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Task-related focus-on-forms foreign language vocabulary development: Focus on spoken form and word parts

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1. Introduction

Although vocabulary research was long neglected in the field of second language acquisition, it has more recently come to receive revived interest and renewed attention and is no longer considered a learning variable to be left to take care of itself (Moir & Nation, 2008).

Coady (1997) identifies four approaches to vocabulary development including 'context alone', 'strategy instruction', 'development plus explicit instruction' and 'classroom activities'. Of these, the second and third positions strongly suggest that if learners intend to boost their lexical reservoir, they need to be explicitly taught and made conscious of various vocabulary learning strategies and that teachers need to explicitly focus on and teach (various aspects of) words respectively.

Similarly, (Laufer, 2017b), p. 6), highlighting the crucial role instruction can play in foreign language vocabulary development, holds that, "the three 'I's of vocabulary acquisition" encompass "[i]nput, instruction and involvement". Consequently, as Hulstijn and Laufer (2001, p. 541) put, "Processing new information more elaborately will lead to a better retention than if it

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had been processed less deliberately". This elaboration and deliberate processing, I assume, can be expedited by teacher's intervention and explicit instruction which might help learners notice the input more easily and involve them more deeply in the task at hand.

Thus, in keeping with these conceptualisations, and also in line with the tenets of Craik and Lockhart's (1972) 'depth of processing hypothesis' holding that the retention of the information would improve if more attention is paid to different aspects of new information, and Laufer and Hulstijn's (2001) 'Involvement Load Hypothesis' maintaining that the retention of to-be-learned words would become better if the involvement load of the task at hand is high enough, Schmidt's (1990) noticing hypothesis postulating that attentional mechanisms (i.e., noticing and input awareness) and focus on form are determining factors in L2 acquisition, and Nation and Webb's (2011) Technique Feature Analysis framework deeming the five components of noticing, retrieval, generation, motivation and retention necessary for vocabulary development, I made attempts in the present study to investigate the impact of task-related FonFs activities on foreign (i.e., English) language vocabulary development in the EFL context of Iran in view of the gap felt.

2. Literature review

2.1. What is meant by vocabulary knowledge?

Nation (2001) classifies word knowledge into the three categories of *form*, *meaning* and *use*, which, as Schmitt (2014, p. 916) rightly maintains, "is still considered the best specification of the range of so-called word knowledge aspects to date". Knowledge of form encompasses knowledge of *spoken form*, knowledge of *written form* or orthographic knowledge and knowledge of *word parts* (i.e., knowledge of various affixes e.g., prefixes, stems, suffixes and word families) (Nation, 2001). According to Nation (2001), knowledge of meaning entails knowledge of such aspects as (the relationship between) *form and meaning*, *concepts and referents* and *associations* (i.e., knowledge of such various semantic relationships as synonymy, antonymy, hyponymy, entailment, etc.). Knowledge of use involves *grammatical functions*, *collocations*, and *constraints on use* (Nation, 2001).

2.2. Various approaches to or theoretical frameworks for vocabulary development

2.2.1. Incidental/intentional vocabulary learning

Hu and Nassaji (2016, p. 28), citing Laufer (2001) hold that, "Incidental vocabulary learning is often defined as learning vocabulary with no deliberate intention or when learners' attention is on learning something else whereas intentional vocabulary learning refers to learning with conscious intention and awareness".

However, it could be argued that incidental vocabulary learning might prove more fruitful for those learners acquiring words in their mother tongue (Gallagher et al., 2019) as well as for more intermediate and advanced level students (Hu & Nassaji, 2016) whose reservoir of vocabulary knowledge is already sufficient to enable them to, for instance, guess the meaning of unknown words from context. These two plausible reasons might call for the need for not only intentional vocabulary learning, but also for processing various dimensions of words deeply to learn them more efficiently (Hu & Nassaji, 2012, 2016; Hulstijn & Laufer, 2001; Schmidt, 2001), a conceptualization called "elaborate processing" (Hulstijn & Laufer, 2001; Laufer, 2005; Schmidt, 2001), the original notion of which was introduced in the 'depth of processing' model proposed by Craik and Lockhart (1972).

2.2.2. Depth of processing hypothesis

Craik and Lockhart (1972) introduced the concept of depth of processing which entails the premise that the storage of information in long-term memory is determined mainly by the depth with which it is processed and is not very much associated with the amount of time it is preserved in short-term memory. Craik and Lockhart (1972) postulated several levels of processing depth including semantic processing (which is believed to occur at a deeper level) and phonological form processing (which is assumed to take place at a shallower level). Thus, as Hulstijn and Laufer (2001, p. 541) argue, "retention of new information depends on the amount and the quality of attention that individuals pay to various aspects of words."

2.2.3. Involvement load hypothesis

Drawing mainly upon Craik and Lockhart's (1972) concept of depth of processing and Craik and Tulving's (1975) notion of elaboration, Hulstijn and Laufer (2001) introduced Involvement Load Hypothesis (ILH) for L2 vocabulary learning. They proposed that involvement comprised the three basic elements of need (as a motivational construct), and search and evaluation (as cognitive constructs), each of which being classified into moderate and strong type.

