
The Impact of Task-based Online Planning on EFL Learners' Performance and Attention Shift

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Abstract

Research findings reported to date indicate that carefully planning speech while performing a task increases second language (L2) learners' attention to formal aspects of their discourse. The evidence, however, is mostly based on performance analysis with respect to the linguistic measures of complexity, accuracy, and fluency. To enhance the psycholinguistic validity of current findings, the present research adopted a process-product approach to analyze L2 learners' performance and attention shift as indicated by the occurrence of pauses in their speech. The study involved thirty Iranian learners of English as a foreign language (EFL) who were divided into two groups of fifteen. Whereas participants in the first group were given unlimited time to carefully plan while performing a narrative task, their counterparts in the other group completed the same task under time constraint. Following participants' performance, both performance analysis and retrospective interviews were conducted to collect their protocol data. The results revealed that carefully planned speech is characterized by increased complexity and accuracy and reduced fluency stemming from attention being primarily focused on syntactic encoding, lexical choice, and phonology instead of conceptualizing the message. The outcomes are discussed in light of their theoretical and pedagogical implications.

Keywords: Attention, Task, Planning, Form, Complexity, Accuracy, Fluency

1. Introduction

As pedagogical tools, tasks have been of crucial importance in second language acquisition (SLA) research. The centrality of tasks stems from the fact that they can be utilized as effective pedagogical resources which are capable of prompting learners to use language in different ways and engage in the kind of mental processing which facilitates language learning (Ellis, 2000). As such, tasks can be manipulated in such a way as to induce learners to consciously focus on formal aspects of the input they receive and notice them in the process of learning. One widely researched task variable is planning. Studies carried out to date have documented mixed findings regarding its impact on learners' task performance as measured in terms of complexity, accuracy, and fluency. Specifically, available planning research findings (Ahmadian & Tavakoli, 2011; Ahmadian & Tavakoli, 2014; Wang, 2014; Yuan & Ellis, 2003) have demonstrated that the availability of unlimited time to plan while performing a task consistently makes for more accurate and complex task performance; nevertheless, the results for fluency have been mixed. These researchers have used linguistic and psycholinguistic evidence including syntactic complexity, error-free clauses, and self-corrections to surmise that careful online planning makes it possible for learners to carry out a deeper processing of language needed for accessing their explicit linguistic knowledge of L2 and consequently direct their attention towards the form of the language they produce. Adopting a process-product approach, the present research sought to complement and validate the aforementioned results by delving into L2 learners' attention shift while they performed under careful online planning condition. To this aim, Fukuta's (2015) framework was employed to provide a detailed account of what learners exactly focus on through pinpointing the specific aspects of form they attend to, i.e., lexical, syntactic, and phonological encodings.

2. Theoretical Framework

2.1 Attention and Task-based L2 Production

One reason that the use of tasks in experimental contexts has gained increasing currency over the last few decades is that their level of difficulty differentially determines what in L2 input is *noticed*, committed into memory, and *learned* (Schmidt, 1990, p.143). In effect, in order to complete a task, learners fall back on the information that is saved in their memory as a result of noticing. Broadly, this is the information that is accessed for task completion. The importance accorded to noticing and attention to form has generated a lively line of research which has investigated, inter alia, the factors which contribute to enhanced focus on form in the context of meaning-based language use. Within this research area, design features and implementation characteristics of tasks have been examined by a number of researchers. It is postulated that tasks can be effectively used by language instructors to direct learners' attention to form while their focus is

primarily on communicating meaning. A review of related studies reveals that by modifying task demands learners' attention can be directed towards different dimensions of oral performance (Fukuta & Yamashita, 2015; Gilabert, 2007; Lee, 2002; Vasylets, Gilabert, & Manchon, 2017). Generally speaking, the theoretical rationale for such effects is based on two broad views of human attention, namely, the limited-capacity model and the multiple-resource model.

