

## Task-Induced Involvement Loads and Iranian Intermediate EFL Learners' Knowledge of Collocations and Level of Motivation

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### Abstract

The study intended to investigate the impact of task involvement loads on Iranian EFL learners' collocation knowledge and their level of motivation. To achieve these goals, a sample of 78 intermediate learners were selected based on Solutions Placement Test. The participants were divided into three experimental groups of 26 learners assigned to one of the experimental conditions, namely tasks with involvement load 3 (multiple-choice, MC), and involvement load 2 (Fill-in-the-blanks, FB), and 4 (sentence formation, SF). Before running pretest to the groups, their familiarity with the targeted collocations were tested. Over the treatment course, learners in MC were provided with the collocations requiring them to recognize the right collocations in the multiple-choice format tests. The learners in FB group were provided with the same collocations but were required to complete sentences with appropriate collocations given at the end of the text. Finally, the learners in SF group were asked to make their own sentences using the given collocations. At the end, a learning motivation questionnaire was administered to the learners to determine the possible association(s) of task involvement loads with the learners' learning motivation. The results of a one-way ANOVA indicated the three groups showed different results on the posttests. However, the SF difference with MC and FB was the highest indicating the highest impact of SF on the learners' L2 collocations. The results of a multiple regression analysis also indicated different associations between the involvement loads and learners' motivation. The findings can have pedagogical and theoretical implications for EFL teachers, learners, and researchers.

**Keywords:** [task involvement](#), [involvement load](#), [collocations](#), [motivation](#)

## 1. Introduction

There are many aspects and degrees of word knowledge needed for learners in order to use the words properly and efficiently. In order to know the meaning of a word more efficiently, learners need to know its association with other words. By helping word companies, learner can keep the words in the memory and easily infer meaning from the context (Aghajanzadeh Kiasi & Pourhosein Gilakjani, 2023). Collocations comprise a significant component of vocabulary, and the collocational knowledge is central for successful vocabulary use, according to Zarei and Mousavi (2016). Learning collocations is a good idea because they can give the learners the most natural way to say something; for example, we would say that smoking is strictly forbidden rather than smoking is strongly forbidden. It is very important for the learners, when learning a new word, to pay attention to its dictionary definition as well as the type of words with which it is often associated. In addition, according to Wu (2015), learning collocations will offer the learners alternative ways of saying something, which may be more colorful or more precise.

Collocation knowledge is known as one of the most important criteria to obtain native like accuracy and fluency (Nation, 2013). Lack of this knowledge has been introduced as an important obstacle to the attainment of native-like fluency and accuracy (Nation & Webb, 2011). Teaching collocation can improve not only learners' lexical competence but also their grammatical proficiency. Collocations should be taught to improve second language learners' competence as well as their accuracy and fluency (Wray, 2012). One of the beneficial ways to bring learners up to native speakers' level is not teaching them more words but teaching them how to combine words which they already probably know (Lewis, 2012).

The frequency of occurrence of collocations does not make it an apparent issue for the language producers. In contrast, it is a convoluted issue requiring a huge amount of attention. The very first reason that makes collocations so indispensable for academic scholars lies behind the absolute power of collocation that allows a potential native-like written production. Therefore, any collocational inappropriacies, i.e., wrong word combinations may give rise to lack of confidence to second language (L2) learners' language ability no matter how the content or the context is unique. It is difficult for a non-native writer to escape seemingly inept and unnatural expressions in their L2 production without appropriate knowledge of collocation, because the knowledge of collocation is critical for L2 learners to be able to have full communicative mastery of English (Demir, 2017). Therefore, collocational competence is equally vital for EFL learners, which is acquired late and often not mastered very well even by fairly competent English as a Foreign Language (EFL) learners (Hasani & Dastgoshadeh, 2021).

In this regard, the learners' motivation may be impacted by the way their teachers teach English collocations. Learning a foreign or second language effectively, efficiently, and speedily is highly dependent on the desirable level of motivation (Saboor Hussain, Salam, & Farid, 2020). Learning motivation, as one of the most important psychological concepts in education, can be conceptualized as students' energy and desire to engage in learning and plays a large part in students' interest to be engaged in school and studying. Their motivation can directly be related to the way they are treated in their classes with regard to the types of error correction they receive (Guilloteaux & Dornyei, 2008). However, the motivational factors vary in humans depending on the importance of the task taken up, the expected reward on its completion, and the impediments in its fulfillment. Student's motivation can be influenced by the way teachers teach. Margolis (2010) argues that during teaching, the way a teacher teaches students can influence their motivation to learn a language, and good teaching strategies can boost student's motivation.

Different teaching methods have been suggested for collocation teaching. For example, Nation (2006) has suggested that the first and most important step in collocation teaching is to draw learners' attention to their existence. The issue is for teachers to use ways that extend a language learner's attention towards a target form. Attention can be actually obtained by proper involvement drawing activities which are, in fact, the central subject of cognitive processing activities or alternatively involvement load (Hulstijn & Laufer, 2001). Acknowledging the importance of the notions of depth of processing ( Craik & Lockhart, 1972) and elaboration (Craik & Tulving, 1975), but feeling the need to translate and operationalize such general cognitive notions in terms of L2 vocabulary learning tasks, Hulstijn and Laufer (2001) developed the Involvement Load Hypothesis (ILH) for L2 vocabulary learning. Tasks with different involvement load will lead to different incidental acquisition (Laufer & Hulstijn, 2001). Retention of unfamiliar words is claimed to be conditional upon the amount of involvement while processing these words.

