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An Investigation into the Effective Factors in Comprehending English Garden-Path Sentences by EFL Learners

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Abstract

The present study aimed at highlighting the possible effects of age, proficiency level, and the structural composition of Garden-Path (GP) sentences on EFL learners' comprehension. 80 Iranian EFL learners were recruited from the initial pool of 114 participants based on the results of an English proficiency test; 40 advanced, and 40 intermediate learners were selected. Moreover, two age-groups of teenagers and adults were specified based on the study's necessities. In order to determine the accuracy and also the time needed for comprehension of GP sentences, a software application was designed, which provided learners with a set of GP and non-GP sentences and depicted the elapsed time for each participant to show the correct understanding of the presented sentences on the screen. As statistical analyses revealed, the participants, apart from age and proficiency levels, had less difficulty in comprehending non-GP items. It was also concluded that different types of GP sentences imposed different degrees of difficulty for the participants to comprehend. Furthermore, "proficiency level," unlike "age," was found to be a determining factor for the comprehension of GP sentences for Iranian EFL learners.

Keywords: Age, Comprehension, EFL learners, Garden-path sentences and their structures, Proficiency level

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People usually start interpreting a sentence immediately when they begin reading it (Just & Carpenter, 1992). Specific sentence structures are believed to be more difficult to process than others. According to Van Gompel and Pickering (2006, p.6), "an essential part of understanding a sentence is to construct and activate the appropriate syntactic structure. For most sentences, this is straightforward and does not result in noticeable processing difficulty". In some other cases, the sentences might contain ambiguity, which results in difficulty in sentence processing.

Before discussing sentence processing and comprehension, one needs to become familiar with “parsing” strategies; Traxler (2014, p. 604) argued that "syntactic parsing comprises a set of mental processes that bridges the gap between word-level and discourse-level semantic processes. These interface processes serve to build or recover dependencies between words in a string". Generally, comprehenders assign syntactic structure on a word-by-word basis (e.g., Frazier, 1987; Frazier & Rayner, 1987). Frazier (1987) proposed a strategy known as "minimal attachment principle," which refers to a parser that constructs the simplest structure and looks for the most straightforward interpretation, which is consistent with universal rules of language. In another definition, Frazier and Fodor (1978) described it as a principle under which a word attaches at a spot in the tree that requires a minimal amount of new structural construction.

Harley (2008) claimed that there are two models of parsing, one of which is "the garden- path model," and the other is the "constrained-based model" of parsing. He stated that in the former model, which is the concern of this study, parsing starts withdrawing upon only syntactic information, and if the syntactically produced information is not compatible with further syntactic, semantic, pragmatic, and thematic information; the whole processing restarts from the beginning. In the latter model, the processing draws upon a multitude of constraints or syntactic, discourse, semantic, and frequency-based sources. Aldama (2010, p. 32) argued that a GP sentence is often brought by "tricking readers into reading nouns as adjectives and vice versa, and leaving out definite and indefinite articles that would otherwise guide the reader to a correct interpretation." This

would result in an increase in time for disambiguating materials that were inconsistent with the verb's sub-categorization biases.

This study mainly focuses on the comprehension of GP sentences which are grammatically correct but leads the reader toward an incorrect interpretation and a momentarily incorrect analysis of a grammatical sentence as ungrammatical (Reisberg, 2010). These sentences result in ambiguity, which can be overcome by reparsing the sentence with the resort to its context (Akmajian et al. 2001). To exemplify different types of GP sentences, the following instances have been taken from Townsend and Bever (2001, p. 34-35) as the four possible types of GP sentences:

A. Reduced relative clause (RRC): A reduced relative clause is a relative clause that is not marked by an explicit relative pronoun or complementizer such as who, which or that. These clauses can modify the subject, not the object of a sentence (Beare, 2017), for example, the clause *This is the man I saw*, which is the reduced form of this relative clause, *This is the man that I saw* or *...whom I saw*. The form ... *which I saw* is technically ungrammatical because the relative pronoun must take the case of the substantive to which it refers. Another form of the reduced relative clause is the "reduced object passive relative clause," a type of non-finite clause headed by a past participle, such as the clause found in *The animals found here can be dangerous.*

B. Object/sentential complement (OSC): In such cases, there is confusion whether the statement which follows the verb is a direct object or a sentential complement. The omission of complementizers might also result in ambiguities in sentences containing sentential complements. Consider the sentence; *John knew the answer was wrong.* Disambiguation can occur simply by adding complementizer "that" after the verb (the sentence would be like, *John knew that the answer was wrong*).

C. The direct object of the initial clause/subject of second clause (OIC/SSC): Consider this example *While Mary was mending the sock fell off her lap*. In this sentence, there is a need to clarify

whether the sock is a direct object of the first clause or subject of the second clause.

D. Coordinated objects/coordinated sentences (COCS): In this type of GP sentences, learners might be confused whether the coordinating conjunction connects two direct objects of the transitive verb or connects two independent clauses; for instance, *Jacob kissed Miriam, and her sister laughed*. In this sentence, there is confusion about whether "and" coordinates "Miriam" with "her sister" or coordinates two clauses of "Jacob kissed Miriam" with "her sister laughed."

Some factors have been introduced to affect the comprehension of GP sentences such as working memory capacity, the level of proficiency, the ambiguity zone, the frequency of lexical items, age, and gender (Just and Carpenter 1992). Among the possible factors, this study investigated the possible effects of age, proficiency level, and the type of structural composition of GP sentences on the comprehension of Iranian EFL learners. Hence, the taken time for comprehending GP sentences and non-GP sentences, comprehension of GP sentences by different age-groups and levels English proficiency have been compared to answer the following research questions:

- Are GP sentences more difficult to comprehend than non-GP sentences for EFL learners?
- Which one of GP structure types (i.e., OSC, RRC, OIC/SSC, and COCS) is more difficult to comprehend for the EFL learners?
- Does the age of the EFL learners affect the comprehension of English GP sentences?
- Does the proficiency level of the EFL learners affect the comprehension of English GP sentences?

Literature Review

GP Sentences Processing

Bever (1970) was the first to supply sentences that seemed to have a different psychological effect than any other sentence. Making those potential candidates for the study of human performance, these so-called GP structures became the object of psycholinguistic research. GP is a sentence which leads the reader “down a garden path”; it may lead the reader astray, and consequently, results in a temporarily incorrect analysis of a grammatical sentence as an ungrammatical one (Akmajian et al. 2001). According to Hickok (1993), GP structures create a momentarily ambiguous interpretation because of containing a word or phrase with different interpretations.

According to Osterhout et al. (1994), there are some fundamental ambiguities regarding the psychological processes of sentence comprehension. Crain and Coker (1979) claimed that the ambiguity of GP sentences is due to their processing difficulty. Marcus (1980) argued that GP sentences have acceptable syntactic structures, but readers mis-analyze as other sorts of construction; in other words, these sentences lead the readers "down the garden path." Pozzan and Trueswell (2016) argued that based on the "Interface Hypothesis," in the case of syntactic structures, there is an expectation that bilinguals are not able to consider pragmatic/contextual information as efficiently as native speakers due to processing limitations. Consequently, the bilingual parser often applies the simplest syntactic structure as the "Interface Hypothesis" argues that bilinguals do not own the abilities to process different types of information in real-time (Sorace, 2011).

Van Gompel et al. (2005, p. 336) claimed that "multiple linguistic and probabilistic sources of information determine the activation levels of the analyses. Analyses that are strongly supported become highly activated, whereas analyses that receive little support are deactivated". Therefore, if appropriate analysis activates to some extent, the unsuitable analysis decreases to the same extent (Tabor & Tanenhaus, 1999). Carreiras, Clifton, and Meseguer (2002) stated that when people are recovering from

a mild GP sentence, fast eye movements are observed. When the analysis is not complete, then the reanalysis occurs to improve the interpretation.

Concerning processing ambiguous sentences, Pozzan and Trueswell (2016) designed a study to investigate how bilinguals resolve PP-attachment ambiguity and whether they consider contextual information to help the process of disambiguation or not. Twenty-five monolingual speakers and twenty Spanish-English bilinguals were monitored using the eye-tracking instrument. The findings suggested that the processing of monolinguals and bilinguals was not different discoursally, but they differ in terms of reanalysis in the absence of salient contextual information. The main limitation of this study was that different proficiency levels were not taken into account.