The combination of the three above-mentioned components or dimensions (i.e., need, search and evaluation) with their degree of prominence (i.e., moderate or strong) constitutes involvement. Hulstijn and Laufer (2001) hold that the degree of involvement in processing a given word (i.e., whether the task has been set internally by the learner or externally by e.g., the teacher, whether to search the new word or not, and whether to evaluate the new word against other words or against its various senses) determines (the quality of) its retention.

2.2.4. Technique feature analysis

Another theoretical framework accounting for processing depth and elaboration in vocabulary learning is Technique Feature Analysis (TFA) proposed by Nation and Webb (2011), which encompasses the five components of noticing, retrieval, generation, motivation and retention forming an eighteen-criterion framework that is quantifiable.

As Hu and Nassaji (2016) hold, while the 'motivation' component is associated with whether the vocabulary task motivates learning and has a clear learning goal, the component of 'noticing' concentrates on whether the task pays attention to the given target word. Noticing takes place when learners study words intentionally (Nation, 2001). The 'retrieval' component comprises both receptive and productive retrieval and recall, and whether there are multiple retrievals of each word or spacing between retrievals (Hu & Nassaji, 2016). The component of 'generation,' is classified into receptive processes (which occur through listening and reading) and productive processes (which take place by using the words in new contexts through speaking and writing) (Nation, 2001). The component of 'retention,' basically involves whether a vocabulary task establishes form-meaning associations successfully (Nation & Webb, 2011).

It is worth mentioning here that, as Hu and Nassaji (2016, p. 38), citing Nation and Webb (2011) state, "the actual weight of each factor contributing to vocabulary learning in both the ILH and TFA could not be exactly measured", which can be considered as a potential limitation of the two frameworks.

2.3. Focus on form/forms and vocabulary development

The term focus on form (FonF), as contrasted to focus on forms (FonFs), was first developed for the teaching and learning of grammar (Long, 2009), but as Laufer and Girsai (2008) maintain, the term has also been extended and applied to vocabulary learning and teaching though this linkage between form-focused instruction and vocabulary teaching is relatively new (Laufer, 2005). Form-focused instruction in vocabulary learning can have various kinds. Looking up unknown words from dictionary during a collaborative group discussion, as contrasted with the famous 'list learning' of words, can be considered a type of FonF since the learners have to attend to the words they are learning briefly in order to complete the communication task in which they are engaged. The latter (i.e., list learning) is regarded a clear example of FonFs in vocabulary learning (Laufer & Girsai, 2008).

Laufer (2005, p. 245), in fact, divides form-focused vocabulary learning into three types including "task-embedded FonF, task-related FonFs, and 'pure' FonFs". The task-embedded FonF is closely related to Long's (1991, pp. 45–46) definition of the concept as "drawing students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" wherein the learner is regarded as language user and language as medium for communication (Laufer, 2005). However, in task-related FonFs instruction, "words are the objects of the learning, but they are, nevertheless, related to, though not embedded in, a meaning-based task which is central in a lesson" (Laufer, 2005, p. 238). Examples include exercises requiring learners to match new vocabulary items with their synonyms in a reading comprehension activity (Laufer, 2005). Pure FonFs activities, on the other hand, "require learners to work with isolated words that are not related to any meaning-based task" (Laufer, 2005, p. 238). Examples include learning words through decontextualised bilingual word lists or crossword puzzle exercises designed for learning words (Laufer, 2005). Laufer (2005, p. 244) concludes that "insistence on an exclusively communicative context [e.g., FonF] is unacceptable in vocabulary learning" and that "FonFs is a necessary and beneficial element of vocabulary instruction".

As an example of FonF study in vocabulary acquisition, Zhang and Graham (2019), investigated the vocabulary learning of 137 Chinese senior high school EFL learners through listening by comparing four different lexical FonF experimental conditions including post-listening vocabulary explanations in second language, contrastive FonF (i.e., explanations which provided additional cross-linguistic information), code-switched explanations and no explanations. Vocabulary learning was measured through aural vocabulary tests administered as pre-, post- and delayed post-test. The findings indicated that the contrastive FonF group outperformed its counterparts in the study in terms of vocabulary learning.

Three studies are mentioned in Laufer (2005) comparing the impact of FonF and FonFs on vocabulary learning. In the first study, Laufer (2003), compared learning vocabulary through reading and use of glossary (FonF) versus learning words through sentence writing (FonFs). The second study, conducted by Hill and Laufer (2003), compared learning words through reading and use of electronic dictionary (FonF) against learning vocabulary through selecting the meaning of target words from four options or synonyms provided (FonFs). The third study compared learning words through reading (FonF) with both word selection and fill-in-the-blank exercises (FonFs) (Laufer, 2005). The results indicated that in all the three studies mentioned, the FonFs groups outperformed their counterparts in FonF groups in word learning.

Similarly, Laufer and Girsai (2008), explored the impact of explicit contrastive analysis and translation activities on the incidental learning of single words and collocations by seventy-five 10th-grader EFL learners who were exposed to three experimental conditions, namely, meaning-focused instruction (MFI), non-contrastive form-focused instruction (FFI) and contrastive analysis and translation (CAT), (with the last two groups being examples of FFI overall). The participants' acquisition of vocabulary was tested through their immediate and delayed active recall and passive recall of twenty unfamiliar words and collocations in English. They found that Group 3 or CAT (as an instance of FonFs) outperformed Group 2 (as an example of FonF) who, in turn, performed significantly better than Group 1 (as an instance of MFI), hence indicating the superiority of various kinds of form-focused vocabulary instruction especially FonFs activities over other 'non-focus-on-form' methods.

