The Effect of Manipulating Narrative Task Demands on EFL Learners' Attention Orientation

Masoud Saeedi[1]

Abstract

The present research investigated the impact of task demands manipulation on what learners of English as a foreign language (EFL) exactly focus on while producing speech. In the same vein, task performance conditions with varying degrees of complexity were operationally defined along the variables of structure and immediacy (±Here/Now). The study involved sixty Iranian EFL learners who were asked to carry out a narrative task under four conditions: narrating an unstructured picture-based story using the present tense with contextual support; performing a structured picture story in the present tense with contextual support; narrating an unstructured picture story in the past tense without contextual support; narrating a structured picture story in the past tense without contextual support. Following their task performance, participants attended a round of retrospective interviews where they verbalized the causes for their dysfluency as indicated by pauses. Results pointed to differential effects of task complexity on learners' attention allocation. Specifically, it was shown that performing the more difficult unstructured narrative makes for more pauses stemming from attention to conceptualization. Besides, using past tense to recount the stories without looking at the pictures resulted in more pauses due to attention to form. More importantly, it was found out that recounting a structured narrative in the past tense without contextual support, substantially enhanced attention to form which was evident in the significantly greater number of pauses owing to focus on lexical, syntactic, and phonological encodings. The implications of the outcomes are discussed in relation to relevant theoretical and practical issues.

Keywords: task, attention, form, immediacy, structure

[1] Assistant Professor, Department of English Language and Literature, Payame Noor University, Iran. saeedi.tefl@pnu.ac.ir

Introduction

Second language acquisition (SLA) acknowledges the importance of attention to form since before subsequent processing, language learners need to first consciously "notice" form in the input they receive. In other words, for learners to convert the input they receive into intake, they must focus on specific aspects of it (Schmidt, 1995). One of the overriding concerns educators face in task-based teaching is directing learners' attention to form in the meaning-based context of performing a task (Dao, Iwashita, & Gatbonton, 2017). In order to address this valid concern, researchers have attempted to modify task demands and thereby differentially draw language learners' attention towards different aspects of the language they produce (Fukuta& Yamashita, 2015; Vasylets, Gilabert, & Manchon, 2017). From among the variables documented to influence task complexity, research outcomes have indicated that increasing task demands by requiring learners to carry out the task of retelling a picture story in the past tense without looking at the pictures (i.e., performing in There/Then) induces them to direct their attention to the form which results in enhanced accuracy of L2 production (Gilabert, 2007; Ishikawa, 2007; Iwashita, Elder, & McNamara, 2001). There is also evidence to suggest that performing a structured task can lead to attention primarily being channeled towards formal aspects of language as shown in increased accuracy (Tavakoli & Skehan, 2005; Tavakoli & Foster, 2011). These conclusions, however, are of little psycholinguistic credence as they are chiefly grounded on observable linguistic variables, i.e., complexity, accuracy, and fluency (but see Ahmadian, Abdolrezapour, & Ketabi, 2012 for a psycholinguistic investigation). Given this limitation, the present investigation was conducted to probe into the effects, simultaneously manipulating task demands along the variables of structure and immediacy, exert on how EFL learners allocate their attention while they perform a narrative task. To this aim, the researcher used Fukuta's (2016) framework to analyze the occurrence of dysfluency markers in participants' speech in order to specify their causes as defined in terms of lexical, syntactic, and phonological encodings on the one hand and conceptualization on the other.

Literature Review

Task Complexity

Generally speaking, task complexity is conceived of in terms of two dominant perspectives on the nature of human attention, namely, the limited-capacity view (Skehan, 2009), and the multiple-resource perspective (Robinson, 2011). These theoretical frameworks make different assumptions and predictions regarding the influence of manipulating task demands on different dimensions of L2 output. Of central relevance to research on task complexity is Levelt's (1989) speech production model. In brief, the model delineates the process of language production in terms of: (a) *conceptualization*, by means of which ideational content is generated through the processes of macroplanning (e.g., deciding the function an utterance will perform) and microplanning (linguistically realizing the content); (b) *formulation*, which converts the preverbal message into linguistic form; (c) *articulation*, which produces language in the form of sounds; and (d) *monitoring*, which controls the accuracy of the message.

The first perspective postulates that due to limitations in the availability of cognitive resources, language learners find it demanding to concentrate on aspects of form and meaning at the same time. Accordingly, as task demands increase, the competition among different performance areas strains learners' memory with the result that they prioritize meaning over form. This competition results in a 'trade-off' between fluency and complexity and accuracy (Skehan, 2009, 2014). Skehan (2009) maintains that tasks should be sequenced based on three task complexity criteria: (a) *code complexity* which is related to such language factors as syntactic and lexical difficulty; (b) *cognitive complexity* which is a function of cognitive familiarity (e.g. topic familiarity) and cognitive processing (i.e., the amount of cognitive load task performance involves); and (c) *communicative stress* which has to do with such performance variables as time limit, text length, and the number of participants involved in task performance. Skehan (2014) claims that it is possible to focus on formal aspects of production by reducing task demands through the above mentioned task characteristics.