Effective factors on GP sentences processing

Gerth and Graben, (2009) found that L1 background was useful on L2 disambiguation; their results accentuated that more proficient readers were more likely to interpret the GP sentences correctly. Jovanović (2013), on the other hand, argued that this is the mode of interaction that determines the ease of GP sentences' interpretations; difficulty in interpreting GP sentences is most commonly abound in written language rather than spoken one. Roberts (2012) investigated the impact of individual differences on sentence processing in the second language. In this study, it was discussed whether the individual factors such as working memory capacity and proficiency level of learners affect their sentence processing or not. It was revealed that the proficient learners benefitting from a higher working memory capacity are more successful to process the input like native speakers.

In another study, Traxler and Tooley (2007) suggested that the size of an individual's vocabulary knowledge can be a determining factor. They argued that individuals with more considerable vocabulary knowledge possess more compelling connections between particular lexical items and structures, which lead to GP sentences. According to Choi and Trueswell (2010), cognitive maturation might be a vital factor in recovering of

misanalysis of GP sentences. They argued that the limited cognitive abilities of children would not let them cope with such parsing conditions as involved in recovering a garden path trap. According to Frazier (1987), McDonald, Perlmutter, and Seidenberg (1994) understanding the way students with different ages comprehend syntactically ambiguous GP sentences is critical to the models of sentence comprehension.

"Age" can be investigated as one of the other possible factors affecting the comprehension of GP sentences. Engelhardt (2014) investigated the eye movements of participants as they read sentences containing temporary syntactic ambiguities. Participants who were native English speakers were provided with 59 sentences containing GP and non-GP sentences. In the eye-movement process, only the position of the right eye was tracked. "Age" was found as a significant predictor in total reading time.

Khosravizadeh et al. (2015) investigated possible impacts of "gender" as one of the possible factors on comprehension of GP sentences. In order to compare the performance of males and females, 47 boys and 47 girls were given a questionnaire, including GP sentences and ungrammatical ones. The participants were students of different fields, studying engineering and science and not taught in English; moreover, they were not instructed anything about GP sentences in order to make them do the job based on their intuition and the possible impact of gender. According to the results, females outperformed males and made fewer mistakes regarding their distinguishing GP sentences from ungrammatical ones. Besides, the participants are assumed to be at the same level, and the proficiency levels of participants had not been taken into account.

GP Studies in EFL Context

In a study, Trueswell and Choi (2011) conducted a study that explored Korean adults' and kid's ability to recover from misinterpretations of ambiguous phrases during spoken language. Although some disambiguating evidence was provided at the end of each sentence, eye movement and action data indicated that children faced much more

difficulty with recovering from their misinterpretations. The findings of this study suggested a general cross-linguistic pattern for parsing development.

In another study, Shooshtari and Shahri (2014) evaluated the effect of providing the readers with corrective feedback on the interpretation of GP sentences for Iranian EFL learners and found it highly promising for the disambiguation of GP constructions. They called this feedback "garden-path treatment."

In another study, Khosravizadeh and Pashmforoosh (2012) argued that being led down the garden path might be because of the learner's lack of lexical and grammatical knowledge. They stated that "words with primarily grammatical functions sometimes have different functions and appear as other classes of word in a given context" (2012, p. 27). Parpanchi (2014) also conducted a study to see how Iranian EFL learners comprehend GP structures and found that the proficiency level can be a determining factor in this concern. Inspired by the related literature and considering the dearth of empirical psycholinguistic studies in EFL contexts, this study has been an attempt to scrutinize the possible impacts of "age" and "proficiency level" and the type of GP sentences' structures on the way Iranian EFL learners process and comprehend GP sentences.

Method

Participants

80 Iranian EFL learners whose native language was Persian have been chosen from the initial pool of the study's participants based on their performance on a McMillan Placement Test (MPT), i.e., 40 advanced, and 40 intermediate ones were selected for the achieving the study's objectives. MPT is a straightforward, quick diagnostic placement test that has been designed to determine the participant's proficiency level.

Moreover, two age-groups of teenagers and adults were specified; teenagers were between 13 to 19 years of age, and adults were older than 19. They were from both genders whose consent was sought before the commencement of the inquiry. In this way, there was also access to 40

teenagers and 40 adult Iranian EFL learners concerning the design of the study.

Instruments and Materials

For achieving the study's objectives, two tests were conducted; firstly, MPT was conducted to determine the proficiency levels of the participants. It is a test by which different levels of proficiency, ranging from complete beginner to advanced, can be determined. In MPT, the range of scores is from 0 to 50; based on the test's guidelines, the participants with the score range of 25 to 45 are considered to be intermediate, and those with higher scores than 45 are assumed to be advanced EFL learners.

After the determination of the proficiency level, the classification was made among the participants with a different range of age and proficiency levels. In order to determine the accuracy and also the time needed for comprehension of GP sentences, a software application is designed, which provided learners with a set of GP sentences and depicted the time it takes for each participant to show the correct understanding of the presented sentences on the screen. For the test items of this measurement, some sentences were GP sentences, and some were the filler items to avoid the sensitivity of the respondents to GP structures. Checking the comprehension of the sentences is done by focusing on the number of correct answers to the multiple-choice/true-false test items assessing the perception of the GP sentences and the time taken for that answer. This software application is designed specifically for this study by a group of specialists and is named 'GP-Choron' by the researchers.

There were 100 statements (80 GP and 20 filler statements) and consequently 100 multiple-choice/true-false test items accommodated into the 'GP-Choron' to examine the possible effects of GP structures on subjects' comprehension. The 80 GP statements were of four types of RRC, OIC/SSC, COCS, and OSC. The procedure was like presenting an English statement, and then a multiple-choice/true-false test item had to check the participant's comprehension and the time spent for that. In the following, the examples of different types of GP structures are presented.

GP example of reduced relative clause:

The manager of the company hired Behzad was very angry.

A) Behzad was angry

B) The manager was very angry

C) The manager worked for Behzad

D) Behzad was the manager of the company

GP example of Object\ sentential complement:

The manager found Ahmad sleeping.

A) *The manager was sleeping*

B*) Ahmad was dreaming about the company*

C*) The manager was dreaming about the company*

D*) Ahmad was sleeping at work*

GP example of Direct object of initial clause\ subject of the second clause:

Yesterday, when Reza was designing the software, shut down.

A) *Reza was designing the software*

B*) The software by which Reza was designing shut down*

C*) Reza could not design a software*

D*) Software shut down when Reza stopped designing*

GP example of coordinated objects\ coordinated sentences:

Put the frogs in the box and the bowl on the towel.

In order to clarify, this sentence can be edited like ……

A) *Put the frogs, the box and the bowl on the towel*

B*) Put the frogs in the box and put the bowl on the towel*

C*) Put the frogs on the towel and the bowl in the box*

D*) Put the bowl on the towel and frogs in the box*

- Non-GP example:

The teachers promised the students that they would receive a bonus.

In this sentence, ‘’*they*’’ refers to ……

A) *Supervisors* *B) Their university*

C) The course *D) The students*

'GP-Choron' consists of different parts, including:

A. The input: 100 test items of the study were fed into the software application from this entry; from 1 to 60 were the multiple-choice items, and from 61 to 100 were the true\false items. For the multiple-choice items, the participants were provided with four responses, of which they should have chosen the correct one. Each item had thirty seconds to be answered; after the time was over, the responses would not have been chosen or changed. For true/false items, there were only two possible responses to which the participants should choose one; besides, the time for a true\false item was fifteen seconds. In this section, the test items are available to be checked and edited. After making sure that items were proper, the test was ready to run.