Finally, Hu and Nassaji (2016) concluded that form-focused vocabulary tasks (i.e., choosing correct definitions for target words while reading a passage and reading a text with blanks in it to be filled with target words, which are both considered as task-related FonFs activities) yielded higher word learning gains than reading a text followed by multiple-choice items (as an instance of a pure reading comprehension activity with no focus on word form).

2.4. Focus on spoken form and vocabulary development

Because, as Nation (2001) maintains, knowledge of a word includes, among such other aspects as *meaning* and *use* of the word, knowledge of *form* (including both spoken form and written form as well as word parts) and since knowledge of phonological (i.e., spoken) form (Soodmand Afshar, Ketabi, & Tavakoli, 2010) and acceptable pronunciation (Rubin, 1987) are crucial factors differentiating good language learners from their less successful counterparts, the focus on and practice of the spoken form of the words in foreign language classes seems inevitable. Pronunciation seems to lend itself well to the 'psychomotor domain' of Bloom's (1956) trichotomous taxonomy (including 'cognitive' and 'affective' domains as well). Psychomotor aspects of pronunciation are best learned by giving learners opportunities to practically produce language (Brown, 2008), for instance, through repetition. Within the same lines, Strevens (1974) and Trofimovich and Gatbonton (2006), highlight the point that focus on and practice of the spoken form of to-be-learned words can best take place through 'mimicry' (i.e., repetition).

Some studies could be found in the literature exploring the (causal) relationship between knowledge of a word's spoken form and its acquisition. For one, Ellis and Beaton (1993), investigated productive and receptive knowledge of German as a foreign language word pairs learned under various conditions or groups (i.e., 'own strategy group', 'repetition group', 'noun keyword group', and 'verb keyword group') by 13 male and 34 female psychology undergraduates whose first-language was English. They found that pronounceability was of crucial importance in vocabulary acquisition (i.e., in both vocabulary reception and production) especially for the latter. Similarly, Gathercole and Baddeley (1989) investigated the role the short-term phonological memory could play in vocabulary acquisition of 104 four-and-five-year-old children who were enrolled at infant schools run by Cambridge County Education Authority. They found that the learners' ability to keep a word in their phonological short-term memory was one of the influential factors affecting vocabulary acquisition measured by asking a child to repeat back nonwords that varied in length and complexity.

By the same token, Gathercole (2006) also concluded that word learning was a multi-faceted phenomenon wherein the role of phonological knowledge was of paramount importance. This shows that vocabulary knowledge is conjointly and interactively determined by various factors, including 'phonological sensitivity', which aids long term representations of words.

However, in contrast to the findings of the studies mentioned above in favour of a positive causal relationship between the knowledge of the spoken form or pronunciation of the words and their learning, some studies have found no such an association. Kaplan-Rakowski and Loranc-Paszylk (2019), for instance, investigated the effect of nonverbal auditory resources (i.e., sound effects portraying the activities denoted by such words as *bleat*, *whir*, *guffaw*, etc.) and verbal auditory resources (i.e., pronunciation of the words) on explicit vocabulary learning of 216 Polish learners of English under the four conditions of 'pronunciation', 'sound effect', 'pronunciation plus sound effect', and 'no-audio' or control condition. Adopting a one-way repeated analysis of variance, they found that verbal auditory resources and the combination of both (verbal resources i.e., pronunciation and nonverbal resources i.e., sound effect) had no significant impact on vocabulary scores although the participants in non-verbal-auditory-resources group gained significantly higher scores in vocabulary than their counterparts in no-audio group, a finding also supported by those of similar previous studies like Yeh and Wang (2003), and Tripp and Roby (1994).

2.5. Word parts both as feature of word form and a vocabulary learning strategy

Nation (2001), considers word parts both as part of the knowledge of formal features of a word (which entails affixes) and a vocabulary learning strategy among many others like guessing unknown words from context through reading and looking them up in a dictionary. Nation holds that one of the major ways learners' vocabulary knowledge can be enhanced is learning new words through 'word parts' or word building strategy (i.e., breaking a word down into its constituent elements e.g., prefixes, stems and suffixes). Nation (2001) adds that the word parts strategy encompasses two steps including breaking the unknown word down into its constituent parts and associating the meaning of these elements or parts to the word meaning. It could thus be argued that word parts are features or aspects of knowledge of word form which can best be acquired and practised through the word parts analysis practice. Therefore, word parts deserve dedication of time, energy and attention simply because they involve so many English words especially taken from Latin and Greek which can be acquired by knowing a bunch of affixes (i.e., their constituent elements).

2.6. Significance of the study and the research questions

On the one hand, although as mentioned earlier, knowledge of a word's spoken form is a vital aspect of its knowledge of form and seems to be of crucial importance in vocabulary development (Nation, 2001), the findings of previous studies on the effect of 'verbal auditory resources' (i.e., word spoken form or pronunciation) on vocabulary acquisition are conflicting

(Kaplan-Rakowski & Loranc-Paszylk, 2019) and the issue is thus in need of further investigation and documentation in various contexts. On the other hand, to the best of the researcher's knowledge and investigation, no systematic mixed-methods research study could be found in EFL contexts examining the combined effect of knowledge of a word's spoken form and word parts, as two crucial aspects of knowledge of a word's form, on vocabulary development of EFL learners. Thus, to fill the research gap felt, the following research questions were formulated for the present study:

1. Do task-related FonFs activities (i.e., focus on spoken form and focus on word parts), have significant impact on EFL vocabulary development?
2. In interview participants' view, why and how do task-related FonFs activities affect EFL vocabulary development?