On the contrary, Robinson (2011) argues for the flexibility of attentional capacity and theorizes that the multiple resource nature of attention enables language learners to simultaneously focus on both form and meaning. The implication is that

focusing on accuracy does not prevent learners from concentrating on complexity. Robinson (2001, p. 29) conceptualizes task complexity as "attentional, memory, reasoning, and other information processing demands imposed by the structure of the task on the language learner" and assumes that increasing task demands along certain dimensions (outlined below) elicits more accurate and complex output. Based on Robinson (2001), how complex a task is depends upon resource-directing (i.e., the extent to which it is cognitively demanding) and resource-dispersing (i.e., the extent to which it is procedurally challenging) variables. Robinson reasons that making a task more complex with respect to the resource-directing variables (e.g., requiring the learners to perform in There/Then) prompts them to prioritize language forms. On the other hand, increasing task demands in terms of the resource-dispersing variables, (e.g., requiring the learners to do a task without planning opportunity) precludes them from focusing their attention on language forms (Robinson, 2007). Accordingly, whilst carrying out a complex task is expected to decrease fluency, it positively affects complexity and accuracy of learners' performance.

As was mentioned above, the major theoretical frameworks undergirding task complexity diverge on their predictions about the effects manipulating task complexity can have on language learners' cognitive processing and production. In what follows, two factors which imply different degrees of task demands and research evidence suggests influence performance, namely task structureand immediacy (±Here/Now) are elaborated.

Task Structure

Narrative task structure is the first independent variable of the present study. A narrative task typically involves asking learners to look at a set of related pictures and recount the story developing through those pictures. In general, the existence of structure in a narrative depends on whether the story it depicts involves "a clear timeline; a script; a conventional beginning, middle, and end; a problem solution structure; and an appeal to what is familiar and organized in the speaker's mind" (Tavakoli & Skehan, 2005, p.246). A tightly structured task is supposed to be less cognitively demanding for learners and consequently performing this type of task enables them to channel their attentional resources towards different aspects of

their speech (Parvaresh & Ahmadian, 2016).

The influence of task structure on L2 performance was initially noticed by Skehan and Foster (Foster & Skehan, 1996; Skehan & Foster, 1999). Though they primarily focused on task familiarity, further analysis of their results disclosed that regardless of the familiarity of their content, tightly structured tasks generated the most fluent L2 discourse, a finding which motivated a number of subsequent studies (e.g., Ahmadian et al., 2015; Saeedi & Rahimi Kazerooni, 2014; Tavakoli & Foster, 2011; Tavakoli & Skehan, 2005). All in all, the results of these investigations indicated that doing a structured narrative task generates more accurate and fluent L2 discourse. The psycholinguistic validity of the aforementioned findings was established by Ahmadian et al. (2012), who examined L2 learners' self repair behavior as the cognitive mechanism underlying speech production. They were able to show that performing the less difficult structured narrative task led the participants to effectuate more error corrections related to grammaticality of their speech.

Immediacy

Immediacy (±Here/Now) is one of the 'resource-directing' factors which, according to the Cognition Hypothesis (Robinson, 2011), contribute to the complexity of tasks. As noted before, a major prediction of the hypothesis is that increasing task complexity by means of such variables enables the learners to focus on how meaning is connected to form, thereby affecting different aspects of their production (Jackson & Suethanapornkul, 2013). As such, Robinson (2001) argues, if doing a task involves writing or speaking about objects and events dislocated with respect to time and space (i.e., There/Then), it assists language learners to retrieve the needed L2 knowledge, which in turn leads to differential effects on their output.

A number of researchers have studied the effects of increasing task complexity with respect to immediacy. The first operational definition of the ±Here/Now variable was provided by Robinson (1995) who asked the participants of his study to narrate a picture-based story under two conditions. In the Here/Now condition, the participants were required to view the pictures and retell the story using the present tense. Performing in There/Then required the learners to use past tense to narrate the picture story without simultaneously looking at them. He

observed that the There/Then condition was associated with enhanced accuracy and complexity but decreased fluency. The positive effects of performing in There/Then on accuracy and/or complexity was subsequently upheld by a number of studies (e.g., Gilabert, 2007; Ishikawa, 2007; Iwashita, Elder, & McNamara, 2001; Rahimpour, 1999; Saeedi, 2020; Skehan & Foster, 1999). With the exception of Ishikawa (2007), these studies reported negative effects on fluency.

As the above review indicates, modifying task demands along the variables of structure and immediacy leads to variant effects on language learners' complexity, accuracy, and fluency of production. Nonetheless, with the exception of Ahmadian et al. (2012), the above cited studies have documented the effects of task demands on the linguistic dimensions of performance and therefore provide little psycholinguistic evidence as to what learners actually process and focus on while doing tasks of different degrees of complexity. Accordingly, to delve into the cognitive mechanisms which generate speech, the present research attempted to find out whether and how simultaneously manipulating task demands in terms of immediacy and structure influences learners' focus of attention. This can be a worthwhile undertaking, as it provides a more psycho-linguistically plausible account of the effects task complexity causes on language processing and production (Ortega, 2005). The investigation was geared towards answering the following questions:

Does increasing task demands in terms of the variable of structure affect EFL learners' attention orientation?

Does increasing task demands in terms of the variable of immediacy affect EFL learners' attention orientation?

Methodology

Design

This research was carried out using a between groups design. The independent variable was task complexity which was operationally defined as different combinations of task structure and immediacy with four levels (groups). Therefore, each participant was asked to complete the picture-based story under one of the conditions involving varying degrees of task complexity: the structured task performed in Here/Now; the structured task performed in There/Then; the

unstructured task performed in Here/Now; the unstructured task performed in There/Then. The dependent variables were dysfluency episodes related to conceptualization, syntactic, lexical, and phonological encodings.