### 1.1 Statement of the Problems

In spite of the importance of collocation knowledge for English learners, huge number of difficulties in collocation teaching, learning, comprehension, and production are observed among EFL learners (Adelian, Nemati, & Fumani, 2015). According to Fahim and Vaezi (2011), lack of collocation knowledge not only has caused learners to have errors and problems in their oral fluency, but also it has weakened their listening comprehension and reading speed. In addition to learners' problems regarding collocation learning, second language teachers also have difficulties in choosing the most effective teaching method or technique for collocation teaching, and teachers are faced with many cases in which advanced language learners use collocations inappropriately and wrongly. Moreover, the way in which EFL learners acquire both lexical and grammatical collocations efficiently is a great concern, and far too little attention has been paid to investigate the efficiency of different instructional methods for learning and developing learners' lexical and grammatical collocation knowledge. Additionally, according to Rahimi and Rezaie (2020), in EFL contexts, learners do not have the advantage of exposure to the language which naturally occurs in the environment, and that is why the process of learning becomes a cumbersome task.

### 1.2 Objectives of the Study

This study has focused on three different task types of teaching collocations to EFL learners namely TIL (Task-induced load) which employs three different rates of loads as the techniques of instructing L2 collocations and want to know to what extent each of these methods could bridge the gap in learner's collocation competence. With regards to the vital role of collocation knowledge in successful language learning and the importance of learners' rate of involvement, the following research questions were formulated according to issues mentioned above:

1. Do different task involvement loads have any statistically significant effects on Iranian intermediate EFL learners' learning of English collocations?
2. Are there any statistically significant differences among the effects of different task involvement loads on Iranian intermediate EFL learners' learning of English collocations?
3. Are there any statistically significant relationships among different task involvement loads and Iranian intermediate EFL learners' motivation to learn L2 collocations?

## 2. Review of Literature

### 2.1 Theoretical Framework

The concept of 'levels of processing' was proposed in the cognitive psychology field by Craik and Lockhart (1972), who suggested that remembering information depends not only on having attended to it during its occurrence or having rehearsed it after its occurrence, but also on how deeply it is processed. Laufer and Hulstijn (2001) applied this notion to the Second-language acquisition (SLA) field, giving rise to the ILH in the incidental L2 vocabulary learning research strand. From a different perspective, attentional models of SLA, Schmidt (2010) has proposed the notion of 'levels of awareness.' The notion of levels of awareness has important similarities with recent views of levels of processing that relate depth of processing to elaboration and high degree of consciousness (Craik, 2002).

In applied linguistics, the cognitive process that is related to the elaboration refers to facing unfamiliar words in a textual input and the incidental learning of those new vocabularies, and that addresses to the "ILH" first proposed by Laufer and Hulstijn (2001). They suggest that the amount of motivational-cognitive involvement is an explanatory and predictive variable in incidental vocabulary acquisition. Building on the levels of processing framework and the attentional models in SLA, Laufer and Hulstijn proposed the ILH. They identified three components for vocabulary involvement: need, search, and evaluation. Need is the requirement for a specific word in order to perform a task. Search is the attempt made for looking up a word. Evaluation refers to comparison of a word with other words, or comparison of different meanings of a word to see if the word suits its context.

### 2.2 Collocation

The term collocation was coined by Firth (1957). He defined it as "the company that words keep" (p. 183). Shehata (2008) states that "the origin of the term collocation is the Latin verb *collocare*, which means *to set in order to/ to arrange*" (p. 25). The term "collocation" is not perfectly defined and has been the subject of some debate until now. For example, O'Dell and McCarthy (2008) stated that collocation is "natural combination of words; it refers to the

way English words are closely associated with each other” (p. 4). Elsewhere, [Durrant \(2015\)](#) defines collocation as a “psychological association between words which is merely evidenced by their occurrence together in corpora more often than random distribution” (p. 10).

The theoretical studies of collocation can be classified into three perspectives which are lexical ([Sinclair, 1991](#)), syntactic, and semantic ([Nation & Webb, 2011](#)), whereas the pedagogical studies are those empirical studies with different pedagogical purposes such as measuring learners’ collocation knowledge, discovering common collocation errors, and recommending new teaching techniques for collocation teaching and learning ([Kiaei, Heravi Moghadam, & Moheb Hosseini, 2013](#)). Collocation has been known as a vital part of instructional materials in every language learning classes because it plays an important role in learner’s inter language development ([Wray, 2012](#)). As [Sung \(2003\)](#) states, sufficient knowledge of collocation is one of the essential parts of language proficiency, having positive role in improving language learners’ skills including speaking, writing, reading, and listening.

[Zare and Zare \(2016\)](#) categorize English collocations into two groups: lexical collocations and grammatical collocations. Lexical collocation refers to combination of just noun, verb, adverb, and adjective, while grammatical collocation refers to a combination of noun, verb, adverb, and adjective with preposition or other parts of speech. Using a word in its appropriate context is more important than knowing grammatical structures ([Gohar, Rahmanian, & Soleimani, 2018](#)). It would be difficult to use the correct grammatical structure without sufficient vocabulary knowledge. Hill (2012) believes collocations are important in terms of the lexical nature of a language, the sheer number of collocations that native speakers hold, the role of memory, and the way we think and express ideas.

### 2.3 Involvement-Load Hypothesis (ILH)

Driven by studies in the literature, [Laufer and Hulstijn \(2001\)](#) propose a framework called task-induced IL. Investigating the tasks employed and reviewing the literature so far, [Laufer and Hulstijn](#) claim that they have determined the elements of incidental tasks that promote the type of complex processing required for learning. In order to trigger theoretical and empirical study in the domain of L2 vocabulary, [Laufer and Hulstijn](#) introduce a new construct termed Involvement. ILH was proposed “to stimulate theoretical thinking and empirical research in the domain of L2 vocabulary learning” (p. 1) which has succeeded in doing as there are numerous studies which were set up specifically to test it ([Keating, 2008; Kim, 2011](#)). In addition, the hypothesis complements other theories about cognitive processing and retention of vocabulary that have been in existence for several decades (e.g., [Craik & Lockhart, 1972](#)). The hypothesis is a way of analyzing the cognitive and motivational involvement of any given L2 vocabulary acquisition task ([Alcaraz-Mármol & Almela, 2013](#)).

