A significant increase was found in post-instruction writing, $t(df\ 64) = -10.6984\ P < 0.01.$

Table 4
ESL subjects' productive vocabulary in post-instruction writing and delayed writing

	Post-instruction writing	Delayed writing
Recognized and productive single words	350	310
Range	2–14	1–14
Average	5.38	4.77
Std. Dev.	3.01	2.95
% Productive	62.28%	55.16%
Recognized and productive lexical phrases	40	30
Range	0–3	0–3
Average	0.62	0.46
Std. Dev.	0.86	0.79
% Productive	78.43%	58.82%
Total recognized and productive vocabulary:	390	340
Range	3–17	0–17
Average	6.0	5.23
Std. Dev.	3.39	3.35
% Productive	63.62%	55.46%
		$t(df\ 64) = 1.3026\ n.s.$
Newly learned productive single words	603	375
Range	2–18	1–15
Average	9.28	5.77
Std. Dev.	4.33	3.36
		$t(df\ 64) = 5.1598\ P < 0.05$
Newly learned productive lexical phrases	141	87
Range	0–6	0–6
Average	2.17	1.34
Std. Dev.	1.44	1.30
Total newly learned productive vocabulary	744	462
Range	3–22	2–17
Average	11.45	7.11
Std. Dev.	5.27	3.92
		$t(df\ 64) = 5.3749\ P < 0.01$

The score for newly learned and productive target vocabulary items was 744 (average 11.45, range 3–22, S.D. 5.27). This represented 43.08% of 1727 possible new vocabulary items for the group. Due to the low score for newly learned vocabulary items in pre-instruction writing, a *t*-test was not performed.

The total number of attempts at target vocabulary items was 108 (average 1.66, range 0–10, S.D. = 1.95). A paired *t*-test was performed on the attempts in pre-instruction writing and post instruction writing to determine if there was a significant increase in attempts to use target vocabulary in post-instruction writing. The increase was found to be significant, $t(df\ 64) = -5.8975\ P < 0.01$ (see Table 5 and Appendix D).

6.4. Delayed writing

Table 4 compares the vocabulary scores of the ESL subjects in post-instruction writing and delayed writing. The score for recognized and productive target voca-

Table 5
ESL subjects' attempts in pre-instruction writing, post-instruction writing, and delayed writing

	Total	Range	Average	S.D.
Pre-instruction writing				
Single words	13	0–1	0.20	0.44
Lexical phrases	0	0	0	N.A
Total attempts	13	0–1	0.20	0.44
Post-instruction writing				
Single words	89	0–7	1.37	1.61
Lexical phrases	19	0–3	0.29	0.65
Total attempts	108	0–10	1.66	1.95
Difference in number of attempts between pre- and post-instruction writing	$t(df\ 64) = -5.8975\ P < 0.01$			
Delayed writing				
Single words	130	0–5	2.02	1.39
Lexical phrases	40	0–4	0.62	1.09
Total attempts	170	0–9	2.62	1.86
Difference in number of attempts between post-instruction and delayed writing:	$t(df\ 64) = -2.8747\ P < 0.01$			

bulary items fell from 390 in post-instruction writing to 340 in delayed writing (average 5.23, range 0–17, S.D. = 3.35). Therefore, 55.46% of recognized target vocabulary was productive in delayed writing, compared with 63.62% in post-instruction writing (8.16% loss or 91.84% retention). To compare the production of recognized target vocabulary in post-instruction writing and delayed writing, a one tailed paired t -test was performed. No significant loss was found for recognized and productive vocabulary in delayed writing, $t(df\ 64) = 1.3026$ n.s.

The score for newly learned productive target vocabulary items in delayed writing was 462 (average 7.11, range 2–17, S.D. = 3.92). Thus, there was a loss of 37.90% of newly learned productive vocabulary in delayed writing (or 62.10% retention). To determine if there was a significant loss of newly learned productive vocabulary in delayed writing, a paired t -test was performed on the scores for these items in post-instruction writing and delayed writing. There was a significant loss in newly learned productive vocabulary in delayed writing, $t(df\ 64) = 5.3749\ P < 0.01$.

The number of attempts at using target vocabulary items increased from 108 in post-instruction writing to 170 in delayed writing (average 2.62, range 0–9, S.D. = 1.86). A paired t -test was performed to determine if there was a significant difference between the number of attempts in post-instruction writing and delayed writing. Attempts increased significantly in delayed writing. $t(df\ 64) = -2.8747\ P < 0.01$ (see Table 5 and Appendix D).