Participants

Sixty male EFL learners studying general English at a language school in Isfahan, Iran participated in the study. They attended the classes twice a week in the summer semester of 2019. Their age ranged from 17 to 32. Based on the results of the placement test that they had taken at the institute, the participants were placed into the intermediate classes. Despite this, the Quick Oxford Placement Test was administered to make sure they were assigned to homogeneous groups. The participants took part in the study on a voluntary basis and were notified that the results of their performance would not influence their evaluation and they would be used for research purposes only.

Instrumentation

The researcher employed the following instruments to elicit the required data:

Narrative Tasks. To collect samples of learners' speech, two narrative tasks were employed. Completing a narrative task requires the learners to view the pictures displaying a story and orally recount what they see. In the present research, two sets of pictures delineating two different stories were chosen. The stories differed with respect to their storyline structure. Based on the criteria specified by Tavakoli and Foster (2008), in the unstructured picture story no problem solution occurred and the story did not have a clear beginning or ending. In effect, it was possible to rearrange the pictures without changing the sequence of events displayed through them. The story in the unstructured narrative revolves around a boy and a girl who are riding their bikes. They have a break en route and drink something in a cafe. The cyclists also go to the beach where the boy takes a dip. In the end, they go to a hostel for a stay. The structured narrative displays some kids who are playing football. One of them kicks the ball into a hole and the kids have to fill it with water to pull their ball out of the pit.

Placement Test. As was noted above, the participants had taken a

placement test administered in the institute and based on their performance, they were placed into the intermediate level. However, to make sure of the learners' homogeneity, they were given the pen and paper version of the Quick Oxford Placement Test (QOPT). The QOPT is a reliable and time saving test developed by Oxford University Press and Cambridge ESOL. It includes 60 multiple choice test items and the test takers are required to directly record their answers on the paper. Time allotment for answering the questions is 30 minutes. According to Allan (2004), the test enjoys the qualities of an efficient international test whose scoring criteria are appropriate for different levels in diverse educational settings throughout the world.

Procedure

As was pointed out above, the data were collected by means of a between-groups design. Accordingly, each participant was presented with one of the above mentioned picture series to be narrated in one of the following conditions:

Performing the Structured Task in Here/Now (ST/HN). Performance under this condition involved completing a narrative task which was made easier along both variables. In other words, each learner was allowed thirty seconds to look at a structured narrative to be completed in the present tense while simultaneously viewing the pictures, i.e., Here/Now. Completing the structured task is less demanding than the unstructured one because it is much easier for learners to unravel the story developing in the pictures (Ahmadian et al., 2012). Besides, as stated by Robinson (1995), performing a task in present tense representing the Here/Now condition is less cognitively complex than doing it in the past tense without taking advantage of contextual support, i.e., There/Then.

Performing the Structured Task in There/Then (ST/TT). This performance condition was more demanding than the previous one as task complexity was increased along the variable of immediacy. As such, those who performed under this condition were allotted thirty seconds to look at the pictures and retell the structured picture story shown in them using the past tense and without looking at them again. In other words, they could not use contextual support.

Performing the Unstructured Task in Here/Now (UST/HN). Those who performed under this condition carried out a task which was made more challenging

along the structure dimension and less difficult with respect to immediacy. Here, the participants were required to narrate the unstructured picture story in the present tense and could look at the pictures while narrating. Like the above performance conditions, the participants were given thirty seconds to view the pictures before doing the task.

Performing the Unstructured Task in There/Then (UST/TT). This condition was the most demanding as it was made more complex in terms of both variables. Those learners who completed the task under this condition were required to recount the unstructured picture story in the past tense without having the opportunity to view the pictures. Similar to the above conditions, only thirty seconds was allowed to look at the pictures in order to preclude the learners from doing pre-task planning.

Data Coding Scheme

Each participant's performance was analyzed in light of markers, which signaled lack of fluency. In general terms, fluency refers to the smoothness and ease of expression (Bui & Skehan, 2018). Of the measures used to tap fluency, dysfluency is one of the most frequently used, which is typically defined as the ratio of dysfluency markers (e.g., filled/unfilled pauses, hesitations, false-starts, verbatim repetitions, self-repairs) to discourse units (e.g., words, clauses, or sentential units) (Lambert & Kormos, 2014). In the present research, dysfluecny markers in participants' speech were closely examined as the basis for making inferences regarding learners' attention allocation. In doing so, having completed the task, each participant attended a retrospective interview carried out in Persian to pinpoint the causes of dysfluency markers in their production. The researcher built on Fukuta's (2016) method and analyzed each learner's protocol data on the basis of dysfluency markers which prompted them to retrospectively recall and express their causes. According to Fukuta (2016), by using this coding method the researchers will be able to precisely determine when and to what extent learners focus on conceptualizing, syntactic and phonological encoding, and choosing the relevant lexical items. This coding scheme has been previously validated and used to examine the effects of reasoning and dual task demands and also task repetition on learners' attention allocation while performing tasks (Fukuta & Yamashita, 2015;

Fukuta, 2016). The interviews were conducted according to the guidelines offered by Gass and Mackey (2000). Each learner was individually met and asked to listen to their recorded speech. Whenever the researcher noticed any cases of dysfluency in the form of false-starts, self-repairs, repetitions, fillers, and pauses, he asked them to explain why they had paused at that time. GoldWave version 6.52 was used to determine the length of pauses.

Following Fukuta (2016), protocol data was coded with respect to *episodes* indicative of attention to conceptualization or linguistic form. In Fukuta's (2016) coding scheme, conceptualizing relates to the speaker's wish to communicate the message he intends to convey. The form-related episodes were divided into (a) syntactic encodings pertaining to word order, sentence structure, and morpho-syntactic processing, (b) lexical choices corresponding to lexis or lexicalized phrases, and (c) phonological encodings, related to the phonological features of speech. Below, each of these episodes is elucidated using the data obtained from the interviews conducted after participants' task performance. The translated versions of some participants' retrospective comments (RCs) are as follows:

Conceptualizing:

Example: The picture shows some…. **students** who play.