3. Method

3.1. Research design

The study benefited from a 'sequential explanatory' mixed-methods design (QUAN → qual) with nested sampling (Riazi & Candlin, 2014). Moreover, the study experiment enjoyed a 'comparison group' experimental design (Mackey & Gass, 2005) because it comprised three experimental conditions each receiving a specific treatment with the presence of no control group.

I, in fact, adopted a "comparison-group" experimental design mainly for ethical considerations. That is, because, based on the course syllabus, the purpose of the course (i.e., Advanced Reading) was to enhance the participants' reading comprehension skills and their vocabulary reservoir, I deemed it unethical to deprive some of them of any treatment of any sorts and merely present placebo treatment to them (i.e., assign them to control group).

3.2. Participants

One hundred and thirty EFL juniors majoring in Teaching English Language at a BA programme enrolled in Advanced Reading course at a university in Iran, participated in the study. Their age ranged from 21 to 36 with the mean being 24.70 (SD = 2.07). Although the participants had already taken and passed the pre-requisite courses (i.e., three four-credit courses on reading comprehension and vocabulary) during their Associate Degree programme and seemed to be linguistically homogeneous, as an additional check, I also administered a First Certificate in English (FCE) proficiency test before the study began, the results of ANOVA for which showed no significant differences among the three groups of the study in terms of language proficiency $F(2, 127) = 11.02$, $p = 0.09 > 0.05$. It should be mentioned here that for practicality purposes, the writing and speaking papers of the FCE test were eliminated which left the researcher with the three papers of 'Reading', 'Use of English', and 'Listening'. Moreover, to exercise even more caution on the linguistic homogeneity of the participants, based on the FCE test results, the extreme scores (i.e., the scores falling above two standard deviations above the mean and those below two standard deviations below the mean which accounted for nearly five percent of the whole scores), were eliminated from the final analysis, which eventually left me with 124 participants, (N Group 1 = 42, N Group 2 = 40, N Group 3 = 42), who were then randomly divided into the three groups of the study with the cooperation of the head of the department and the registrar, which greatly reduced the chances of one specific group being linguistically stronger/weaker than their counterparts in the other groups. To observe the participants' rights and the ethics of research, the participants were allowed to change their groups if the class schedule did not suit them or for whatever reasons, but only nine wished so who were allowed to do so freely. Fifteen participants from Group 3 also voluntarily sat a focus group interview for the researcher to get to know why and how focus on spoken form and word parts affected their vocabulary development.

4. Materials and methods

4.1. Teaching materials

Teaching materials of the study included 'target words' which were selected from the book *Effective Reading*, a CUP publication, which as the book's author maintains, has been compiled for advanced level learners which was deemed to be suitable for the *Advanced Reading* course of the participants. The book had been selected and already been adopted for similar participants during previous semesters by the department. Only twelve (out of the whole 45) units of the book were taught selectively during the course.

The passages existing in these twelve units were first given to the participants and they were asked to circle the words they did not know. The words circled by more than ninety-five percent of the participants as unknown (which included forty words), were thus selected for the purpose of teaching which are called target words (see Appendix A).

The target words were taught when they were encountered in the 12 reading passages of the book during the whole four-month semester wherein the class was held for 14 sessions (holidays excluded). Each target word took three to four minutes to be taught which was kept the same in all the three groups of the study.

4.2. Testing materials

A 40-item multiple-choice vocabulary test was developed by the researcher to assess the participants' learning of the target words mentioned above (see Appendix B). This multiple-choice vocabulary test thus basically examined the participants' receptive knowledge of the target words since they had to identify the correct answer from among the distractors. To ensure test item authenticity and avoid memorisation effect by the participants, the test items were extracted from authentic English sources like Oxford Advanced Learner's Dictionary, Longman Dictionary of Contemporary English, etc. The distractors were also mainly selected from the words existing in the textbook taught during the course (i.e. Effective Reading) to make sure they matched both the difficulty level of the target words and the proficiency level of the participants. The test thus prepared was given to two experts in the field (i.e., two colleagues of the researcher holding PhDs in Applied Linguistics) to receive their expert judgement for validation purposes. The adjustments suggested by the two experts were accordingly made. I finally administered the test thus prepared to a group of twenty five similar subjects and then analysed the output for item analysis purposes (i.e., item facility/difficulty and discrimination power) and made the needed changes accordingly. I also ran Cronbach's Alpha internal consistency reliability estimation with the study participants that yielded a reliability index of 0.829 which was sufficiently satisfactory.

I scored the vocabulary test by assigning half a point (0.5) to each correct answer (and zero to each wrong answer) that becomes maximally 20 for the whole vocabulary test (which is also the highest possible score in the Iranian educational system). The vocabulary test, the completion of which took, on average, 30 min, was administered during the last session (i.e., final-exam session) which was held nearly two weeks (i.e., 15 days to be exact) after the last teaching session.