7. Discussion

The data confirmed that the subjects' productive vocabulary was significantly lower than their recognition vocabulary. Regarding the first research question, to

what extent does recognition vocabulary become productive vocabulary in a post-reading writing task, it was found that only 13.19% of recognized vocabulary was productive. Regarding the second research question, to what extent does recognition vocabulary become productive vocabulary after explicit target vocabulary instruction, 63.62% of recognized vocabulary become productive vocabulary in an immediate writing task. Thus, recognized productive vocabulary increased significantly after explicit vocabulary instruction. Regarding the third research question, to what extent does newly learned vocabulary become productive vocabulary after explicit target vocabulary instruction, the ESL subjects produced 43.08% of possible new target vocabulary items in post-instruction writing. The fourth research question was whether there was a significant loss in recognized and productive vocabulary and newly learned productive vocabulary in delayed writing. The results showed that there was no significant loss in recognized and productive vocabulary (91.84% retention), but there was a significant loss in newly learned vocabulary (62.10% retention). Thus, newly learned productive vocabulary increased significantly in an immediate writing task after explicit instruction, but this did not ensure non-significant loss in a delayed writing task.

Attempts to use target vocabulary increased significantly in post-instruction writing and delayed writing. According to [Henriksen \(1999\)](#), attempts to use target vocabulary indicate learners' partial knowledge of vocabulary items and learners are in the process of acquiring and using them. Increased productivity of target vocabulary and increased attempts in post-instruction and delayed writing also indicated higher awareness of vocabulary use in writing.

In general, post-instruction writing and delayed writing showed improved LFP and LV which contributed to overall improvement in writing quality. Native-speaker teacher evaluation confirms that post-instruction and delayed writing improved in content due to richer higher level vocabulary.

As the target vocabulary sample of this study is small, the results can only be interpreted as indicative rather than conclusive. The general indication is that secondary school ESL learners in junior and middle grades (grades 8–11) have a significantly smaller recognition vocabulary than native speakers in the first year of secondary school (grade 8). This finding is similar to that of [Verhallen and Schoonen's \(1998\)](#) study where Dutch–Turkish bilingual third and fifth graders' L2 (Dutch) vocabulary lags behind that of Dutch monolingual children of equivalent grades.

Contrary to [Laufer and Paribakht's \(1998\)](#) claim that learners with larger recognition vocabulary also have larger controlled active vocabulary in writing, this study has shown that learners do not automatically put their recognition vocabulary to productive use, but are able to expand their active controlled vocabulary after explicit vocabulary instruction. The limited evidence of this study has also found that new vocabulary gained from a reading activity does not automatically transfer into productive vocabulary and teachers need to provide opportunities for learners to use recognition and new vocabulary in a contextually related writing task.

This study has also shown that writing on a topic related to the reading material helps to expand its context, allowing learners to use other contextually appropriate

words. The study supports Swain's (1986, 1995) and de la Fuente's (2002) call for pushing output from learners to promote learning. As time is an important issue in learning and instruction, selecting writing topics relevant to learners that lend themselves to the use of more sophisticated vocabulary, maximizes vocabulary learning opportunities. Early in the writing course, teachers need to place emphasis on vocabulary so that learners get accustomed to thinking of vocabulary as part of writing preparation. In order to help learners focus on vocabulary learning and use, teachers could approach some writing assignments using writing frames. Learners also need to be reminded to use their non-basic recognition vocabulary that is contextually appropriate for the topic. As learners' vocabulary store is small and basic, teachers should act as a vocabulary resource, introducing new words and lexical phrases.

8. Conclusion

Learners' vocabulary size has serious implications for every day oral and written communication and academic success. This study of a restricted set of target vocabulary has attempted to answer some rudimentary questions in L2 recognition and productive vocabulary research. These questions pertain to learners' and native speakers' vocabulary knowledge appropriate to a particular context, the difference between learners' recognition and productive vocabulary in writing on a particular topic, and the immediate and long-term effects of explicit instruction on learners' vocabulary use in writing. This study has confirmed that word comprehension does not automatically predict productive use of the word, and that learners are able to expand their controlled active vocabulary as well as use newly learned words. Explicit vocabulary instruction helps to convert recognition vocabulary into productive vocabulary in an immediate writing task and helps retention. Explicit instruction also helps newly learned vocabulary become productive in an immediate writing task, but it is subject to loss and more practice in the production of newly learned vocabulary is required. ESL learners have to be shown how to use their store of recognition vocabulary and new vocabulary in a production task, and how lexical variation and variation of lexical frequency affect the quality of their writing. In the early stages of writing instruction, writing tasks can be approached from a vocabulary focus to help learners get accustomed to thinking of vocabulary as part of the writing process.