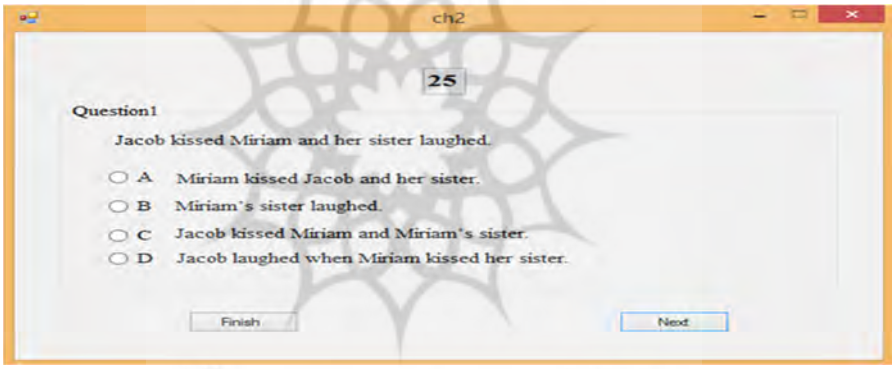

Figure 1.

Multiple-choice items of the GP-Choron

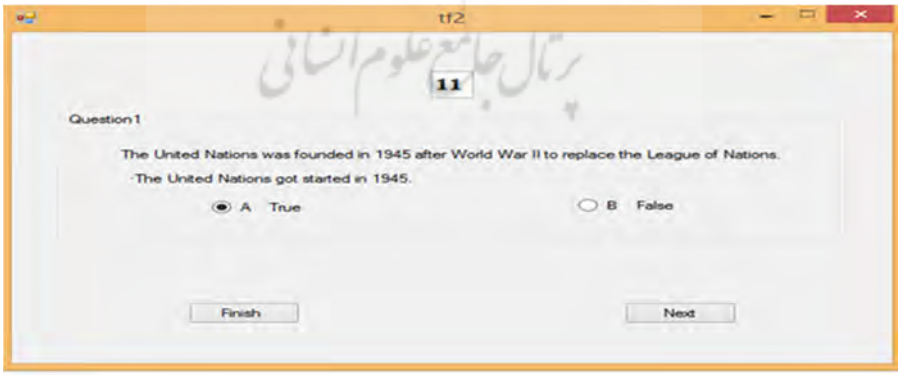

Figure 2.

True/False items of the GP-Choron

B. The output: This section of the GP-Choron simply indicates how many items have been answered correctly among both the multiple-choice and the true\false items without any other details.

C. The results: For more detailed results, the software saved two other files for both the multiple-choice and the true\false items containing the number of correct items and the exact consumed time for each item to be answered. For example, Figure 3 depicts the performance result of one of the participants on multiple-choice items.

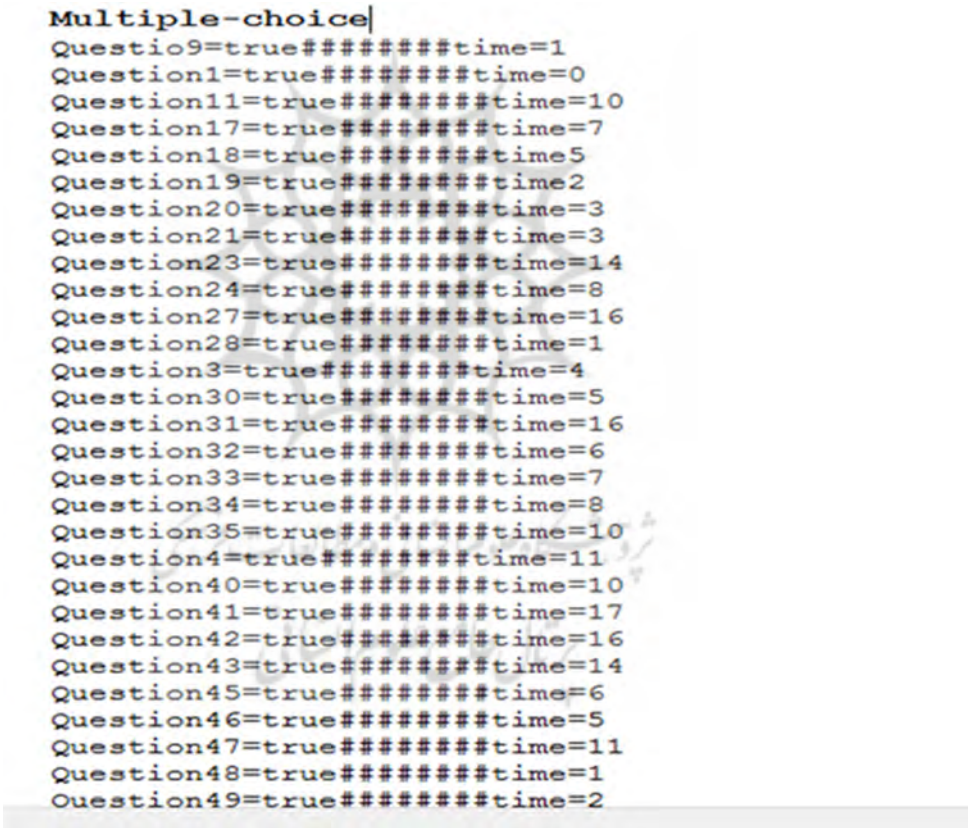

Figure 3.

The result of the GP-Choron for multiple-choice items

Data Collection Procedure

As mentioned, there were two tests the participants needed to go through; a test for the determination of their levels of proficiency and another for the primary purpose of this study, which was testing the comprehension of GP and non-GP sentences. After classifying the participants into intermediate and advanced levels as well as teenagers and adults, the participants' comprehension of GP and non-GP sentences were evaluated; 100 English statements were fed into the software 80 of which were GP sentences (20 for each type of GP structural composition) and 20 were non-GP sentences. The participants were able to see a list of possible answers and were asked to click on the right answer. Moreover, the time spent on answering each test item was measured. Based on the number of correct responses to GP and non-GP sentences, and also the time spent for each participant to answer each question, it has been concluded whether GP sentences were more difficult to comprehend and also to what extent age and level of proficiency of learners affected this comprehension.

Moreover, based on the comparison of the performance of participants on different types of GP sentences, a hierarchy for the difficulty of comprehending different GP structural types would be proposed. The obtained data were analyzed through SPSS. Descriptive tests, chi-square, ANOVA, and independent-samples t-tests were employed to draw the possible differences between participants of different age-groups and levels of proficiency on comprehension of different types of GP structures.

Results and Discussion

Results

Firstly, a chi-square test was employed to compare GP and non-GP sentences without taking accounts of the participant's age and proficiency levels. Secondly, an ANOVA is utilized to compare the difficulty of comprehension of different types of non-GP and GP sentences (including RRC, OSC, COCS, and OIC/SSC) and non-GP sentences in terms of the elapsed time. Thirdly, an independent-samples t-test is utilized to compare

the comprehension of GP sentences for intermediate and advanced EFL learners. Finally, another independent-samples t-test is used to compare the comprehension of GP and non-GP sentences for teenagers and adult EFL learners.

According to Table 1, the Mean for non-GP sentences was significantly higher than that of the GP sentences; therefore, it seems that the participants faced less difficulty in responding to non-GP items. Also, the difference between the Means of four types of GP sentences was not considerable.

Table 1.
Descriptive Statistics of non-GP and four Types of GP Sentences

	Non-GP	RRC	OSC	COCS	OIC
Mean	15.9375	7.7875	7.7500	7.6875	7.4125
Median	16.0000	8.0000	8.0000	8.0000	6.0000
Mode	17.00	8.00	6.00	8.00	7.00

As it is discernible in Table 2, the value of Chi-Square for the comparison of non-GP and GP sentences was 196.019, which refers to the fact that the difference was statistically significant as the p-value was lower than 0.05. This implies that participants had more difficulty in comprehending GP structures.

Table 2.
Comparing the Performance of the Participants on non-GP and GP Sentences

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	196.019[a]	90	.000
Likelihood Ratio	110.403	90	.071
Linear-by-Linear Association	33.578	1	.000
N of Valid Cases	80		

The comprehension difficulty of sentences is usually discussed in terms of the time they take to be comprehended in psycholinguistics (Just

& Carpenter, 1980; Rayner, Kambe & Duffy, 2000). As Table 3 indicates, the average elapsed time for answering the non-GP sentences is considerably different from those of the four types of GP sentences. Moreover, it seems that RRC items have been answered in less time than the other three types of GP sentences.

Table 3.