The first perspective rests on the assumption that because of their limited attention, it is difficult for language learners to simultaneously focus on the complexity, accuracy, and fluency of their production (Skehan, 2009, 2014). This limitation leads to a trade-off where focusing on fluency directs their attention capacity to meaning. By contrast, allocating attentional resources to form shows itself in enhanced complexity or accuracy. As stated by Skehan, three factors contribute to the demands of tasks and should be used as the criteria for their sequencing: (a) *Code complexity* which pertains to the linguistic complexity and variety, vocabulary load and variety, and redundancy and density; (b) *cognitive complexity* which is a function of the familiarity of the task, topic, or genre, and the processing requirements; information type, clarity, and organization; and amount of computation involved; and (c) *communicative stress* which has to do with time limits, speed of presentation, the number of participants involved, text length, type of response, and opportunities to control interpretation. Skehan posits that by making tasks less difficult through manipulating the aforementioned task characteristics a focus on form can be fostered.

Contrary to the limited-capacity view, the proponents of multiple-resource model of attention (Robinson, 2001, 2011) argue that unlimited human attentional capacity enables language learners to simultaneously concentrate on both accuracy and complexity. In this account, focusing on accuracy does not divert learners' attention from complexity of production; on the contrary, increasing complexity along certain dimensions (outlined below) is expected to make for more accurate *and* complex utterances. In this view, task complexity can be best conceptualized in terms resource-directing (i.e., cognitive/conceptual demands) and resource-dispersing (i.e., performative/procedural demands) variables where making a task more demanding in terms of the resource-directing variables provides a condition for learners to shift their cognitive resources to the formal aspects of language. Alternatively, increasing task complexity along the resource-dispersing variables, e.g., completing a task without planning, diverts attention from formal aspects of language (Robinson, 2007). Thus, though performing a demanding task generates lower levels of fluency, it simultaneously enhances complexity and accuracy of learners' output.

2.2 Online Planning

As one of the variables that affect task difficulty, performance, and learning, research on planning has seen a 'bubble' period since the 1990s and numerous studies have shown different findings as to its impact on language learners'

performance (Ellis 2009, as cited in Stroud, 2019). Based on Ellis (2005), task-based planning is of different types, depending on the time at which planning occurs. Whereas in pre-task planning learners are given time to prepare before performing a task, careful online planning allows them to do so while performing it. Pre-task planning is conceptualized in terms of rehearsal and strategic planning. Rehearsal entails performing the same or slightly changed task before the main task. In the case of strategic planning, learners are provided with time to plan their performance in terms of form and content before doing the task. As stated by Ellis, online planning can be either careful or pressed. When learners carefully plan their speech online, they are allowed unlimited time to complete a given task. By contrast, pressed online planning is done under time constraint.

Adopting a product-oriented approach, previous research has chiefly examined the effects of online planning with reference to complexity, accuracy, and fluency as the linguistic dimensions of performance. In a seminal study, Yuan and Ellis (2003) studied the effects of pre-task strategic planning and careful online planning. Their findings revealed that whereas giving learners abundant time to plan their speech online led to enhanced complexity and accuracy, the opportunity to plan strategically resulted in enhanced fluency. The researchers also found that there was no link between online planning and decreased fluency. In an Iranian EFL context, Ahmadian and Tavakoli (2011) analyzed the combined effects of online planning and task repetition on learners' speech. Regarding online planning, it was shown that this task implementation variable exerted positive effects on accuracy and complexity. These gains, however, compromised fluency.

Ahmadian, Tavakoli, and Vahid Dastjerdi (2015) explored the way task design defined in terms of narrative structure, interacted with careful online planning to influence L2 production. It was found that the existence of a tight structure in a narrative significantly mediated the effect of planning on different dimensions of speech. They reported that the tightly structured narrative performed under careful online planning condition caused gains in all performance areas. Besides, they discovered that performing a loosely structured narrative under time pressure resulted in the lowest complexity, accuracy, and fluency scores.

