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The Effect of Memorizing Particle Phrases through Student-Generated Sketches on EFL Learners' Spoken Fluency

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Abstract

Using chunks is said to bring about fluency into speech as they save speakers from constructing their speech upon a word-by-word basis. Particle phrases (A term coined in this study to refer to phrasal verbs and their derived and deviated nouns and adjectives) are also among those chunks. This study seeks to see whether memorizing them will affect EFL learners' spoken fluency. To this end, 51 Persian speaking participants (37 females, 14 males) who were selected from 3 intact classes based on their performance in narrative video-based retelling constituted the sample of the study. The study was a quasi-experimental one in design because of the non-random assignment of the participants into either of the experimental and control groups. They were assigned to three groups: two experimental and one control. Both experimental groups received the same instructions on metaphorical concepts of particles (out, off, etc.) in the 150 phrasal verbs available in Garnier and Schmitt's (2015) frequency list. They both engaged in self-generated contexts except that those in the first came up with hands-on task of drawing sketches, too. The control group, however, received none of the above treatments. The results of a one-way ANOVA procedure in the immediate post-test indicated that the participants in the first experimental group significantly outperformed not only the control group, but also the second experimental group that made more relative gains than their counterparts in the control group. The outperformance of the first experimental group was also found in the delayed post-test, which represented the long-term effects of the methods. The findings suggest several implications for this vital but surprisingly neglected issue of engaging students with self-generated sketches.

Keywords: Memory, phrasal verbs, spoken fluency, student-generated sketches

Introduction

Over the past decade, there has been a dramatic increase in the number of studies which have focused on the effects of different vocabulary teaching techniques on second language acquisition. Particle phrases (phrasal verbs and their derived noun and adjective compounds) are amongst lexical entities that are part and parcel of native speakers' "home language" (Chitty, 2014, p. 4). A great number of them are acquired by English-speaking children before they ever go to school. Their days unfold in a series of particle phrases: *wake up, get off work, have some workout, drop by a friend's house, have a makeup class, chill out.* Despite the fact that almost all particle phrases have a single-word synonym from French that native speakers could use, very often they do not want to (Chitty, 2014). These reasons have prompted several researchers to tap into *how* these lexical phrases should be taught (Abdollahpour & Gholami, 2018; Boers, 2018; Boers & Webb, 2018; Hinkel, 2018; Mart, 2012; Nassaji & Tian, 2010; White, 2012), and several corpus-based studies (Gardner & Davies, 2007; Garnier & Schmitt, 2015, and Liu, 2011) have revolved around *what* to include within the syllabus.

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Among methodology-based studies, some have tapped into conceptual metaphor (e.g., White, 2012) since they believe that it enables the EFL learner to see phrasal verbs as organized metaphorical expressions understood based on "our knowledge about abstract concepts" (Li, 2010, p. 206). According to Thom (2017) conceptual metaphor helps demystify figurative and polysemous phrasal verbs through lighting up the "concrete-to-abstract path" on which literal meanings "so clearly go from the concrete to the abstract" (Rudzka-Ostyn, 2003, p. 1).

This study is significant owing to several reasons: First and foremost, it has picked up where previous attempts have left off. If this study had considered presenting particle phrases merely in the context or through pedagogical lists, it would have been a mere replica of those carried out before. Rather, attempt has been made to help EFL learners grasp the identification and interpretation of particle phrases through teaching strategies beyond memorization, syntactic rules, and categorization (Bronshteyn, 2015; Jeong & Jiang, 2019). Second, unlike previous studies, the effectiveness of the methodology applied is not merely examined via written multiple-choice tests given before and after the treatments, rather it has been reportedly based on the scores gained from the spoken performance of the participants. After all, phrasal verbs are characteristics of spoken language.

Third, compared to the huge number of phrasal verbs and their compounds that keep being generated, derived, and deviated, the limited number of particles (i.e., 17) conceptually explained through metaphor sounds more promising. Last, but not least, however new and unprecedented the hands-on task of drawing sketches may be for the EFL learner, it is definitely a step forward in fashioning a counter-avoidance strategy in teaching and learning particle phrases. In addition, learning particle phrases have proved to be effective in lower levels as well, as Northbrook and Conklin (2019) argue that "even very low-level, beginner secondary students are sensitive to the frequency of lexical bundles which appear in the input they receive from teaching materials" (p. 1).

So far, the traditionalist view to phrasal verbs has made learning them daunting for EFL learners due to certain misunderstandings stemming from the view that they are "illogical, random, unpredictable, unique to English, necessarily informal or colloquial, having 'proper', non-phrasal equivalents, and a ramified area of English lexis, separate from the rest" (Marks 2005, p.1). Bolinger (1971), Lipka (1972), Sroka (1972), and Fraser (1976) are amongst those who laid the foundations of showcasing phrasal verbs as arbitrary combinations of a verb and one or more particles. In this view, linguistic meaning is divorced from the human conceptual system. Given their understanding of meaning in language, these linguists developed a narrow view for analyzing phrasal verbs. Instead of focusing on "meaning making and how different meanings are formed within particle phrases, they primarily focused their analysis on the syntactic properties of the constructions" (Kovács, 2011, p. 143).

Thom (2017) states that the disconnection between research and pedagogy has yielded two approaches to meaning in phrasal verbs: ignoring differences in meaning or regarding meanings as arbitrary. In this vein, the EFL learner has been unable to see through the metaphorical composition of phrasal verbs to analyse their components (Siyanova-Chanturia, 2015). Due to the above-mentioned views, the EFL learner has failed to look beyond these "syntactic oddities" (Darwin & Gray, 1999, p. 65), with occasional "potential for semantic non-compositionality" (Thim, 2012, p. 241). After all, as Becker (2014) also reiterates, the EFL learner may have been ignorant rather than avoidant of phrasal verbs all along. It, therefore, calls for further analytic research "to distinguish between avoidance and ignorance" of phrasal verbs (Damen & Al Hameed, 2013, p. 11).

Apart from the above issues, researchers and materials developers have long been seeking to decide what to include when it comes to teaching of phrasal verbs so that the materials are not based upon intuitions. One seminal endeavour in this realm is Garnier and Schmitt's (2015) phrasal verb frequency list. Despite its unprecedented merit of determining the frequency of meaning senses, no teaching method has been offered since it is outside the scope of their work. Thus, even if a learner were to obtain such a list, chances are they would simply attempt to learn those phrasal verbs be memorizing them as whole units.

Finally, studies carried out so far have merely sufficed with reporting their results based on written multiple-choice tests administered once before and once after the treatments. More importantly, the long-term effects of those methods have also been ignored. Accordingly, the success or failure of their methodologies could not have been genuinely established. Sadly, but truly, while phrasal verbs are considered as a particularity of spoken language, they have never been examined in the spoken product of the participants.

In light of these issues highlighted above, the study was thus guided by the following research questions:

1. Does teaching the conceptual meanings of particle phrases along with student-generated sketches have any statistically significant effect on Iranian EFL learners' spoken fluency?

