The Effect of Instruction and Context on L2 Learners' Vocabulary Development

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Abstract

This paper investigates the effect of instructional options and classroom context on second language learners' vocabulary development over a semester. Involving 129 subjects, the study looked at three groups of learners (L1 only, L1 and L2, and L2 only) from six academic writing classrooms. Three classes were taught a specific set of words in context (implicit) while three classes were taught a specific set of words directly (explicit). The results indicated that: (a) vocabulary gains for both implicit and explicit instructional groups were not different; (b) L2 learners in the L1 and L2 combination group learnt differently from the other subgroups; and c) direct teaching of vocabulary does not necessarily increase all L2 learners' vocabulary growth. While the L2 learners in the implicit instructional group demonstrated a slight gain in vocabulary size, these learners had started off from a higher vocabulary level. Similarly, the L2 learners involved in direct instructional settings who had begun from a lower vocabulary level, were able to increase their word knowledge, suggesting that direct vocabulary instruction, when carried out systematically, might have a role in language instruction. The study has implications for teaching and learning of vocabulary for L2 learners in L1 and L2 settings.

1 Introduction

This paper focuses on how second language learners (L2) in a first year English Academic Writing program acquire academic vocabulary from form-focused instruction involving a) meaning-based free writing activities, and b) rule-based focus on form (fonf) and focus on forms (fonfs) activities. It also examines how L2 learners' vocabulary development is affected by learner differences. The study is motivated by two areas of research in the field of second language acquisition (SLA): L2 vocabulary research and form-focused instructional practices.

1.1 Areas of concern within L2 vocabulary research

L2 vocabulary research is presently motivated by studies that aim to get instructors to systematically integrate vocabulary into the classroom. This integration involves four main strands of activities (Nation, 2001), namely; a) getting learners to acquire vocabulary from meaning-focused input (Paribakht & Wesche, 1998); b) providing direct and explicit vocabulary instruction that enables learners to notice words that are useful for a particular audience (Chun & Plass, 1996; Hollander & Greidanus, 1996); c) designing vocabulary tasks that enable learners to engage in productive activities (McCarthy, O'Dell, & Shaw, 1997); and d) ensuring that proficient L2 learners are capable of making word associations that resemble first language (L1) users' performances (Meara, 2002; Read, 2000). The reasons for paying explicit attention to adult L2 vocabulary development are fairly straightforward. However, given the symbiotic relationship between vocabu-

lary ability and reading that has served as both cause and consequence of the state of L2 vocabulary learning nowadays, it is necessary to provide the reasons in relation to existing Second Language Acquisition research and L2 vocabulary testing concerns before going on to discuss the rationale for the study.

1.1.1 Meaning-focused input

Currently, L2 vocabulary is seen as " best acquired in purely meaning focused instruction" (Doughty & Williams, 1998) and a large part of this assumption originates from Krashen's position on natural learning where vocabulary is said to be acquired incidentally and through comprehensible input. Krashen believed that comprehensible L2 input triggers natural acquisition processes which lead to the development of subconscious linguistic competence that underlies all spontaneous L2 production. However, the role of conscious learning was seen as minimal and there is no interface between explicit and implicit knowledge in this system. Nevertheless, a number of SLA researchers (Pica, 1994; Long, 1994; Ellis, 2003) view interaction between speakers and learners as crucial because they: a) help contribute towards comprehensible input; b) enable learners to elicit negative evidence; and c) push learners to modify their output. Ellis & He (1999) state that learners who are pushed to produce output achieve higher word levels due to "superior dialogic interactions." This means that L2 instruction must be organized in ways which gives learners opportunities to interact freely with learners and speakers in the language classroom through task-based activities.

