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How parts of speech are learned?
A lexical-driven or a structure-driven model

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Abstract

The paper investigates the possible facilitative approaches to parts of speech learning and the ways of interpreting them as functional categories rather than merely syntactic units. Participants in this study were 38 students of General English Course at Sharif University of Technology. They received a treatment in a way that the comparison group was given a text, word forms chart, and pattern practice exercises and the control group was deprived of receiving a text. The paper concludes with the emphasis on the interactive model of contextualization of the lexical categories and the intentional commitment of grammatical items to memory.
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Keywords: Parts of speech; syntactic structure; functional categories; linguistics contextualization; word forms chart; structure-driven model; lexical-driven model

1. Introduction

One of the exigencies of the pedagogical setting is the application of facilitative approaches to learning a second language. Various methods and techniques have been subsequently employed to prepare the way for learners' development and achievement. Tracing the history of language methodology from the traditional methods of Grammar Translation and Audiolingualism to the current CLT approach, partial needs and desires of language learners have been satisfied. During "what's the best method" phase, several studies have ultimately led people to abandon the search for the "right method". As a result, teachers do not exclusively adhere to one particular method; instead, they utilize a wide variety of principles to provide opportunities for learners to identify their own learning strategies. Learners then become capable enough to improve their progress in developing their second language proficiency.

Technically, there are two broad categories of words, lexical and functional. According to Lightfoot and Fasold (2006), the semantically rich words are under the lexical categories for which the commonly used term "parts of speech" is applied. However, functional categories are generally contributed to syntactically rich constructions with the weak version of semantics such as articles as a sub-branch of determiners. Regarding the fundamental linguistic

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elements that language users utilize a wide range of them in their utterances-including grammatical, lexical, and phonological properties-grammar is given the priority. The grammatical structures primarily function to empower learners to produce rich and precise output. In this regard, learners should be trained within the pedagogical setting to create accurate speech utterances and communicate their meanings with great precision. The prescribed way of introducing syntactic elements is through categorization of words into distinct word classes. From the syntactic perspective, the words are categorized into parts of speech to mark the grammatical functions of the lexical items. However, in certain circumstances, the borderline between one part of speech of a specific word and the other is not quite straightforward. In other words, the crux of the classification of words is pertinent to the paucity of the fixed rule. In some cases, it is possible that a word with the same form has two separate grammatical functions. Simple words like book, man, and table, which are introduced to learners at the initial stages of language learning and are widely used as a noun form, may function as a less frequent verb form.

The problematic issues related to the word families are numerous. One of the major problems is the intersection of the certain number of classes and the inequality of weight for the different classes. The possible solution is the subdivision of words into content words and function words as two broad classifications. Content words are typically associated with specific, concrete items of the low frequency while function words are those abstract, general items with the high frequency. However, the precise delimitation of these two distinct words is often accompanied with considerable amount of difficulties. Haspelmath (2001) puts it in the way that there is a correlation between function words and content words due to the fact that "function words arise from content words by the diachronic process of grammaticalization. Since grammaticalization is generally regarded as a gradual diachronic process, it is expected that the resulting function words form a gradient from full content words to clear function words" (p. 16539). In short, it is the case that the boundaries of word families are sometimes blurred. Taken together, part of speech as one of the tricky subjects of the analytic English language may be so much challenging that learners may encounter insurmountable obstacles and serious problems in their recognition of one word class from the other.

From the outset of postmethod era, Kumaravadivelu (1992, 1994) proposed two dominant macro strategies as a general framework. Primarily, these two broad guidelines are typically relevant to "situation-specific", "need based" dimensions of practitioners' objectives to generate micro strategies or classroom techniques. Regarding language awareness (LA) as an impetus for language learning, it is highly significant to regard that consciousness-raising (Sharwood Smith, 1981; Schmidt, 1990, 1993) and input enhancement (Sharwood Smith, 1991) are intricately bound with LA as a learner-based, cyclic, and holistic strategy (Kumaravadivelu, 1994). Secondly, one of the crucial aspects of sentence production and comprehension is virtually the application of integrative approach in which syntactic, semantic, pragmatic, and, discourse elements are merged in a way that all function as a unified whole. In this regard, learners' attention should be directed toward this integrative notion. As Driven (1990) states, what should be given a priority is to enable learners to perceive language "as a comprehensive conglomeratic, uniting all the levels of structure or rule complexes of a language, viz., the structure of words and phrases, the structure of sentences, the structure of texts and the structure of interaction" (Driven, 1990, as cited in Kumaravadivelu, 1994, p. 38).