2. Does teaching the conceptual meanings of particle phrases without student-generated sketches have any statistically significant effect on Iranian EFL learners' spoken fluency?
3. In terms of spoken fluency, does the inclusion of student-generated sketches make any statistically significant difference compared to teaching them without student-generated sketches?
4. In terms of spoken fluency, are the results gained from comparing the long-term effects of teaching particle phrases through student-generated sketches statistically significant from teaching them without student-generated sketches?

Review of Literature

In essence, particle-based learning of particle phrases builds on the theoretical assumptions of cognitive semantics in general and the notions of conceptual metaphors in particular (White, 2012) so as to enable FFL learners to establish a meaningful link between literal and figurative senses of particles via metaphorical mappings to understand the figurative meaning of particle phrases as a whole (Thom, 2017). It aims at providing a systematic and interesting learning method by making the participants aware of the underlying metaphorical pattern(s) governing particle phrases and their figurative meanings. It also helps EFL learners understand the spatial, prototypical senses of particles abstracted to make EFL learners see the systematic concepts for the figurative meaning of most particle phrases. These meaningful links not only contribute to a more systematic learning of particle phrases, but also bring about a better recall and longer retention of the learnt particle phrases and a more precise anticipation through correct guessing of meaning which may lead to a more creative way of learning of the novel particle phrases the EFL learners come across for the first time (Chitty, 2014).

Particle phrases are products of our conceptual systems, then like any other language feature, they are at least partially language dependent (Thom, 2017). Cognitive linguists treat particle phrases as polysemous rather than homonymous. This may well explain why there is a growing body of research pointing to the benefits of including explicit metaphor instruction as means for teaching particle phrases (Chitty, 2014; Rudzka-Ostyn, 2003; White, 2012; Thom, 2017). The recognition of the link between the literalness and idiomaticity of particles via conceptual meaning has been a major contribution of cognitive linguistics to a better understanding of the meanings of particle phrases. Kovacs (2011) argues that the meanings are distinct but related to each other "in a systematic and natural way where one or more senses are more prototypical (central) while others are less prototypical (peripheral)" (p. 14). Simply put, within a particle phrase, there is a base meaning from which other abstract meanings are derived and extended (Rudzka-Ostyn, 2003). For instance, our understanding of "*up*" can be reflected literally in "*sit up*," where "*up*" refers to a literal direction the body moves with the action of sitting. Yet this particle can also be conceptually extended, as in the particle phrases "clean up," where "up" takes on a new meaning of "completion". The literal meaning of "up" in direction and the abstract meaning of "completion", are not separate and unrelated; rather the abstract meaning has been conceptually mapped onto the base meaning. Thus, our language is highly conceptual, which uses thousands of expressions based on concrete, physical entities in order to express high-level abstractions.

That particles contribute special meanings to the particle phrase is shown by the fact that new combinations are rarely made on a random basis, but they form patterns which can be anticipated. Lindner (1981, cited in Kovacs, 2011) gives a detailed lexico-semantic analysis of English verb-particle constructions with *up* and *out.* Rudzka-Ostyn (2003) presents a cognitive analysis of *out, in, into, up, down, off, away, on, over, back, about, around, across, through, by* and *along.* Chitty (2014) follows the example of Rudzka-Ostyn's (2003) except that he adds other particles such as *at, for, after, apart,* and *to* so as to cover a more comprehensive set. The conceptual meanings of particles are elaborated in the above-mentioned studies. For example, the particle "*up"* has the meaning of completing and finishing in *drink up, eat up, heal up* or *break up*; "*off"* has the meaning of obstructing and separating in *block off, brick off, cut off* or *wall off* or "*down"* has the meaning of completing or failing in *break down, close down, hunt down* or *turn down,* etc.

By definition, particle phrases are prefabricated chunks "to be stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar (Wray & Perkins, 2000, p. 1). According to Wray (2002), in the holistic outlook of language, the whole chunks of language of various lengths are processed as a unit. In this model, particle phrases are viewed a dynamic response to processing and interactional needs of language users. Wray (2002) and Schmitt, Dornyei, Adolphs, and Durrow (2004) place a strong emphasis on prefabricated sequences in language production. They go so far as to say: "Formulaic language has become one of the major issues in applied linguistics in the new millennium" (2004, p. 55). In the literature, denominations include chunks, prefabs, fixed expressions, formulae, gambits,

prefabricated routines and patterns to name but a few (see Wray 2002).

A considerable amount of research has been carried out to understand what constitutes fluent speech (Derwing, et al., 2009; Freed, 2000; Lennon, 1990; Segalowitz, 2010) and how it can be achieved (Freed, 2000; Lennon, 1990; Koponen & Riggenbach, 2000). From a research perspective, fluency is an important research focus as it not only characterizes one of three key features of oral performance, CAF (Ellis, 2009; Housen, et al., 2012; Skehan, 2009), but also because it is a reliable predictor of L2 proficiency (de Jong, et al., 2012; Révész, et al., 2016) and shines light on underlying processes of speech production and language acquisition (e.g. proceduralization) (de Jong et al., 2012; Kormos, 2006; Segalowitz, 2010).

However, it has been suggested that fluency is a complex construct to define (Freed, 2000), and a difficult aspect of oral performance to assess (Brown, 2006; Fulcher, 2003) and, while L2 research has underlined the importance of fluency, it has remained a less attended-to area in L2 teaching (Freed, 2000; Lennon, 1990; Rossiter, et al., 2010). This may, at least partly, be related to the commonly-held assumption that fluency develops naturally as general proficiency progresses, and that therefore it cannot be 'taught' (Chambers, 1997; Lennon, 1990). Alternatively, it is possible that fluency is not being tackled in the classroom due to the fact that its complex, multifaceted nature makes it difficult for teachers to engage with at both conceptual and practical levels.

Researchers have suggested different tools to measure learners' language development. At first, they borrowed length-based measures from the field of first language (L1) acquisition, the most common ones being the mean length of particular structures (Norris & Ortega, 2009) which have been widely adopted in the second and third language acquisition research enterprise. However, these measures proved to be fraught with problems. For instance, beginner learners rely much on rote-learned formulaic sequences to complement their nascent grammar (Myles, 2012), and, therefore, perceived longer production of such structures which gives false impressions of increased proficiency. To solve the problem, Larsen-Freeman (1978) proposed an Index of Development, which was further operationalized as measures of Complexity, Accuracy, and Fluency (CAF).

Even though the concept of fluency is constantly applied within the field of applied linguistics, there is no global agreement about what is perceived as fluency (Chambers, 1997). Ellis and Barkhuizen (2005) define fluency as "production of language in real time without undue pausing or hesitations" (p. 139). Spoken fluency is frequently assessed through proficiency tests (e.g., IELTS, TOEFL iBT, etc.). However, investigators have tried to unravel the distinctive elements that develop fluency rating.