The Average Elapsed Time for each Type of Sentence

Type of sentence	**Non-GP**	**RRC**	**OSC**	**COCS**	**OIC**
The average time elapsed					
	20 sec	23sec	24.5sec	24.5sec	25sec

Table 4.

Comparing the non-GP and GP Sentences in Terms of the needed time for Comprehension

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	4754.234	4	1188.558	316.518	.000
Within Groups	1483.266	395	3.755		
Total	6237.499	399			

As Table 4 indicates, as the p-value is 0.000, hence, it is possible to claim that in terms of elapsed time to answer the items of each type, the difference between the four types of GP sentences was statistically significant. In other words, the non-GP, as mentioned above and the other four types of GP sentences were significantly different in terms of the time taken for participants to comprehend. This can be directly related to the degree of difficulty for comprehending sentences. In order to have a more detailed comparison, another ANOVA is employed.

Table 4.

Comparing Different Types of Sentences in Terms of the Time they took to be Comprehend

(I) TYPE	(J) TYPE	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Non-GP	RRC	-7.5688(*)	.30639	.000	-8.4084	-6.7291
	OSC	-8.9813(*)	.30639	.000	-9.8209	-8.1416
	COCS	-8.4750(*)	.30639	.000	-9.3146	-7.6354
	OIC/SSC	-9.0438(*)	.30639	.000	-9.8834	-8.2041
RRC	Non-GP	7.5688(*)	.30639	.000	6.7291	8.4084
	OSC	-1.4125(*)	.30639	.000	-2.2521	-.5729
	COCS	-.9063(*)	.30639	.027	-1.7459	-.0666
	OIC/SSC	-1.4750(*)	.30639	.000	-2.3146	-.6354
OSC	Non-GP	8.9813(*)	.30639	.000	8.1416	9.8209
	RRC	1.4125(*)	.30639	.000	.5729	2.2521
	COCS	.5062	.30639	.465	-.3334	1.3459
	OIC/SSC	-.0625	.30639	1.000	-.9021	.7771
COCS	Non-GP	8.4750(*)	.30639	.000	7.6354	9.3146
	RRC	.9063(*)	.30639	.027	.0666	1.7459
	OSC	-.5062	.30639	.465	-1.3459	.3334
	5.00	-.5687	.30639	.343	-1.4084	.2709
OIC/SSC	Non-GP	9.0438(*)	.30639	.000	8.2041	9.8834
	RRC	1.4750(*)	.30639	.000	.6354	2.3146
	OSC	.0625	.30639	1.000	-.7771	.9021
	COCS	.5687	.30639	.343	-.2709	1.4084

As it is indicated in Table 5, the p-values of the difference between the average elapsed time for answering the non-GP and all the GP types are lower than 0.05, meaning that, there is a statistical proof for the challenge GP sentences brought about for the mind to be perceived in comparison with the non-GP sentences. Moreover, it seems that the OSC sentences have been more difficult to perceive than the RRC for the participants. Furthermore, it seems that the COCS sentences have been more challenging to perceive than RRC sentences. The data analysis also

showed that the OIC/SSC sentences were more demanding for comprehension rather than RRC sentences. Overall, inspired by the mean comparisons, it seems that putting the non-GP sentences apart, among the GP types, RRC and COCS were less demanding for the participants to comprehend in comparison with OIC and OSC, which were the most challenging. Another target of the study was the exploration of the possible differences of different age-groups and proficiency levels on the perception of the non-GP and the GP sentences of different types. The following tables depict the descriptive statistics for comprehension of teenager/adult and intermediate/advanced participants of the study for the sentences in question.

Table 5.

Descriptive Statistics of Teenager/adult Participants for Comprehending Different Types of Sentence

	Age	N	Mean	Std. Deviation	Std. Error Mean
Non-GP	Adults	40	15.9500	2.24122	.35437
	Teenagers	40	15.9250	2.04297	.32302
RRC	Adults	40	7.2500	2.47811	.39182
	Teenagers	40	8.3250	2.60559	.41198
OSC	Adults	40	7.1500	2.85145	.45085
	Teenagers	40	8.3500	2.48637	.39313
COCS	Adults	40	7.1750	2.95164	.46670
	Teenagers	40	8.2000	2.60374	.41169
OIC/SSC	Adults	40	7.0500	2.34193	.37029
	Teenagers	40	7.7750	2.49602	.39466

Table 7.

Descriptive Statistics of Intermediate/advanced Participants for Comprehending Different Sentences

	Level	N	Mean	Std. Deviation	Std. Error Mean
Non-GP	Intermediate	40	15.4000	2.15787	.34119
	Advanced	40	16.4750	1.98698	.31417
RRC	Intermediate	40	7.6250	2.47746	.39172
	Advanced	40	8.9500	2.70754	.42810

	Level	N	Mean	Std. Deviation	Std. Error Mean
OSC	Intermediate	40	7.3500	2.49666	.39476
	Advanced	40	8.4700	2.91372	.46070
COCS	Intermediate	40	7.3250	2.43255	.38462
	Advanced	40	8.7500	3.13745	.49607
OIC/SSC	Intermediate	40	7.2000	2.06559	.32660
	Advanced	40	7.8250	2.76134	.43661

According to the above tables, it seemed that the performance of teenagers and adults for comprehending different sentence types was not very different, while it seemed that advanced participants outperformed the intermediates regarding the comprehension of different sentence types. To see if these differences were statistically meaningful, two sets of independent-samples t-test were employed.

Table 8.

Comparing the Performance of Teenagers/adults on Different Types of Sentences

		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
Non-GP	Equal variances assumed	.290	.592	.052	78	.959	.02500	.47950
RRC	Equal variances assumed	.104	.748	-1.891	78	.062	-1.07500	.56855
OSC	Equal variances assumed	.240	.625	-2.006	78	.048	-1.20000	.59818
COCS	Equal variances assumed	.435	.511	-1.647	78	.104	-1.02500	.62233
OIC/SSC	Equal variances assumed	.056	.814	-1.340	78	.184	-.72500	.54117

Table 6.

Comparing the Performance of Intermediate/advanced Participants on Different Types of Sentences

		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
Non-GP	Equal variances assumed	1.202	.276	-2.318	78	.023	-1.07500	.46380
RRC	Equal variances assumed	.130	.319	-.560	78	.017	-.32500	.58027
OSC	Equal variances assumed	.063	.802	-1.319	78	.021	-.80000	.60669
COCS	Equal variances assumed	1.307	.256	-1.155	78	.011	-.72500	.62771
OIC/SSC	Equal variances assumed	2.233	.139	-.779	78	.252	-.42500	.54524

As Table 8 indicates, there was no significant difference between the Means of the elapsed time for GP and non-GP items for the two age-groups of teenagers and adults except for OSC for which p-value is lower than 0.05. In other words, the teenager and adult participants were significantly different just for OSC sentences, while their performance for comprehending the other non-GP and GP sentences were not significantly different. According to Table 9, the difference for the participants of two proficiency levels was statistically meaningful for both GP and non-GP sentences. It seems that proficiency level is a factor for the comprehension of GP sentences, in the way that higher levels of proficiency results in the better comprehension of GP and non-GP sentences.

Discussion

The present study aimed at addressing the factors that might affect the comprehension of GP sentences such as the age, proficiency level, and the GP structural compositions on the EFL learners' comprehension. It seemed that there was a considerable difference in the way Iranian EFL learners comprehend GP and non-GP sentences. Apart from age and proficiency levels, the participants seemed to have less difficulty when perceiving non-

GP items. In addition, during the test, some participants argued that some of the GP sentences are incomprehensible and ungrammatical. This claim is in line with Frazier (1987), who argued that with a "modular" view of sentence processing. This finding is also in line with the findings of Parpanchi (2014), who argued that GP structures do affect Iranian EFL learners' comprehension negatively. This confirms the claim of Marzban and Sepasi (2005) about disambiguation through 'Economization' (omission of certain optional words by speakers and writers), which is the main characteristic of reduced relative clause sentences.