[Laufer and Hulstijn \(2001\)](#) define the hypothesis as “the combination of the presence or absence of the involvement factors of Need, Search, and Evaluation (p. 15). Each of the involvement factors can be represented as either minus (-) which shows the factor as not present in a given task, plus (+) indicates a moderate presence of the factor and a strong presence is represented by a double plus (++). They feature the construct “as composed of three motivational and cognitive dimensions: need, search, and evaluation” (p. 75). Regarding the weighting of the factors, attention needs to be drawn to the fact that the ILH places equal weight on each factor as contributing to involvement load. Need may be the strongest factor in involvement load, that will be outlined in the weighting section below.

#### 2.3.1 Need

This factor is the “motivational, non-cognitive component” ([Keating, 2008](#), p. 366) and simply refers to the requirement of knowing or understanding the target vocabulary in order to successfully complete a given task. [Laufer and Hulstijn \(2001\)](#) claimed that a task-induced need was moderate (+) and a learner-imposed need, perhaps due to a learner wanting to learn or use the word for their own purposes, constitutes a strong need (++). They define the need element as the “drive to comply with the task requirements, whereby task requirements can be either externally imposed or self-imposed” (p. 14). In addition to the definition, they characterize Need as being either moderate or strong.

#### 2.3.2 Search

This is the first cognitive component that comprises involvement load. As the name suggests, Search outlines the need to lookup unfamiliar vocabulary. This could be done using a dictionary, but the provision of a gloss provided within the task itself is considered to be a Search factor absence (-). Search is defined as “the attempt to find the meaning of an unknown L2 word or trying to find the L2 word for expressing a concept (e.g., trying to find the L2 translation of

an L1 word) by consulting a dictionary” (Laufer & Hulstijn, 2001, p. 20). They point out that the weight of search might be lower than that of need and evaluation.

### 2.3.3 Evaluation

Evaluation is the third element of the construct of Involvement. Laufer and Hulstijn (2001) define it “a comparison of a given word with other words, a specific meaning of a word with its other meanings, or combining the word with other words to assess whether a word (i.e., a form meaning pair) does or does not fit its context” (Laufer & Hulstijn, 2001, p. 14). Moreover, according to Van Polen (2014), “the concept of involvement can be operationalized by advising tasks with varying degrees of need, search, and evaluation and therefore can be submitted to the empirical investigation” (p. 34). In evaluation, it may prove necessary to have more than three representations (-, + and ++) of the depth of involvement, as evaluation is certainly a complex factor.

### 2.4 Learning Motivation

Motivation is a highly complex term which is used not only in everyday life but also in many areas of social sciences, for instance, in various branches of psychology, educational studies, and applied linguistics (Dornyei, 2005; Namaziandost, Pourhosein Gilakjani, & Shakibaei, 2021). Learning motivation, as one of the most important psychological concepts in education, can be conceptualized as students’ energy and desire to engage in learning and plays a large part in students’ interest to be engaged in school and study (Martin, 2003; Namaziandost, Razmi, Tilwani, & Pourhosein Gilakjani, 2022). Richards and Schmidt (2002) define L2 learning motivation as the combination of the learner’s attitudes and willingness to spend a lot of effort in order to learn the second language.

Zhang, Lin, Zhang, and Choi (2017) recognized the motivational factor in the vocabulary they learn. Their findings revealed that motivation has a significant relationship on vocabulary knowledge with magnitude ( $\beta = 0.18$ ,  $p < 0.05$ ). In the same vein, the study of Tseng and Schmitt (2008) also found the value of the magnitude to be ( $\beta = 0.62$ ,  $p < .05$ ). Thus, the logic of that study proved that the motivation has a significant relationship with the mastery of the vocabulary. Moreover, the effect of some factors such as learners’ beliefs, quality, and frequency of vocabulary encounters on the retention of vocabulary knowledge in terms of the involvement load, was examined by Joe (2006). An intrinsically motivated need which is self-imposed by the learners to complete a task as proposed by Laufer and Hulstijn (2001), was found by Joe to be more effective for the learning and retention of vocabulary knowledge. Joe found that learner’s motivation and degree of their involvement in learning vocabulary were influenced by multiple factors beyond the task itself and included their prior experience of learning, their perceptions of their class program, and their beliefs about learning vocabulary. Moreover, learners’ purpose and learning goals had an important role on their approaches to learning.

### 2.5 Studies Related to ILH in Iran

Few studies have been done in the Iranian context on the influence of task varieties and IL on EFL students’ vocabulary learning. Yaqubi, Rayati, and Allemzade Gorgi (2012), for example, randomly assigned 60 EFL students to three groups: First group accomplished an input-oriented assignment with a participation load of 3, Second group accomplished the very same type of task but with a participation load of 2, and Third group accomplished an output-oriented task with a participation load of 3. The findings contradicted the ILH’s forecast, indicating that Task 2 outperformed Task 1, which had a higher index. Furthermore, notwithstanding their index equivalence, students who undertook Task 3 performed considerably better than those who finished Task 1.

Mousavi, Zarei, and Ahanghari (2021) investigated the effects of form-focused and meaning-focused tasks with different involvement load indices on EFL learners’ recognition of L2 idioms. The results of their study indicated that the tasks with higher levels of involvement were more effective on recognition of idioms. The results also showed that form-focused tasks were more efficient than meaning-focused tasks. Moreover, at involvement load of two, meaning-focused tasks were more beneficial than form-focused tasks, while form focused tasks were more effective at higher involvement loads of three and four.

In another study, Soleimani and Rahmanian (2015) compared the effect of two input tasks- gap-filling (index = 2) and multiple-choice reading comprehension questions (index = 1) on advanced EFL learners’ vocabulary knowledge. The results revealed that the gap-filling task with a greater level of involvement was more successful than the other task in improving the learners’ lexical knowledge. In a study, Maftoon and Sharifi Haratmeh (2012) investigated the effectiveness of two factors of involvement load and task orientation (input and output) on Iranian EFL learners’



vocabulary knowledge. The results revealed that in addition to the construct of involvement load, the orientation of task- input or output- is a determining factor in task effectiveness in vocabulary learning. Tahmasbi and Farvardin (2017) compared the effects of four output task types- paragraph writing, combining, sentence formation, gap-filling, and translation with different indices of involvement on EFL learners' word knowledge. The findings showed that the paragraph writing task group, with the highest involvement load index, outperformed the other experimental groups.