Method

Design

This study applied a quasi-experimental, pretest-posttest-follow-up design. The participants were chosen from intact classes, and were rated based on their performance in terms of spoken fluency in narrative video-based retelling. The data were collected from the results of the participants' performances on proficiency test, pre-test, post-test, and delayed post-test.

Participants

The original sample included three classes of undergraduates (a total of 134 students) majoring in English language translation in Islamic Azad university, Karaj Branch, Alborz Province, Iran. There were both male and female EFL students, but as it is typical of Iranian EFL learners. Females (44 participants) by far outnumbered males (7 participants). This meant that the ratio of male to female learners could not be kept constant in each group and gender had to be excluded from the analysis. As for the age of those involved in this study, approximately, all of the participants were in their early 20s with a few exceptional cases aging above thirty. It is worth mentioning that a major criterion for the selection of the participants in this study was that they were all native speakers of Persian who had never lived or stayed in an English environment and virtually had no opportunity to use English for communicative purposes outside the classroom context. Nor had they ever been to any English-speaking country. They had already passed Spoken English Courses I and II, and were to attend a two-hour course of "Oral Reproduction of the Story I".

All participants from the intact classes took a proficiency test used to check the homogeneity of the three (two experimental and one control) groups in terms of their entry proficiency level. For the sake of variance homogeneity, the 134 students were screened based on information from the scores gained from the 2010 version of the Preliminary English Test (PET) that is a standardized second level Cambridge ESOL exam for an intermediate level. The total score was 100, and those whose scores ranged between one standard deviation above and below the mean were selected to participate in the study. Other extreme scores were excluded. Out of the original 134 students, 51 participants who attended all treatment sessions were included in the final

analyses. The homogenized participants were assigned to Experimental Group 1 (EG1, N=18), Experimental Group 2 (EG2, N=18), and one Control Group (CG, N=15):

Raters

Two Ph.D. holders who had been teaching speaking courses for more than 8 years rated the speaking ability of the participants for spoken fluency indices. In order to find whether there was any consistency in the scorers of the ratings, a pilot study was carried out, in which 10 participants were given the pre-test material. The result of the inter-rater reliability among the three raters appear in the results section.

Instruments

This study made use of four measurement instruments to collect quantitative information on the participants' language proficiency level, and their oral performance. These instruments included a standard 2010 version of Preliminary English Test (PET), which was conducted to have the participants of the study selected. The validity of the test was approved by two scholars in the field and the reliability was checked through the KR-21 reliability index, the results of which showed a high level of reliability (KR-21=0.84). Once, the participants for the present study were determined, their spoken narratives of an animation were rated in pre-test, post-test, and delayed post-test. The video called "850 meters" was of an identifiable degree of sequential structure and a predictable basic sequence (Skehan & Foster, 1999) and was chosen and confirmed by EFL experts. The first test (video-based, narrative retelling) was conducted at the very beginning of the semester before the treatment started. The post-test including the narrative retelling of the same animation was held at the end of the treatment, which was followed by delayed post-test of the same video the participants were to orally narrate for the third time two weeks after the post-test. The inter-rater reliability for the pretests, immediate posttests and delayed posttests was done through Intraclass Correlation Coefficient (ICC) and the results showed that based on the criterion proposed by Koo and Li (2016), there was a high level of reliability in all three tests. In fact, there were significant agreements between the three raters who rated the participants' performance on the pretest ($\alpha = .823$, $p = .000$), posttest ($\alpha = .892$, $p = .000$), and delayed posttest ($\alpha = .908$, $p = .000$). The construct validity of the tests was measured through a factor analysis through the varimax rotation method and the test loaded under two factors which accounted for 65.39 percent of the total variance.

Treatment

The present study dealt with the conceptual analysis of the most frequent particles in the corpus-based studies carried out by Gardner and Davies (2007), Liu (2011), and Garnier and Schmitt (2015). The lists being analysed in terms of particle frequency, 13 particles were extracted to be conceptually instructed along with their corresponding particle phrases in Garnier and Schmitt's PHaVE. Since majority of the particle phrases in the list are polysemous, it was decided to make the participants aware of those links between the meaning senses of those polysemous particle phrases in the lists, too.

The first experimental group (EG1) consisting of 18 participants went through a five-step procedure. In the first step, the participants' attention was drawn to metaphorical expansions inherent in particle phrases (Thom, 2017; White, 2012). In so doing, they were presented with a simple diagram (Liu & Zhang, 2018) with the core conceptual meaning of the particle in the centre and particle phrases that conceptually revolve around that particle in focus surrounding it.

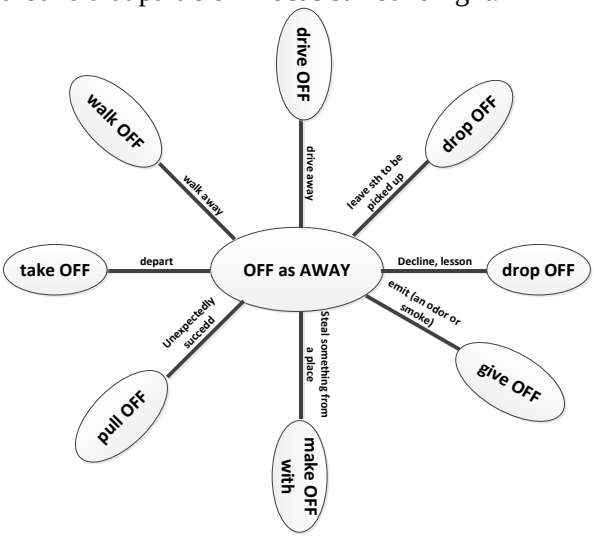

Figure 1.
Particle "OFF" diagram

In the second step, the instructor handed out an exploration worksheet, which included target particle phrases having been extracted from newspapers, series or movie scripts, short stories series called "*Diary of a Wimpy kid"* by Kinney (2012, 2013, 2015) as well as web pages and articles. Small groups of students were asked to negotiate the potential meaning of each particle phrase. As they attempted to make sense of targeted particle phrases, they were to rely on contextual cues found in the extracts. The students were helped through some 'idiomatic' and figurative particle phrases by analysing their component parts and then looking for a

logical relationship within a specific context (Celce-Murcia & Larsen-Freeman, 1999).