Participant's RC: At first I wanted to say boys; however, I noticed that they are playing in front of a school building. I thought that they must be students.

Syntactic encoding:

Example: I see some kids who… **are playing** football in a garden.

Participant's RC: At that time, I did not exactly know whether I should say "are playing" or "play". I thought that present progressive is the right verb form to use.

Phonological encoding:

Example: The boy and girl go to a…. **café** to drink something.

Participant's RC: Here, I was not sure how I should pronounce the word café, /kæ'fei/ or /kafi/?

Lexical choice:

Example: After that, they go to…. **the beach** and go swimming.

Participant's RC: I was uncertain whether it was better to say "beach" or "seaside".

To make sure that the interview data were reliably coded, an experienced colleague coded about ten percent of the corpus. The estimated interrater reliability

coefficient was 0.88 which indicated coding of the data was done reliably.

Data Analysis

The SPSS software was used to quantitatively analyze the coded protocol data. In doing so, descriptive statistics related to the number of episodes concerning conceptualizing, syntactic encoding, phonological encoding, and lexical choice were calculated. Next, the means of different episodes were compared across groups through a series of one-way between groups ANOVAs. In order to determine the exact locations of significant mean differences, Scheffe post-hoc test was also run.

Results

As stated earlier, the two research questions of the study addressed the effects of increasing task demands in terms of the variables of structure and immediacy on EFL learners' attention orientation as shown by the number of dysfluency markers related to syntactic, lexical, phonological endings, and conceptualization. In the present section, the findings obtained from the four conditions explained earlier are presented. Table 1 displays the means and standard deviations pertaining to participants' performances under the above mentioned performance conditions.

Table 1

Descriptive Statistics for the Dependent Variables: Lexical Encoding, Syntactic Encoding, Phonological Encoding, and Conceptualization

Dependent variable	Mean and SD*			
	ST/HN	UST/HN	ST/TT	UST/TT
Lexical encoding	5.73 (3.34)	2.33 (2.71)	9 (2.03)	5.6 (3.52)
Syntactic encoding	2.86 (1.92)	.86 (1.35)	4.73(1.86)	2.8 (1.65)
Phonological encoding	.733(.45)	.13 (.35)	1.33 (.61)	.8 (.56)
Conceptualization	3.06 (2.46)	5.86 (2.44)	.72 (1.03)	3.6(2.29)

Note. The values in the parentheses are standard deviations.

In order to determine the statistical significance of mean differences across the groups, one-way between groups ANOVAs were run. The results are tabulated in Table 2.

Table 2

Results of One-way between-groups ANOVAs on the Effects of Task Complexity on Learners'
Attention Orientation as Measured by the Occurrence of Dysfluency Markers

Dependent variable		Sum of Squares	df	Mean Square	F	Sig.
Lexical encoding	Between Groups	333.467	3	111.156	12.655	.000
	Within Groups	491.867	56	8.783		
	Total	825.333	59			
Syntactic encoding	Between Groups	112.183	3	37.394	12.707	.000
	Within Groups	164.800	56	2.943		
	Total	276.983	59			
Phonological encoding	Between Groups	10.850	3	3.617	14.065	.000
	Within Groups	14.400	56	.257		
	Total	25.250	59			
Conceptualization	Between Groups	199.783	3	66.594	14.500	.000
	Within Groups	257.200	56	4.593		
	Total	456.983	59			

As displayed in the above table, manipulating task complexity along the variables of structure and immediacy significantly affects the number of dysfluency episodes related to lexical encoding, $F(3, 56) = 12.65$, $p = .000$. Concerning syntactic encoding, the statistical analyses show that group mean differences caused by different degrees of task demands were of significance, $F(3, 56) = 12.7$, $p = .000$. Similarly, the values related to phonological encoding suggested statistically significant mean differences, $F(3, 56) = 14.06$, $p = .000$. Finally, the results for group mean differences related to conceptualization also reached statistical significance, $F(3, 56) = 14.5$, $p = .000$.

Thus, based on the results of one-way ANOVAs reported above, it can be deduced that modifying task demands through different combinations of structure and immediacy has caused differential effects on learners' shift of attention as indicated by the number of dysfluency markers related to lexical encoding, syntactic encoding, phonological encoding, and conceptualization.

In order to answer the research questions, Scheffe test was run after ANOVAs. The first research question dealt with the effects of making a task more demanding with respect to the variable of structure on EFL learners' attention orientation. To control for the effects of immediacy, the means of ST/HN and ST/TT groups were compared with those of the UST/HN and UST/TT groups, respectively. As shown in Table 1 above, in general, performing the more demanding unstructured narrative led to fewer episodes related to form, i.e., lexical, syntactic, and phonological encodings, and more instances of dysfluency markers related to conceptualization. The statistical significances of these differences were established by means of the Scheffe test results reported below.