According to Bauer and Nation (1993), the significant principle behind the idea of a word family is that once the derived form is established, the recognition of other members is less demanding on the part of learners. Consequently, Schmitt and Zimmerman (2002) put an emphasis on this fact that "knowing one member of a word family undoubtedly facilitates receptive mastery of the other members". They strongly support such a claim by stating, "[T]he small amount of previous research has suggested that L2 learners often have problems producing the various derivative forms within a word family" (p. 145). Words with primarily grammatical functions sometimes have different functions and appear as other classes of word in a given context. To clarify the point, the garden path sentences are introduced with the application of syntactic parsing strategies. Two opposing views are brought up to the surface from a lexical-driven and a structure-driven model. First, a verbatim account of syntactic structure assignment of a lexical-driven model has been given a priority (Frazier & Rayner, 1982; Marslen-Wilson, 1975; Rayner, Carlson, & Frazier, 1983). Second, the underlying trend of complement-taking properties of verbs in the sentence of a structure-driven model has also been accounted as a determining factor (Fodor, 1978; Ford, Bresnan, & Kaplan, 1982; Holmes, Stowe, & Cupples, 1989; Tanenhaus, Boland, Garnsey, & Carlson, 1989; Tanenhaus & Carlson, 1989).

This experimental study, which mainly based on the assignment of words to different word classes, was of great significance. The commonly held belief is that knowing one member of a word class yields the other members. Throughout the associative process, a connection is established between the members of a word family. Whereas the common flaw of the second language learners is that, they mostly cross associate one construction in the particular context to another. For example, we are all familiar with the adverb marker, -ly, however, we should note that not all adverbs end in -ly and not all words terminating in -ly are adverbs. The learners then should become cognizant of this focal point. As a result, the presentation of appropriate materials in a way to direct learner's attention to forms and to raise their consciousness is one of the essential requirements of any second language course. Language educators primarily shoulder the responsibility for helping learners overcome their difficulties and obstacles especially in the process of learning a second language. They should raise the learners' consciousness to become aware of different word-forms in the certain contexts of utterance. As a result, they have to put a highly emphasis on elaborating how the word is used not what the word is. Under such circumstances, they can bring relevant examples to clarify the multi-functionality of certain lexical categories. They illustrate how parts of speech can vary from one context to another. By providing ample examples, they can render a full account of this tricky and argumentative subject.

The principal goal of this empirical study was to provide learners with some facilitative techniques to enable them to handle the learning of lexical categories satisfactorily. They should be offered ample opportunities to display the forms of a lexical item in a variety of contexts. They should realize that under some circumstances it is incumbent upon them to pay attention to the semantics or even to the pragmatics of a text to arrive at the solicited word-form. By establishing a rich instructional environment for the activation of "intuitive heuristics", what Chomsky (1970) coined, they become capable enough to infer the underlying grammatical rules. Rivers (1964) declares that through a close encounter with certain linguistic structure "the design of the language may be observed, and its meaning (structural, lexical, and socio-cultural) inductively absorbed from its use in such varying situation" (as cited in Kumaravadivelu, 1994, p. 36).

There are certain questions that the researchers look for:

1.   Is there any significant difference between the performance of learners who receive certain number of "word forms" through contextualized items embedded in text and word forms chart and those who just receive word forms chart?
2.   Are "parts of speech" substantially lexically-driven or structurally driven?

2. Method

2.1. Participants

Participants of this study were 38 (male and female) freshman students of General English Course at Sharif University of Technology. They were at upper-intermediate level of proficiency with an average age of 20. They were also students of various fields of study majoring in engineering and science. The method of selection was non-random convenience sampling of learners who were available for the study.

2.2. Instruments

The design of this experiment was the commonly used method of measuring the treatment effect, which is, pre-test and post-test. Participants were primarily given a pre-test to establish a baseline for the possibility of comparison of participant group prior to the treatment and after the treatment, a one-week time interval, a post-test was also given to draw the results of the study. Moreover, one class was randomly assigned to comparison group with the treatment and the other class was set as the control group with only a restricted type of instruction. Hence, "the [two] groups [would] differ in terms of some manipulation of the independent variable to examine the effect of manipulation on the dependent variable" (Mackey & Gass, 2005, p. 148).