In the third step, each participant was asked to express those meanings through drawing sketches that implied their understandings from the conceptual motivation of particle phrases covered. To have a window onto learners' thinking process, they engaged in a think-aloud process (Cooper, 1999; White, 2012) communicating the meanings their drawings imply in a dialogic manner. In the fourth step, the students were prompted to consider the polysemous particle phrases with their meaning sense(s). The participants were then required to use those meaning senses in one personal context and draw the sketch of their contexts and try to make a link between if at all. The following is a student-generated sketch including different meaning senses of the polysemous particle "*to pick up*":

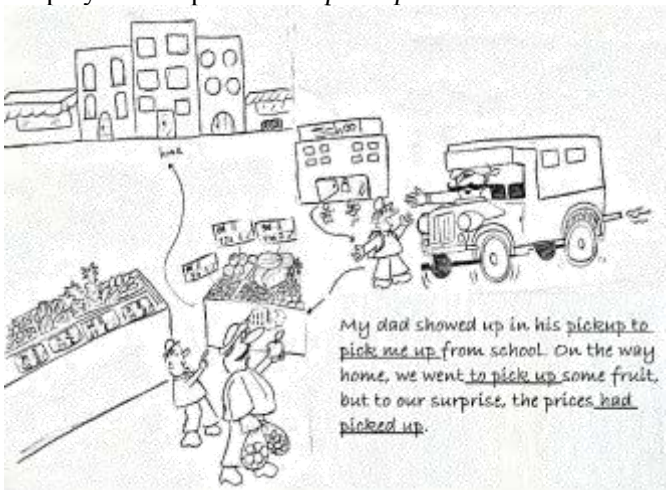

Figure 2.
Polysemous "pick up" sketched by a participant in EG1

In step five, the students shared their drawings by explaining what they drew. They used dialogues to further engage in the process of mediation (Wells, 2002) producing multiple interpretations of conceptual metaphor within particle phrases. Once the steps were over, the students were up for a "Pink Panther" episode the narration of which concluded each session. The students took down notes for which they were given time to edit by rephrasing what they were going to say with particle phrases (Nassaji & Tian, 2010) at hand. Each session started off by having those particle phrases orally reviewed by the participants before "The Particle of the Day" was introduced. This also helped the participants to accumulatively recycle their repertoire and generalize those meaning senses.

Experimental Group 2 (EG2) consisting of 18 participants went through the same procedure in EG1 except that they did not engage in any sketching whatsoever. Instead, the participants in EG2 read a passage containing the conceptual meanings of those particles and particle phrases excerpted from Chitty (2014).

Those in the Control Group (CG) were treated through mainstream traditional approaches (reviewed by Mart, 2012). They were given lists that contained other vocabularies *and* particle phrases *inter alia* that the teacher wrote on the screen along with their Persian equivalents (Ganji, 2011). To make sure that equal amount of time for the three groups, the teacher-researcher had a colleague monitor the timing of the procedures each session. The treatment lasted 13 sessions each specified to "The Particle of the Day".

After the treatment sessions, the post-test was administered to the participants. They were instructed not to write full sentences while watching the video. All participants were given five minutes (Foster & Skehan, 1996; Mehnert, 1998) to do what is known as "solitary planning" which is a type of pre-task planning activity (Cooper, 2017). This allowed them to rephrase and edit their narratives in terms of grammar and lexis for them to focus on either form or content as they saw fit. To make sure they were not reading from their notes, they were collected before they began their narratives.

Two weeks after the post-test, the delayed post-test was held and they were to watch the animation "850 Meters" and orally narrate the video in the same manner as the pre-test and the post-test. The pre-task planning was the same as previous tests and they were given five minutes once the video was fully watched to organize what they had written in their notes. The three oral tests were all administered in a quiet classroom where their spoken products were recorded for transcription which was later coded and scored in terms of lexical complexity, grammatical accuracy, as well as fluency.

Findings

Regarding the first three research questions concerning whether a) engaging participants in particle phrases with drawing sketches will make them have statistically significant performance in their spoken fluency, b) engaging participants in particle phrases without drawing sketches will make them have statistically significant performance in their spoken fluency, and c) there is a statistically significant difference between inclusion and non-inclusion of student-generated sketches on the learners' spoken fluency, one-way ANOVA was conducted. First, a one-way ANOVA was conducted on the results of the pre-tests across the groups, and the results showed that there was no significant difference between the three groups before the treatment. After the treatment, another one-way

ANOVA was conducted on the results of the post-test to see if there was a significant difference between the three groups after the treatment. The descriptive statistics of the pre-test, post-test and the delayed post-test are presented in Table 1 below.

Table 1.
Descriptive Statistics of Pre-Test, Post-Test and Delayed Post-Test

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Pre-test								
EG1	18	3.77	.401	.094	3.57	3.97	3	4
EG2	18	3.93	.524	.123	3.67	4.19	3	5
CG	15	3.63	.180	.047	3.53	3.73	3	4
Total	51	3.78	.413	.058	3.67	3.90	3	5
Post-test								
EG1	18	5.94	.447	.105	5.71	6.16	5	7
EG2	18	5.24	.420	.099	5.03	5.45	5	6
CG	15	4.01	.271	.070	3.86	4.16	4	5
Total	51	5.12	.873	.122	4.88	5.37	4	7
Delayed post-test								
EG1	18	5.816	.5798	.1367	5.527	6.104	4.7	6.7
EG2	18	5.398	.4045	.0953	5.197	5.599	5.0	6.3
CG	15	4.377	.3966	.1024	4.157	4.596	3.8	5.0
Total	51	5.245	.7522	.1053	5.034	5.457	3.8	6.7

Table 1 displays the descriptive statistics on the pre-test, immediate post-test and delayed post-test. As the table indicates, in the pre-test stage, EG1 (M=3.77, SD=.401), EG2 (M = 3.93, SD = .524) and CG (M = 3.63, SD = .180) had almost the same means on the pre-test of spoken fluency. Furthermore in the post-test, EG1 (M=5.94, SD=.447) treated through conceptual metaphor with drawings, had the highest mean on the post-test of spoken fluency. This was followed by EG2 (M=5.24, SD=.420) who were treated merely through conceptual metaphor and CG (M=4.01, SD=.271) that received the traditional treatment of translation. The table also indicates that in the delayed post-test EG1 (M=5.816, SD=.579) had the highest mean. This was followed by EG2 (M=5.398, SD=.404) and CG (M=4.377, SD=.396) groups. The assumption of homogeneity of variances was tested through Levene's test, results of which is presented in Table 2.

Table 2.
Test of Homogeneity of Variances of Immediate Post-Test

		Levene Statistic	df1	df2	Sig.
Posttest of Spoken Fluency	Based on Mean	1.825	2	48	.172
	Based on Median	1.485	2	48	.237
	Based on Median and with adjusted df	1.485	2	42.335	.238
	Based on trimmed mean	1.762	2	48	.183

Results show that the significance value reported in Sig. column is .172 (Levene's F (2, 48) =1.82, P=.172), which indicates that the assumption of homogeneity of variances was met. This assumption being made, the one-way ANOVA test was conducted, the results of the one-way ANOVA are presented in Table 3 below.

Table 3.
One-way ANOVA of Immediate Post-test

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	30.697	2	15.349	99.239	.000
Within Groups	7.424	48	.155		
Total	38.121	50			

Considering the results of one-way ANOVA (F (2, 48) =99.23, P=.000, ω^2=.794 representing a large effect size) (Table 3), it can be concluded that there were significant differences between the means of the three groups on the post-test of spoken fluency. To get more exact results, the post-hoc comparisons of the post-test of spoken fluency is presented in Table 4 below.