4.3. Focus group interview

To triangulate the data and to explore why and how the participants assumed task-related FonFs activities (i.e., knowledge of word spoken form and word parts) affected their vocabulary development, a focus-group interview was conducted with 15 participants from Group 3, who had been exposed to both word spoken form and word parts analysis practices. They were selected on a voluntary basis, the informed consent of whom was also obtained before they attended the event. The interview was audio-recorded (with the permission of the participants), transcribed and subjected to a grounded-theory approach inductive content analysis**.**

4.4. Procedures

As mentioned earlier, after eliminating the extreme scores based on the results of an FCE proficiency test, the remaining participants (124 out of the initial 130) were randomly divided into three groups or three experimental conditions of the study. Of course, it should be noted here that for ethical considerations, these six participants also attended the study experiments like all the others. Their scores, however, were not taken into account for the purposes of the present study.

The teacher, the textbook and the target words mentioned earlier were all the same for the three groups of the study. The only difference was the method of vocabulary presentation and instruction which was group-specific as presented below:

Group 1 (Focus on meaning + focus on use):

- The students encountered the target words in the reading passages.
- The teacher gave standard definitions in the form of L1 explanations from accredited monolingual English dictionaries.
- The teacher gave two or more example sentences from authentic English sources showing the use of the word in context.

Group 2 (Focus on spoken form + focus on meaning + focus on use).

- The students encountered the target words in the reading passages.
- Focus on spoken form occurred through the teacher's modelling of the pronunciation of the target words followed by the students' choral repetition and random individual spot checks (each for three and often four times).
- The teacher gave standard definitions in the form of L1 explanations from accredited monolingual English dictionaries.
- The teacher gave an example sentence from authentic English sources showing the use of the word in context.

Group 3 (Focus on spoken form + focus on meaning + focus on word parts + focus on use).

- The students encountered the target words in the reading passages.
- Focus on spoken form occurred through the teacher's modelling of the target word, students' choral repetition and random individual spot checks (for one or maximally two times each).
- The teacher gave standard definitions in the form of L1 explanations from accredited monolingual English dictionaries.
- When applicable, focus on various 'word parts' of the target words occurred by the teacher's breaking them into their constituent elements/affixes and reconstructing their meaning from their parts.
- The teacher gave an example sentence from authentic English sources showing the use of the word in context.

A detailed example illustrating how the teacher researcher taught the target words in the three experimental groups of the study is provided in Appendix C.

It is worth mentioning here that *time-on-task* was kept identical in all the three groups of the study. In other words, while 'type of task' (i.e., various activities or tasks performed in each specific group) might have partially varied in the three groups of the study, the time spent on the task was kept the same in all the three experimental conditions following the argument that "time on task should be kept identical in research on task effectiveness" (Hulstijn & Laufer, 2001, p. 549), with which, of course, some might not agree.

It should also be noted here at this stage that both of the activities or treatments in the current study (i.e., both focus on 'spoken form' and 'word parts') can be labeled as Laufer's (2005) 'task-related FonFs' rather than 'pure FonFs' as explained earlier, because the target words in the study were all presented and practised through the reading passages (i.e., tasks) during the course, the main focus and even the title of which was 'Advanced Reading', which, at the first place, aimed at enhancing the participants' reading comprehension skills and strategies (e.g., extracting main ideas, predicting, scanning, etc.). Moreover, they are called FonFs rather than FonF because, although the target words were encountered through reading, the students' attention was drawn by *the teacher* (Long, 2009) to the forms of to-be-learned words through repetition, conscious analysis and explicit instruction.

Also, as mentioned earlier, 15 participants from Group 3, who had been exposed to focus on both spoken form and word parts, voluntarily attended a focus group interview.

4.5. Data analysis

For the quantitative phase, a one-way ANOVA and a Scheffe post-hoc analysis were carried out to compare the means of the three different experimental groups of the study. I analysed the qualitative focus group interview adopting a grounded-theory approach inductive content analysis including the three stages of open coding, axial coding and selective coding (Strauss & Corbin, 1988, as cited in Dörnyei, 2007). I should also mention here that an expert in the field, who held a PhD in Applied Linguistics and was interested in and possessed the needed expertise and experience in conducting qualitative research, was also asked to code the interview transcripts independently, as a result of which, an inter-rater reliability of 0.93 was achieved.

5. Results

5.1. Quantitative results

To investigate the impact of task-related FonFs activities (i.e., focus on spoken form and word parts) on EFL vocabulary development, (i.e., to answer the first research question of the study), a one-way ANOVA was run. However, before that, all the three assumptions for running the parametric test of ANOVA were checked. First, the results of Kolmogorov-Smirnov normality test indicated that the sample was normally distributed ($p = 0.071 > 0.05$). Second, the results of Levene's test indicated that the assumption of equality of variances was not violated $F(2,121) = 3.54$, $p = 0.25 > 0.05$. Finally, the assumption of independence of the observations (or scores) was also met in the study since no participant attended more than one group. Thus, having been assured of the assumptions, I ran a one-way ANOVA to check whether the differences between the three groups of the study were significant. First, Table 1 summarises the results of descriptive statistics of the groups.

The results of one-way ANOVA revealed that the three groups of the study performed significantly differently in vocabulary development, $F(2, 121) = 36.81$, $p < 0.001$, $\eta^2 = 0.37$. According to Plonsky and Ghanbar (2018), 0.37 is a *medium* effect size revealing the fact that the magnitude of the difference is not small and is not thus ignorable. However, to see exactly where the difference lay, a Scheffe' post hoc analysis was conducted.

