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# Does peripheral learning improve EFL learners' spelling?

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**Abstract:** The aim of this mixed-method study was to explore the effect of peripheral learning on spelling skill of EFL learners. Two pre-intermediate classes were selected and randomly divided into two groups, namely experimental and control groups. They were studying English at Simin Language Institute in Qaemshahr, north of Iran. Before starting the treatment, a spelling test was administered to both groups as a pretest. Then, as treatment, the experimental group was exposed to realia, pictures, and posters plus texts, while the control group was not. Then, after the term-long treatment for 20 sessions, the two groups were administered the same spelling test as posttest. The results indicated that peripheral learning had a significant effect on spelling ability of the experimental group. The finding of the study paves the possible way for teachers to provide the grounds for peripheral learning and for learners to acquire knowledge without concentrating on the material all the time.

**Keywords:** Peripheral Learning, Explicit Learning, Implicit Learning, Spelling

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## 1. Introduction

The work of the scholars and practitioners shows that there has been a renewed interest in learning and teaching vocabulary (Maftoon et al., 2012). Learning vocabulary is an ongoing task and it is an essential part of language learning. It is also a process for language learners to achieve proficiency and to develop competency in L2 (Ahmad, 2011). Insufficient vocabulary and lexical errors may be a barrier for communicating (Segler et al., 2002). Thus, many language learners are concerned about the difficult task of tackling thousands of words in vocabulary learning (Li, 2013). On the other hand, many English teachers regarding vocabulary learning as the work of students themselves seem to have a negative attitude towards vocabulary teaching.

The importance of teaching vocabulary and its spelling has received much attention in Iran as it is the same case in other EFL contexts. It is significant since important tests such as TOEFL, IELTS, TOEIC, University Entrance Exams and final term tests have included a section on vocabulary. As a large number of researchers have admitted, knowing a word involves much more than just understanding its meaning (McCarthy, 1990; Nation, 2001; Schmitt, 2000) and knowing its pronunciation (Min, 2013).

To learn a new word, spelling, along with meaning and pronunciation, is one of the three important things of a

word that an L2 learner must learn (Min, 2013). English spelling causes a great deal of trouble among natives as well as non-natives as there are some irregularities in spelling. As believed by some researchers, English is not an easy language to spell. The differing spellings are because of the complex linguistic history as English language was not created at one time or from one source (Crystal, 2003). As the relationship of spelling to sound of the English language is quite irregular, the importance of learning exact pronunciation with vocabulary needs to be highlighted.

Spelling is one of the problems which students face in learning L2 in Iran. That is due to the difference in phonological and orthographic pattern between English and mother tongue (e.g., Persian). Some English words follow the sound-to-spelling pattern, while others do not. Moreover, when an L2 word contains no familiar sounds or its script is not the same as mother tongue script like Persian, learners have more difficulty acquiring the words (Nation, 1990). Crystal (2003) also clarifies that English spelling appears to be more irregular than it really is because many of the most frequently used words are among the approximate 500 words whose spelling is completely irregular.

On the other hand, students can acquire English and language skills not only from direct instruction but also from indirect instruction. It can be encouraged through the presence in the learning environment of posters and decoration featuring the target language and various

grammatical information. By doing this, students can learn many things indirectly in the classroom or even outside the classroom.

## 2. Background

In practice, there are two viewpoints which are more popular for learning a second language: peripheral and intentional learning. Peripheral or incidental learning is learning one thing while intending to learn another (Richards & Schmidt, 2002) which is an effective way of learning vocabulary from realia and context (Nagy et al., 1985), while intentional learning means to spend a lot of time memorizing words and phrases with their meanings, pronunciations, and spellings. As Bahmani et al. (2012) proposed, there can be a blend of these two viewpoints if language learners would like to make most use of the educational time to acquire as much knowledge as possible.

Suggestopedia, as one of the humanistic approaches which was developed in the 1970's by the Bulgarian educator Georgi Lozanov, encourages the students to apply language more independently, take more personal responsibility for their own learning and get more confidence. Peripheral information can also help encourage students to be more experimental, and look to sources other than the teacher for language input. For example, the students can make some sentences using the grammatical structure placed on the classroom's wall, describe a particular place in an English speaking country by looking at the poster on the wall, etc. When the students are successful in doing such self-activities, they will be more confident.