1.1.2 Direct and explicit vocabulary instruction

In terms of instructional conditions, SLA research identifies the task, the word, the learner and the learning condition as necessary for promoting or discouraging word learning. Task-based instruction (TBI) rest on the assumption that communicative interaction drives language acquisition forward and generally combines meaning-based activities with incidental focus on form activities (Schefler, 2008). Advocates of task-based approach however reject the structural syllabus as a means of developing L2 proficiency on the basis that traditional approaches do not respect the internal natural language learning process of the learner (Long & Robinson, 1998). Scheffler (2008) however points out that the term "natural" for adult L2 learners can be very different from the natural learning of child learners. In other words, for adult acquiring a foreign language or a L2 naturally would mean acquiring it in the way other cognitive skills are acquired, which is starting from an explicit declarative representation and accumulating a sufficient number of (partial) entities to perform the skill (p. 3000). One major cognitive difference between children and adult is that adults happen to be equipped with a general problem-solving mechanism that enables them to deal with abstract formal systems and make grammaticality judgments. As for the types of words to be learnt, words with clear referents (e.g. nouns, verbs and adjectives) have been found to be more easily learned than function words (e.g. articles and prepositions) (Paribakht & Wesche, 1997) and attention to such form is supposed to make the learning process more efficient and enable adult learners to acquire target linguistic features which cannot be picked up from comprehensible input or interaction. The adult L2 learner is also capable of using various forms of instruction and his/her learning is affected by factors like personality and motivation. These factors help explain the variations in adult L2 learners' success. Interestingly, these characteristics are not common with first language acquisition since all normal L1 speakers are said to have achieved perfect success in the task, do not need explicit formal instruction and are not influenced by affective factors. Thus, any attempt to teach vocabulary to adult L2 learners in an immersion or ESL setting would need to take into account these factors before making assumptions about L2 learners' vocabulary ability and L2 instructional effectiveness.

1.1.3 All's not well in the L2 classroom

Presently, the concern among vocabulary researchers is that L2 learners are unable to increase their vocabulary knowledge within the context of current L2 language classrooms due to insufficient meaningful input, and this results in L2 learners having difficulty in the academic environment. It is seen as a coverage problem, where even with a year, "… some basic structures may not occur very often, much core vocabulary is likely to be absent, and many other lexical items will appear only once or twice" (Swan, 2005, p. 393). In preparing first year undergraduates for academic writing, research indicates that L2 learners find academic vocabulary challenging (Li & Pemberton, 1994) and although technical vocabulary remains central to students' specialized areas, general academic vocabulary that serves an important role are "not likely to be glossed by the content teacher" (Flowerdew, 1993, p. 236). Swan (2005) go on to suggest that classroom-based instruction simply cannot provide the right conditions for natural learning and there is the need for "careful selection and prioritizing, proactive syllabus design, and concentrated engagement with a limited range of high priority language elements". Nation and Newton (1998) conclude that it is "worth looking at opportunities for direct and indirect (academic and technical) vocabulary learning in the language classroom" (pp. 240–241).

1.2 Implicit and explicit learning

Even if all students are exposed to the same lesson, text and levels of interaction, interlanguage develops at markedly different rates for different L2 students. Teaching and learning gets complicated when: a) L2 learners do not always know the various meanings of target words (Schmitt, 2000); b) L2 learners are unable to arrive at the meaning of a word due to the lack of sufficient knowledge to infer or guess from the context (Laufer, 1997); and c) even advanced L2 learners use simple word structures and phrases in an attempt to make minimal errors in their academic writing (Lie & Shaw, 2001). This results in some learners being able to catch on while others struggle to keep up with the readings. Instructors on the other hand find it difficult to provide instruction according to ESL and EFL needs because L2 learning is affected by both L1 and L2 knowledge, and they are unable to detect gaps in learner ability and are often reluctant to make "slower" students repeat a level once they have covered the material, since they have to cater to other students who have made greater gains (Zimmerman, 2005). Meanwhile, Spada and Lightbrown (1999) point out that formal instruction enables L2 learners to skip certain stages in their developmental sequence and, considering that the adult L2 learner is capable of learning from various forms of instruction and is affected by motivation and affective factors, it makes greater sense to address L2 learners' vocabulary problem through direct and explicit instructional practices rather than depend on implicit learning practices. Furthermore, within L2 vocabulary testing research, Laufer & Nation (1999) have demonstrated that specific ranges of vocabulary can provide the "enabling knowledge" required to be successful in other areas of the language proficiency and these words can be directly taught to L2 learners. Similarly, Lee (2003) points out that explicit instruction of words related to a topic can result in an increase in the number of words in free writings and suggest that systematic instruction does help L2 learners increase their attention to specific word use.