The results of Scheffe' post hoc comparisons indicated that Group 2 condition was significantly different from Group 1 condition ($p < 0.001$, Cohen's $d = 0.99$). Moreover, the pairwise comparison of Group 3 condition with Group 1 condition was found to be significant ($p < 0.001$, $d = 2.02$). The pairwise comparison of Group 3 condition with Group 2 condition also came to be significant ($p < 0.001$, $d = 1.00$). (For more information, see Appendix D). According to Plonsky and Oswald (2014), for

Table 1
Descriptive statistics of the three groups of the study.

Group	N	M	SD	Std. Error	95% CI	
					LL	UL
Group 1	42	11.75	2.24	.34	11.05	12.44
Group 2	40	13.88	2.38	.37	13.12	14.65
Group 3	42	16.03	2.22	.34	15.33	16.72
Total	124	13.88	2.87	.25	13.37	14.40

mean differences between groups, d value of near 0.40 is considered small, 0.70 medium, and 1.00 as large effect in L2 research. Thus, all the effects found for the three groups of the study compared in pairs can be considered rather large.

5.2. Qualitative results

As mentioned earlier, a focus-group interview was conducted with 15 participants from Group 3 who had been exposed to both focus on spoken form and word parts analysis. The interview was audio-recorded and subjected to full transcription. The transcribed data were then subjected to a grounded-theory approach inductive content analysis as described earlier. The selected codes, which summarise the common patterns and the recurring themes of the participants' responses include 'knowledge of word spoken form is essential for vocabulary acquisition', 'knowledge of word spoken form increases one's self-confidence in using the word', 'knowledge of word spoken form is mainly helpful in speaking and listening', 'knowing word parts is very helpful', 'word parts provide a short-cut to learning words', and 'word parts, like word spoken form, need to be concentrated on and explicitly taught'.

As the codes above show, the participants considered knowledge of the spoken form (i.e., pronunciation) of the words to be of importance in their learning. One of the participants stated, Knowing the pronunciation of a word surely help[s] you to learn it better and especially for me to remember it better, but unfortunately some teachers don't believe in this and ignore it.

Another participant stated, I think it's based on the materials that you use. For example, when you read a book, the pronunciation has no major role in learning [words] …, but when I speak or watch a movie, the pronunciation becomes very important … I think it is more applicable in speaking especially, not reading.

Another participant, stressing the point that in foreign language vocabulary learning, attention should first be paid to spoken form of the new words, remarked, I think … most English learners in Iran first see the written form or spelling. We learn spelling of the words first, then we hear and get familiar with pronunciation. I think … this is the wrong way. …. I know spelling of, I think, all the words that I got familiar, but I still mispronounce them.

One participant, highlighting the point that lack of knowledge of a word's spoken form led to creation of such negative psychological feelings as loss of self-confidence in using the word, remarked, Knowing the pronunciation of a word is also very important psychologically. A word like 'generalisability', I never use it, because its pronunciation is very complex, when I speak rapidly, it becomes very difficult. Because I don't know its pronunciation well, I prefer to forget all about it because I am not confident enough to use it.

Corroborating this, another participant stated, When your pronunciation is far away from standard pronunciation, when you utter out the words, every one, for example, laughs at you. So, you lose your self-confidence and prefer to remain silent.

Also in support of the positive role of knowledge of word parts in EFL vocabulary development, one of the focus group interview participants remarked, I did not analyse the words before taking this course. But, this course showed me a shortcut to learning words. I mean, you know … by focusing on word form especially by analysing different prefixes, suffixes and roots, you can learn so many words which remain with you [for a] longer period of time.

6. Discussion

The study explored the impact of two task-related FonFs activities (i.e., focus on spoken form and word parts) on EFL vocabulary development. As the results indicated, the participants in Group 2, who, in addition to attending to meaning and use aspects, also focused on the spoken form (i.e., pronunciation) of the target words, performed significantly better than their counterparts in Group 1, who merely focused on the meaning and use aspects of the target words. Group 2 was, in turn, outperformed by Group 3, who, besides focusing on meaning and use aspects of the target words and word spoken form, attended to word parts (as another feature of knowledge of word form as mentioned earlier). Also, the results of focus group interview revealed that both focus on spoken form and attention to word parts were helpful and necessary, increased participants' self-confidence and needed to be taught explicitly.

The results of the study are corroborated by the findings of Laufer and Girsai (2008) who found the superiority of various kinds of form-focused vocabulary instruction especially FonFs activities over other 'non-focus-on-form' methods as mentioned earlier. The findings of the study are also in line with those of Ellis and Beaton (1993), and Doctor and Colthart (1980) which indicated that phonological processing facilitated visual and semantic processing of words. Thus, as Trofimovich and Gatbonton (2006) hold, "explicit attention to phonological properties of L2 speech may allow learners to *notice* (emphasis mine) and eventually learn such properties, translating (in processing terms) into faster and perhaps more efficient processing of L2 speech" (p. 521).

However, the results are not aligned with the findings of Kaplan-Rakowski and Loranc-Paszylk (2019), Yeh and Wang (2003), and Tripp and Roby (1994) whose research on the role of verbal auditory resources (i.e., exposure to the pronunciation of to-be-learned foreign words) yielded inconclusive results.