Table 4.
Post-hoc Comparisons of Immediate Post-Test

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
EG1	EG2	.694*	.131	.000	.36	1.03
	CG	1.925*	.137	.000	1.58	2.27
EG2	CG	1.231*	.137	.000	.88	1.58

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

Based on the results of the post-hoc test, it can be concluded that EG2 (M=5.24) significantly outperformed CG (M=4.01) on the posttest of spoken fluency (MD=1.23, p=.000). Conclusions that can be made from the results of the post-hoc comparisons indicate that EG1 (M=5.95) significantly outperformed CG (M=4.01) on the post-test of spoken fluency (MD=1.92, p=.000). Furthermore, it was found that EG1 (M=5.95) significantly outperformed EG2 (M=5.24) on the post-test of spoken fluency (MD=.694, p=.000).

Conclusions that can be made from the statistical procedures are that a) teaching the conceptual meanings of particle phrases along with student-generated sketches has a statistically significant effect on Iranian EFL learners' spoken fluency, b) teaching the conceptual meanings of particle phrases along without student-generated sketches has a statistically significant effect on Iranian EFL learners' spoken fluency, and c) there was a significant difference between using and not using student-generated sketches on their spoken fluency.

The fourth research question, which aimed at investigating whether in terms of spoken fluency, the results gained from comparing the long-term effects of teaching particle phrases through student-generated sketches are significantly different from teaching them without student-generated sketches. To investigate this question, another one-way ANOVA was carried out, before which, the assumptions of normality and homogeneity of variances were investigated. Results are presented in the tables below.

Table 5.
Testing Normality Assumption of Delayed Post-Test

Group	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
EG1	18	-.649	.536	.009	1.038
EG2	18	1.038	.536	.419	1.038
CG	15	.411	.580	-.743	1.121

As displayed in Table 5, the absolute values of the skewness and kurtosis were not higher than ±2 (Bachman 2005).

Table 6.
Test of Homogeneity of Variances of Delayed Post-Test

	Levene Statistic	df1	df2	Sig.
Based on Mean	1.393	2	48	.258
Based on Median	.897	2	48	.414
Based on Median and with adjusted df	.897	2	38.979	.416
Based on trimmed mean	1.306	2	48	.280

The assumption of homogeneity of variances was also retained on delayed posttest. The non-significant results of Levene's tests ($F (2, 48) = .897$, $p > .05$) indicates that there were no significant differences between the three groups' variances. Regarding the inter-rater reliability, Table 7 below shows the results.

Table 7.
Intraclass Correlation Coefficient of Delayed Post-test

	Intraclass Correlation	95% Confidence Interval		F Test with True Value			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.767	.660	.850	10.870	50	100	.000
Average Measures	.908	.854	.944	10.870	50	100	.000

There was significant agreement between the three raters who rated the participants' performance on the delayed posttest. As displayed in Table 7, the results ($\alpha = .908$, $p < .05$, 95% CI [.854, .944]) indicated that the three raters enjoyed significant inter-rater reliability. These assumptions being made, the one-way ANOVA test of the delayed post-test was also investigated, the results of which are presented in Table 8 below.

Table 8.
One-way ANOVA of Delayed Post-Test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.593	2	8.796	39.467	.000
Within Groups	10.698	48	.223		
Total	28.291	50			

The results of one-way ANOVA ($F (2, 48) = 39.46$, $p < .05$, partial eta squared=.622 representing a large effect size) indicated that there were significant differences between the three groups' means on delayed post-test. Thus, the null-hypothesis was rejected. Therefore, it can be concluded that the results gained from comparing the long-term effects of teaching particle phrases through student-generated sketches are significantly different from teaching them without student-generated sketches. To be more specific, Table 9 displays the results of post-hoc Scheffe's test.

Table 9.
Multiple Comparisons Tests of Delayed Post-Test

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
EG1	**EG2**	.4172*	.1574	.038	.020	.815
	CG	1.4389*	.1650	.000	1.022	1.856
EG2	**EG1**	-.4172*	.1574	.038	-.815	-.020
	CG	1.0217*	.1650	.000	.605	1.439
CG	**EG1**	-1.4389*	.1650	.000	-1.856	-1.022
	EG2	-1.0217*	.1650	.000	-1.439	-.605

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

Based on these results, it can be concluded that;

a- The first group (M=5.816) significantly outperformed the second group (M=5.398) on delayed posttest of spoken fluency (MD=.417, p<.05, 95 % CI [.020, .815].
b- The first group (M=5.816) significantly outperformed the second group (M=4.377) on delayed posttest of spoken fluency (MD=1.438, p<.05, 95 % CI [1.02, 1.85].
c- The second group (M=5.398) significantly outperformed the CG (M=4.377) on delayed posttest of spoken fluency (MD=1.021, p<.05, 95 % CI [.605, 1.439].

Discussion and Conclusion

The outcome of the post-test analysis depicted that the inclusion of conceptually mediated sketches made the participants in the first group outperform (M=5.82) those in the second group who were presented merely with conceptual metaphor (M=5.16) through the interactive worksheet containing a text about the metaphorical meanings of particle phrases. The second experimental group, in turn, outperformed those in the control group (M=4.09). This may well explain that the conceptual approach to teaching particle phrases materialized through student-generated sketches must have had a significant effect in retaining and using these entities in their spoken fluency (Thom, 2017). In other words, equipping them with nonverbal, visual aids benefited their achievement (Çandarlı, 2018 on the correlation between the levels of metalinguistic knowledge and frequencies of lexical phrases in L2 writers' essays; Marashi & Maherinia, 2011 on the effects of pictures on learning particle phrases; Oe & Alam, 2013, on the effectiveness of Manga cartoons and pictures on particle phrases). The results of the study, however, contradict those of White's (2012) in which the conceptual approach proved to produce "modest" results (p. 429).

Lexis-wise, the inclusion of particle phrases, as it was expected, naturally led to "greater length and complexity" (Wood, 2010, p. 47). Letting participants see various literal as well as figurative meanings, as Verspoor and Lowie (2003) also claim, allowed participants of this study "to incorporate the figurative sense into a semantic network more effectively to be recalled more easily" (p. 569). Simply put, attention to the semantic contribution of particles may have fostered processing (Baddeley, 1990) which in turn led to more fluency. Another similar study was that of Mohylevska (2020) who found that lexical chunks can improve speaking fluency of Ukrainian EFL learners. To support these findings, Side (1990) suggests, "students' own efforts to create meaningful patterns are in themselves aids to memory" (p. 151).

Engaging the participants with negotiating their personal understanding via the sketches made the participants "interpret and generate personal meanings that make sense" (Lantolf & Johnson, 2007, p. 885). In effect, asking students to draw conceptual sketches employs Newman and Holzman's (1993) *tool-and-result* methodology, which has proved by Jaeger, et al. (2018) to be effective to reduce memory for seductive details in science text. The conceptual reflection serves as both a *tool for learning* and a *result of development* (Negueruela, 2008, cited in White, 2012). In the act of drawing, students created their own semiotic materials, which help to mediate conceptual understanding (Serrano-Lopez & Poehner, 2008, cited in White, 2012). In addition, Wiley (2019) has shown that "instructing students to sketch a drawing during reading" can positively enhance their learning process.

