

Information Structure of Sentences in English and Persian

Ali Morshedi Tonekaboni^{1}, Mahnaz Ansari Abianeh²*

¹ Young Researchers and Elite Club, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran

² Department of Persian Literature and Foreign Languages, Allameh Tabataba'i University, Tehran, Iran

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ABSTRACT

The project Information structure in language acquisition studies the linguistic realization of information structure and its acquisition by children and adults in a variety of languages. The project examines the development of the relationship between semantic/pragmatic functions (topic, focus, given, new, contrast) and corresponding formal devices. Among the various means which are typically used to encode information structure, priority will be given to the study of word order, intonation, pronominal, and particles. Although texts produced by (very) advanced Persian learners of English as a foreign language (EFL) may be perfectly grammatical, they often feel distinctly non-native. Persian, as a verb-second language, makes separate positions available for discourse linking and abruptness-topics. A side-effect of this L1 interference is the underuse of special focusing constructions in English, like the stressed-focus itself.

1. Overview

The term information structure refers to the ways linguistically encoded information is presented relative to the speaker's estimate of the temporary mental state of the receiver of the message (Chafe, 1976). Utterances transmit both the information contained in the message and the implicit or explicit instructions on how this information is to be processed and integrated into the hearer's knowledge stock. In order to achieve this, the speaker has to decide which parts of the sentence are 'old' or 'given' and which are 'new' for the hearer. The hearer is led to identify those elements of her existing knowledge ('given elements') which shall be relevant for the processing of the message.

The information comes about by relating the 'new' elements (i.e., what the hearer is assumed not to be aware of) to these 'given' elements. The speaker's choice of 'given' and 'new' segments within a sentence depend on her hypotheses about the current state of the hearer's attention and consciousness.

2. Statement of Problem

Information Structure (IS) is a partitioning of the content of a sentence according to its relation to the discourse context. There are numerous theoretical approaches describing IS and its semantics (Halliday, 1967; Sgall, 1967; Vallduv'i, 1990; Steedman, 2000) and the terminology used is diverse — see (Kruijff-Korbayova' and Steedman, 2003) for an overview. However, all theories consider at least one of the following two distinctions:

(i) a **Topic/Focus distinction** that divides the linguistic meaning of the sentence into parts that link the sentence content to the discourse context, and other parts that advance the discourse, i.e., add or modify information; and

(ii) a **background/contrast** distinction between parts of the utterance which contribute to distinguishing its actual content from alternatives the context makes available. Information Structure is an important factor in determining the felicity of a sentence in a given context.

Information sent from one individual to another change the state of the information in the receiver's knowledge store. Thus, information structure is a way of describing decisions that the sender must make when packaging information to be sent, and that the receiver must make when un-packaging the information received. This chapter will discuss aspects of information structure, starting with an introduction to the notions of 'focus' and 'topic'. Additional discussion is included on the relationship between focus and stress and on syntactic structures that serve focusing functions.

However, despite several trials to draw linguistic or pedagogical implications from instructing selective argument structure constructions, there have been few studies to date clearly devoted to assessing the impact of implementing serial argument structure constructions into Persian-speaking L2 learners' acquisition of English. Also, it is somewhat less clear what is actually happening in their mental grammar right after Iranian-speaking L2 learners start to accumulate constructional knowledge of English.

This article is a report of an action research project conducted in the field of Information Structure for EFL students in Iranian context. It aims to identify the structure of the sentence by Iranian EFL learners.

* Corresponding author: Ali.Morshedi.Tonekaboni@gmail.com

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This area of research was selected because, as mentioned earlier, each of these constructs have significant role in successful learning and in student's achievement (e.g., Bandura, 1997; Ames, 1992; Dweck, 1986; Harackiewicz, Barron, & Elliot, 1998; Schraw, 1994).

Furthermore, to the researchers' best knowledge, no documented study to date investigated the association of these constructs in an EFL context.

In Iran, English is a foreign language and learning English is important for academic performance and success. Iranian university EFL students need to learn in the classroom in order to successfully gain access to new information for academic purposes.

3. Research Questions

RQ: Is there any significant differences between understanding the structure of sentences in Persian and English languages?

4. Design

In this research, the researchers study the deep structure of sentences and interlacing combinations in both Farsi and English, to find out if there is a difference between the structure of the Persian and English sentences.

The researchers have made every effort to accurately study the information structure of the sentences in both languages and to answer with the author's detailed and reliable sources whether there is any difference in the structure of the English and Persian sentences, and If there is a difference or similarity in what elements of the sentence and in what kind of sentence.

As we know, the sentences have different types and can change with respect to the cultural, social, and even political effects of the linguistic elements, and the researchers are determined to examine the impact of these factors accurately.