To examine the role of proficiency and evaluation component in HIL, Soleimani and Rostami Abu Saeedi (2016) compared the effectiveness of sentence formation (strong evaluation), fill-in the-blanks (moderate evaluation), and multiple-choice questions (no evaluation) on high and low proficient learners' vocabulary learning. The results showed statistically significant differences between high and low proficiency learners' post-test scores on all three tasks. The best performance, however, was related to the group of low proficiency learners doing sentence creation tasks with strong evaluation.

Furthermore, Namaziandost, Hosseini, and Utomo (2020) aimed at comparing the effectiveness of the level of involvement load of tasks, i.e., lack of involvement level versus high level of involvement on EFL learners' L2 lexical learning. The results confirmed the significant role of high involvement load in the development of vocabulary knowledge. Masoud Kabir and Aghajanzadeh Kiasi (2017) reported a significant effect in confirmation of the involvement load hypothesis that proved to be effective in enhancing EFL learners' incidental learning of phrasal verbs on the delayed post-test. Among the tasks analyzed, task 3 indicated a higher involvement load and had a more significant effect on increasing incidental learning of phrasal verbs among intermediate Iranian EFL learners.

A glance at the above review shows that although several studies have explored the impacts of both ILH on vocabulary learning and other language skills, little research has been done in Iranian EFL context, to the best of researcher's knowledge, regarding the effect of task-induced involvement on the learning of English language collocations, and the effect of tasks involvement on Iranian EFL learners' motivation has not been investigated, and the present research is an innovation in this regard as it focused on three different task types of teaching collocations to EFL learners namely TIL which employs three different rates of loads as the techniques of instructing L2 collocations and want to know to what extent each of these methods could bridge the gap in learner's collocation competence.

### 3. Methodology

#### 3.1 Design of the Study

With regard to the nature of the study, built on a quantitative approach to answering the research questions, a quasi-experimental design characterized by the non-random selection of the participants, assignment of the participants into study groups, administration of a pretest, application of the treatment, and administration of a posttest was employed to test if providing different task types of involvement loads had any effect on Iranian intermediate EFL learners' L2 collocations and motivation. The participants were chosen from intact classes, and experienced a different intervention program according to the types of involvement loads.

#### 3.2 Participants

The sample population of the current study consisted of 78 male and female EFL learners selected from a total population of 126 English language learners at the intermediate level of language proficiency, with the age range of 16 to 28, divided into three experimental groups, multiple-choice items task (MC), Fill-in-the-blanks (FB), and sentence formation (SF) each of which had 26 participants. All the participants were native speakers of Persian who were taking English language course at Iranian English Language Institute, in Bandar Anzali, Iran.

#### 3.3 Instrument and Materials

##### 3.3.1 Solutions Placement Test (SPT)

To homogenize the participants in terms of general English proficiency, a copy of SPT was administered to the participants. This test consists of three sections: The first part of the test includes 50 multiple-choice items of grammar and vocabulary, the second part of the test contains 10 reading comprehension items, and the third section is a writing task that is optional. The 50 multiple-choice questions and the reading task are designed to be done together in a 45-minute time period. The third part of the test is an optional writing task that assesses learners' ability to produce the language. The writing task is done separately in approximately 20 minutes.

### 3.3.2 Targeted L2 Collocations

The L2 collocations were taken from English collocations in use (O'Dell & McCarthy, 2008). Sixty collocations were chosen according to their common theme, understandability, and relatedness to the students' personal experience. The targeted collocations were also selected on the basis of three criteria, namely the participants' unfamiliarity, ease of providing English definitions and their Persian equivalents, and the ease of their incorporation into a narration describing one's personal experiences and sentence writing

### 3.3.3 The Pilot Study and Reliability of Collocation Pretest and Posttest

One of the most important responsibilities of the researcher was to make sure of the face, content validity, as well as the reliability coefficient of the tests used in the study. In so doing, a researcher-made collocation test, comprising 55 items was piloted with ten learners similar to the participants in the study in terms of language proficiency. Having confirmed the item facility, item discrimination (using a digital item statistics analyzer called Test Analysis Program), face, and content validity of the collocation tests, the researchers decided that 50 items out of initial 60 items with optimal facility and discrimination indices ( $IF \leq 0.50$  &  $ID \geq 0.40$ ) should remain on the final drafts of each test. Next, the reliability coefficients of the test were calculated through Cronbach's alpha using Statistical Package for Social Sciences (SPSS) software. The reliability coefficients turned out to be .836 for the collocation test. Once the reliability indices were calculated, the test was divided to two 25-item tests, as pretest and posttest, according to odd and even criterion.

### 3.3.4 Learning Motivation Questionnaire

To determine the learners' motivational level in learning a foreign language, the researchers employed the adapted version of Pintrich and DeGroot's (1990) questionnaire. The questionnaire has 44 items and is rated by 6-point rating scales ranging from "strongly disagree" (receiving the value 1) to "strongly agree" (receiving the value 6). The content validity of the questionnaire was initially checked by two experienced teachers in this area. The reliability of the whole questionnaire had already been investigated by Pintrich and DeGroot, and a high index of reliability had been reported. However, in the current study, the reliability of the questionnaire was estimated in a pilot study with 10 learners who were representative of the learners in the main study. The Cronbach's alpha reliability of the motivation questionnaire was calculated to be .82, which was acceptable for the purpose of the study.