In addition to the significant difference between RRC and non-GP sentences, there was also a statistically significant difference between the RRC and other three types of GP sentences including OSC, COCS, and OIC/SSC, implying that RRC sentences were less demanding than other types of GP sentences for Iranian EFL learners. As the results revealed, although OSC items were significantly different from non-GP and RRC ones, the differences among OSC, COCS, and OIC/SSC sentences were not statistically significant. Moreover, the elapsed time for EFL learners to answer COCS sentences was not meaningfully different from that of OIC/SSC ones. Overall, it was found that RRC sentences were the less and OIC/SSC, and COCS sentences were the most challenging items to comprehend. It was also found that there was no significant difference between how teenagers and adult participants answered the items of GP sentences except for the OSC items while their correct answers were not significantly different for non-GP and other three types of GP sentences. Consequently, it seems that "age" is not a determining factor for EFL learners to comprehend GP sentences.

This piece of finding is in contrast with Yoo and Dicky (2011), who examined aging effects in GP sentence comprehension and concluded that there were GP effects for both younger and adult participants, but the magnitude of this effect is affected by aging. They argued that older adults experienced tougher time revising sentences' structures than younger ones. On the other hand, this finding is in line with Christianson et al. (2006), who found "age" as a non-effective parameter for sentence processing.

They argued that both age groups (older adults and younger adults) were equally annoyed to comprehend GP structures when they were supposed to answer the comprehension items.

Advanced participants outperformed intermediates in answering GP sentences. Hence, the language proficiency level can be a determining factor in GP sentence comprehension for EFL learners. This is consistent with the study which Abbasian and Moeenian (2015) conducted, investigating the impact of proficiency levels on the use of parsing strategy. They found that the parsing strategies are, to some extent, associated with the participant's language proficiency levels. This finding also confirms the study conducted by Parpanchi (2014), who investigated the comprehension of GP structures by Iranian EFL learners. She found that there was a significant dependency between the English language proficiency level and comprehension of GP structures. She also claimed that the reason why the participants of the advanced participants had higher scores in language proficiency and GP tests could have been related to the background knowledge; in other words, owning a good deal of background information could have helped Iranian EFL learners in answering items of GP sentences.

Conclusion

Studies conducted on GP structures can shed light on the importance of these structures, the way they are processed, and the effective factors on their comprehension. Ambiguities and the miscomprehension which entails them might be more problematic in some domains; for instance, ambiguous sentences in law might have different manifestations to different people. After addressing GP sentences and their influential factors, there is a need for familiarizing learners with this problematic type of sentence and also developing instructional techniques for tackling them. According to Khosravizadeh and Pashmforoosh (2012), making learners familiar with GP sentences will make them aware of a broader range of lexical categories.

Parpanchi (2014) argued that familiarizing learners with GP structures can be useful in teaching punctuation. She believed that the importance of punctuation marks could be better clarified through GP sentences. It is also possible to extend this view to the spoken language in which intonation and stressing might act as punctuation marks of written language. In other words, by proper use of stress and pause, one might disambiguate a GP sentence. Tomasello and Harrison (1989) suggested the use of GP sentences as a technique for teaching. They found that the GP technique motivates the learners to tackle the rules, and encourages them to compare their false interpretations and the correct ones cognitively. Along the same line, Shooshtari and Shahri (2014) found that students with "down the garden path treatment" outperformed their peers on comprehension tasks. Their findings highly supported Tomasello and Harrison's results (1989). Familiarity with GP structures raises teachers' and learners' meta-cognition awareness about the reasons for ambiguity and also the ways they can be disambiguated; if EFL learners find out GP ambiguities that they repeatedly encounter are systematic, they will not be disappointed with their English language proficiency.

EFL learners are likely to meet GP sentences in different contexts, such as newspapers, blogs, online forums, magazines, and books. Therefore, it is crucial to know how much time is commonly needed for comprehending GP sentences. The results of this study provide insights on appropriate instruction and evaluation needed for students of different ages and proficiency levels and also different instruction needed for different GP structures. In addition to providing useful information about nature and different kinds of GP sentences for researchers and people who are interested in GP structures, the findings provided gainful insights for curriculum designers and teachers in particular. Consider a teacher who is teaching or giving a test containing GP sentences; the results of this study recommend that he/she consider difficulty level of GP sentences and also the time that learners need to process GP sentences and take the test.

References

Abbasian, G. R. & Moeenian, S. (2015). Validation and Investigation of Sentence Parsing Strategies: a Study of EFL Learners Psych and Language Processing. *Journal of social science research*, *6*(3), 1099-1122.

Akmajian, A., Demeres, R., Farmer, A., & Harnish, R. (2001). *Linguistics: An introduction to language and communication* (5th Ed.). Cambridge, CA: MIT Press.

Aldama, F. L. (2010). *Toward a cognitive theory of narrative acts*. University of Texas Press.

Beare, A. M. (2017). Cognitive aging. *Gerontology perspectives, 3*, 89-109.

Bever, T. G. (1970). The cognitive basis for linguistic structures. *Cognition and the development of language*, *279*(362), 1-16.

Carreiras, M., Clifton, C. & Meseguer, E. (2002). Overt reanalysis strategies and eye movements during the reading of mild garden path sentences. *Memory & Cognition*, *30*(4), 551-561.

Choi, Y. & Trueswell, J. C. (2010). Referential and syntactic processes: what develops? *The Processing and Acquisition of Reference*, 65-108.

Christianson, K., Williams, C. C., Zacks, R. T., & Ferreira, F. (2005). Younger and older adults' 'good-enough' interpretations of garden-path sentences. *Discourse processes, 42*(2), 205-238.

Crain, S., & Coker, P. (1979). *A Semantic Constraint on Parsing.* Linguistic Society of America: University of California Press.

Engelhardt, P. E. (2014). Children's and adolescents' processing of temporary syntactic ambiguity: An eye movement study. *Child Development Research, 6*, 56-78.

Frazier, L. (1987). Sentence processing: A tutorial review. In M. Coltheart (Ed.), *Attention and performance 12: The psychology of reading* (p. 559–586). Lawrence Erlbaum Associates, Inc.

Frazier, L., & Fodor, J. D. (1978). The sausage machine: A new two-stage parsing model. *Cognition*, *6*(4), 291-325.

Frazier, L., & Rayner, K. (1987). Resolution of syntactic category ambiguities: Eye movements in parsing ambiguous sentences. *Journal of memory and language*, *26*(5), 505-526.

Gerth, S., & Graben, P. (2009). Unifying syntactic theory and sentence processing difficulty through a connectionist minimalist parser. *Cognitive neurodynamics*, *3*(4), 297-316.

Harley, B. (2008). *Age in second language acquisition*. College-Hill publications.

Hickok, G. (1993). Parallel parsing: Evidence from reactivation in garden-path sentences. *Journal of Psycholinguistic Research*, *22*(2), 239-250.

Jovanovic J. C. (2013). Taking your own path: Individual differences in executive function and language processing skills in child learners. *Journal of experimental child psychology, 141*, 187-209.

Just, M. A., & Carpenter, P. A. (1980). A theory of reading: From eye fixations to comprehension. *Psychological Review*, 87(4), 329.

Khosravizadeh, P., & Pashmforoosh, R. (2012). How are parts of speech learned? A lexical-driven or a structure-driven model. *Procedia-Social and Behavioral Sciences*, *32*, 275-282.

Khosravizadeh, P., Latifi, A., & Ghaziani, G., Ahmadi, A. (2015). Your gender may lead you down the garden path. *Journal of Language and Literature*, *6*(1), 20-45.

Marcus, M. P. (1980). *Theory of syntactic recognition for natural languages*. MIT press.

Marzban, A. & Sepassi, F. (2005). On the effects of economization and disambiguation in the production of EFL learners. *Asian EFL Journal*, *25*, 45-76.

Osterhout, L., Holcomb, P. J., & Swinney, D. A., Fodor, J. D. (1994). Brain potentials elicited by garden-path sentences: evidence of the application of verb information during parsing. *Journal of experimental psychology*, *20*(4), 786-798.

Parpanchi, Z. S. (2014). The Comprehension of Garden-Path Structures by Iranian EFL Learners. *Iranian EFL Journal*, *34*, 54-78.

Pozzan, L., & Trueswell, J. C. (2016). Second language processing and revision of garden-path sentences: a visual word study. *Bilingualism: Language and Cognition*, *19*(3), 636-643.