1.2.1 Academic vocabulary

Academic vocabulary is often considered a key element of *essayist literacy* (Lillis, 2001) and an academic style of writing is generally seen as more advanced (Jordan, 1997) than writing that contains only the core 2,000–3000 words. These words make up around 80% of the words students are likely to encounter when reading in English at the university (Carter, 1998). The Academic Word List – AWL (Coxhead, 2000) – which contains 570 word families, is considered essential for students pursuing higher education irrespective of their chosen field of specialization[1]. This list supersedes existing word lists such as the University Word Level of the Vocabulary Levels Test

(Read, 2001)[2]. Hyland (2006), despite expressing caution over the widespread use of the AWL, admits that the AWL plays a role in distinguishing English for Academic Purpose vocabulary from general English vocabulary and sets an agenda for focused language learning in academic writing classrooms. This word list is also said to offer a useful characterization of register level vocabulary choices which provide learners with a basis for challenging and examining specific practices in their own fields. Then, there is also the underlying pedagogical principle where, by getting learners to directly learn the first 2000 to 3000 words in a target language and by teaching learners the next 570 words academic words, university students are seen as capable of mastering almost 97% of the words found within the text. This, in turn, enables learners to spend more time on using their higher thinking skills when comprehending academic texts (Laufer, 1997).

As for introducing a vocabulary syllabus into the language classroom and deciding on the kind of words (academic or technical) that should be included into the syllabus, Sinclair and Renouf (1988) caution that it may not just be frequency of word forms that is important but the frequency of the various meanings of those forms and their related inflected forms as well. On a similar note, Hyland (2006) points out that words do not occur randomly in language use and their choices are often governed by both rule-based systems of categories and community-based conventional practices, and these practices might "not operate at the level of register as assumed in the notion of academic vocabulary" (p. 248). Also, L2 learners are more likely to acquire words as they need them, and it is possible for learners to encounter many of the academic words even before gaining control of the first 2000 to 3000 words. Thus, teaching words in sequence might not be the best practice in these circumstances. Nevertheless, from a larger framework, it has been accepted within L2 research that vocabulary is much more than individual words acting separately in a discourse and that each word should not be learnt out of context (Coxhead, 2000; Coxhead & Nation, 2001; Nation, 2001). In addition, any effort towards direct teaching of vocabulary must include information about the frequency of the specific word forms, their meanings and their use (Nation, 2001). Learners should also be encouraged to notice high frequency items and multiwords units through repeated exposure and through temporary decontextualisation activities such as matching and item identification (Hyland, 2006).

1.2.2 Form-focused instruction

There is general agreement between L2 researchers that meaning-based instruction is more important than form-based instruction. However, as Adamson (2005) states, the ideal lesson should contain some attention to forms that are embedded in meaningful language. This makes sense because by focusing on specific forms, learners get to notice words which might otherwise be overlooked in the rush to comprehend the overall meaning. Form-focused instruction, meanwhile, characterizes a wide range of instruction that concur with theories of the role of consciousness and attention in L2 learning. Such form-focused interventions focus on shifting learners' attention to a particular form within a meaningful context and they are often done with a predetermined syllabus in mind. Advocates of task-based approaches however reject the structural syllabus on the basis that materials designed along structural lines present language acquisition as a process of accumulating independent, distinct entities. Task-based instruction nevertheless views attention to form as efficient and capable of enabling adult learners to acquire linguistic features which cannot be picked up from comprehensible input or experiential learning. Initiated by Long (1991), fonf which began as an implicit activity has been modified to include planned fonf, which is the use of focused tasks "that have been designed to elicit the use of specific linguistic forms in the context of meaning centered language use" (Ellis, Basturkmen and Loewen, 2002, p. 420). Long's (1991) original suggestion that fonf should not interfere with interaction has also been modified to include both implicit activities (e.g. recasts, input enhancement) and explicit activities (e.g. error correction and statement of rule).

Fonfs activities on the other hand have their roots in the structural syllabus. Pure fonfs activities require learners to work with isolated words that are not related to any meaning-based task.

They are based on the assumption that adult L2 acquisition resembles the acquisition of other cognitive skills and for learning to take place, rules underlying grammatical structures should be explained, and frequent opportunities be provided for practicing these structures through both communicative and non communicative activities. Fonfs activities include completion exercises, matching synonyms and word association tasks. With fonfs vocabulary instruction, it must be noted that while the activities are not necessary for accomplishing reading comprehension, they are necessary for word practice, exposure and in-depth processing of word meanings.