## 3.4 Procedures for Data Collection

In order to achieve the objectives of the present study, a sample population of the 78 male and female EFL learners was selected. To make sure that all the participants were at the same level of proficiency i.e., intermediate level, a copy of SPT was administered to the participants. Then, those who obtained between 30 and 40, were selected as the participants of the study. Next, the target participants of this study were non-randomly assigned to three groups of 26 participants as three experimental groups.

To ensure that the participants were not familiar with the targeted collocations, sixty collocations that would be used in the tasks was presented to them. They were asked to either provide the meaning of the collocations in Persian or write 'yes' or 'no' for the collocations they had previously met or had not. Those collocations whose meanings were known by the participants or were previously seen by them were excluded from the study. Accordingly, there left 55 collocations.

Later, the researcher-made collocation test was piloted with ten learners similar to the participants in the study in terms of language proficiency. The item facility, item discrimination (using a digital item statistics analyzer called Test Analysis Program), face, and content validity of the collocation test was achieved. Accordingly, five items were removed leaving 50 items with optimal facility and discrimination indices. Next, the reliability coefficients of the test were calculated through Cronbach's alpha. Then, the fifty-item test was divided to two 25-item tests that functioned as pretest and posttest of the study.

The pretest of L2 collocations as mentioned above was conducted to measure the participants' initial knowledge of collocations and the homogeneity of the groups at the beginning of the experiment. The analysis of the participants' pretest scores suggested that they delivered a relatively similar performance on the test. Following the pretest, the groups received instruction on doing the task over a two-week period through which the researchers provided the three groups their specific tasks type explained above. To avoid generating any memory traces, immediately after the

collocation familiarity test that led to the real pool of collocations, the test papers were distributed among the students and they were asked to do the tasks as explained above. The first two groups had to perform input-oriented tasks, multiple-choice, and fill-in the blank tests. However, the task for the third group was output-oriented with a different involvement load.

In the present study, the involvement load was investigated via three experimental groups with different types of tasks pertinent to the ILH.

**MCC, multiple-choice items at a sentence level.** The learners in MCC group, were provided with the collocations, no meanings and explanations attached, but they were allowed to look them up in their dictionaries, paper or cell phone dictionaries. They were, then, required to recognize the right collocation in questions given in the multiple-choice format. The learners needed to know the meanings of the target collocations to answer the questions. For this purpose, they were allowed to use their own dictionary (paper, cell phone) when necessary. Since using dictionary to figure out the meaning of the collocations was necessary in this task, the three main components of involvement load, *need*, *search*, and *evaluation* were present. Hence, based on the ILH, the involvement index of the first task for the group one was 3, + (1) need, + (1) search, + (1) evaluation.

**FB, fill-in the-blanks at text level.** Task two learners, the second group, were provided with the same collocations but were required to fill in the blanks with appropriate collocations given collectively in random order at the end of the test along with some extra unrelated collocations. In this task, there was search component that was moderate because there were extra collocations from which they had to choose the right one from among them. However, because the students were provided with the definitions and explanation of the collocations, they did not have to look the collocations up in a dictionary. However, the need component was moderate, because it was externally induced. In order to fill in the blanks correctly, the collocations provided by the researchers at the end of the test had to be evaluated against each other to decide on their contextual appropriateness. Hence, the evaluation component was also moderate. According to ILH, the involvement index of second task was 3 + (1) need, - (1) search, + (1) evaluation.

**SF, using collocations in a sentence.** The same collocations were given to the CF group who were asked to form their own sentences. Their production could be at sentence level or they were allowed to combine some sentences together to form a short paragraph in which two or more collocations could be used. Grammaticality did not matter; what mattered was the message the students intended to convey. Regarding the involvement load, the need component was moderate. Inasmuch as the learners were required to look up the definition of collocations in a dictionary, the search component was moderate. The value of evaluation, however, was higher than that of evaluation in the first and second tasks because the collocations were to be used in the context originally developed by the learners making more effort to create a text. Hence, the involvement load of the task was 4, + (1) need, - (1) search, ++ (2) evaluation.

It needs to be mentioned that tests for multiple-choice tests and fill-in-the-blank were scored based on correct and incorrect item response criterion. That is, the items were scored 0, if nothing or incorrect answers to the questions provided, and they were scored 1, if the correct and exact answers were chosen. However, the test in the third task was productive, and the meaning conveyance was particularly important inasmuch as the collocations were correctly and semantically used in the sentence(s).

At the end of the tasks completion sessions, a posttest of L2 collocations was administered where the participants were required to answer a 25-item multiple choice test. The test was given to scrutinize the results and to measure the effectiveness of the task types in the experimental groups. Finally, the researchers administered the language learning motivation questionnaire in order to determine the possible relationship between task types and different involvement loads and the learners' learning motivation. They were asked to complete the motivation questionnaire in their own class time in about 15 minutes.

To answer the research questions to compute data, first descriptive statistics, the mean, and standard deviation of each individual test were employed. Then, a one-way ANOVA was used to compare the performances of the groups and to check whether there were significant differences among different types of tasks. To analyze the relationship between different involvement loads and the learners' learning motivation, a multiple regression analysis was conducted.

#### 4. Results

Prior to doing the main statistical analyses, the results of the SPT were analyzed to check the homogeneity of the participants. Accordingly, 78 EFL learners whose proficiency scores were within this range (31+, considered as



intermediate EFL learners, according to SPT) were selected as the main participants. In addition, the results of both Kolmogorov-Smirnov (*statistic* (96) = .063, *Sig.* = .37,  $p > .05$ ) and Shapiro-Wilk tests (*statistic* (96) = .964, *Sig.* = .129,  $p > .05$ ) showed that the scores were normally distributed.

#### 4.1 Collocations Pretest of the Groups

The participants' knowledge of English collocations was measured in order to know their initial collocational knowledge before the onset of the treatment sessions. Table 1 presents the descriptive statistics for the collocations pretest scores obtained by the three groups.