The items of pre-test and post-test were taken from Grindell, Marelli, and Nadler (1989) in which in the pre-test the first question required the structural-driven responses and the lexical-driven ones were desirable for the second section. The grammatical knowledge of students has been primarily evaluated since they should specify clearly what particular parts of speech should be provided to fill the blank space and then they make sense out of these abstract grammatical categories through the application of related lexical items. Therefore, the second part is mainly

designated to elicit the lexical knowledge of learners. Finally, the third question is mainly based on merely complex words that shaped the main body of the treatment. The post-test also included three separate parts to measure the effect of treatment and to evaluate the post-treatment performance of learners. The first two parts were clearly based on the manipulation of word-forms. On the contrary, the third question was based on the recognition of grammatical categories of two garden path sentences. Hence, a type of counterbalance design was dominant in which the ordering of lexical-driven and structural-driven items were thoroughly reversed in the pre-test and post-test in a way that in the pre-test the structural-driven categories were primarily given, though it was given in the last section in the post-test.

2.3. Data collection procedure

Generally, the experiment was carried out in three distinct phases. Considering the fist stage of treatment, the experimental group was given a text in which the embedded lexical items were introduced to learners in a way to direct their attention to the context of utterance. The relevant word families were elaborated to raise the learners' consciousness to the principal categorical elements. In this sense, the solicited grammatical elements had been gradually internalized through contextualization of the linguistic input and negotiation of meaning. With the application of mnemonic techniques, learners were committing the underlying structure to their memory. During the second phase, learners were asked to concentrate on the compromising items of the chart, which specify collectively the same words in an organized manner. Toward the third phase, they were asked to practice those items to undertake a review throughout the pattern practice exercises.

Regarding all the above-mentioned procedures, the control group, on the other hand, received the roughly equivalent instructional materials with the only exception that they were totally deprived of the direct exposure to lexical items being embedded in the context. Therefore, they were asked to focus on the chart to learn the identical lexical categories by rote memorization without being exposed to the contextualized items in the text. It should be noted that in the case of unknown words, the adequate explanations were provided to remove doubts and uncertainties in relation to the meaning of those words. It is also of considerable significance to state that the time allotted to the experimentation was only one session for both experimental and control group.

2.4. Data analysis

In this study, t-test as one of the most widely used statistical test was applied to investigate the relation between the two sample means. Two types of t-test, independent and paired, were employed in this study. On the one side of the scale, the researchers focused on the individual performance in a way that each student's pre-treatment performance was compared with his/her own performance after the treatment. On the other side, two samples that were drawn from the two independent groups were compared. Generally, the issue related to analysis of numerical values is to display and summarize them in a systematic manner to provide a simple overview of the dataset. The descriptive statistics that present the frequency of distribution should be employed to characterize the sample statistics. According to Hatch and Farhady (1982), there are set of underlying assumptions that should be met before using any statistical test. In this study, the assignment of each student to one group was respected to maintain an independence of observation. Next, the obtained scores as a representative of individuals' performance on pre-test and post-test were interval scale of measurement. As it is shown, two graphs indicate that the obtained scores for experimental and control groups are normally distributed.
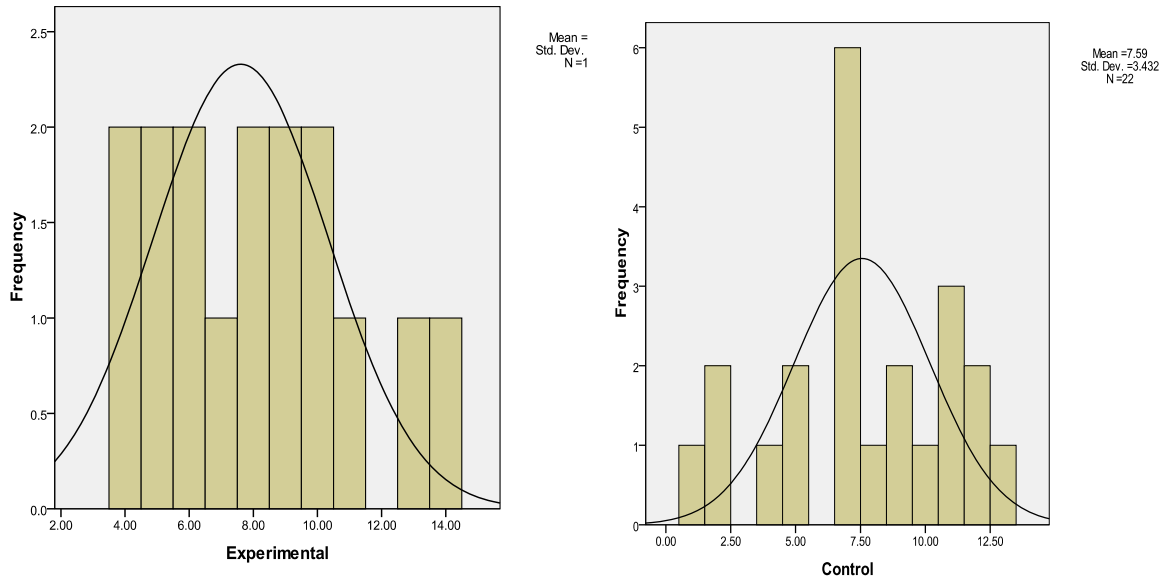
Figure 1. Sampling distribution of means