Rayner, K., Kambe, G., & Duffy, S. A. (2000). The effect of clause wrap-up on eye movements during reading. *The Quarterly Journal of Experimental Psychology: Section A*, *53*(4), 1061-1080.

Reisberg, J. (2010). Seven principles of surface structure parsing in natural language. *Cognition*, *2*(1), 15-47.

Roberts, L. (2012). Individual differences in second language sentence processing. *Language Learning*, *62*(2), 172-188.

Shooshtari, Z. G. & Shahri, S. (2014). Down the garden path: an effective kind of EFL grammar instruction. *Procedia-Social and Behavioral Sciences*, *98*, 1777-1784.

Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. *Linguistic approaches to bilingualism*, *1*(1), 1-33.

Tabor, W., & Tanenhaus, M. K. (1999). Dynamical models of sentence processing. *Cognitive Science*, *23*(4), 491-515.

Townsend, D. J., & Bever, T. G. (2001). *Sentence comprehension: The integration of habits and rules*. MIT Press.

Traxler, M. J. (2014). Trends in syntactic parsing: Anticipation, Bayesian estimation, and good-enough parsing. *Trends in cognitive sciences*, *18*(11), 605-611.

Traxler, M. J., & Tooley, K. M. (2007). Lexical mediation and context effects in sentence processing. Brain Research, 1146, 59-74.

Van Gompel, R. P., Pickering, M. J. (2006). The activation of inappropriate analyses in garden-path sentences: Evidence from structural priming. *Journal of Memory and Language*, 55(3), 335-362.

Van Gompel, R. P., Pickering, M. J., Pearson, J., & Liversedge, S. P. (2005). Evidence against the competition during syntactic ambiguity resolution. *Journal of Memory and Language*, *52*(2), 284-307.

Yoo, H., & Dickey, M. W. (2011). Aging Effects and Working Memory in Garden-Path Recovery. *Clinical Archives of Communication Disorders*, *2*(2), 91-102.

Appendix 1: Placement test

Grammar

1. I _____ from France.
a) is
b) are
c) am
d) be

2. This is my friend.___ name is Peter.
a) Her
b) Our
c) Yours
d) His

3. Mike is _____.
a) my sister's friend
b) friend my sister
c) friend from my sister
d) my sister friend's

4. My brother is _____ artist.
a) the
b) an
c) a
d) —

5. _____ 20 desks in the classroom.
a) This is
b) There is
c) They are
d) There are

6. Paul _____ romantic films.
a) likes not
b) don't like
c) doesn't like
d) isn't likes

7. Sorry, I can't talk. I ____ right now.
a) driving
b) 'm driving
c) drives
d) drive

8. She _____ at school last week.
a) didn't be
b) weren't
c) wasn't
d) isn't

9. I _____ the film last night.
a) like
b) likes
c) liking
d) liked

10. _____ a piece of cake? No, thank you.
a) Do you like
b) Would you like
c) Want you
d) Are you like

11. The living room is _____ than the bedroom.
a) more big
b) more bigger
c) biggest
d) bigger

12. The car is very old. We're going _____ a new car soon.
a) to buy
b) buying
c) to will buy
d) buy

13. Jane is a vegetarian. She ____ meat.
a) sometimes eats
b) never eats
c) often eats
d) usually eats

14. There aren't _____ buses late in the evening.
a) some
b) any
c) no
d) a

15. The car park is _____ to the restaurant.
a) next
b) opposite
c) behind
d) in front

16. Sue _____ shopping every day.
a) is going
b) go
c) going
d) goes

17. They _____ in the park when it started to rain heavily.
a) walked
b) were walking
c) were walk
d) are walking

18. _____ seen fireworks before?
a) Did you ever
b) Are you ever
c) Have you ever
d) Do you ever

19. We've been friends _____ many years.
a) since
b) from
c) during
d) for

20. You _____ pay for the tickets. They're free.
a) have to
b) don't have
c) don't need to
d) doesn't have to

21. Jeff was ill last week and he _____ go out.
a) needn't
b) can't
c) mustn't
d) couldn't

22. These are the photos _____ I took on holiday.
a) which
b) who
c) what
d) where

23. We'll stay at home if it _____ this afternoon.
a) raining
b) rains
c) will rain
d) rain

24. He doesn't smoke now, but he _____ a lot when he was young.
a) has smoked
b) smokes
c) used to smoke
d) was smoked

25. Mark plays football _____ anyone else I know.
a) more good than
b) as better as
c) best than
d) better than

26. I promise I _____ you as soon as I've finished this cleaning.
a) will help
b) am helping
c) going to help
d) have helped

27. This town _____ by lots of tourists during the summer.
a) visits
b) visited
c) is visiting
d) is visited

28. He said that his friends _____ to speak to him after they lost the football match.
a) not want
b) weren't
c) didn't want
d) aren't wanting

29. How about _____ to the cinema tonight?
a) going
b) go
c) to go
d) for going

30. Excuse me, can you _____ me the way to the station, please?
a) give
b) take
c) tell
d) say

31. I wasn't interested in the performance very much. _____.
a) I didn't, too.
b) Neither was I.
c) Nor I did.
d) So I wasn't.

32. Take a warm coat, _____ you might get very cold outside.
a) otherwise
b) in case
c) so that
d) in order to

33. _____ this great book and I can't wait to see how it ends.
a) I don't read
b) I've read
c) I've been reading
d) I read

34. What I like more than anything else _____ at weekends.
a) playing golf
b) to play golf
c) is playing golf
d) is play golf

35. She _____ for her cat for two days when she finally found it in the garage.
a) looked
b) had been looked
c) had been looking
d) were looking

36. We won't catch the plane _____ we leave home now! Please hurry up!
a) if
b) providing that
c) except
d) unless

37. If I hadn't replied to your email, I_____ here with you now.
a) can't be
b) wouldn't be
c) won't be
d) haven't been

38. Do you think you _____ with my mobile phone soon? I need to make a call.
a) finish
b) are finishing
c) will have finished
d) are finished

39. I don't remember mentioning _____ dinner together tonight.
a) go for
b) you going to
c) to go for
d) going for

40. Was it Captain Cook _____ New Zealand?
a) who discovered

b) discovered
c) that discover
d) who was discovering

Vocabulary

41. You may not like the cold weather here, but you'll have to _____, I'm afraid.
a) tell it off
b) sort itself out
c) put up with it
d) put it off

42. It's cold so you should _____ on a warm jacket.
a) put
b) wear
c) dress
d) take

43. Paul will look _____ our dogs while we're on holiday.
a) at
b) for
c) into
d) after

44. She _____ a lot of her free time reading.
a) does
b) spends
c) has
d) makes

45. Hello, this is Simon. Could I _____ to Jane, please?
a) say
b) tell
c) call
d) speak

46. They're coming to our house _____ Saturday.
a) in
b) at
c) on
d) with

47. I think it's very easy to _____ debt these days.
a) go into
b) become
c) go down to
d) get into

48. Come on! Quick! Let's get _____!
a) highlight
b) cracking
c) massive
d) with immediate effect

49. I phoned her ____ I heard the news.
a) minute
b) during
c) by the time
d) the moment

50. I feel very _____. I'm going to go to bed!
a) nap
b) asleep
c) sleepy
d) sleeper

Appendix 2: Comprehension test items

Multiple choice test items

1. Benefits of owning a dog will last the child's entire lifetime.
A) Keeping a dog in house is harmful for a child's health.
B) Keeping a dog is beneficial for a child.
C) Children mostly love dogs.
D) Owning a dog is usually financial.

2. Jacob kissed Miriam and her sister laughed.
A) Miriam kissed Jacob and her sister.
B) Miriam's sister laughed.
C) Jacob kissed Miriam and Miriam's sister.
D) Jacob laughed when Miriam kissed her sister.

3. I won't eat in a restaurant cooks smoke.
A) The owner smokes in the restaurant.
B) The customers are mostly smokers.
C) Smoke comes out of the restaurant.
D) The cooks of the restaurant smoke.

4. New housing for elderly not yet dead.
A) Providing houses for old people has not been stopped.
B) Providing houses for old people has been stopped.
C) Providing houses for old people who are still alive.
D) After old people are dead, their houses will be destroyed.