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Appendix A. Vocabulary test:

Section 1.

Fill each blank with the BEST WORD from the list of words on the right hand side of the page. Use a word ONLY ONCE.

1. Keep poisonous substances out of the reach of children. The substances may be _____ if swallowed.
2. When Mr. Brown came home late for the third time in a week, Mrs. Brown was _____.
3. The world ice-skating _____ came home to a big welcome at the airport; it was the first time Canada had won a gold medal.
4. Some people think bullfighting is _____ because the bull gores the bullfighter with its horns.
5. His _____ is very strong, so he has to practice hard if he wants to win the chess competition.
6. In our school, we do not tolerate acts of _____ to others.
7. Keeping animals on zoos is a form of _____ to animals; they should live freely in the wild.
8. My teachers expect me to _____ better this term as I have not been missing classes.
9. When the wrestler falls to the floor, the crowds _____ at him.
10. Our school soccer team is training hard for the provincial soccer _____.
11. A man or woman who risks his or her life to save others is a _____.
12. In the movie about the Romans, the prisoner had to fight a lion with bare hands in the _____.
13. Children should not be allowed to view _____ TV programs.
14. Your _____ on stage will improve if you have more confidence.
15. His condition is _____ and we must send him to the hospital.
16. The child and his parents were _____ in a car accident and they were taken to the hospital for treatment.
17. Many of the _____ in the stadium waved their national flags as their national soccer teams received their medals.
18. Ricky Martin is a popular singer who has many _____.
19. The staff and students welcome the new rule that _____ smoking in school grounds.
20. The soldiers fought hard to _____ the enemy and save their country.
21. The woman is so weak and ill that she will _____ if she doesn't stop working.
22. In the past, thieves were punished by having their hands chopped off. Today, we think this kind of punishment is _____.
23. It is rude to _____ at a person when he or she makes a mistake in a competition.

24. After the new law was announced, the angry _____ broke the glass windows of many government buildings.
25. The children _____ their uncle who always tells them wonderful stories.
26. I don't like watching boxers who _____ one another in the ring.
27. David likes to talk about other girls and his girlfriend finds this _____.
28. Our woodwork teacher watches his class very carefully as _____ happen when students work with machines.
29. When our home team scores a goal, we _____ loudly.
30. In Spain, bullfighting is an honorable sport; in other societies, it is a kind of _____.

Section 2.

Fill each blank with the **BEST PHRASE** from the list of phrases on the right hand side of the page. Use a phrase **ONLY ONCE**.

1. Princess Diana of Britain was _____ in a car crash. She died shortly after the crash.
2. Smoking and alcohol can have _____ on our health.
3. _____ is very common among teenagers who take athletes and movie stars as their role models.
4. The pilot and his passengers sustained _____. The doctors could do nothing to save their lives.
5. The teacher warned his students not to use the electric saw without supervision as they may be _____.
6. The accident caused _____ to the man's leg. He may not be able to walk again.

violet
 opposition
 heroin
 fatal
 arid
 series
 furious
 feverish
 violate
 champion
 jerk
 arena
 behave
 heron
 serious

violent
victor
faithful
hero
area
performance
behavior
perfume
violence
famous
fateful
jerky
bloody
opponent
violation
enemy
cruelty
crafty
unkindness
bleeding
perform
activity
jeer
contest
volley
championship
winner
brooding
competition
cereals

worshippers
bruises
boo
treat
cheer
thrash
prohibits
mop
audience
boast
wounds
fans
worship

barbaric
trash
forbids
bore
viewers
infuriating
mob
chant
defend
barbarian
infectious
mood
spectators
warship
worried
cancel
injuries
barbarism
defeat
wounded
injured
barrier
collapse
bargain
collect
interesting
collide
hurt
barbecue
followers
depend
brood

fatal wounds
fatal injuries
heroic worship
seriously wounded
hero worship
serious wounds
fatally injured
seriously injured
fatally wounded
seriously hurt
negative effects

serious injuries
 positive effects
 fatal hurt
 hero warship
 negatively affect
 fatally hurt
 serious hurt

Appendix B. Reading passage:

The Matadora and the Bullfight.

Mari Paz Vega is the first female bullfighter to turn pro in Spain. by Marco R. Della Cava
 Parla, Spain.

The bull stands 11/2 meters tall at the shoulders and can accelerate like a sports car. At present, its angry 320 kilograms are barreling straight for Mari Paz Vega. A pointed horn catches her red cape and flings it aside like a tissue. In the close encounter, Vega falls. She covers her head with her hands. Right now, the bull is winning- the 22 year-old Vega could die. Suddenly, Vega spins to her feet, cape in hand, and lures the bull past her. Applause explodes. Many clap for her great escape, but some are looking ahead to history.