In a particularly relevant investigation which motivated the present study, Ahmadian and Tavakoli (2014) took a process-product approach to examine the impact of careful online planning on the linguistic quality of L2 oral output along with different types of self-repairs as indicators of the psychological mechanisms underlying planning. In doing so, the researchers adopted Kormos' (2006) taxonomy of self-corrections conceptualized in terms of Error, Appropriacy, and Different information. On the whole, the findings replicated the results of previous studies confirming the positive impacts on complexity and accuracy. Interestingly, the qualitative analyses of participants' retrospective verbal reports

confirmed the psycholinguistic validity of these findings as carefully planned speech was characterized by more instances of Error repairs (as a measure of accuracy), and fewer Appropriacy and Different-information errors.

In another related study, Wang (2014) adopted a processing perspective to study the underlying mechanisms of L2 oral performance. The participants were presented with a video-based narrative task to be completed under the following conditions: two forms of strategic planning, two forms of on-line planning, and task repetition. Obtained results indicated that strategic planning increased complexity and fluency, a finding which the researcher ascribed to the facilitative effect of planning on the conceptualization stage of speech production process. It was also revealed that while online planning did not promote complexity and accuracy, online planning in tandem with pre-task planning did.

More recently, Baleghizadeh and Nasrollahi (2017) studied the influence of three types of planning, namely strategic planning, online planning, and rehearsal on the speech produced by low and intermediate EFL learners. The participants were presented with narrative tasks which were completed under three different conditions: the online planning, combined strategic planning with online planning, and combined rehearsal with online planning. The outcomes indicated that rehearsal and strategic planning, when used at the same time, significantly favored fluency. The results for accuracy and complexity were insignificant. Contrary to the findings of previous research, careful online planning did not make for accuracy and complexity; however, fluency was significantly lower. Regarding the impact of proficiency, the researchers found out that only the interaction between proficiency and the measure of complexity was significant.

Finally, Saeedi (2020) studied the effects of task condition on the linguistic quality of Iranian intermediate EFL learners' L2 oral performance by simultaneously modifying task complexity along online planning and immediacy (\pm Here/Now). A narrative task was used to elicit participants' speech produced under four different performance conditions (i.e., Here/Now and pressed online planning, Here/Now and careful online planning, There/Then and pressed online planning, There/Then and careful online planning). The results showed that immediacy operationalized in terms of time reference and contextual support interacted with careful online planning to differentially influence oral performance. The researcher reported that the opportunity to carefully plan online while performing the task with past time reference and without contextual support exponentially increased complexity and accuracy and caused strong negative effects on fluency. Based on the findings, it was deduced that the effects of planning on L2 speech are actually mediated through contextual support and time reference.

Overall, the outcomes of the studies reviewed above confirm that allowing learners to plan their speech carefully when they are performing a task

gives them more processing time to direct their attention to formal aspects of production, i.e., accuracy and complexity. Yet, these gains are made at the cost of the aspect of meaning, that is, fluency.

Of theoretical significance to planning research is [Levelt's \(1989\)](#) model of speech production that has served as a robust benchmark providing a rationale for the generally positive influence of online planning on accuracy and complexity of language. In Leveltian terms, language production is the result of a number of stages. Initially, the speaker's communicative intentions are generated by the conceptualizer where communicative goals are elaborated. Then, through the processes of macroplanning, and microplanning the speaker selects, encodes, and decides the order and perspective in which the information is to be communicated. The output of conceptualizer is preverbal message which is sent to the formulator where it is changed into a phonetic plan by the selection and application of appropriate lexico-grammatical and phonological rules. Grammatical encoding entails lexical and syntactic encoding. Then, the articulator transforms linguistic units into overt speech. Finally, both the pre-produced and articulated messages are monitored for correctness. On the basis of this model, it is postulated that planning makes for more complex and accurate speech by favoring the formulating and monitoring stages of speech production.