Table 3

Post-hoc Scheffe Test Results on the Effects of Task Structure on Learners' Attention Orientation

	Cross-group comparisons			
	ST/HN Vs. UST/HN		ST/TT Vs. UST/TT	
Dependent variable	Mean difference	Sig.	Mean difference	Sig.
Lexical encoding	3.4	.027*	3.4	.027*
Syntactic encoding	2	.024*	1.93	.031*
Phonological encoding	.6	.021*	.53	.050*
Conceptualization	-2.8	.009*	-2.86	.007*

* Mean difference is significant at the .05 level

As set out in tables 1 and 3, mean difference for episodes related to lexical encoding between the ST/HN (M = 5.73, SD = 3.34) and UST/HN (M = 2.33, SD = 2.71) groups was significant, $p =$ .027, suggesting that the former group produced

more instances of episodes related to lexical encoding. Regarding syntactic encoding, the participants in the ST/HN group (M = 2.86, SD = 1.92) produced more instances of dysfluecny markers than their counterparts in the UST/HN group (M= .86, SD= 1.35), p = .024. Similarly, the mean difference between the ST/HN (M = .733, SD = .45) and the UST/HN (M = .13, SD = .35) groups was of significance with regard to episodes related to phonological encodings, p = .021. Lastly, concerning conceptualization, a comparison between the ST/HN (M = 3.06, SD = 2.46) and UST/HN (M = 5.86, SD = 2.44) groups revealed that the latter group produced more instances of dysfluecny markers due to effort at conceptualization, p = .009.

Comparing the mean difference between the ST/TT (M = 9, SD = 2.03) and UST/TT (M = 5.6, SD = 3.52) groups showed a statistically significant mean difference in terms of episodes related to lexical encoding, p = .027, showing that the former group produced more instances of this type of episode. Likewise, the mean differences between the ST/TT (M = 4.73, SD = 1.86) and UST/TT (M = 2.8, SD =1.65) groups was significant in terms of episodes related to syntactic encoding, p = .031, pointing to the higher mean of the former group. As for episodes related to phonological encoding, the mean for the ST/TT group (M = 1.33, SD = .61) was significantly higher than the UST/TT group (M = .8, SD = .56), p = .05. With episodes related to conceptualization, the results showed that the mean for the UST/TT group (M = 3.6, SD = 2.29) was significantly higher than the ST/TT group (M = .72, SD = 1.03), p = .007. These outcomes confirm that increasing task demands in terms of structure causes learners to mainly heed message conveyance by focusing on conceptualization.

The second research question addressed the impact of increasing task complexity in terms of immediacy on what EFL learners focus on. In order to control for the effects of task structure, the performance of the ST/HN group was compared with the ST/TT group. The results of those who performed under the UST/HN condition were also compared with the UST/TT group.

Table 4

Post-hoc Scheffe Test Results on the Effects of Immediacy on Learners' Attention Orientation

Dependent variable	Cross-group comparisons			
	ST/HN Vs. ST/TT		UST/HN Vs. UST/TT	
	Mean difference	Sig.	Mean difference	Sig.
Lexical encoding	-3.26	.036*	-3.26	.036*
Syntactic encoding	-1.86	.040*	-1.93	.031*
Phonological encoding	-.6	.021*	-.66	.008*
Conceptualization	2.33	.040*	2.26	.048*

* Mean difference is significant at the .05 level

As displayed in tables 1 and 4, mean difference for episodes related to lexical encoding between ST/HN (M = 5.73, SD = 3.34) and ST/TT (M = 9, SD = 2.03) was significant, *p* = .036, suggesting that the former group generated fewer instances of episodes related to lexical encoding. Regarding syntactic encoding, the participants in the ST/HN group (M = 2.86, SD = 1.92) produced fewer instances of dysfluecny markers than the learners in the ST/TT group (M = 4.73, SD = 1.86), *p* = .04. Similarly, the mean difference between the ST/HN (M = .733, SD = .45) and the ST/TT group (M = 1.33, SD = .61) was of significance with regard to episodes related to phonological encodings, *p* = .021. As for conceptualization, a comparison between the ST/HN (M = 3.06, SD = 2.46) and ST/TT (M = .72, SD = 1.03) groups revealed that the former group produced more instances of dysfluecny markers due to effort at conceptualization, *p* = .04.

Comparing the mean difference between the UST/HN (M = 2.33, SD = 2.71) and UST/TT (M =5.6, SD = 3.52) groups showed a statistically significant difference in terms of episodes related to lexical encoding, *p* = .036, indicating that the former group produced fewer instances of this type of episode. Likewise, the mean difference between the UST/HN (M =.86, SD =1.35) and UST/TT (M = 2.8, SD =1.65) group was significant in terms of episodes related to syntactic encoding, *p* = .031, pointing to the higher mean of the latter group. As for episodes related to phonological encoding, the mean for the UST/HN group (M = .13, SD = .35) was

significantly lower than the UST/TT group (M = .8, SD = .56), *p* = .008. With episodes related to conceptualization, the results of analyses confirmed that the mean for the UST/HN group (M = 5.86, SD = 2.44) was significantly higher than the UST/TT group (M =3.6, SD = 2.29), *p* = .048.

Hence, concerning the second research question, there are grounds to deduce that increasing task complexity in terms of immediacy leads to more instances of episodes related to lexical, syntactic, and phonological encodings and fewer cases of pauses due to conceptualization.

An interesting finding regarding the combined effects of task structure and immediacy was disclosed after a careful comparison of the means across the four conditions reported in Table 1 above. As can be seen in the table, the performance of learners who completed the task under the ST/TT condition featured the highest number of dysfluency markers due to syntactic, lexical, and phonological encodings. These participants also did not direct their focal attention towards message conveyance as their speech showed the lowest number of episodes associated with conceptualization.

Table 5

Post-hoc Scheffe Test Results on the Combined Effects of Structure and Immediacy on Learners' Attention Orientation.