From a cognitive perspective, personal meaning can be understood as conceptual motivation. This is in line with Kovecses and Szabco's (1996) claim that equipping the learners with cognitive motivation for idioms would help learners "retain them longer in memory" (p. 331). Compared to their earliest days of the treatment, the participants showed more fluency characterized as the ability to speak freely, without unnecessary pausing comparable with those characteristics of the speech of a native speaker (Polyakov & Tormyshova, 2014). These findings are also in line with Verspoor and Lowie (2003) who reiterate that letting participants see various literal as well as figurative meanings connected to core meanings would allow them "to incorporate the figurative sense into a semantic network more effectively and recall it later more easily" (p. 569). This is in line with the findings of Boers, Eyckmans, Kappel, Stengers, and Demecheleer (2006) and Wood (2010) that highlight the facilitatory effect of formulaic sequences such as phrasal verbs in EFL speakers' fluency" (Toni, et al., 2017, p. 91).

As for the results gained from the delayed post-test the purpose of which being able to see the probable and durable effects of the instruction on the retention of the target particle phrases, the participants' performances in terms of fluency remained statistically unchanged after a 2-week delay. It seems that the two-week gap may not have been long enough to have the participants' performance evaluated. Or, it may be the effectiveness of the conceptual metaphor in both experimental groups that made them keep fluency of their products as high. Another possibility may be task familiarity, in that they were exposed to the same video they had been shown in the pre-test and the post-test (Rahimpour & Hazar, 2007;

Skehan, 2016; Skehan & Foster, 1997; Skehan, et al., 2012).

Studies carried out by García Mayo (2002), Nassaji and Tian (2010) and Teng (2017), also confirm the efficiency of hands-on task of drawing that eventually lead to an improved spoken fluency (Wood, 2002; Gu, 2014). According to Wood (2006), using a string of words in narrative retelling not only can activate the release of other word forms and phrases, but also can facilitate speaking fluency. In this study, this was witnessed in "shorter and less frequent pauses which allowed longer runs of speech between pauses" since the participants were able to retrieve word combinations from their cognitive storage (p. 39). However, although Cheng & Beal (2020) found that students in the drawing group had significantly higher learning recall than students in the imagining group, their participants perceived drawing, imagining, and reading with pictures for learning as useful, but students were more intended to learn with provided pictures than to generate drawings.

Although many researchers believe that particle phrases are "the scourge of the learner" (Riguel, 2014) and learning them is a "tax" on the EFL learner's oral production, the results of the present study proved such studies otherwise since far as spoken fluency is concerned, the results are promising. This suggests that further attempts at teaching particle phrases with emphasis on conceptually-based drawings are worthwhile since it results in learner autonomy, self-direction and self-evaluation (Cohen, 1998).

In this study, it was revealed that failing to perceive and make use of particle phrases, the EFL learners would have to look for alternative ways of saying it, which would be less accurate, less correct, and less "English". This is a tax on fluency (Raddaoui, p. 21). Using particle phrases in their narratives, EFL learners are saved from coming up with otherwise one-word, near equivalents. Assuming particle phrases "are in their active memory, EFL learners are not going to remain at the mercy of words" (p.22). As Cowie (1993) puts it, spoken fluency is contingent on mastery of lexical entities such as phrasal verbs. Using particle phrases is crucial to fluent English and sounding native-like (Garnier & Schmitt, 2015). Because particle phrases are widely used in spoken informal discourse, failure to use them in such situations may make language sound unnatural and non-idiomatic (Siyanova & Schmitt, 2007). Therefore, this necessitates their inclusion in the curriculum (Garnier & Schmitt, 2015). As Thom (2017) puts is, learning particle phrases is a productive endeavour for any language learner, as it will directly contribute to their communicative competence in English.

Teaching accompanied by student-generated drawings would benefit teacher and students at the same time. It saves the precious time of the class, which is mostly spent on dictionary-based meanings, ensued by extracting examples that students cannot even relate to. Inspired by the steps followed in this study include conceptualizing the meanings, relating those meaning senses, drawing and sharing personal sketches in dialogues, and using what was learnt in one's spoken product. Teachers *and* materials developers, therefore, can coproduce textbook materials within a more comprehensive approach in which lessons are built on each other, presenting the central meaning first and extended meanings in further lessons, which would add continuity and structure to the lessons. As for the students, they will be able to learn and memorize particle phrases based on particles and their conceptual meaning sense(s).

Regarding the limitations of this study, one of them was selecting the target participants to take part in the survey. Since randomization was not possible, three intact classes were selected based on convenience sampling which would limit the generalizability of the study. Furthermore, it was impossible to take into account, for example, whether one is good at drawing sketches or otherwise. It could not be realized until the treatment sessions started. Another limitation was in scoring spoken fluency since it was based on the number of words and phrases the participants could accomplish within a minute. The slow or fast speech rate of the individuals has to do with individual differences which was unintentionally ignored in this study. The limited number of participants who took part in this study is yet another limitation due to several executive as well as administrative issues on the part of the university in providing this study with larger rooms and more seats with at least twice as many EFL participants. One such limitation was also imposed on the number of particles and particle phrases selected for the treatment sessions. Had more particles been covered, the scope of the study would have been broadened. Despite the fact that this study enjoyed both male and female participants with females by far outnumbering males, male participants could not be omitted from the total number of the participants of the study since the total number would have otherwise fallen dramatically. Nor could the participant be divided into male and female participants for that matter.

References

Abdollahpour, Z., & Gholami, J. (2018). Building blocks of medical abstracts: frequency, functions, and structures of lexical bundles. *Asian ESP Journal*, *14*(1), 82-110.

Baddeley, A. (1990). *Human memory: Theory and practice*. Hove, UK: Erlbaum.

Becker, T. P. (2014). Avoidance of English phrasal verbs: Investigating the effect of proficiency, learning context, task type, and verb type. *Asian Journal of English Language Teaching, 24*, 1-33.

Boers, F. (2018). Learning lexical phrases. In A. Burns and J.C. Richards (eds), *The Cambridge guide to learning English as a Second Language*. New York: Cambridge University Press.

Boers, F., & Webb, S. (2018). Teaching and learning collocation in adult second and foreign language learning. *Language Teaching, 51*(1), 77-89.

Boers, F., Eyckmans, J., Kappel, J., Stengers, H., & Demecheleer, M. (2006). Formulaic sequences and perceived oral proficiency: Putting a lexical approach to the test. *Language teaching research, 10*(3), 245-261.

Bolinger, D. L. M. (1971). *The Phrasal Verb in English*. Cambridge MA: Harvard University Press.