Regarding peripheral learning, it is said that we perceive much more in our environment than that to which we consciously attend (Mehmet et al., 2012). Students can absorb information effortlessly when it is perceived as a part of environment, rather than the material 'to be attended'. It is claimed that, putting posters containing some language features and grammatical information about the target language on the classroom walls, will enable learners to absorb the necessary facts effortlessly. The posters are changed from time to time to provide language information that is appropriate to what the students are studying. A student can learn from what is present in the environment, even if his attention is not directed to it. Moreover, peripheral learning is basically a way of encouraging learners to indulge in self-learning through indirect techniques.

It is generally believed that in first, second or foreign language most vocabulary is acquired incidentally as a by-product of reading and listening activities (Huckin & Coady, 1999). Researchers also believe that students can learn words by themselves without teacher's help. Teachers can only lead students through experience (Allen, 1983). That is, students can acquire new words through incidental reading (Nagy et al., 1987).

Wesche and Paribakht (1999) define incidental learning as something that is learned without specific focus of

attention in a classroom context. Moreover, in Nation's (2001) definition, peripheral learning refers to the process in which learners focus on some other features, usually the message that is conveyed by speaker or a writer. Many empirical researches support the assumption of the importance of peripheral vocabulary and learning spelling.

Ellis (1999) has distinguished intentional and incidental learning based on *focal* and *peripheral* attention. He defined intentional learning as learning which requires deliberate focal attention to the linguistic code (i.e., on form or form-meaning connections), while incidental learning requires attention to the meaning (i.e., message content) but allows peripheral attention to the form. It is to be noted that attention is deliberately directed taking in new information in the case of intentional learning whereas no attention is deliberately given to the learning goal in the case of incidental learning.

Ellis (2008) defines peripheral learning as a learning of more difficult information incidentally rather than consciously. Generally, this type of learning occurs without attention. Peripheral learning is one of the most important strategies for learning vocabulary and spelling. However, concentrating on peripheral learning alone is not sufficient. Many researchers believe that teachers cannot teach all the words directly; they can utilize different techniques such as pictures, posters, gestures, and realia.

Peripheral learning is regarded to be implicit as opposed to explicit learning, and incidental as opposed to intentional learning. Unlike explicit learning which refers to conscious learning, implicit learning refers to unconscious learning (Swanborn & de Glosper, 2002). Or as Reider (2003) concludes, incidental learning is composed of implicit learning processes which happen without the learner's awareness and/or of explicit learning processes which take place without learning intention but nevertheless involve online awareness and hypothesis formation.

In the present study the term 'peripheral' means everything which happens in the margin rather than the center. 'Peripheral learning' refers to a sort of perception occurring implicitly and incidentally as a result of continuous *exposure* to the increasing quantity of information (Bahmani et al., 2012). It is a way of encouraging students to get involved in learning through indirect techniques.

In spite of the fact that the incidental and intentional learning might seem similar to implicit and explicit learning, respectively, these two dichotomies are not exactly the same. As Hulstijn (2003) points out, since implicit competence is incidentally acquired, it is used automatically. Incidental vocabulary learning may be a useful way of acquiring vocabularies and their spellings for most advanced learners, while intentional or explicit instruction is essential for beginners whose spelling ability is limited.

Along with the previous researches, some researchers generally think that vocabulary growth often appears peripherally while learners are doing other cognitive exercises (Nagy et al., 1987). To enhance vocabulary gains

and promote its spelling, researchers have suggested some techniques such as using pictures plus texts, dictionaries and posters, realia and so on. Moreover, many studies have proved that pictures and dictionary are very beneficial for spelling and incidental vocabulary learning.

On the other side, although some researchers believe that peripheral learning has a positive influence on learners' spelling and enhances their knowledge, some others (e.g. Laufer, 1997) have found that it may lead to some problems like wrong inferences, superficial vocabulary learning, false cognates .... For instance, some lexical items such as words with a deceptive morphological and phonological structure and also words with multiple meanings often mislead learners. Thus, this study was conducted to find out whether peripheral learning would affect learners' spelling ability positively or negatively.