Dependent variable	Cross- group comparisons					
	ST/TT Vs. ST/HN		ST/TT Vs. UST/HN		ST/TT Vs. UST/TT	
	Mean difference	Sig.	Mean difference	Sig.	Mean difference	Sig.
Lexical encoding	3.26	.036*	6.66	.000*	3.4	.027*
Syntactic encoding	1.86	.040*	3.86	.000*	1.93	.031*
Phonological encoding	.6	.021*	1.2	.000*	.53	.050*
Conceptualization	-2.33	.040*	-5.13	.000*	-2.86	.007*

* Mean difference is significant at the .05 level

As displayed in tables 1 and 5, the mean difference for the occurrence of episodes related to lexical encoding between the ST/TT (M = 9, SD = 2.03) and the ST/HN(M = 5.73, SD = 3.34) groups was significant, p = .036, suggesting that the former group yielded more episodes due to lexical encoding. Regarding syntactic encoding, the participants in the ST/TT group (M = 4.73, SD = 1.86) produced more instances of dysfluecny markers than their counterparts in the ST/HN group (M = 2.86, SD = 1.92), p =.04. Similarly, the mean difference between the ST/TT (M = 1.33, SD = 61) and the ST/HN group (M = .733, SD = .45) was of significance with regard to episodes related to phonological encodings, p = .021. Finally, concerning conceptualization, a comparison between the ST/TT (M = .72, SD = 1.03) and the ST/HN (M = 3.06, SD = 2.46) groups revealed that the former group generated fewer instances of dysfluecny markers caused by conceptualization, p =.04.

Comparing the mean difference between the ST/TT (M = 9, SD = 2.03) and UST/HN (M = 2.33, SD = 2.71) groups showed a statistically significant mean difference in terms of episodes related to lexical encoding, p = .000 , showing that the former group produced more instances of this type of episode. In the same vein, the mean differences between the ST/TT (M = 4.73, SD = 1.86) and the UST/HN group (M = .86, SD = 1.35) was significant with respect to the episodes related to syntactic encoding, p = .000, pointing to the higher mean of the former group. As for episodes related to phonological encoding, the mean for the ST/TT group (M = 1.33, SD = .61) was significantly higher than the UST/HN group (M = .13, SD = .35), p = .000. On the other hand, the results for episodes related to conceptualization showed that the mean of the ST/TT group (M = .72, SD = 1.03) was significantly lower than the UST/HN group (M = 5.86, SD = 2.44), p = .000.

The mean difference for episodes related to lexical encoding between the ST/TT (M = 9, SD = 2.03) and UST/TT group (M = 5.6, SD =3.52) was significant, p =.027, suggesting that the former produced more instances. Regarding syntactic encoding, the participants in the ST/TT group (M = 4.73, SD = 1.86) also yielded more dysfluecny markers than those who were in the UST/TT group (M = 2.8, SD = 1.65), p = .031. Likewise, the mean difference between the ST/TT (M = 1.33, SD = .61) and the UST/TT group (M = .8, SD = .56) was of significance with regard to episodes associated with phonological encodings, p = .05. Finally, concerning episodes connected with conceptualization, the comparison between the ST/TT (M =

.72, SD = 1.03) and the UST/TT (M = 3.6, SD = 2.29) groups revealed that the latter group produced more dysfluecny markers caused by conceptualizing their message, *p* =.007.

Altogether, the above results indicate that reducing task demands in terms of structure and simultaneously increasing it with respect to immediacy results in a maximum focus on form to the detriment of focus on meaning. This significant piece of evidence which, in point of fact, constitutes the major contribution of the present research will be expounded below.

Discussion

In this investigation, the researcher explored how simultaneously manipulating task demands in terms of structure and immediacy affects EFL learners' focus of attention. Generally, the results lent further support to the findings of an earlier investigation (i.e., Fukuta & Yamashita, 2015) that manipulating task demands along different dimensions causes differential effects on language learners' focus on aspects of form and meaning. Below, the outcomes are explained in relation to previous research evidence and theoretical issues.

The first research question related to the impact of increasing task demands in terms of structure on EFL learners' attention allocation. As reported above, the results indicated that doing the more challenging unstructured narrative task leads to more pauses due to conceptualization and fewer episodes related to form in learners' speech. This finding accords with the results of previous studies (i.e., Ahmadian et al., 2015; Saeedi & Rahimi Kazerooni, 2014; Tavakoli & Foster, 2011; Tavakoli & Skehan, 2005) who documented the negative effects of lack of structure on learners' focus on form as measured in terms of accuracy of speech. This observation also is in line with Ahmadian et al. (2012) who reported beneficial effects for task structure on focus on form as measured in terms of learners effectuating more form-related self-corrections. Viewed from a cognitive perspective, the enhanced focus on formal aspects of language could be explained on the grounds that recounting a structured story substantially eases the cognitive processing load on learners as this type of story does not require them to focus much of their attentional resources on figuring out the theme or recognizing how the events shown in the pictures are sequenced (Tavakoli, 2009). On the basis of Levelt's (1989) model of speech production, it

might be reasoned that a structured storyline reduces the cognitive pressure on conceptualization thereby releasing attentional capacity which enables the learners to build on their explicit L2 knowledge and pay closer attention to formulating and monitoring their speech. In Skehan's (1998) terms, it may also be logical to argue that the existence of a narrative macrostructure reduces 'cognitive complexity' of the task and consequently facilitates learners' access to their 'rule-based' system of L2 which, contrary to 'exemplar-based' system, involves more cognitive effort to use. As stated by Skehan (1998), whereas the former makes for more accurate L2 production, the latter enhances fluency. Overall, the findings regarding task structure psycho-linguistically uphold the conviction that increasing task complexity along the 'cognitive complexity' dimension causes the learners to focus on conveying message as reflected in the number of episodes related to conceptualization.