Two comments are in order at this point before making a decision about the effectiveness of a particular approach. First, it must be noted that language teaching generally involves a combination of a number of meaningful input, fonf and fonfs approaches. Good teaching practices, regardless of implicit and explicit options, involve some level of structured input, practice, output and correction. Presently, despite consensus that deeper processing results in better learning, it is still unclear which factors actually influence depth in teaching and learning. It is possible that a combination of fonf and fonfs activities can benefit L2 learners in terms of getting them to notice, attend and practice using the words in various forms and senses. However, that would mean accepting features of task-based instruction and some features of the structural approach. Second, given the differences between adult L2 acquisition and L1 acquisition process, there is a need to ensure that the syllabus is in line with the learner's needs and the three stages of the skills acquisition theory: the cognitive (declarative) stage, the associative (procedural) stage and the autonomous stage.   A study that looks at : a) the effect of vocabulary instruction on adult L2 learners vocabulary development, and b) adult L2 learners' ability to learn vocabulary amidst different learners and speakers along these lines would be useful for making decisions about adapting them for classroom use.

2   The study

This study combines and extends both form-focused instructional options (fonf, fonfs and meaningful input) and L2 learners' ability to investigate L2 learners' vocabulary development over time. The study has two aims. First, it investigates the effectiveness of meaning-based implicit vocabulary instructional practices and rule-based explicit vocabulary instruction using meaningful input and a combination of fonf and fonfs practices. Second, it looks at vocabulary development according to classroom context (L1, L1 & L2, and L2 only). The L1 learners' data will serve as baseline input and will only be used for drawing comparisons between L2 learners' performance and learning goal.

The research questions investigated in this study are as follows:
1. Is the gain in vocabulary scores for the rule-based explicit (treatment) instructional group greater than the gain in scores for the meaning-based implicit (control) instructional group over time?
2. Is the gain in vocabulary scores for the rule-based explicit (treatment) instructional group greater than the gain in scores for the meaning-based implicit (control) instructional group for L1 and L2 subjects over time?

2.1 The method

The study involved 129 first year undergraduates (L1 = 65 students and L2 = 64 students) from the University of Arizona. The subjects were drawn from six intact classes (3 treatment and 3 control groups). The subjects followed instructors who had been randomly selected from an existing pool of L1 teaching assistants who had volunteered to participate in the study. Only L1 instructors were recruited in order to minimize the number of instructor variables. Three classes (as indicated in Table 1) were identified as the control group that were subjected to meaning-based instructional input (A2-, B1-, and C12-), where (-) indicates the control group. L1 subjects are indicated with (1) while (2) denotes L2 subjects. A2- means control group A with only L2 students. The remain-

ing three classes, (A1+, B2+, and D12+), were identified as the treatment groups and were subjected to rule-based explicit instructional input and the plus sign (+) indicates the treatment group. A1+ would mean treatment group A with L1 subjects. The L2 subjects were mostly students from China, Japan, Korea and Latin America, while the L1 students were from the United States. The group distribution is as indicated in Table 1.

	Control (N=61)			Treatment (N=68)		
Groups	A2-	B1-	C12-	A1+	B2+	D12+
L1		23	7	27		8
L2	15		15		19	15
(N=129)						
Instructors = A, B, C, D			Treatment = +		Control = -	
L1 students = 1			L2 students = 2		L1 + L2 students = 12	

Table 1: Distribution of subjects by language, instructional group and class group

The study used Laufer and Nation's (1999) Productive Vocabulary Levels Test (PVLT) to measure vocabulary gains. The PVLT measure was used because it has been found to be a reliable measure of vocabulary level that is easy to use and capable of providing reliable scores for learner performance at the 2000, 3000, UWL, 5000, 10,000 word level (Zimmerman, 2006).

2.1.1 Materials

Twenty high frequency academic words were selected from the students' language textbook (The University Book, 2003) following a discussion with the instructors. Eight ten- minute vocabulary activities involving sentence completion and word association tasks were constructed as in (a) and (b). Each word was recycled approximately six to eight times throughout the semester using various linguistic forms.