### **2.1. Previous Studies**

Alemi and Tayebi (2011) investigated the role of incidental and intentional vocabulary acquisition in addition to the influence of language learning strategy. They concluded that peripheral learning is not totally incidental in that learners pay at least some attention to individual words. They concluded that there was no difference between the two different modes of teaching vocabularies in terms of peripheral and intentional learning. However, for the same part, linear regression proved that among the vocabularies presented through different modes of presentation, it was vocabularies learned through meaning-based intentional mode that was the most predictive of the performance of the students on a test of vocabulary acquisition.

Bahmani et al. (2012) examined the effectiveness of peripheral learning on vocabulary acquisition, retention and recall. They worked on 80 female participants aged between 18 to 21 who were selected and randomly divided in two groups, namely as the experimental and control groups. The results demonstrated a significant difference between the two groups for each posttest. The results also revealed that the peripheral exposure of vocabulary to the participants had a very significant impact on the participants' vocabulary acquisition, retention, and recall.

In a case study conducted by Li (2013) compared three word-learning methods of Meaning-Given, Meaning-Inferred with Multiple Choices, and Pure Meaning-Inferred in two modes of learning (i.e. incidental and intentional learning) in terms of the retention of L2 word meanings in a Chinese University. The findings suggested that the mode of intentional learning had a significant effect on retention than the mode of incidental learning did. However, regarding different word-learning methods, the results differed. It was suggested that it was important for teachers to balance the use of the two learning modes, to direct students to process the lexical information more elaborately, and to emphasize the functions of rehearsal and reactivation of new lexical information.

Jamaeel Ahmad (2011) provided further study on the

effect of intentional and incidental vocabulary learning on Saudi ESL learners' ability to understand, retain and use new words actively in different situations. Two types of tests such as Standard Confirmation Test and a Contrastive Extempore Test of intentional and incidental types were given to twenty students at graduate level at JCC, Jeddah, KAU. Standard confirmation test determined a close homogeneity of all selected learners. The final test aimed at striking a contrast between the performance levels of both intentional and incidental vocabulary types. The homogenous learners were divided into two equal groups. Fifty new words were the same for both groups but framed in two different styles: intentional and incidental. The findings demonstrated that incidental type performed significantly better than intentional type.

Rashidi and GanbariAdivi (2010) examined the effectiveness of incidental vocabulary learning through comprehension-focused reading of short stories and explicit instruction. Forty male high school students were selected randomly, and divided into two groups of twenty. One group was given five 400-word-level short stories to read with the purpose of comprehension, and the control group was explicitly taught twelve vocabulary items selected from the short stories. The results demonstrated that students in the incidental learning condition performed better and gained more vocabulary. The finding also implicate that incidental learning of vocabulary, might deserve much more attention than has been given to it so far.

The main purpose of the present study was to investigate the role of realia, pictures and context as peripheral learning in attending to learning word spellings. It also tried to broaden knowledge of vocabulary acquisition by examining the effect of different types of teaching in terms of peripheral and intentional. As a result, this study offers a possible way to acquire knowledge without concentrating on the material all during the class time and enhance their learning by taking advantage of peripheral attention.

### **2.2. Research Questions**

With regard to the purpose of this study, the following questions are proposed:

1. Is there any significant difference among Iranian EFL learners in spelling ability under peripheral and non-peripheral conditions?
2. Do Iranian EFL learners perceive peripheral learning as leading to more learning than non-peripheral learning?

## **3. Method**

### **3.1. Research Design**

This study was conducted under the quasi-experimental pretest posttest design since it is not possible to control all variables. The participants were exposed to the pretests, then the experimental treatment for the peripheral group and the placebo treatment for the non-peripheral group, and

finally the posttests.

### 3.2. Participants

The participants of this study included 34 students from two pre-intermediate classes at Simin language institute in Qaemshar, north of Iran during the spring term in 2013. All of these students were female, ranging in age from 12-14. They were randomly divided into two groups, namely control and experimental groups.