The second research question addressed the impact of increasing narrative task demands along the variable of immediacy on EFL learners' attention orientation. As presented in the previous section, the descriptive statistics displayed that performing the narrative task in There/Then made for more dysfluency markers due to lexical, syntactic, and phonological encodings and fewer pauses owing to conceptualization effort. The results of post-hoc Scheffe analysis established the significance of the observed mean differences in both the ST/TT and UST/TT groups as compared with the ST/HN and UST/HN groups, respectively. The increased focus on form caused by past tense use and lack of contextual support accords with the findings of earlier research showing gains in accuracy as evident in terms of speech accuracy which is, in effect, the linguistic correlate of cognitive processing and monitoring the language (Gilabert, 2007; Ishikawa, 2007; Iwashita, McNamara, & Elder, 2001; Rahimpour , 1997; Saeedi, 2020). Theoretically, this observation is consistent with the assumption that increasing the conceptual and cognitive demands of tasks results in increased accuracy of L2 production (Robinson, 2007, 2011). Hence, there is psycholinguistic evidence showing that increasing task demands with respect to tense and contextual support provides a context for the learners to shift their attention towards form as indicated by the occurrence of more pauses due to monitoring and encoding language forms.

As was noted earlier, one particularly significant piece of evidence observed among the reported findings was that compared with other performance

conditions, the speech produced under the STR/TT condition was characterized by the highest number of form-related episodes and the lowest number of conceptualization episodes pertaining to message conveyance. This interesting outcome suggests that making a task more complex with respect to immediacy yields the highest level of focus on form if it is, simultaneously, made easier by featuring information that is structured and, as a corollary, less 'cognitively complex' (Skehan, 1998). One more noteworthy discovery vis-a-vis the STR/TT condition is that speech generated under this condition was characterized by the lowest mean for conceptualization episodes, an observation which seems to be more in keeping with the trade-off hypothesis (Skehan, 2007; Skehan & Foster, 2001) based on which focusing focal attention on lexical, syntactic, and phonological encoding is tantamount to a substantial decrease in focus on conceptualization. Put differently, controlled processing which assists learners to carefully formulate and articulate their speech negatively affects the conceptualization stage.

Conclusion and Implications

This research was an attempt to throw more light on the effects of manipulating narrative task demands along the variables of immediacy and structure on EFL learners' attention orientation. The outcomes suggested strong effects of task structure on focus on form, which was evident in increased number of dysfluency episodes related to syntactic, phonological, and lexical encodings. The results for immediacy also delineated that lack of contextual support along with past tense use enhances focus on form. More importantly, it was observed that narrating a structured picture story in There/Then leads to maximum focus of attention on formal aspects of language as measured with reference to syntactic, lexical and phonological encodings. From a theoretical perspective, the findings enhance the psycholinguistic basis of task complexity as a robust benchmark for grading and sequencing tasks. Pedagogically, the findings suggest that by effectively manipulating design and implementation features of tasks, language instructors may guide learners' conscious attention to language forms and 'noticing' which is, in point of fact, a precondition for learning (Schmidt, 2001, cited in Frear & Bitchener, 2015). Successfully guiding learners' attention to form in the context of meaningful language use address one of the major concerns in relation to task-based L2

instruction that is, focusing on negotiating meaning to the detriment of attention to formal aspects of language.

The study has some limitations which should be acknowledged. Firstly, since this research had a cross-sectional nature, its results do not provide strong evidence as to the longitudinal effects of attention shift on second language acquisition process. Secondly, the findings are generalizable to intermediate learners in an Iranian EFL context. Therefore, to enhance the external validity of the results reported here, further research is needed to replicate this study with learners of different L1 backgrounds at diverse proficiency levels. Finally, future studies may involve different task types including information gap and argumentation tasks.

References

Ahmadian, M. J., Abdolrezapour, P., & Ketabi, S. (2012). Task difficulty and self-repair behavior in second language oral production. *International Journal of Applied Linguistics*, *22*(3), 310-330. https://doi.org/10.1111/j.1473-4192.2012.00313.x

Ahmadian, M.J., Tavakoli, M., & Vahid Dastjerdi, H. (2015). The combined effects of online planning and task structure on complexity, accuracy, and fluency of L2 speech. *The Language Learning Journal, 43*(1), 41-56. https://doi.org/10.1080/09571736.2012.681795

Allan, D. (2004). *Oxford placement test*. Oxford University Press.

Bui, G., & Skehan, P. (2018). Complexity, accuracy, and fluency. *The TESOL Encyclopedia of English Language Teaching.* Wiley, 1-7.

Dao, P., Iwashita, N., & Gatbonton, E. (2017). Learner attention to form in ACCESS task-based interaction. *Language Teaching Research*, *21*(4), 454-479. https://doi.org/10.1177/1362168816651462

Foster, P., & Skehan, P. (1996). The influence of planning and task type on second language performance. *Studies in Second Language Acquisition*, *18*(3), 299-323.

Frear, M. W., & Bitchener, J. (2015). The effects of cognitive task complexity on writing complexity. *Journal of Second Language Writing*, *30* (December 2015), 45-57. DOI: https://doi.org/10.1017/S0272263100015047

Fukuta, J. (2016). Effects of task repetition on learners' attention orientation in L2 oral production. *Language Teaching Research*, *20*(3), 321-340. https://doi.org/10.1177/1362168815570142

Fukuta, J., & Yamashita, J. (2015). Effects of cognitive demands on attention orientation in L2 oral production. *System*, *53(October 2015)*, 1-12. https://doi.org/10.1016/j.system.2015.06.010

Gass, S. M., & Mackey, A. (2000). *Stimulated recall methodology in second language research*. Routledge.