Table 1. Descriptive statistics on the groups' scores of English collocations pretest

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
MC	26	17.132	4.551	.375	18.523	25.417	21.00	29.00
FB	26	19.369	4.147	.335	18.925	21.458	18.00	26.00
SF	26	22.963	4.485	.386	14.745	19.523	15.00	21.00
Total	78	19.821	4.429	.365	17.397	22.132	18.00	25.00

As displayed in Table 1, the three groups were homogeneous regarding their knowledge of English collocations before the onset of the treatment sessions as the mean scores obtained from the groups' collocation pretest are approximately the same demonstrating the similar level of collocational knowledge. In other words, the mean scores for the MCC, FB, and DF were 16.29, 16.88, and 17.09, respectively.

#### 4.2 Collocations Posttest of the Groups

The groups also took the collocations posttest, the purpose of which was to measure the groups' achievements over the course of treatment. Table 2 shows the descriptive statistics of the groups' performance on the posttest.

Table 2. Descriptive statistics on the scores of collocation posttest for the groups

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
MC	26	16.298	2.659	.835	9.598	18.258	12.00	19.00
FB	26	16.885	2.475	.825	9.852	18.425	11.00	18.00
SF	26	17.093	2.65	.835	8.159	17.469	13.00	20.00
Total	78	16.759	2.598	.832	9.203	17.051	12.00	19.00

Table 2 shows that providing groups with different treatment types affected their performance on the test of L2 collocational knowledge. As found, a sizable degree of variations of improvement appeared among the three groups of the study from the pretest to the posttest. Their improvements were not equal across the pretest and posttest, however. The mean scores were 17.13, 19.36, and 22.96 for MC, FB, and SF groups, respectively. Figure 1 shows comparatively the amount of progression in the groups in a graph.

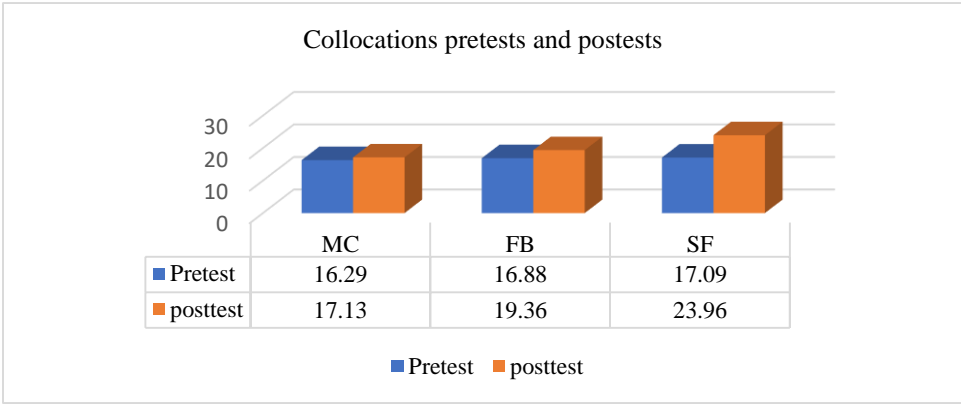


Figure 1. The collocation knowledge of the groups on the pretest and the posttest

As seen, there have been improvements from the pretest to the posttest of L2 collocational knowledge for all three groups. In order to find statistically significant differences at the generally accepted alpha level (p-value) of .05 in the performance of the three groups on the tests, the participants' pretest and posttest scores of L2 collocations were inferentially analyzed via a one-way ANOVA. The Levene's test for homogeneity of variances was estimated for the pretest scores to test whether the variance in scores was the same for each of the three groups (Table 3).

Table 3. The Levene's test results for the pretest of L2 collocation scores

Levene Statistic	df1	df2	Sig.
.636	2	412	.422

According to Table 3, the significance value (Sig.) for Levene's test is greater than .05. It means that the Sig. value of .422 is greater than .05. So, the assumption of homogeneity of variance was not violated for the L2 collocation pretest. The results of one-way ANOVA, as shown in Table 4, indicate that the study groups were not statistically different in terms of L2 collocational knowledge at the beginning of the study before the beginning of the treatment sessions.

Table 4. The results of one-way ANOVA for the collocation pretest scores of groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	262.121	2	125.459	.261	.343
Within Groups	36123.012	412	7.598		
Total	36385.133	414			

According to Table 4, the F (2, 41) statistics is equal to .261, the probability value is .343, and the F statistics is smaller than the probability value. Therefore, no statistically significant difference was reported in the performance of the three different groups at the beginning of the study. The Levene's test for homogeneity of variances was run to the posttest scores of collocations as well to report the assumption of homogeneity of variance. Table 5 shows the report for Levene's test on the posttest of L2 collocation scores.

Table 5. The Levene's test results for the posttest of L2 collocation scores

Levene Statistic	df1	df2	Sig.
.731	2	451	.421

Based on the significance value for Levene's test reported (.421), that is greater than .05, the assumption of homogeneity of variance was not violated in the posttest scores of the study groups. According to Table 6, the results of the a one-way between groups ANOVA indicated the three groups with three different treatments they received in the intervention programs showed different results on the posttests.

Table 6. The results of one-way ANOVA for the collocations posttest scores of groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	578.077	2	89.528	5.627	.000
Within Groups	8325.942	451	18.231		
Total	8904.019	453			

The results revealed statistically significant differences among the groups at the  $p = .000$ . It means that the F statistics (2, 45 = 5.627) used to assess the equality of means is greater than the probability value of .000. Thus, it can be concluded that there were differences among the three different groups after the intervention programs. Furthermore, the effect size (0.6) was achieved by dividing the sum of squares for between-groups (578.077) by the total sum of squares (8904.019) indicating a moderate effect size.

#### 4.3 Post Hoc Pairwise Comparisons

The results of ANOVA reported an overall difference among the groups, but it did not report on the specific differences in groups. Because post hoc test is run to confirm where the differences occur between and among groups, a post hoc of multiple pairwise comparisons was run as an overall statistically significant difference in group means (i.e., a statistically significant one-way ANOVA) was reported in the present study. Moreover, since the data met the assumption of homogeneity of variances reported by Levene's test, Tukey's honesty significant difference (HSD) post hoc test was used to confirm where the differences occurred among groups (Table 7).