### 3.3. Instrumentation

#### 3.3.1. Spelling Test

In this project, a spelling test consisting of two parts was used; one part required the learners to arrange the jumbled words (10 items) and the other part asked the learners to identify the correct spelling (10 items). For arranging the jumbled words, the letters of each word were jumbled and all mixed. The learners had to put them in the right order. On the other hand, for identifying the correct spelling, the test was a pictorial one containing pictures plus text. The learners had to identify the picture and choose the correct spelling of test. The time allotted was 30 minutes and the correct answer to each item received one point. There was no penalty for false responses. The same test was used as pretest and posttest.

#### 3.3.2. Open-Ended Questionnaire

In this study, two open-ended survey questions were designed to investigate subjects' perspectives of the new instructional technique to L2 grammar in the experimental class – peripheral learning. Open-ended survey questions were conducted asking students to briefly write about what they personally felt and thought about the questions items. The questionnaire was written both in English and in Persian languages, and the students were permitted to write the statements in Persian, too.

### 3.4. Treatment

The learners in the experimental group taking their regular class were peripherally taught the target words. Some pictures plus text and posters were used and put up on the wall of the classroom for the experimental group. The pictures contained some vocabulary items. These pictures were utilized from Oxford picture dictionary. The students were exposed to vocabulary items and their spellings while focusing on the materials in the textbook. It is to be noted that the students were not informed of the specific object of the study.

### 3.5. Procedure

At the outset, two homogeneous classes from an institute in Qaemshahr were selected and randomly divided into two groups, namely an experimental group and a control group. Next, both groups took the same spelling test. The test was a blend of intentional and peripheral types of vocabulary taken from the pictures, posters and texts which were put

up on the wall. Afterwards, the experimental group was incidentally exposed to some words in the posters and pictures. Finally, to ensure the effectiveness of instructions and to assess learners' spelling knowledge of the target words throughout the study, the spelling test was employed as posttest. The unexpected administration of the test took place in one session for both groups to find the probable differences between the two groups' performances. In addition, to triangulate the quantitative results and to discover the reasons for the results from the students, qualitative data were also obtained from a survey questionnaire comprising two open-ended survey questions.

### 3.6. Data Analysis

Since the present study compared the effect of peripheral with non-peripheral learning with regard to students' spelling achievement, data were collected through a spelling test. Thus, the two different mediums of instruction were the independent variables of the study and the spelling test scores were the dependent variables. As the experimental and control groups were independent from each other, an independent-sample t-test was conducted for the analyses in order to compare the two groups. Before the administration of the treatment, all groups sat for a pretest. An independent-sample t-test was conducted to compare the means of the peripheral learning group with that of non-peripheral group. Then after the treatment was implemented, the two groups sat for a posttest. The very same statistical procedure was applied here as well. An independent-sample t-test was conducted to compare the means of the peripheral group with that of the non-peripheral group. The Statistical Package for Social Sciences' software program (SPSS 16) was used to analyze the data.

## 4. Results

Having collected the data through the tests, the researcher applied the t-test formula to measure the differences, if any, between the peripheral learning group and the non-peripheral learning group. It is important to note that the researcher employed all the formulas with the level of significance set at 0.05 in all their applications. Table 4.1 illustrates the results of the t-test.

*Table 1. Results of Comparison between Peripheral and Non-Peripheral Groups in Pretest*

Groups	N	Mean	SD	Sig
Peripheral	17	4.4118	1.87279	0.493
Non-Peripheral	17	3.9412	2.07577	

As revealed in Table 1, the computed significance is equal to 0.493 which is bigger than the significance level set for the study (0.05). This indicates that there was no statistically significant difference between the peripheral learning group and the non-peripheral learning group in the pretest.

**Table 2.** Results of Comparison between Peripheral and Non-Peripheral groups in Posttest

Groups	N	Mean	SD	Sig
Peripheral	17	13.5294	1.58578	0.000
Non-Peripheral	17	6.4118	2.31999	

As represented in Table 2, the computed significance equals 0.000 which is smaller than the significance level set for the study (0.05). This substantiates the fact that there was a statistically significant difference between the peripheral learning group and the non-peripheral learning group in the posttest confirming the effect of peripheral learning on improving the learners' spelling ability.