Gilabert, R. (2007). Effects of manipulating task complexity on self-repairs during L2 oral production. *International Review of Applied Linguistics in Language Teaching*, *45*(3), 215-240. https://doi.org/10.1515/iral.2007.010

Ishikawa, T. (2007). The effect of manipulating task complexity along the [±here-and-now] dimension on L2 written narrative discourse. In M. P. Garc´ıa Mayo (Ed.), *Investigating tasks in formal language learning* (pp. 136-156). Multilingual Matters.

Iwashita, N., McNamara, T., & Elder, C. (2001). Can we predict task difficulty in an oral proficiency test? Exploring the potential of an information processing approach to task design. *Language Learning, 53(1)*, 401- 436. https://doi.org/10.1111/0023-

8333.00160

Jackson, D. O., & Suethanapornkul, S. (2013). The cognition hypothesis: A synthesis and meta-analysis of research on second language task complexity. *Language Learning, 63*(2), 330-367. https://doi.org/10.1111/lang.12008

Lambert, C., & Kormos, J. (2014). Complexity, accuracy, and fluency in task-based L2 research: Toward more developmentally based measures of second language acquisition. *Applied Linguistics*, *35*(5), 607-614. https://doi.org/10.1093/applin/amu047

Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. MIT Press.

Ortega, L. (2005). What do learners plan? Learner-driven attention to form during pre-task planning. In R. Ellis (Ed.), *Planning and task performance in a second language* (pp.77-109). John Benjamins.

Parvaresh, V., & Ahmadian, M. J. (2016). The impact of task structure on the use of vague expressions by EFL learners. *The Language Learning Journal*, *44*(4), 436-450. https://doi.org/10.1080/09571736.2016.1204108

Rahimpour, M. (1999). Task complexity and variation in interlanguage. In N. O. Jungheim & P. Robinson (Eds.), *Pragmatics and Pedagogy: Proceedings of the 3rdPacific Second Language Research Forum* (pp. 115-134). The Pacific Second Language Research Forum.

Robinson, P. (1995). Task complexity and second language narrative discourse. *Language Learning, 45*(1), 99-140. https://doi.org/10.1111/j.1467-1770.1995.tb00964.x

Robinson, P. (2001). Task complexity, cognitive resources, and syllabus design: A triadic framework for examining task influences on SLA. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 287-318). Cambridge University Press.

Robinson, P. (2011). Second language task complexity, the Cognition Hypothesis, language learning, and performance. In P. Robinson (Ed.), *Second language task complexity: Researching the cognition hypothesis of language learning and performance* (pp. 3-39). John Benjamins.

Robinson, P. (2007). Task complexity, theory of mind, and intentional reasoning: Effects on L2 speech production, interaction, uptake, and perceptions of task difficulty. *International Review of Applied Linguistics, 45*(3), 193-213. https://doi.org/10.1515/iral.2007.009

Robinson, P. (Ed.). (2011). *Second language task complexity: Researching the cognition hypothesis of language learning and performance*. John Benjamins.

Saeedi, M. (2020). Task Condition and L2 oral performance: Investigating the combined effects of online Planning and immediacy, *International Journal of Foreign*

Language Teaching & Research, 8(32), 35-48.
https://jfl.iaun.iau.ir/article_674718.html

Saeedi, M., & Rahimi Kazerooni, S. (2014). The influence of task repetition and task structure on EFL learners' oral narrative retellings. *Innovation in Language Learning and Teaching*, *8*(2), 116-131. https://doi.org/10.1080/17501229.2013.770860

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 1-63). University of Hawaii.

Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge University Press.

Skehan, P. (1998). *A cognitive approach to language learning*. Oxford University Press.

Skehan, P. (2007). Language instruction through tasks. In *International handbook of English language teaching* (pp. 289-301). Springer.

Skehan, P. (2009). Modeling second language performance: Integrating complexity, accuracy, fluency, and lexis. *Applied Linguistics*, *30*(4), 510- 532.
https://doi.org/10.1093/applin/amp047

Skehan, P. (Ed.). (2014). *Processing perspectives on task performance* (Vol. 5). John Benjamins.

Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning*, *49*(1), 93-120.
https://doi.org/10.1111/1467-9922.00071

Skehan, P., & Foster, P. (2001). Cognition and tasks. In P. Robinson (Ed.), *Cognition and second language instruction* (pp.183-205). Cambridge University Press.

Tavakoli, P. (2009). Assessing L2 task performance: Understanding effects of task design. *System*, *37*(3), 482-495. https://doi.org/10.1016/j.system.2009.02.013

Tavakoli, P., & Foster, P. (2011). Task design and second language performance: The effect of narrative type on learner output. *Language Learning*, *61*(1), 37-72.
https://doi.org/10.1111/j.1467-9922.2011.00642.x

Tavakoli, P., & Skehan, P. (2005). Strategic planning, task structure and performance testing. In R. Ellis (Ed.), *Planning and task performance in a second language* (pp. 239-277). John Benjamins.

Vasylets, O., Gilabert, A., & Manchon, R. M. (2017). The effects of mode and task complexity on second language production, *Language Learning 67*(2), 1-37.
https://doi.org/10.1111/lang.12228