Overall, the results of the study can be explained by some hypotheses of paramount importance. Firstly, according to Craik and Lockhart's (1972) 'depth of processing hypothesis', the more attention individuals pay to different aspects of new information, the better the retention of the information would be (Baddeley, 1997; Schmidt, 2001). In vocabulary learning, this means that when learners (e.g., the participants in Groups 2 and especially 3) focus on various aspects (i.e., both meaning and use as well as form) of an unknown word, they would learn and retain it better than otherwise (Laufer, 2017a, 2017b).

Another hypothesis of crucial importance in this regard is Hulstijn and Laufer's (2001) 'Involvement Load Hypothesis', as mentioned earlier, which encompasses the notions of 'cognitive effort', 'depth of processing', 'attention' and 'elaboration'. They maintain that 'involvement' is "a motivational-cognitive construct, which can explain and predict learners' success in the retention of the new words that they are learning" ((Laufer, 2017b), p. 6). Therefore, "the higher the involvement load of a task, the better the retention of the words that are practiced is likely to be" ((Laufer, 2017b), p. 6). Thus, it could be argued that the participants in Group 2 and Group 3 especially the latter performed significantly better than their counterparts in Group 1 in EFL vocabulary development because they processed the target words at a much deeper level and that they were more highly involved with the task of learning the target words most possibly due to the fact that they paid conscious attention to not only the 'meaning' and 'use' aspects of the target words, but also to the 'form' feature simultaneously.

More specifically, it could be argued that in Group 1, both 'need', and 'search' as well as 'evaluation' were moderate because the need was created externally (i.e., by the teacher), the focus was on word meaning (rather than form) and the participants mostly compared different senses or meanings of the given target word because they were provided with two or more examples illustrating different meanings of the given target word yielding an involvement load of 3. The task in Group 2, also yielded an involvement load of 3 (need = +1, search = +2, and evaluation = 0). However, since the focus was more on the word's (spoken) form, the search component was strong and received a weight of 2, which might justify significantly higher gains in Group 2 compared to Group 1. The task in Group 3, however, had an overall involvement index of 4 because like in Groups 1 and 2, the need component received 1, the search component received 2 like in Group 2 (since the focus was more on (spoken) form) and finally the evaluation component received 1 (i.e., was moderate) because while breaking the target words down into their constituent elements, the teacher and sometimes the students gave more examples of the words containing the same root, prefix and suffix under focus which necessitated comparison or evaluation of the given target word with other words formed with the same affixes.

The findings can also be supported by Nation and Webb's (2011) TFA as elaborated earlier. As applied to the study findings, the participants in Groups 2 and 3 might have outperformed their counterparts in Group 1 possibly due to *multiple retrievals of target words' forms.* Retrieval is believed to be enhanced through repetition (Baddeley, 1990), as a main tool for focus on (spoken) form. The participants in Group 3, besides having *retrieved* the target words like their counterparts in Group 2, might, on the other hand, have *retained* target words better and more deeply because of *establishing form-meaning associations* through first breaking the target words down into their parts or constituent elements (i.e., prefixes, stems and suffixes) and then associating these parts to their meanings.

Moreover, one group of evidence in support of the findings of the study concerning the significantly better performance of Group 2 over Group 1 comes from the findings of the studies on neuropsychological patients. The results of the studies conducted by such scholars as Martin (1993) and Baddeley (1993) indicate that the participants in their study who either suffered a cerebrovascular accident or neuropsychological (e.g., phonological memory) impairments, were unable to repeat unfamiliar words (either complex pseudowords which contained more than two syllables or a single foreign word). These all reveal "[a] specific relationship between phonological memory and vocabulary learning" (Service & Kohonen, 1995, p. 169).

Another line of evidence corroborating the study results in this respect comes from the findings of the studies with young learners developing their first language which show a causal association between phonological memory and word learning (i.e., that first language vocabulary development is dependent on phonological memory) (Gathercole & Baddeley, 1989; Gathercole et al., 1992). This is consistent with phonological short-term memory (STM) hypothesis according to which "children with larger STM capacities will learn new words more rapidly" (Avons et al., 1998, p. 585). These findings from L1 studies can also be supported by those from L2 studies. Service (1992), for instance, found an association between 44 Finnish primary school EFL learners' phonological memory abilities in generating and adopting English-sounding pseudowords and foreign language acquisition overall.

Also, of interest in this regard is the study conducted by Soodmand Afshar et al. (2010) who found that 'good' language learners used the strategy of 'focusing on phonological form of the words' significantly more frequently than their poor counterparts. This might indicate that successful and effective acquisition of to-be-learned words depends, among many other factors, on knowing and focusing on their spoken forms.

As mentioned earlier, the results of the focus group interview showed that the participants considered knowledge of the spoken form (i.e., pronunciation) of a word to be of importance in its learning, especially in its productive use (e.g., in speaking). This can be corroborated by Nation (2001, p. 29) who maintains, "more precise knowledge of the word form is required for productive use, …", because productive vocabulary requires "extra learning of new spoken or written output pattern" (Nation, 2001, p. 28).

The remarks of the interview participants in this respect are empirically well supported by the results of Milton and Riordan (2006), who found that the number of word families known *orthographically* by Farsi (i.e., Iranian) speakers of English as a foreign language was considerably greater than those known *phonologically* especially for vocabulary sizes of more than 2000 word families. This shows the need for more attention to word spoken form by Iranian EFL teachers and learners as also echoed by the remarks of some interview participants quoted earlier in the Results section.