The question that the researchers have come up with in this study is that there may be differences between the structure of the English and Persian sentences, or maybe there is no difference, and with all intellectual and research strengths, this vague point in your mind, which is a question for most people. It can also be overcome and can help with a thorough study of the learning and learning process of English among students.

The present study followed a quasi-experimental design. The present study was conducted in Irana language Institute in Tehran. The participants of this study were female and selected from lower intermediate age randomly. The study was conducted in two classes and these classes were selected quantitatively. Each class has 25 students and they are at the same age and they had the same teacher.

The placement test was conducted to see that all students are in the same level of English proficiency in sentence structure ability. Structure of the sentence was worked in experimental group class by different techniques during treatment period. There was a control group and an experimental group.

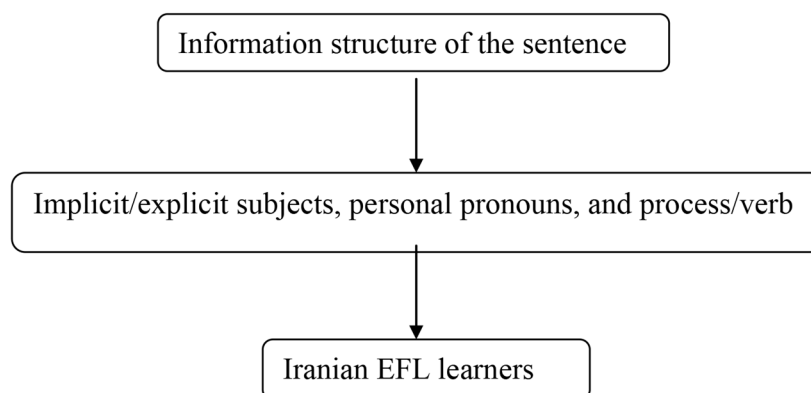
All learners were at the same level of English proficiency. This study was run to measure the ability of EFL learners' sentence structure activities in comparison to traditional task in which students worked on sentences structure by integrated activities. Students in control group worked on sentence structure by traditional techniques and learners in experimental groups worked on sentence structure by integrated technique and concept mapping as pre-activities.

The treatment lasted for two months and for 10 sessions through which experimental and control groups participated three times a week to learn listening task. The test type and time were exactly the same for three groups. The control group was taught inductively to improve sentence structure. The student listened to recorded listening text which teacher played.

In experimental groups learners learned how to analyze the structure of different sentences and increase their comprehension by integrated approach.

After this activity, students were asked to analyze structure of the sentences questions to know students comprehend the text or not.

Post-test was conducted in two groups to investigate the effect of treatment on these groups and recognize which group has better outcome. Pre-test and post-test were run at the first and last of treatment period. Pre-test was conducted to see and make sure that learners' sentence structure ability is not strong which was worked during treatment.



4.1. Procedure

The primary source of data used in this work is naturally occurring written data derived through elicitations from sentences structure by the participants.

A considerable amount of research has been carried out on both theoretical syntax and syntactic change in the languages we plan to study. The interaction between syntax and information structure is, however, a relatively new topic, especially in diachronic studies. In fact, no such diachronic comparative study on information structure has ever been conducted before.

This study was conducted in Irana English Language Institute of Tehran, Iran. The study took place over two months. All study activities were completed on the same days. Students took the pretest measure on Day 1 of the study, and were then randomly assigned to treatment conditions. On Day 2, the “instructors” (the first author and two graduate assistants) modeled and demonstrated how to carry out the experimental tasks to students in each condition.

The treatment conditions were carefully designed to include similar elements, instructions, and examples, so that the conditions differed only in the treatment task. The instructors provided only “minimal instruction” to ensure students knew what was expected, but did not teach students how to identify or use important information in each condition. The intent was to examine whether students would benefit from the tasks if they were simply assigned; if students benefit from the tasks with minimal instruction, it may not be necessary to spend valuable instructional time on these skills.

The analysis of the data in the treatment period included four key steps. First, sentences were separated into independent clauses and by genres, with genre types separated based on the mode identified and named in the textbook from which it was drawn. Second, each clause was separated into theme and rhyme structures (Halliday, 1967) relative to their genres. Further analysis focused on theme, with themes examined and classified into the three types: Textual themes, interpersonal themes, and topical themes, based on explanations and examples in Butt et al. (2001).

Fourth, topical themes were analyzed in more detail with regard to specific language features used in each language. Topical themes were classified as Participants or Processes (Butt et al., 2001). Participants included nominal groups, implicit subjects, and personal pronouns which were identified and classified.

Processes refer to instances where a verb occurred in theme position. In order to avoid confusion between the Process essays genre and Process (i.e., verbs as topical themes), this category was named Process/Verbs. Moreover, a sub-categorization of Process/Verbs with or without implicit subjects was added due to occurrences of such types in both Persian and English samples.