5. Like all mammals, whales breathe air.
A) Whale gets the oxygen from water.
B) Whales live in lands.
C) Whales are mammals.
D) Whales are wild animals.

6. She knew the story was true.
A) She knew about truthfulness of the story.
B) She made up the story.
C) The story was interesting to her.
D) She did not like the story.

7. The teachers promised the students that they would receive a bonus. In this sentence, ''they'' refers to ……
A) Supervisors B) Their university C) The course D) The students

8. Stadium air conditioning fails fans protest.
A) Air conditioning failed fans.
B) Fans failed air conditioning.
C) Fans protested at the failure of air conditioning.
D) Fans were not satisfied with the match.

9. Blind woman gets flowers from dad she hasn't seen in years.
A) The woman gets flowers from her blind dad.
B) The woman has not received flowers in years.
C) The woman has not seen her father in years.
D) The man gives the flowers to his daughter he has not seen in years.

10. Police helped dog bite victim.
A) Police helped the dog to bite the victim.
B) Police helped the victim to run away.
C) The dog could not bite the victim.
D) Police helped the victim who has been bitten.

11. The woman visited me in the hospital was very angry.
A) I was very angry when the woman visited me.
B) The woman who visited me was very angry.
C) Workers of the hospital were very angry when the woman visited me.
D) I tried to calm the angry woman.

12. Yesterday when Reza was designing the software shut down.
A) Yesterday Reza was designing a software.
B) Yesterday Reza was designing a shutdown software.
C) Yesterday the software shut down.
D) Yesterday Reza could not design a software.

13. The man shot in the chest and leg knocked on door for help.
A) The man was shot in the chest and leg.
B) The man knocked on the door with his leg.
C) The man shot the door for help.
D) Nobody helped the man who was shot.

14. Lawyers used to give the poor free legal advice.
A) The free legal advices provided by lawyers were poor.
B) Legal advice used to be free for poor people.
C) People used to help poor lawyers.
D) Lawyers used to give free legal advice to get popularity.

15. The author wrote the novel was likely to be a best-seller.
A) The author was a best-seller. B) The novel was not popular.
C) The author was about to win Nobel Prize. D) The novel was popular.

16. Put the frogs in the box and the bowl on the towel.
A) Put the frogs in the bowl. B) Put the frogs on the towel.
C) Put the frogs in the box and the bowl. D) Put the bowl on the towel.

17. While the president was discussing the prices were increasing.
A) By the time that the president was talking the prices were increasing.
B) The president was talking about prices.
C) When the prices got increased the president started talking.
D) After the president finished talking, prices decreased.

18. The government plans to raise taxes were defeated.
A) The government is raising taxes.
B) The government planned to raise taxes but could not make it.
C) The government planned to decrease taxes.
D) People did not let the government to raise taxes.

19. Man eating piranha mistakenly sold as pet fish.
A) The man mistakenly sold pet fish.
B) The man was eating piranha which was sold as pet fish.
C) The man was eating a pet fish.
D) A pet fish was sold as piranha.

20. The Jury asked the audience to be quiet otherwise they would be sent out.
"*they" refers to:*
A) *The Jury* C) The lawyers
B) The audience D) The defendants

21. Most dolphins have acute eyesight, both in and out of the water, and they can hear frequencies ten times or more above the upper limit of adult human hearing.
A) Dolphins cannot see anything while they are inside the water.
B) Dolphins cannot hear anything while they are inside the water.
C) Dolphin's hearing is much greater than a human.
D) Dolphin's eyesight is weaker outside the water.

22. I told the girl the cat scratched Bill would help her.
A) The girl scratched the cat. B) The cat scratched the girl.
C) Bill helped the girl to scratch the cat D) I told the girl to help Bill.

23. Because Reza always jogs a mile seems a short distance to him.
A) Reza always runs a mile for jogging.
B) A mile is like a short distance to Reza.
C) Reza always enjoys jogging.
D) Reza always enjoys running a short distance.

24. Mina told me a little white lie will come back to haunt me.
A) Mina called me a liar.
B) Mina lied to me.
C) Mina believed that a white lie will harm me.
D) I lied to mina.

25. The man who refund sold pianos.
A) The refunding man sold the pianos.
B) The man refunds pianos that have been sold.
C) The sold pianos have been refunded.
D) The refunded pianos have been sold.

26. To accommodate their narrow bodies, snakes' paired organs (such as kidneys) appear one in front of the other instead of side by side.
A) Snakes are mammals.
B) In terms of paired organs and lung, snakes are similar to human.
C) Snakes' paired organs appear in front the other to accommodate their narrow bodies.
D) Snakes are mostly domestic.

27. The thief shot the jeweler and the cop panicked.
A) The thief shot the jeweler and the cop.
B) The cop shot the thief.
C) The Jeweler shot the thief.
D) The cop was not shot.

28. The tycoon sold the offshore oil tracts for a lot of money wanted to kill JR.
A) JR wanted to kill the tycoon for a lot of money.
B) The tycoon wanted to kill JR because he has sold the offshore oil tracts.
C) The tycoon sold the offshore oil tracts.
D) JR made the tycoon angry.

29. John told the man the dog bit Jane was very hungry.
A) John who told the man the dog bit Jane was very hungry.
B) John told the man the dog which bit Jane was very hungry.
C) John told the man the dog bit Jane who was very hungry.
D) John told that the man was very angry.

30. John knew the answer was wrong.
A) John knew that answer was wrong.
B) John's answer was wrong.
C) John found out the right answer.
D) John knew what the answer is.

31. The king expelled the rebel and his helper to a deserted island.
A) The rebel and his helper were expelled.
B) The rebel expelled the king and his helper.
C) The king and his helper expelled the rebel.
D) The king was expelled to a deserted island.

32. The Academy Awards, informally known as The Oscars, are a set of awards given annually for excellence of cinematic achievements.
A) The Oscars are mostly given to athletes of various sports.
B) The Oscars refers to awards that are mainly related to movies.
C) The Oscars are three statuette that are given for excellence of cinematic achievements.
D) The Oscars are mostly given every month.

33. The secretary applauded for his efforts was soon promoted.
A) The secretary's efforts were promoted.
B) The secretary got the authority to promote employees.
C) The secretary was promoted for his efforts.
D) The secretary applauded employees for their efforts.

34. Mary elected Sarah president of the parish council.
A) Sarah elected president of the parish council.
B) Mary was elected as president of the parish council.
C) Mary elected president of the parish council.

D) Sarah elected president of the parish council.

35. Our teacher's favorite hobby reading never attracted us.
A) Reading is our favorite hobby.
B) Reading never attracted our teacher.
C) Our teacher's hobby never attracted us.
D) Our hobby never attracted our teacher.

36. The company sent a computer and a programmer to solve the problem.
A) The company sent a computer to solve programmer's problem.
B) The company sent a programmer to solve computer's problem.
C) A computer and a programmer were sent to solve the problem.
D) The company and a programmer were sent to solve the problem.

37. Since the creation of Mickey Mouse in 1928, hundreds of characters have been born from the imagination of Disney Studios.
A) Mickey Mouse was the first cartoon character of Disney studios.
B) Hundreds of characters were born by Disney studios before Mickey Mouse.
C) Hundreds of characters were born in 1928.
D) Disney studios mostly create action movies.

38. While I was writing the book fell down.
A) I was writing a book.
B) I was writing my daily diaries.
C) The book fell down while I was writing.
D) While I was writing my pen fell down on the book.

39. I consider Reza unworthy and his sister inconsiderate.
A) I think Reza is inconsiderate.
B) I think Reza's sister is inconsiderate.
C) I think Reza's sister is unworthy.
D) I Reza and his sister are unworthy.

40. This cat belongs to me and tomcat to you.
A) This cat and tomcat belong to me.
B) This cat is yours and tomcat is mine.
C) This cat belongs to me and tomcat.
D) Tomcat is yours and this cat is mine.

41. I bought my dog a great necklace.
A) I exchanged my dog for a great necklace.
B) I exchanged my great necklace for a dog.
C) I bought a dog and a great necklace.
D) I bought a great necklace for my dog.

42. The man I sold my house disappeared.
A) The man who sold my house disappeared.
B) The man who bought my house disappeared.
C) The man did not pay for the house.
D) I paid to buy his house.