Table 7. The results of Post Hoc Tukey Test for the posttest scores of L2 collocations

(I)Study Groups	(J)Study Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MC	FB	-2.237*	1.24020	.041	-2.58931	-.3589
	SF	-6.831*	1.62030	.004	-1.2145	-1.8527
FB	MC	2.237*	1.24020	.031	.3589	-2.58963
	SF	-4.60*	1.32040	.024	-1.3242	-.1327
SF	MC	6.831*	1.62030	.001	1.8527	1.2146
	FB	4.60*	1.32040	.043	.1327	1.3253

\*. The mean difference is significant at the .05 level.

The post-hoc comparisons using the Tukey HSD test indicated that the mean score for SF ( $M = 23.96$ ,  $SD = 4.48$ ) was significantly different from FB ( $M = 19.36$ ,  $SD = 4.14$ ) and MC ( $M = 17.13$ ,  $SD = 4.55$ ). The differences among the groups were high with a mean difference of -8.831 between SF and MC and -5.237 between MC and FB. However, the SF difference with two other groups was the highest that indicated the highest impact of SF on the participants' L2 collocations.

#### 4.4 The Relationship between Task Involvement Loads and Learning Motivation

With regard to the participants' motivation, the research question asked whether different task involvement loads had significantly differential relationships with the learners' learning motivation. Table 8 shows the distribution of the motivation scores of the three groups.

Table 8. Motivation mean scores of the groups

Variables	N	Mean	Std. Deviation
MC	26	79.33	14.22
FB	26	83.38	10.46
SF	26	94	5.21

The adjusted means of the MC, FB, and SF with regard to motivation were 79.33, 83.38, and 94, respectively, implying that the SF group outperformed the other groups with respect to motivation. Regarding the normality issue, as shown in Table 9, it was found that the distributions of the data were normal since the significance values for all the three groups in the pretest and posttest were more than alpha level (.01).

Table 9. Kolmogorov–Smirnov test results for normal distribution of variables

Groups variables	N	Z	Sig
MC	26	0.52	0.94
FB	26	0.54	0.93
SF	26	0.45	0.98

In order to know if different task types (MC, FB, SF) are predictors of their motivation level, a stepwise multiple regression procedure was used, which showed that the independent variables (task types) inserted into the regression equation as the predictors of the dependent variable (learners' motivation) as shown in Table 10 which shows the model summary. This table provides the  $R$ ,  $R^2$ , adjusted  $R^2$ , and the standard error of the estimate, which can be used to determine how well a regression model fits the data.

Table 10. Model Summary<sup>d</sup> on dependent and independent variables

Model	R	R Square	Adjusted R Square	R Square Change	F Change	Change Statistics		
						df1	df2	Sig. F Change
1	.370 <sup>a</sup>	.051	.516	.057	12.712	2	36	.000
2	.618 <sup>b</sup>	.468	.458	.427	123.312	2	40	.003

a. Predictors: MC, FB, SF

b. Dependent variable: Motivation

Model summary (Table 10) shows that value of 0.51% that our independent variables explain 45% of the variability of our dependent variable. In addition, a value of 0.370 indicates a good level of prediction. To check whether the proposed models had significance of the predictive power, one ANOVA on learners' motivation was employed. Table 11 shows the F-ratio in the ANOVA which tests whether the overall regression model is a good fit for the data.

Table 11. Analysis of variance on learners' motivation

Model	R	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4196.483	4	1049.121	32.393	.000 <sup>b</sup>
	Residual	3076.778	36	32.387		
	Total	7273.261	40			

a. Predictors: MC, FB, SF

d. Dependent variable: Motivation

Based on Table 11, the independent variables statistically significantly predict the dependent variable,  $F(4, 95) = 32.393$ ,  $p < .0005$  (i.e., the regression model is a good fit of the data). To see how strong the relationship between the learners' motivation and each of the predictors is, the unstandardized as well as standardized coefficients of the models, along with the observed t-values and significance levels were measured as shown in Table 12.

Table 12. Analysis of coefficients on learners' motivation

			Coefficients <sup>a</sup>				
Unstandardized Coefficients			Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
						Lower Bound	Upper Bound
Model	B	Std. Error	Beta				
Constant	87.830	6.385		13.756	.010	75.155	100.506
MC	-.165	.063	-.176	2.633	.000	-290	-0.41
FB	-.385	0.43	-.677	-8.877	.000	-.471	-.299



SF	13.208	1.344	.748	9.824	.0000	10.539	15.877
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a. Dependent Variable: Motivation

Table 12 shows that the general form of the equation to predict learners' motivation from predictors, MC, FB, and SF, is predicted motivation of  $87.83 - (-.165, MC) - (-.385, FB) + (13.208, SF)$ . The unstandardized coefficients indicated how much the dependent variable varied with an independent variable when all other independent variables are held constant. Considering the effect of SF, the unstandardized coefficient,  $B_1$ , for SF is equal to 13.208. This means that the learners' use of collocations in sentence-making process caused an increase in learners' motivation. Furthermore, it can be observed from the "Sig." values different task types of involvement loads are differently associated with the learners' motivation level.

## 5. Discussion

The findings of this study showed that the higher the involvement load index of input-oriented and output-oriented tasks, the better the comprehension and production of collocations. A number of studies endorse this finding (e.g., Karalik & Merç, 2016; Keating, 2008; Namaziandost et al., 2020; Soleimani & Rahmanian, 2015; Soleimani & Rostami Abu Saeedi, 2016; Tahmasbi & Farvardin, 2017).