(a) *Completion exercise*
    1. She decided to purchase a number of essen_____ oils to protect her skin.
    2. It must be noted that there is not a character in Measure in Measure that is not essen_____ weak and therefore human.
    (answers: essential, essentially)

(b) *Word association (Circle the next word)*
    (i) Essential: a) proposition b) nature c) manpower d) oil e) organs
    (answers: proposition; manpower, oil)

The instructors, though aware of the target words, were not informed that the words were being recycled. Similarly, the subjects were unaware that they had to take a post-test at the end of the study. This was to ensure that the students did not memorize for the post-test.

2.2 Implementations

All subjects completed a paper and pencil version of the PVLT measure (Version A) in the first week of the study and in the last week of the study (PVLT-Version B). Throughout the semester, the treatment and control groups were subjected to meaningful instruction with some form-focused activities included alongside. Instructors were required to draw students' attention to specific vo-

cabulary forms (predetermined) as they came up. The instructors could also explain the various meanings of unfamiliar words based on learner needs implicitly (discussed in context) or explicitly (discussed specific forms and meanings) according to the specific group. Students involved in the implicit instructional group were required to write free sentences with specific target words (implicit) at the beginning of their lessons while the explicit groups engaged in completion activities (explicit) at the beginning of the lessons.

Explicit Instruction: Completion exercises were selected because sentence completion activities have been found to be more effective for learning vocabulary than any in-depth writing exercise, especially when time happened to be a constraint (Folse, 2006). Each of the classes in the treatment groups (Groups A1+, B2+ and D12+) were subjected to five to eight minute long completion activities over the course of the semester. Each subject had to identify and write out specific word forms and associative forms. The individual instructor then went through the responses by providing oral feedback as indicated in situation 1. The explicit feedback varied in relation to quality and quantity of interaction within L1 and L2 learners and within proficient L2 and less proficient L2 learners.

Situation 1:
> **(1) Explicit Vocabulary Instruction (fonf)**
> Class (B2+)
> Tr: What kind of illegal movement will you focus on?
>> *S1: illegal immigrants*
> Tr: What is your topic?
>> *S1:   Working in America legally*
> Tr: What do you mean by "legally"
>> *S1: Guest Worker program*
> Tr: What do you think your topic will be?
>> *S2: Letting foreign workers work in the United States.*
>> *S1: Yah, but after many years... you have to go back... So, you are still not legally legal.*
> Tr: All right… what is the difference between legally and legal.
>> *S3: adverb and adjective.*
>> *S4: permitted by law, authorized ...to become a legalized citizen.*

Implicit Instruction: The classes involved in the control group wrote brief sentences using the given keywords for five to eight minutes. The instructors had initially agreed to address such words in their syllabi. The associative words were not pre-planned, and instructors usually wrote out a number of useful words following students feedback as indicated in (c).

(c) Free Writing Tasks
   Illegal Immigration – *crack down – illegal aliens -   employers – incentives*

(d) Sample Writing:
   The United States needs to stop illegal immigration by cracking down on employers who hire illegal aliens. By doing this, the incentive for people to illegally come and stay here in the United States would be removed.

Students then wrote on a given topic or expanded on the given words without any further discussion as indicated in (d). This was considered pushed output (written form) within implicit instruction. At the end of the lesson, the instructor would pick a couple of students and ask them to write out the paragraphs on the board and highlight some interesting words and phrases. The above activities were carried out for eight separate sessions and at the end of the semester, the students were subjected to a post-test. The analysis of the pre-test post-test results are presented below.

3 Findings

Research question 1

The pre-test and post-test scores for the rule-based explicit instructional (treatment) group and meaning-based implicit instructional (control) group are as presented in Table 2.