With regard to the open-ended survey questions, seventeen students in the experimental group were asked to assess their perceptions of peripheral learning activities treated in the experimental group. Item 1 "I would like my teacher to put some posters and pictures with texts on the wall. Do you agree or disagree with the statements? Please briefly describe why you agree or not." Item 2 "Do you have any suggestions about how you would like to learn words and their spellings?" These open-ended questions were intended to investigate students' perspectives of peripheral learning activities and to elicit their free views and suggestions of learning spellings through the statements.

## 5. Discussion

With respect to research question 1, "Is there any significant difference among Iranian EFL learners in spelling ability under peripheral and non-peripheral conditions?", the results showed that whereas all two groups increased their scores from pretest to posttest, the peripheral instruction was more effective than non-peripheral instruction. However, it proves the fact that combination of different types of instructional techniques is more useful and effective than an individual one. The results also indicate that peripheral learning is a useful way of acquiring vocabulary and learning its spelling. In the present study, some pictures plus texts, posters and bulletins were used. It indicates that the participants who focused on realia and pictures learned better than those who did not. In other words, it will be better to utilize both aspects of learning to take the best advantage of the educational time to acquire knowledge as much as possible.

With regard to research question 2, "What are Iranian EFL learners' perspectives of peripheral learning activities?", the findings show that a majority of students answering the survey questionnaires preferred the peripheral learning activities because the activities helped them enhance their spelling ability, have more positive attitudes and motivation about the L2 vocabulary learning, shift their learning into learner-centeredness from the teacher centeredness, and improve their attention, autonomy and confidence.

In sum, this study reveal that when participants are exposed to comprehensible input (Hulstijn, 2003) or continuous exposure of the information which is below their

normal threshold for intentional learning (Taylor, 1990), a kind of peripheral perception will occur which has a positive effect on the learners' later behavior (Ramsøy & Overgaard, 2004). Thus, if a combination of both peripheral perception and intentional learning simultaneously, the action of learning, especially spelling can be optimized.

The finding of the present study also demonstrated that learners' exposure to weak stimuli can lead to learning without awareness (known as subliminal communication). Thus, pupils of all levels of intelligence and aptitude can use the periphery of the educational setting to acquire knowledge.

## 6. Conclusion

The present study which investigated the effectiveness of peripheral learning on EFL learners' spelling ability indicated that the type of instructions plays an important role in learners' spelling. As students cannot do well in English and have difficulty in spelling, teachers can take advantage of the study to provide their students with a more interesting and effective vocabulary and spelling learning strategy. The results also demonstrated that learning the spelling of words depends on how deeply the students can process them. Working out the meaning of the words (peripheral learning) and practicing them in a series of exercises (intentional learning) is the deepest level of processing and ensures the best learning. In short, students who practiced the words in a series of exercises could effectively manipulate the words and use them correctly in a writing test. Taken as a whole, if appropriate condition and materials are prepared for learners, peripheral learning of vocabularies and their spellings are likely to take the floor more explicitly than before. Therefore, in answering the research questions of the study, it can be maintained that the results confirmed the effectiveness of peripheral learning along with intentional one.

## 7. Pedagogical Implications

The important theoretical implication of this study is to characterize peripheral learning as an effective way of learning vocabulary and spelling. This study proved that pupils with different aptitude and intelligence can use the periphery of the education setting to acquire knowledge. The findings of this research are helpful for teachers to enhance the quality and quantity of education by use of such indirect techniques. Last but not least, based on the findings, using indirect techniques as educational tools can increase the motivation and confidence of learners. Not only learners' focused attention, but also their peripheral attention could be utilized by teachers in the process of education.

What is more, by putting posters containing language features and grammatical information about the target language on the classroom walls, students will absorb the necessary facts effortlessly. When the students are successful in doing self-activities, they will be more confident, too.

The findings of this study are fruitful for EFL learners, as they learn to make use of the periphery of the classroom as

an educational tool, keep the acquired knowledge in mind, use their focused attention as well as their peripheral attention, improve their self-learning ability, and enhance autonomy, confidence and motivation. This study is also beneficial for teachers as by means of such techniques they heighten the quality and quantity of education without much burden, and put a share of instruction's responsibility on the learners' shoulders. The present study is also useful for text book designers since they can prepare materials that can be perceived by peripheral vision as well as the ones usually obtained by focused one (Bahmani et al., 2012).

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