Vega is a central figure in a drama that has captivated Spaniards for centuries while infuriating detractors at home and abroad because they see the sport as a vestige of barbarism. During a ceremony next Monday in Spain's western city of Caceres, Vega will become the first female bullfighter to turn professional on Spanish soil.

An amateur must fight 60 small and medium sized bulls, ages one to three. Pros fight the older bulls that can weigh more than 500 kilograms. Only then can a bullfighter take the title of "matador de torros."

Vega's manager, an ex-bullfighter by the name of Lazaro Carmona, never imagined he would back a woman. "Really, never," he said. "But when I saw her, I saw courage. She was unrefined, but she had courage."

"We are showing people that women are equal to men," Vega said a few hours before fighting two bulls in this dusty town south of Madrid.

Push the subject of cruelty to animals to Spanish fans and they will tell you these fierce creatures are bred for the ring. They will tell you that the bull dies with honor and that it is the bullfighter, who, through a poor performance, can be shamed for life. They will tell you that the bull's meat is not wasted.

Laws prohibiting women from bullfighting existed until dictator Francisco Franco's death in 1975. Then came the unwritten laws- promoters and bullring owners declined to open their arenas to women. Men refused to share the ring with women. While that sentiment is far from dead, Spanish society as a whole gradually is beginning to accept broader roles for women from politics to business to bullfighting.

Adapted from the Vancouver Province—September 24, 1997. Reading comprehension: (10 marks)

Read the passage carefully and answer each question in a complete sentence.

1. Why is Mari Pas Vega special? (1 mark)

.....

2 How does Mari's manager describe her? (1 mark)

.....

3. Why is bullfighting referred to as “cruelty to animals”? (1 mark)

.....

4. What do Spanish fans think of a bull that dies in a fight? (1 mark)

.....

5. What do Spanish fans think of a matador or matadora who is defeated by the bull in a bullfight? (1 mark)

.....

6. Were women allowed to be bullfighters before 1975? Which word supports your answer? (1 mark)

.....

7. Which two words in the article express the attitudes of people who oppose bullfighting? (2 marks)

.....

8. Which two words in the passage refer to a place where a bullfight takes place? (2 marks)

.....

Appendix C. Writing frame:

Describe the sport	What do the boxers do? Why?	What do people watching the sport do? Why?	What can the public and the government do? Why?

Appendix D. ESL subjects' use of word types:

(This list contains all the target words and morphologically related word types in the ESL subjects' productive vocabulary and attempts.)

Word type	No. subjects Pre-instruction writing	Attempts	No. subjects Post-instruction writing	Attempts	No. subjects Delayed writing	Attempts
arena	3	1	40	0	36	5
barbarian	1	1	0	0	1	2
barbaric	4	1	43	0	23	5
barbarism	1	2	2	4	2	4
bloody	4	0	41	2	26	8
boo	1	0	39	1	40	1
champion	3	0	35	2	33	3
championship	2	0	28	5	19	3
cheer	6	0	53	1	45	1
collapse	2	0	42	9	26	10
cruelty	4	1	7	6	2	4
defeat	3	0	44	2	29	4
fans	6	0	44	2	37	0
fatal	0	0	6	5	5	6
furious	1	0	35	4	13	1
furiously	0	0	0	0	1	0
fury	0	0	0	1	0	1
hero	2	0	47	0	38	0
infuriate	0	0	9	0	0	1
infuriated	1	0	10	0	2	1
infuriating	0	0	1	0	1	0
injure	0	1	0	0	0	0
injured	8	1	30	2	21	6
injuries	0	0	6	5	2	1
jeer	0	0	41	2	29	4
mob	1	0	43	8	31	11
opponent	9	1	59	1	54	3
perform	0	0	9	5	7	0
performance	0	1	16	0	9	2
prohibit	1	0	41	3	17	9
serious	0	0	1	0	1	0
spectators	1	0	55	2	40	10
thrash	0	0	54	3	29	7

Word type	No. subjects	Attempts	No. subjects	Attempts	No. subjects	Attempts
	Pre-instruction writing		Post-instruction writing		Delayed writing	
violent	7	1	54	1	36	7
violence	2	2	8	11	10	6
worship	0	0	14	2	8	3
fatal injuries	0	0	13	4	6	4
fatally injured	0	0	22	2	12	10
hero worship	0	0	34	5	26	7
negative effects	1	0	41	1	27	5
serious injuries	2	0	18	4	7	3
seriously injured	5	0	25	2	24	12

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