Group	Pre-test			Post-test		
	2000	3000	**AWL**	2000	3000	**AWL**
Implicit (Control)	13.78	9.36	**9.02**	13.76	13.12	***11.52***
%	*76.56*	*52.00*	***50.11***	*76.44*	*72.89*	***64.00***
Explicit (Treatment)	13.89	9.09	**8.83**	12.47	12.17	***9.49***
%	*77.17*	*50.50*	***49.06***	*69.28*	*67.61*	***52.72***

N (92)   ***Note****: The increase at post-test level is italicized in bold*

Table 2: Mean and percentage of scores on PVLT (pre-test & post-test)

The results indicate an increase in the post-test scores for both implicit (control) and explicit (treatment) instructional groups. The control groups subjected to implicit learning conditions recorded an increase of 3.76 (+20.89%) at the 3000 word level and 2.5 (13.89%) for the Academic Word Level (AWL) and the treatment groups subjected to explicit instruction recorded a gain of 3.08 (17.11%) at the 3000 word level and 0.66 (3.67%) at the AWL level. As the study involved a pre-test and post-test measure, a repeated mean ANOVA was carried out to compare the differences between treatment types. All calculations were done using the SPSS statistical package version 15. The result for the repeated mean measure for testing null hypothesis 1 was of no group difference between treatment types. The overall difference between the scores was statistically significant at $F (1, 90) = 4.18.921$ with $p<0.001$. However, the group effect for the difference between the gains of the control group and the treatment group was not statistically significant at $F (1, 90) = 2.147$ with $p=0.146$. Therefore, it was possible to state that there was no difference between the control (implicit) and treatment (explicit) instructional conditions.

Research question 2

To determine the effect of the differences between the individual subgroups, a repeated mean measure between the subgroups (classes) and AWL was conducted and the various class subgroups were considered as the between-subject variable in the study. From the results, it was possible to reject the null hypothesis at $F (1, 86) = 9.375$, $p<0.001$. The subgroups (individual classes) were different from one another. In fact the difference for the scores in the AWL levels for the various class groups was statistically significant at $F (1, 86) =469.118$, $p<0.001$. The post-test scores for most of the classes in the subgroups were higher than the pre-tests scores. As for interaction effect, the results were found to be statistically significant at $F (1, 5) = 2.418$, $p< 0.05$.
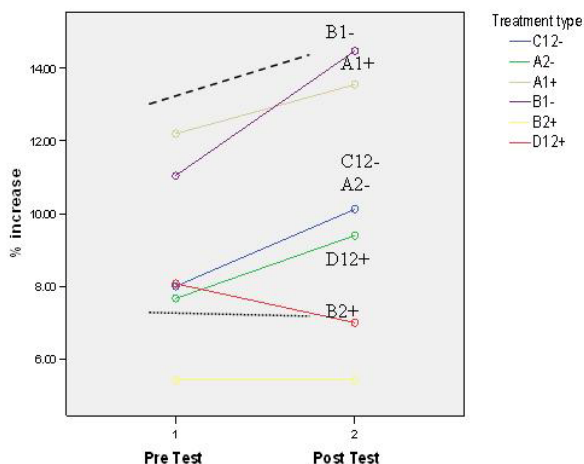
Figure 1: Interaction plot for the subgroups

The interaction plot in Figure 1 provides a clearer picture of the two-way interaction effect for the various class groups. It was obvious that subgroup (class) B1- (control [implicit]) had performed much better than A1- (treatment [explicit]), and this had happened despite class A1- having started from a higher level during the pre-test. Classes C12-, A2- (Control [implicit]) and D12+ (treatment [explicit]) had begun from a similar level, but class D12+ showed a loss, indicating that instruction does not always lead to a gain in vocabulary learning. Class B2+, which began at the lowest level, did not experience any increase between pre-test and post-test scores. At this point, it can be said that it was the performance of both immersion classes C12- and D12+ comprising L1 and L2 learners that affected the overall results. This finding required further analysis of the individual results of the various class subgroups.

Group	AWL	Mean	%	SD	SEM	Gain (%)
B1-	Pre	11	61.4	4.92	1.03	
	Post	**14.5**	80.4	3.53	0.74	*19.1*
C12-	Pre	6.8	38	4.2	1.21	
	Post	**9.8**	54.2	3.61	0.9	*16.2*
A1+	Pre	11.3	63	3.21	0.67	
	Post	**13**	72.4	3.88	0.78	*9.4*
A2-	Pre	7.7	42.9	5.08	1.36	
	Post	**8.9**	49.6	3.47	0.9	*6.8*
B2+	Pre	5.4	30.2	4.88	1.3	
	Post	**5.9**	32.7	5.8	1.37	*2.6*
D12+	Pre	7.8	43.3	5.92	1.32	
	Post	6.1	33.6	6.12	1.44	-9.7