Brown, A. (2006). An examination of the rating process in the revised IELTS speaking test [online]. In: International English Language Testing System (IELTS) Research Reports 6. Canberra: IELTS Australia and British Council, 1-30.

Çandarlı, D. (2018). Changes in L2 writers' self-reported metalinguistic knowledge of lexical phrases over one academic year. *The Language Learning Journal*, 1-17.

Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course* (2nd ed.). Boston: Heinle & Heinle.

Chambers, F. (1997). What do we mean by fluency? *System, 25*, 535-544.

Cheng, L., & Beal, C. R. (2020). Effects of student-generated drawing and imagination on science text reading in a computer-based learning environment. *Educational Technology Research and Development, 68*(1), 225-247.

Chitty, E. T. (2014). *How we really talk using phrasal verbs in English*. London: Amazon Publications

Cohen, A.D. (1998) *Strategies in Learning and Using a Second Language*. New York: Addison Wesley Longman Limited.

Cooper, R. (2017). Task-based approaches and interaction in the 1:1 classroom: A teacher's perspective. *University of Sydney Papers in TESOL*, 45-79.

Cooper, T. C. (1999). Processing of idioms by L2 learners of English. *TESOL Quarterly, 33*(2), 233-262.

Cowie, A. (1993). Getting to grips with phrasal verbs. *English Today 36*, 9(4), 38-41.

Damen, A., & Al Hameed, T. M. A. (2013). Syntactic avoidance in the oral production of Arab EFL learners (Doctoral dissertation, University of Malaya).

Darwin, C. M., & Gray, L. S. (1999). Going after the phrasal verb: An alternative approach to classification. *TESOL Quarterly, 33*(1), 65-83.

De Jong , N. H. , Steinel , M. P. , Florijn , A. F. , Schoonen , R. , & Hulstijn , J. H . (2012). The effect of task complexity on functional adequacy, fluency and lexical diversity in speaking performances of native and nonnative speakers. In A. Housen , F. Kuiken , & I. Vedder (Eds.), *Dimensions of L2 performance and proficiency investigating complexity, accuracy and fluency in SLA* . Amsterdam: Benjamins .

Derwing, T. M., Munro, M. J., Thomson, R. I., & Rossiter, M. J. (2009). The relationship between L1 fluency and L2 fluency development. *Studies in Second Language Acquisition, 31*(4), 533-557.

Ellis, R. (2009) Task-based language teaching: sorting out the misunderstandings. *International Journal of Applied Linguistics19*(3), 221-246.

Ellis, R., & Barkhuizen, G. P. (2005). *Analysing learner language*. Oxford: Oxford University Press.

Foster, P., & Skehan, P. (1996). The influence of planning and task type on second language performances. Studies in Second Language Acquisition, 18, 299–323.

Fraser, B. (1976). *The Verb-Particle Combination in English*. New York: Academic Press.

Freed, B. F. (2000). Is fluency, like beauty, in the eyes of the beholder? In H. Riggenbach (Ed.), Perspectives on Fluency. (pp. 243-265). Michigan: University of Michigan Press.

Fulcher, G. (2003). *Testing Second Language Speaking*. London: Pearson Education.

Ganji, M. (2011). The best way to teach phrasal verbs: Translation, sentential contextualization or metaphorical conceptualization? *Theory and Practice in Language Studies 1*(11), 1497-1506.

Garcia, M. P. (2002). The effectiveness of two form-focused tasks in advanced EFL pedagogy. *International Journal of Applied Linguistic, 12*, 156-175.

Gardner, D., & Davies, M. (2007). Pointing out frequent phrasal verbs: A corpus-based analysis. *TESOL Quarterly, 41*(2), 339-359.

Garnier, M., & Schmitt, N. (2015). The PHaVE list: A pedagogical list of phrasal verbs and their most frequent meaning senses. *Language Teaching Research*, 1-22.

Gu, E. (2014). Formulaic sequences as fluency devices in the oral production of native speakers of Polish. *Research in Language, 12*(2), 113-129.

Hinkel, E. (2018). Teaching and learning formulaic sequences and prefabs. *The TESOL encyclopedia of English language teaching*, 1-7.

Housen, A., Kuiken, F., & Vedder, I. (eds.), (2012). *Dimensions of L2 performance and proficiency: Complexity, cccuracy and fluency in SLA*. Philadelphia: John Benjamins

Jaeger, A. J., Velazquez, M. N., Dawdanow, A., & Shipley, T. F. (2018). Sketching and summarizing to reduce memory for seductive details in science text. *Journal of Educational Psychology, 110*(7), 899.

Jeong, H., & Jiang, N. (2019). Representation and processing of lexical bundles: Evidence from word monitoring. *System, 80*, 188-198.

Kinney, J. (2012). *Diary of a wimpy kid: The ugly truth.* NY: Pearson

Kinney, J. (2013). *Diary of a wimpy kid: Hard luck.* NY: Abrams

Kinney, J. (2015). *Diary of a wimpy kid: Old school*. NY: Abrams

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of chiropractic medicine*, *15*(2), 155-163.

Koponen, M., & Riggenbach, H. (2000). Overview: Varying perspectives on fluency. In H. Riggenbach (Ed.), *Perspectives on fluency* (pp. 5–24). Ann Arbor: University of Michigan Press.

Kormos, J. (2006). *Speech production and second language acquisition*. Mahwah, N.J.: Lawrence Erlbaum Associates.

Kovács, E. (2011). The traditional vs. cognitive approach to English phrasal verbs. www.uni-miskolc.hu/~philos/2011_tom_XVI_1/141.pdf, accessed April 2017.

Kovecses, Z., & Szabcó, P. (1996). Idioms: A view from cognitive semantics. *Applied linguistics*, *17*(3), 326-355.

Lantolf, J. P., & Johnson, K. E. (2007). Extending Firth and Wagner's (1997) ontological perspective to L2 classroom praxis and teacher education. *The Modern Language Journal*, *91*(1), 877-892.

Larsen-Freeman, D. (1978). An ESL index of development. *TESOL Quarterly*, *12*(4), 439-448.

Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach, *Language Learning 40*, 387-417.

Li, X. (2010). Conceptual metaphor theory and teaching of English and Chinese idioms. *Journal of Language Teaching and Research 1*(3), 206-210.

Lipka, L. (1972). *Semantic Structure and Word- Formation: Verb- Particle Constructions in Contemporary English.* Munich: Wilhelm Fink Verlag.

Liu, D. (2011). The most frequently used English phrasal verbs in American and British English: A multi-corpus examination. *TESOL Quarterly*, *45*(4), 661-688.

Liu, D., & Zhan, H. (2018). Teaching prepositions and particles. *The TESOL Encyclopedia of English Language Teaching 1*, 1-6.

Marks, J. (2005). Phrasaled out? Don't worry! Help is at hand. Retrieved March 2015 from www.macmillandictionary.com

Mart, C. T. (2012). How to teach phrasal verbs. *English Language Teaching*, *5*(6), 114-118.