43. You can count on me and my assistant will take care of it.
A) You can count on me and my assistant.
B) I count on my assistant to take care of it.
C) It will be taken care of by my assistant.
D) I will take care of it.

44. While the boy and the girl dated the performer played piano on the stage.
A) The boy and the girl dated the performer.
B) The boy and the girl played the piano.
C) The girl dated the performer on the stage.
D) The performer played the piano on the stage.

45. Reza was annoyed by children and his parents wanted him to leave.
A) The children and Reza's parents annoyed him.
B) Reza annoyed the children and his parents.
C) Reza's parents annoyed children.
D) The children annoyed Reza.

46. The reporter realized the senator lied.
A) The reporter lied to the senator.
B) The senator lied to the reporter.
C) The senator noticed that the reporter is lying.
D) The audience noticed that the reporter is lying.

47. The people injured reported the driver.
A) The people injured the driver.
B) The driver was reported by injured people.
C) The driver drove carelessly
D) The people injured the reporter.

48. Mr. Bean is a British comedy television program developed by Atkinson while he was studying for his master's degree at Oxford University.
A) Mr. Bean was studying for his master's degree at Oxford University.
B) Atkinson developed character of famous Mr. Bean.
C) Atkinson was a British comedy television program.
D) The television program was mainly about Oxford University.

49. Influenced by his journalistic career, Hemingway contended that by omitting superfluous and extraneous matter, writing becomes more interesting.
A) Hemingway believed that writing is more interesting with extraneous matters.
B) Hemingway's career influenced his writing.
C) Hemingway believed that omitting superfluous matters is not necessary.
D)Hemingway's career was omitting superfluous and extraneous matters.

50. The artist painted on the wall was black.
A) The artist who painted the wall was black.
B) The black wall was painted.
C) The painter changed color of the wall.
D) Black was painted on the wall.

51. After the student moved the chair broke.
A) The student moved the chair.
B) The student played with the chair.
C) The chair broke after the student moved.
D) The student sat on the chair.

52. The Old Man and the Sea is a novel was the last major work of fiction to be written by Ernest Hemingway and published in his lifetime.
A) The old man and the sea is a work of fiction.
B) The novel of Ernest Hemingway was written by an old man.
C) Hemingway wrote the novel when he was old.
D) The novel was published after Hemingway's death.

53. The dog you said chased you is here.
A) The dog that chased you is here.
B) The dog that you chased is here.
C) The dog chased you because you came here.
D) You were chased because the dog was angry.

54. I did not know my wife had a phone for three months.
A) My wife was unfamiliar to me for three months.
B) My wife bought a cellphone for me.
C) I bought a cellphone for my wife three months ago.
D) My wife had a cell-phone secretly.

55. I read your book published in 1991.
A) I read the book that has not been published yet.
B) I will read your book that has been published in 1991.
C) I read your book in 1991.
D) I read the book that has been published in 1991.

56. Reza and mina decided to have one child, because they thought cannot afford more responsibilities.
"*they*" refers to:
A) Reza and Mina
B) The responsibilities
C) The children
D) The financial problems

57. I suggested Mary and John became the president.
A) I suggested both Mary and John to be the presidents.
B) I suggested John to be the president.
C) Mary became the president.
D) Mary did not become the president.

58. The fans named Ryan Braun their favorite player in 2011.
A) Ryan Braun was always the favorite player of the fans.
B) The fans did not like Ryan Braun before 2011.
C) The fans chose Ryan Braun as their favorite player.
D) Ryan Braun was the most popular player in 2011 all around the world.

59. As their parents left their children played the guitar nicely.
A) The parents abandoned their children.
B) The parents played the guitar nicely.
C) The guitar was played by children.
D) The children left their parents.

60. Mina hated Mr. Rezaee and Mrs. Ahmadi failed her.
A) Mrs. Ahmadi failed Mina.
B) Mina hated Mrs. Ahmadi and Mr. Rezaee.
C) Mr. Rezaee failed Mina.
D) Both Mr. Rezaee and Mrs. Ahmadi failed Mina.

True\ False items

1. The tomcat curled up on the cushion seemed friendly.
- The cushion seemed nice.

A) True B) False

2. The United Nations was founded in 1945 after World War II to replace the League of Nations.
- The United Nations got started in 1945.

A) True B) False

3. In its literal meaning, democracy means the "rule of the people".
- In the concept of democracy the role of people is ignored.

True B) False

4. The girl told the story cried.
- The girl in the story cried.

A) True B) False

5. Men recommend more clubs for wives.
- Men recommended their wives to go to a specific club.

A) True B) False

6. Reza's father forced him do his homework.
- Reza's father forced him to work at home.

A) True B) False

7. The man returned to his house was very happy.
- People of the house were happy because the man returned.

A) True B) False

8. It is believed that modern pizza was first made by baker Raffaele Esposito.
- The inventor of modern pizza was a baker.

A) True B) False

9. Ramadan had been the name of the ninth month in Arabian culture long before the arrival of Islam.
- Muslims chose the name of Ramadan.

A) True B) False

10. I was awakened by men working.
- The working men awakened me.

A) True B) False

11. While Emily dressed up the baby sat up on the bed.
- Emily dressed the baby up.

A) True B) False

12. Dealers will hear car talks at noon.
- There will be talks about cars at noon.

A) True B) False

13. The coach called Harold annoying.
- Harold believes that the coach is annoying.

A) True B) False

14. The weather we had this summer was awful.
- We did not enjoy the weather of this summer.

A) True B) False

15. Ramadan is the Islamic month of fasting, in which participating Muslims refrain from eating, drinking from dawn until sunset.
- Muslims are allowed to eat and drink at night while they are fasting.

A) True B) False

16. The complex houses married and single soldiers and their families.
- The complex provides houses for married and single soldiers and their families.

A) True B) False

17. My father left us a large estate.
- My father left us while we were in a large estate.

A) True B) False

18. John is sick is quite evident.
- John's sickness is evident.

A) True B) False

19. I met the parents participating in interview yesterday.
- I met the parents while I was participating in an interview.

A) True B) False

20. Mary bumped into the busboy and the waiter told her to be careful.
- Mary bumped into the busboy and the waiter.

A) True B) False

20. Halloween has origins in old Irish and means "summer's end".
. Old Irish means "summer's end
A) True B) False

22. Emily likes John and Bob likes Emily.
- Emily likes both John and Bob.

A) True B) False

23. Until the police arrested the drug dealers control the street.
- Drug dealers controlled the street

A) True B) False

24. That Jill is never here hurts.
- The fact that Jill is not present annoying.

A) True B) False

25. Crowds rush to see Pope trample man to death.
- Pope trampled the man to death.

A) True B) False

26. The man stole my backpack has been arrested.
- My backpack was stolen by the man who has been arrested.

A) True B) False

27. I know the words to that song about the queen don't rhyme.
- The song is about words.

A) True B) False

28. Could you please bring my cat some Pasta.
- My cat needs some pasta.

A) True B) False

29. Experts advise sunscreen be reapplied every one to two hours.
- Experts reapply sunscreen every one to two hours.

A) True B) False

30. The man hired me was very tall.
- That man hired me because I am tall.

A) True B) False

31. Movies have adapted or have been inspired by Joseph Conrad's novels.
- Joseph Conrad was a director.

A) True B) False

32. The meeting became discreet and held behind the closed doors.
- The meeting was held behind the closed doors.

A) True B) False

33. The fat people eat accumulates.
- The fat which people eat accumulates in their bodies.

A) True B) False

34. Counseling refugees and foreign students department.
- Department of Counseling refugees and foreign students

A) True B) False

35. While Mary was mending the sock fell off her lap.
- Mary was mending the sock.

A) True B) False

36. Clean the kitchen or TV will be off.
- Clean the kitchen or clean the TV.

A) True B) False

37. The dog I had really loved bones.
- My dog loved bones.

A) True B) False

38. The fire burnt dining hall and his mother passed out.
- The fire burnt dining hall and his mother.

A) True B) False

39. I would like a cup of coffee and piece of cake will make it perfect.
- A piece of cake will make a cup of coffee perfect.

A) True B) False

40. South West Africans were also victims of apartheid.
- South Africans were the only people to suffer from apartheid.

A) True B) False