* *gains are italicized in bold*

Instructors = A, B, C, D	Treatment = +	Control = -
L1 students = 1	L2 students = 2	L1 + L2 students = 12

Table 3: Pre and post AWL scores by ability

It can be deduced that the classes within the control (implicit) group (B1-,C12-, A2-) had gained by approximately 6.8% to 19.1%. The classes that had begun with a higher AWL (A1+ & B1-) experienced greater gains at the post-test levels. The classes in the treatment group (A1+, B2+) gained by about 2.6% to 9.4% and class D12+ experienced a loss by -9.7%, indicating that

groups that had begun with a lower AWL level (B2+ & D12+) generally experienced smaller gains or even decreased as in the case of class D12+. The gains for the combination classes (C12- [implicit instruction at 16.%] and D12+ [explicit instruction at -9.7%]) seem to be rather high. While the results in Table 3 indicate that there is positive effect for vocabulary learning in both control and treatment instructional groups, the effect was dependent upon the initial proficiency level (pre-test scores) of the subjects. Also, the fact that the largest difference was experienced by class C12- (implicit instruction at 16.2%) and D12+ (explicit instruction at -9.7%) suggests that classes that were made up of a combination of L1 and L2 learners learnt differently from classes that were comprised of only L1 and L2 learners. Though there was no statistical difference between the control (implicit) and treatment (explicit) instructional conditions, the gain in scores for the implicit learning groups was higher than that of the explicit learning groups. However, this performance seems to be affected by differences in pre-test scores with those who had begun with a higher initial score demonstrating greater gains in the academic word knowledge.

4   Discussion

From the results, it can be stated that the strongest vocabulary gains were experienced by the classes that were taught through meaning-based implicit vocabulary activities. Though both groups increased their vocabulary for the various vocabulary levels, the performance of the rule-based explicit instruction group was lower than that of the meaning-based implicit instructional group. While the results were significant, favoring implicit instruction, it cannot be said at this point that rule-based explicit vocabulary instructional practices had failed L2 learners because both groups did increase their vocabulary. Instruction regardless of explicit and implicit practices does lead to some change in learning. With vocabulary learning being a slow and patchy process, the fact that learning had taken place at all amidst the enormous complexity of the L2 learning process and real life constraints should be seen as cause for hope. It is possible that while instructors were able to get learners to notice and attend to words (through controlled practice, e.g. free writing, completion and word association activities), the problem-solving operations had remained independent for the explicit instructional group. For the implicit instructional group, the learners were involved in communicative production where they had opportunities to use the words to achieve some non-linguistic goal. This can be viewed as focused task or problem-solving activities. However, with the explicit group, the situational completion activities and word association task, though helpful for covering a larger number of vocabulary, did not give students real opportunities to use the forms in meaningful context, because the instructors merely gave the correct answers and got the students to check their answers. There were few opportunities for learners to consciously search for opportunities to use the rules based on their experiences, since the instructors were eager to move to the next task. The learners in the meaning-based classes were pushed to use the words in their own context (comprehensible input) and this enabled learners to elicit negative evidence and engage in communicative practices. By getting speakers and learners to rewrite select writings on the board, it pushed other learners to modify their output as well.

As for learner differences, it was evident that the L1 speakers had begun from a higher vocabulary base and this had an accelerating effect on the vocabulary gains. In fact, the performance of the implicit and explicit group could have been affected by the L1 speakers' performance as well. At this point, it must be remembered that in the L1 acquisition process, all speakers are assumed to be successful in the language and L2 learner success cannot be measured alongside (near) native-like mastery. At no point in the study were any of the L2 classes close to the L1 learners' initial vocabulary and there would be no point in comparing L1 speaker ability to L2 learner ability.