For example, the findings of Hulstijn and Laufer (2001) lend support to this finding because they showed the effectiveness of involvement load on the retention of lexical items through reading. This finding is also in line with that of Sarbazi (2014), who compared the effectiveness of task-induced involvement load on recalling unknown word meaning through three reading tasks. The possible reason for this similarity is that the task which included true-false questions relevant to the glossed words meaning plus composition writing turned out to be the most effective on word recall since it involved the highest involvement load. Further support for this finding comes from Karalik and Merç (2016), who reported that as the involvement load index grew, the lexical items gain and retention increased. The reason is the more weight given to the tasks resulted in more involvement of the learners in terms of the constituents of search and evaluation that helped the learners develop higher collocations as the task efficiency was high.

The results of the studies of Masoud Kabir and Aghajanzadeh Kiasi (2017) and Tahmasbi and Farvardin (2017) also endorse the finding of our study. They reported that tasks with higher degrees of involvement were more efficient in immediate and delayed word achievement than tasks with lower loads of involvement. The possible reason may be the factor that the highest involvement load indexes (i.e., moderate need, search, and strong evaluation) was found to be the most efficient task. The findings from the study done by Soleimani and Rostami Abu Saeedi (2016) and Ahmadi Fatalaki (2014) also corroborate the finding of the present study because it was found in the studies that the learners who received a task with a higher load of involvement were more successful in recalling new lexical items.

Tahmasbi and Farvardin (2017) also reached a finding in agreement with that of this study. They found that output tasks, including paragraph writing and sentence writing tasks, were more efficient than input tasks in developing vocabulary comprehension and production. The possible reason is that type of task the learners performed with high index played a determining role as productive tasks were superior to receptive ones.

Unlike the findings of this study, Alcaraz-Mármol and Almela (2013) reported that the group with the highest level of involvement load did not show the best performance on receptive and productive post-tests. One possible reason for such a difference may be that tasks with higher loads of involvement, i.e., the ones with an index of 4, which were used in their study, may have been too complicated for elementary students due to the lack of cognitive knowledge. According to Broeder and Plunkett (1994), careful attention, noticing, and elaborated processing must be involved in successful lexical learning to happen.

In contrast with the ILH and the findings of the present study, Yaqubi et al. (2012) reported that the participants in the gap-filling task showed a better performance than those in the multiple-choice task. One possible reason for this difference may be the differences in the depth of processing and elaboration that tasks provide. Although the former task included an evaluation component, much less cognitive processing was needed to perform it (i.e., choosing the best option from among a finite set) than the latter task, in which students were required to compare several words against one another to fill in the blanks.

In a similar vein, contrary to the findings of this study, Ansarin and Bayazidi (2016) found that higher levels of involvement load did not lead to vocabulary improvement. An explanation for this difference may be that, in their

study, the target words included only verbs; other parts of speech such as adjectives, nouns, and adverbs were not considered. With regard to the relationship between learning motivation and collocation learning, the finding is in agreement with the study results achieved by Zhang et al. (2017). Their findings also revealed that motivation has a significant relationship on vocabulary knowledge with magnitude. The reason can be based on the logic that ILH is a way of analyzing the cognitive and motivational involvement of any given L2 vocabulary acquisition task. It suggests that the amount of motivational-cognitive involvement is an explanatory and predictive variable in incidental vocabulary acquisition. In the meantime, both studies proved that the motivation has a significant relationship with the mastery of the vocabulary. In fact, they recognized the role of motivational factor in the vocabulary the learners learn.

## 6. Conclusion

From the findings of the present study, it may be concluded that the instruction of collocations can be more effective if suitably loaded tasks are utilized. Based on the finding that an increase in the level of involvement load results in better receptive and productive learning of lexical collocations, one can conclude that the tasks that are within learners' proficiency level, and have higher levels of need, search, and evaluation, can assist learners to gain and retain more collocations. In line with this reasoning, students should be involved in more engaging tasks in which their active participation in task performance is needed.

### 6.1 Implications

The results of this study can be of practical value for teachers, material developers, and researchers. The findings of this study can help language teachers perceive the value of each task and gain new insight into task design. They can introduce more loaded tasks into classes for better collocations instruction. Moreover, since task orientation was also a decisive factor in determining task effectiveness, teachers should select and apply appropriate input- or output-oriented tasks to optimize the learning process of L2 collocations. The selection of suitable tasks can result in satisfying learning effects. Considering the great concern learners have in learning collocations, especially in EFL contexts where natural exposure to language is absent, and since it is the sign of being advanced in language and attaining naturalness, fluency, and effectiveness in language use, teachers need to provide them with ample opportunities to learn.

It is worth noting that using collocations to complete tasks can draw learners' attention to them and, consequently, promote their learning, because the first stage of learning lexical items is noticing. Meanwhile, the finding that high index tasks were more effective than low index tasks on learners' collocational knowledge should encourage teachers to completely include high index tasks. Therefore, language learners can benefit from more involving output-oriented tasks like sentence-making tasks in collocations learning. The developers of instructional materials can also enjoy the findings of the present study in devising effective tasks for teaching collocations. Indeed, they can develop appropriate productive tasks and activities to facilitate the learning of lexical collocations.

### 6.2 Limitations

The current study suffered from some limitations which should be taken into consideration in future studies. As the research was conducted on a small scale, it cannot be generalized that the concept that sentence-making task in collocations is the effective technique for improving learners' collocational knowledge in other contexts as the results may vary. As the research was done within a limited time, many techniques could not be applied on the learners. This small-scale research can be taken as a sample guideline and can be used to carry out the research on a large scale.

### 6.3 Suggestions

Since this study was primarily quantitative in nature, qualitative investigation of teachers' and learners' perception can be a fruitful ground for prospective interview studies. It means that future researchers can conduct new studies using a longitudinal method, and it can be conducted in various contexts in order to compare and contrast their results for better understanding of the perception toward the ILH and level of task load involvement. However, the results of this study might pave the way for researchers to conduct further studies to compare the effectiveness of other types of tasks and instructional programs on the learning of collocations. The future researchers are also suggested to study on ILH to examine the extent to which ILH accurately predicts incidental collocation learning gains from language activities.

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