With regard to the significantly better performance of Group 3 participants, it could be argued that, firstly, as Levin et al. (1992, p. 157) maintain, training learners on the use of vocabulary learning strategies, including 'word parts strategy', "can facilitate the vocabulary learning process, thereby enabling students to remember and apply new vocabulary in a variety of curricular and extracurricular situations". Secondly, as Sasao and Webb (2017) rightly hold, knowledge of affixes (i.e., word parts) can help boost word knowledge. Thus, "since an affix can be attached to many different words …, many

morphologically complex words can be understood if the meaning of the base word and a relatively small number of affixes is known" ((Laufer, 2017b), p. 6). Within the same lines of reasoning, Nation (2001, p. 47) holds that, "[t]here is value in explicitly drawing learners' attention to word parts. In particular, an important vocabulary learning strategy is to use word parts to help remember the meaning of a word" which is corroborated by the remarks of our interview participants as stated earlier. Therefore, word parts strategy "deserves time and repeated attention because it can involve such a large proportion of English vocabulary" (Nation, 2001, p. 281). Similarly, Moir and Nation (2008) maintain that learners need to be trained on the use of various vocabulary learning strategies (including word parts strategy) so much so that "they reach a satisfactory level of comfort with a strategy" which "involves a considerable investment of time and effort" (p. 170).

Although explicit vocabulary instruction was not among the major goals of the current study directed by research questions, it, I assume, is worth elaboration here firstly because focus on spoken form and word parts was done in the present study through teacher's explicit instruction. Secondly, the focus group interview participants also stressed the need for explicit instruction of both word spoken form and word parts as indicated by qualitative findings.

As stated earlier, Coady's (1997) both 'strategy instruction', and 'development plus explicit instruction' approaches to vocabulary development require teachers to explicitly teach various aspects of word knowledge (including such formal features as word spoken form and word parts) and various vocabulary learning strategies, a line of reasoning also supported by (Laufer, 2017b) who strongly believes in the three 'I's of 'input, instruction and involvement' in vocabulary development.

In favour of explicit instruction, Van den Berg and Klapwijik (2020), investigating the effect of second-language storybook reading on the vocabulary development of 69 South African five-to-eight-year-old Grade 1 L2 learners adopting the Peabody Picture Vocabulary Test (PPVT), found that storybook reading and explicit vocabulary instruction affected the participants' vocabulary acquisition positively. By the same token, Moir and Nation (2008) stress the need for "direct teaching about different types of vocabulary and their usefulness", and the necessity for instructing "what is involved in knowing a word" (i.e., various aspects or levels of word knowledge) (p. 171).

7. Conclusion and implications

As Baumann, Kame'enui, and Ash (2003) aptly put it, a 'multi-faceted vocabulary development program' and 'mixed methods' of vocabulary instruction tend to prove more fruitful in foreign language vocabulary development than their single-approach counterparts. Therefore, unlike N. Ellis (1994) who advocates only *implicit* attention to formal features of language, leaving it to be shaped mainly through attention to meaning, I argue for also *explicit* attention to form (both spoken form and written form as well as word parts) - termed as task-related FonFs by (Laufer, 2017a, 2017b) as mentioned earlier - *besides* attending to meaning and use aspects of word knowledge. In other words, these three crucial aspects of word knowledge (i.e., form, meaning and use according to Nation, 2001), only when combined, contextualised and related to various tasks, can address the depth aspect of word knowledge thoroughly.

The study might yield some implications grounded in the study findings. Foreign language education curriculum developers, syllabus designers and materials writers need to highlight in their curricula, syllabi and materials, the crucial role task-related FonFs activities (e.g., focus on spoken form and focus on different word parts as found in the current study) could play in foreign language vocabulary development. Foreign language teachers including EFL teachers should also come to believe that, besides attending to word meaning and use, they need to take other aspects of word knowledge, especially such formal features as word spoken form and various word parts into account in dealing with and developing their students' vocabulary reservoir. Finally, EFL learners themselves, in addition to concentrating on word meaning and use, should also come to focus more on the pronunciation of to-be-learned vocabulary items and break the new words down into their constituent elements in order to enhance their breadth and depth of vocabulary knowledge.

Caution should, however, be exercised in interpreting and generalising the findings of this study for the following limitations. Firstly, the vocabulary test employed in the study, only checked the participants' receptive knowledge of the target words. Future research is suggested to replicate the study examining productive knowledge in addition by adopting, for instance, such generation activities as sentence writing necessitating the use of the target words. The second limitation is that although the participants had already passed the prerequisite course (i.e., Reading Comprehension 3), took a proficiency test (i.e., FCE) and were randomly assigned to one of the three experimental conditions of the study, they were originally selected based on convenience sampling, an issue which can be dealt with by randomly selecting homogeneous groups of participants from the outset. Thirdly, the present study adopted a 'comparison group' design for the reasons mentioned earlier. Future studies of the ilk are suggested to employ 'control group' design if they wish to replicate the current study.

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This is to hereby declare that the informed consent of all the participants of the study at all stages (including that of the focus-group interview participants as mentioned in the manuscript) was obtained.

Declaration of competing interest

The author declares that he has no conflict of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.system.2020.102406.

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