The view that a combination of fonf and fonfs practices (communicative practices and structural syllabus) did not facilitate L2 vocabulary learning is cause for concern. Given the amount of supporting evidence given in SLA and L2 vocabulary testing research, it is possible that the fault could lie in the details. The samples came from real classroom settings and the researcher has little control over learners' initial vocabulary size. For the purpose of this study, the vocabulary devel-

opment process must be seen in relation to the level of motivation, the amount of exposure, in-depth elaboration and familiarity of the words used, the quality of instruction, and the strength of the affective filter that the L2 learners had to overcome. Given the heterogeneous nature of the L2 learners, it is possible to use a number of the above features to explain the L2 learners' vocabulary gains and losses and there was a wide difference in terms of learners' initial ability. However, the real evidence for implicit instruction came from the combination groups' performance. Both combination groups had begun from a lower initial level, but the explicit instructional group actually experienced a loss while the implicit group went on to increase its vocabulary size. In fact, the combination group had surpassed the performance of the L2 learners in the L2 only implicit group (ESL situation). All the meaning-based implicit instructional groups seemed to have increased their vocabulary level by the end of the study while the rule based explicit instruction group appears to have dipped or not changed by the end of the study. In sum, it was the combination groups' performances that were affecting the overall scores and therefore, it is possible to conclude from this study that academic vocabulary is best acquired through meaning-based implicit learning activities for both L1and L2 subjects.

The L2 learners in the combination classes and the meaning-based implicit class began from a vocabulary level that was near similar. The fact that the combination classes, despite comprising L1 learner, began from an almost similar level suggest that the L2 learners in these groups probably began with a lower vocabulary size which is close to the rule-based explicit group. The interaction of the speakers in the combination classes probably caused the change in the final performance. As for the group that began with a very low level, there was no change suggesting that instruction did not have any effect on these learners. This is worrying since there is little evidence that learning has taken place with this group.

In discussing the limited success of explicit instructional practices in this study, it must be admitted that the instructors were partly to be blamed as well. As Skehan (1998) mentions, teachers need some way of monitoring the development of their learners' interlanguage: they need to know what has been learnt and what still needs to be learnt. Being trained language teachers and willing to integrate vocabulary into the classroom, the instructors were not convinced that focusing on vocabulary forms was the right thing to do in the writing class. Some instructors did voice concern that their better learners would find the short vocabulary sessions rather remedial. This could have affected the level of learner motivation as well. The study was carried out in a writing classroom, where instructors were more comfortable with encouraging learners to write using the words. So, getting learners to notice and attend to vocabulary while writing was very easy in the writing classroom. Fonf and fonfs vocabulary instruction was seen as different and challenging. There might be a need to convince teachers of the relevance of teaching certain vocabulary in the academic classroom.

The fact that learners have problems with other language abilities and that learners learn vocabulary best through implicit learning conditions as well does not mean that systematic teaching of fonf and fonfs vocabulary should be abandoned. As Scheffler (2008) mentions, describing a syllabus as both communicative and structural need not be seen as a contradiction in terms. In the early stages of language classes, some attention to high frequency words and specialized vocabulary may be just what learners need to help them read and comprehend language input. Thus, a suggestion that specific vocabulary be taught based on existing word lists in L2 vocabulary teaching research must be seen as an expression of a well thought out needs analysis. Second, teaching vocabulary directly does not mean abandoning the communicative methodology. The parts are equally as important as the whole and by helping L2 learners acquire the enabling knowledge so that they can become autonomous users of the language is in line with the skills acquisition theory.

5   Conclusion

The aim of this study was to provide evidence that explicit vocabulary instruction involving focus on form activities and focus on forms activities would be more beneficial in helping learners

learn specialized vocabulary in the language classroom. However, the findings revealed that implicit meaning-based vocabulary instruction was more effective for helping L2 learners increase their vocabulary. The class with L1 speakers learnt more words compared to all other groups with L2 speakers, suggesting that immersion settings are far superior to ESL settings. While the study did manage to show that learners do increase their vocabulary through systematic vocabulary instruction, there is still the problem of getting learners to use the words well. Also, the problem is not restricted to vocabulary knowledge alone, but it is also a matter of language ability. Furthermore, not all words can be presented as exhaustive rules and not all words can be tackled explicitly. There are times, when contextual explanation will do just as well but the more important issue would be how to get learners to use their existing vocabulary in new and creative ways. While there is definitely a need for more real classroom-based studies involving L2 learners' vocabulary needs, the conclusion is as Chomsky (1970) said, "it is teachers who ultimately decide" on what is suitable for their learners (p. 55).

Notes

[1] The headwords of families in the AWL are available at http://language.massey.ac.nz/staff/awl/.
[2] The UWL word level is available at http://jbauman.com/UWL.html.

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