It is based on the precise sources of scholarship and the use of the opinion of the professors and scholars that they can make a comparison in the structure of the sentences of the English language either in terms of grammar or in terms of syntax, and whether the difference in the structure of the sentences. There are two Persian and English languages, and if there is any difference, what are the terms and sentence structure of the two languages do not differ from each other and are similar.

The researchers tried to find a reasonable answer to the research question in order to answer the question logically by analyzing the information obtained from the available sources of study, so that others can use them and can try this research, this is a positive step towards promoting the acquisition of both Persian and English for them, one of whom is their mother tongue, and the other language as their second language.

For some of the languages, small corpora with information structure annotation already exist, but they will also have to be adapted to a common annotation. The annotation is based on dependency grammar, enriched with secondary dependencies (slashes) reminiscent of the structure-sharing mechanism in Lexical-Functional Grammar; however, we expect that researchers who work within other theoretical frameworks (e.g. generative grammar) will be able to use the annotated corpus for their purposes.

4.2. Investigating the research question

The first statistical analysis was the examination of the reliability of the information structure test. For this purpose the test-retest method of reliability estimation was used because the test would be used for three times and the main concern was the stability of the test scores over time. Table1 shows that the coefficient of correlation as the reliability estimate of the test scores was as high as 0.90. As the threshold for acceptable test-retest reliability is 0.75 and the coefficient of correlation is higher than this threshold amount, the provision of the stability of the test scores over time was met.

Table1. Test-Retest Reliability of the information structure Test

		Pretest Rater 2	Posttest Rater 2
Reliability Test	Pearson Correlation	1	.90
	Sig. (2-tailed)		.04
	N		20
Reliability Test	Pearson Correlation	.90	.802**
	Sig. (2-tailed)	.04	.000
	N	20	54
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 2 shows the descriptive statistics for the pretest results in both experimental and control groups. The number of students in both groups was 25.

Table 2. Descriptive Statistics for the Distribution of the Participants' Pre-test Scores

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Control	25	0	2	1.04	.935
Pre-Test Experimental	25	0	2	1.00	.913

As it is seen in Table 2, the mean score of the control group in the pre-test was 1.04 with the standard deviation of 0.93 and the mean score of the experimental group was 1.00 with the standard deviation of 0.91. As the maximum score of the participants in both groups was 2, all of them could be considered as beginners and none of the students was left out for the purpose of homogenizing.

Table 3 shows the results of independent-samples t-test for pretest results. As it is seen in Table 3, the Levene's Test for Equal variances yielded a p-value of 0.68. This means that the difference between the variances was not statistically significant, and the statistics in the first row of the t-test analysis had to be examined to check the significance of the difference between the means of the two groups.

Table3. Independent Samples t-test for the Pre-test Scores

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference LowerUpper
Pre-Test	Equal variances assumed	.16	.68	.153	48	.87	.040	.26	-.485 .56
	Equal variances not assumed			.153	47.97	.87	.040	.26	-.485 .56

The p-value observed was 0.87 and was higher than the alpha level of 0.05 which was the level of significance for the examination of the amount of difference between the two groups. The results showed that there was not a statistically significant difference between the pre-test scores of the participants in the two groups. Table 4 shows the descriptive statistics of the post test results in two groups.

Table 5. Descriptive Statistics for the Distribution of the Participants' information structure Test

		Scores			
	N	Minimum	Maximum	Mean	Std. Deviation
Post-Test Control	25	12	19	15.96	1.71
Post-Test Experimental	25	14	20	17.60	1.63

The mean score of the control group on the post-test was 15.96 with the standard deviation of 1.719 and the mean score of the experimental group was 17.60 with the standard deviation of 1.633. Table 5 shows the results of the independent samples t-test for the immediate post-test results. The p-value for Levene's Test of Equal Variances was 0.84 showing that the difference between the variances was not statistically significant and the two groups had equal variances.

5. Discussion and Conclusion

The role of information structure (IS) has been addressed in both first-language and English as a Foreign Language (EFL) research. The function of IS in the early stages of EFL has been studied mostly from a functional-typological perspective. Research findings suggest that IS plays an important role in the liberalization of learners'

utterances in a 'basic variety', influenced by semantic and pragmatic constraints, and that in the early stages of untutored acquisition, the linearization of discourse elements is shaped by universal principles of information organization.

The influence of IS in advanced stages of EFL has also been investigated, most recently in line with a growing interest in questions of near-native competence. Early studies have shown the relevance of L1 discourse-structure for L2 acquisition as well as transfer effects of discourse-related

phenomena such as topic-prominence and pragmatic word order. More recent findings suggest that IS is a sensitive area even for advanced learners, and that these learners have problems in applying specific linguistic structures according to the principles of information organization in the L2, retaining core IS principles typical of their L1.

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