3. Results and discussion

In this study, t-test which is a fairly robust test is used to determine if the two sample means are significantly different from one another. The result of the computation of paired t-test, within-group comparison, with SPSS 15 is illustrated. The relationship between two sample means drawn from the control and experimental groups is presented.

Table 1. Paired Samples Statistics

	M	*SD*	95% *CI*	*t*	*df*	Sig. (2-tailed)
Experimental Group	-3.81	2.04	[-4.89, -2.72]	-7.47	15	.000
Control Group	-2.59	2.40	[-3.65, -1.52]	-5.05	21	.000

Note. *M* = mean; *SD* = standard deviation; *CI* = confidence interval.

As it is shown in Table 1, there is a highly significant difference between two sample means which shows considerable degree of improvement on the part of the learner after the treatment. As a result, contextualizing linguistic input and committing new lexical items to memory can satisfactorily lead to the increased amount of acquisition. Next, between-group comparison, independent samples t-test, was also computed to test the performance of experimental and control groups.

Table 2. Group statistics

Leven's test for equality of variances			t-test for equality of means					
F	Sig	t	df	Sig. (2-tailed)	MD	SED	95% CI
.223	.640	-.438	36	.664	-.47	1.07	[-2.65, 1.71]

Note. *MD* = mean difference; *SED* = standard error difference; *CI* = confidence interval.

As the results indicate, we are not able to reject the null hypothesis due to the probability level (p value) which is far above than the 0.05 level of significance (α level). Regarding the comparison of performance of experimental and control groups, we arrive at this conclusion that there is no significant difference between them in terms of the treatment effect.

As noted, learners should encounter the certain word forms in the process of learning. By directing learners' attention to the utility of those forms in the particular context then the facilitative process of learning is being implemented to enable learners to internalize the well-formed structures. The instructor should also provide sufficient scaffolding and feedback especially at the initial stages of language learning to aid learners master the grammatical structures through the negotiation of meaning and interaction (Pica, 1987, 1994). Students necessarily require to be provided with the corrective feedback to digest the correct forms otherwise the incorrect and ungrammatical structures may be fossilized. However, in this study the role of corrective feedback and error correction had been diminished. In the interim, learners were given opportunity to practice what they have learned through conscious manipulation of a variety of word classes. Undoubtedly, they were involved in "picking up" of words and structures simply by engaging in a variety of pattern practice exercises. Hence, the pattern practice exercises had been given to both groups, which may provide a remedial support for the isolated linguistics items. In this regard, the effective role of linguistic contextualization as a facilitative tool had been undervalued.

In this sense, two broad ways of introducing L2 linguistic items can be applied within the pedagogical context of the class, which are, incidental and intentional learning (Shaffer, 1989). Incidental learning involves commitment to the task unwittingly without the overload of retention techniques. On the contrary, intentional type of learning is oriented to deliberate commitment of new information to memory where attention is directly geared toward a verbalized learning purpose. Throughout these processes, learners' attention is directed to forms rather than content by being involved in performing certain amount of mechanical drills and pattern exercises.