Mehnert, U. (1998). The effects of different lengths of time for planning on second language performance. *Studies in Second Language Acquisition 20*, 83-108.

Mohylevska, V. (2020). Lexical chunks and speaking fluency of Ukrainian EFL learners. *National Academy of Internal Affairs, Kiev, Ukraine.*

Myles, F. (2012). Complexity, accuracy and fluency: The role played by formulaic sequences in early interlanguage development. In A. Housen, F. Kuiken, & I. Vedder (Eds.). *Dimensions of L2 performance and proficiency: Complexity, accuracy and fluency in SLA.* Amsterdam/Philadelphia: John Benjamins.

Nassaji, H., & Tian, J. (2010). Collaborative and individual output tasks and their effects on learning English phrasal verbs. *Language Teaching Research, 14*(4), 397-419.

Negueruela, E. (2008). Revolutionary pedagogies: Learning that leads (to) second language development. In J. P. Lantolf & M. E. Poehner (Eds.), *Sociocultural Theory and the Teaching of Second Languages* (pp. 189-227). London: Equinox.

Newman, F., & Holzman, L. (1993). *Critical psychology. Lev Vygotsky: Revolutionary scientist.* Florence, KY, USA: Routledge.

Norris, J. M., & Ortega, L. (2009). Towards an organic approach to investigating CAF in instructed SLA: The case of complexity. *Applied Linguistics*, *30*(4), 555-578.

Northbrook, J., & Conklin, K. (2019). Is what you put in what you get out?—Textbook-derived lexical bundle processing in beginner English learners. *Applied Linguistics*, *40*(5), 816-833.

Polyakov, O. G., & Tormyshova, T. Yu. (2014). Fluency of speaking in a foreign language as a linguomethodological issue. *Language and Culture*, *28*, 166-174.

Raddaoui, A. H. (2004) Fluency: A quantitative and qualitative account. *The Reading Matrix, 4*(1), 11-25.

Rahimpour, M., & Hazar, F. (2007). Topic familiarity effect on accuracy, complexity, and fluency of L2 oral output. *The Journal of Asia TEFL, 4*(4), 191-211.

Revesz, A., Ekiert, M., & Torgersen, E. (2014). The effects of complexity, accuracy, and fluency on communicative adequacy in oral task performance. *Applied Linguistics*. *37*(6), 828-848.

Riguel, E. (2014). Phrasal verbs, "the scourge of the learner". *University of Sorbonne Nouvelle, 3,* 1-19.

Rossiter, M. J., Derwing, T. M., Manimtim, L. G., & Thomson, R. I. (2010). Oral fluency: The neglected component in the communicative language classroom. *Canadian Modern Language Review*, *66*(4), 583-606.

Rudzka-Ostyn, B. (2003). *Word power: Phrasal verbs and compounds: A cognitive approach*. Berlin: Mouton de Gruyter.

Schmitt, N., Dornyei, Z., Adolphs, S., & Durrow, V. (2004). Knowledge and acquisition of formulaic sequences: A longitudinal study. In N. Schmitt (Ed.), *Formulaic sequences Acquisition, processing, and use* (pp. 55–86). Philadelphia: John Benjamins.

Segalowitz, N. (2010). *Cognitive bases of second language fluency*. New York: Routledge.

Serrano-Lopez, M., & Poehner, M. E. (2008). Materializing linguistic concepts through 3-D clay modeling: A tool-and-result approach to mediating L2 Spanish development. In J. P. Lantolf & M. E. Poehner (Eds.),

Sociocultural theory and the teaching of second languages (pp. 321-346). London: Equinox.

Side, R. (1990). Phrasal verbs: Sorting them out. *ELT Journal, 44*(2), 144-152.

Siyanova, A., &. Schmitt, N. (2007). Native and non-native use of multi-word vs. one-word verbs. *IRAL, 45*(2), 119-139.

Siyanova-Chanturia, A. (2015). On the 'holistic' nature of formulaic language. Corpus Linguistics and Linguistic Theory, 11, 285–301.

Skehan, P. (2009). Modelling second language performance: Integrating complexity, accuracy, fluency, and lexis. *Applied Linguistics, 30*(4), 510–532.

Skehan, P. (2016). Tasks versus conditions: Two perspectives on task research and their implications for pedagogy. *Annual Review of Applied Linguistics, 36,* 34-49.

Skehan, P., & Foster, P. (1997). The influence of planning and post-task activities on accuracy and complexity in task-based learning. *Language Teaching Research*, *1*(3), 16-33.

Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning, 49*(1), 93 – 120.

Skehan, P., Xiaoyue, B., Qian, L., & Wang, Z. (2012). The task is not enough: Processing approaches to task-based performance. *Language Teaching Research, 16*, 170-187.

Sroka, K. A. (1972). *The Syntax of English Phrasal Verbs.* The Hague: Mouton.

Teng, M. F. (2017). The effectiveness of group, pair and individual output tasks on learning phrasal verbs. *The Language Learning Journal*, 1-14.

Thim, S. (2012). *Phrasal verbs: The English verb-particle construction and its history.* Boston: Walter de Gruyter

Thom, D. (2017). A cognitive linguistic approach to phrasal verbs: A teacher's guide" (2017). *Honors Senior Theses downloaded July 2018 from* ttps://digitalcommons.wou.edu/honors_theses/139

Toni, A., Hassaskhah, J., & Birjandi, P. (2017). The Impressibility of Speaking Accuracy/Fluency among EFL Undergraduates: A Meta-Analysis. *Journal of English Language Pedagogy and Practice, 10*(21), 184-225.

Verspoor, M. H., & Lowie, W. M. (2003). Making sense of polysemous words. *Language Learning, 53*(3), 547-586.

Wells, G. (2002). The role of dialogue in activity theory. *Mind, Culture, and Activity: An International Journal, 9*, 43–66.

White, B. (2012). A conceptual approach to the instruction of phrasal verbs. *The Modern Language Journal, 96*(3). 419-438.

Wiley, J. (2019). Picture this! Effects of photographs, diagrams, animations, and sketching on learning and beliefs about learning from a geoscience text. *Applied Cognitive Psychology, 33*(1), 9-19.

Wood, D. (2006). Uses and functions of formulaic sequences in second language speech: An exploration of the foundations of fluency. *Canadian Modern Language Review, 63*(1), 13-33.

Wood, D. (2010). *Formulaic language and second language speech fluency: Background, evidence and classroom applications*. Bloomsbury Publishing.

Wray, A. (2002). *Formulaic language and the lexicon.* Cambridge: Cambridge University Press.

Yasuda, S. (2010). Learning phrasal verbs through conceptual metaphor: A case of Japanese EFL learners. *TESOL Quarterly, 44*(2), 250-273.

How to Site: Saeedehghan, R., Khatib, M., Ghaemi, F. (2020). The Effect of memorizing particle phrases through student-generated sketches on EFL learners' spoken fluency. *Iranian Journal of Learning and Memory*, *3*(11), 27-40. doi: 10.22034/iepa.2020.243736.1200