With regard to the second research question, the multi-functionality of constituent elements of language should be taken into consideration. Considering this controversial issue, the borderline between nouns and verbs as two distinctive parts of speech is not always drawn easily. Since a word like *table* that is frequently used as a noun may also be used as a verb. There are numerous examples that a word with the same form (homograph) has double grammatical functions. From the syntactic point of view, some verbs are characteristically nouns. As an instance, what are traditionally called gerunds are verb-forms whose syntactic function is that of nouns. Interestingly, there are certain noun-forms whose syntactic function is characteristically that of adjectives or adverbs. Therefore, we should draw the distinction between the word-form and its syntactic function in the particular context of utterance. What is the determining factor in learning parts of speech is the context in which a lexical-driven and a structure-driven approach in an interactive model should be applied (Marslen-Wilson, 1975; Rayner et al., 1983).

Regarding the changes in the passage of time, we should note that the language is subject to various changes and a variety of internal and external casual forces. We should take all these historical developments and diachronic changes into account; however, we should also remember that with the rise of structuralism and later generativism, the priority has been given to the structural and functional explanation of facts that is pertinent to the synchronic

point of view in the study of languages. By specifying our direction, we are then able to concentrate thoroughly on *hows* rather than *whys*. A close scrutiny of each of the synchronic (structural) elements of the language demonstrates *how* all the forms and meaning, in other words, the syntactic and lexical categories as the constituent elements combine. It clearly tells us *how* components are interrelated and fit together at a particular point of time in a specific language-system. Taken together, the language-system which is mainly composed of syntactic and lexical categories should be studied synchronically to render a full account of its underlying structure. Hence, with respect to the interactive model, parts of speech as an indicator of grammatical structures and lexical categories are being acquired.

4. Conclusion

This study aimed at investigating possible approaches and techniques to facilitate the parts of speech learning process and to foster language awareness among EFL learners. The related objective of this research was pertinent to the application of the structure-driven model as a systematic paradigm to make learners aware of the syntactic properties of the underlying structure of sentences and the utilization of lexical-driven model as an essential impetus to drive learners towards better comprehension, internalization, retrieval, and the use of lexical categories. In consequence, an interactive model should be applied to tag parts of speech as functional categories that are essentially by product of instrumentality of language in a way that simultaneous integration of syntactic, semantic, pragmatic, and discourse elements is regarded as the integral part of language learning and use. In addition, the researchers put a highly emphasis on the influential role of contextualization as one of the requirements of any instructional course. Therefore, each instructor has to shoulder the responsibility for presenting the new lexical categories in the context of utterance rather than in isolation.

The other focal point that should be taken into account was the introduction of garden path sentences to learners to enable them to have control over a wide variety of lexical categories. The purpose behind this technique, which is virtually related to inductive reasoning and learning is to aid learners avoid the common pitfall of cross association. As Nunan (2003) has pointed out, "the technique could be considered rather cruel. In order to encourage students to process the target structure somewhat more deeply than they might otherwise do, the task is set up to get students to over-generalize. It thus leads them into error" (p. 162). Hence, learners should be provided with sufficient examples to get the gist and then they should be given disconfirming evidence to direct them to modify their presupposition or generalization.

Therefore, facilitative procedures should be employed to empower learners to achieve the mastery level of language. As an instance, students should be exposed to language input, spoken or written materials to internalize the linguistic items and subsequently produce certain number of utterances. By supplying a passage that contains particular lexical and grammatical categories, they are given the opportunity to internalize those items. Then, the underlying structures are elicited through certain grammatical and lexical manipulations to set the ground to put these learned materials into practice and to enable them to broaden their scope of understanding.

Finally, yet importantly, teachers should not assume that learners could easily discern one lexical category from another especially in the case that the words with the same form are enrolled to two distinct functions. They should remove the commonly held supposition that when a learner knows one member of a lexical category the other members are easily known. Moreover, they should guide learners to be fully aware of the lexical categories. Although the acquisition of high frequently used words are accompanied with short presentation and less amount of effort, learners should also be completely acquainted with less frequent words at the later stages of development.

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