3. The Present Study

As reviewed above, though online planning has been studied by a number of researchers, most of them have yielded a somewhat incomplete picture of its role in L2 speech production and learning because instead of obtaining direct evidence, they have inferred mental operations learners were engaged in based on the linguistic aspects of their final performance. This limitation makes it methodologically imperative to probe into what learners actually do while they plan online and how this cognitive processing impacts upon their subsequent performance by means of such approaches as protocol analysis ([Ortega, 2005](#)). In response to this limitation, [Ahmadian and Tavakoli \(2014\)](#) conducted a pioneering study and extended the scope of their study beyond merely a linguistic analysis of L2 speech by using [Kormos' \(2006\)](#) taxonomy of error-corrections to address self-repairs as indicators of the unobservable psycholinguistic processes generating L2 output. To validate and confirm the results presented by Ahmadian and Tavakoli and provide further evidence as to the nature of cognitive processes associated with carefully planned L2 speech, in the current study the researcher used methodological triangulation through analyzing participants' performance along with their retrospective comments to arrive at a deeper understanding of the linguistic as well as cognitive effects of careful online planning on EFL learners' task-based speech processing and production. For this purpose, instead of using Kormos' error-correction taxonomy, [Fukuta's \(2015\)](#) scheme of dysfluency markers was drawn upon to specify the exact cognitive roots of pauses in learners'

speech as well as the complexity, accuracy, and fluency of their speech. The study attempted to answer the following research questions:

- 1) How does carefully planning speech while doing a narrative task influence Iranian intermediate EFL learners' performance?
- 2) How does carefully planning speech while doing a narrative task influence Iranian intermediate EFL learners' attention shift?

4. Methodology

4.1 Participants

Thirty participants randomly chosen from among sixty-five Iranian male EFL learners at a language institute in Isfahan, Iran took part in the study. Their native language was Persian and their mean age was 17.6 years. Based on the results of their performance on the placement test given at the institute, they were assigned to intermediate classes; however, to make sure that they were at the same level of proficiency, the researcher gave them the Michigan Test of English Language Proficiency (MTELP). The participants attended the general English classes twice a week in the autumn semester of 2019. Prior to data collection, they were asked to sign written consent forms to participate in the study. They were also told that their performance results would only be used for research purposes.

4.2 Procedure

To elicit samples of participants' speech, the researcher presented each individual with a narrative task which involved retelling a story based on six sequenced picture prompts. This monologic oral production task was adopted from [Swain and Walter \(1990\)](#). The story depicted through pictures involved a pedestrian who is walking along busy streets while listening to music through a Walkman. While walking, he seems to be totally incognizant of all the bustle of urban life like the police siren screaming, a thief breaking into a shop, cars colliding into each other and even a tiger passing by! Finally, he gets home safe and sound.

The participants were assigned into two groups of fifteen on a random basis. The learners in the first group were given unlimited time to carefully plan their speech while narrating the story displayed in the picture. The participants in the second group were allowed to carry out the task in three minutes. In other words, they performed under pressed online planning condition. It needs to be pointed out that the decision as to the time limit for the unplanned condition was made on the basis of the results of a pilot study which involved ten participants at the same level of proficiency. It was observed that the participants took between two to three minutes to narrate the picture story. Though most of the learners needed less time to complete the task, it was assumed that setting a time limit would be necessary for the successful operationalization of pressed online

planning (see Yuan & Ellis, 2003). Each participant's performance was audio recorded and later transcribed, and coded.

Immediately after each participant completed the task, a retrospective interview was conducted by the researcher in order to elicit their stimulated recall data. In doing so, Fukuta's (2015) method was followed whereby learners' protocol data were elicited and analyzed in terms of the occurrence of dysfluency markers which prompted their stimulated recall in addition to performance analysis with respect to complexity, accuracy, and fluency. This coding scheme which was validated by Fukuta enabled the researcher to pinpoint the timing and orientation of learners towards conceptualizing, syntactic and phonological encoding, and lexical choice. The method has been utilized in previous studies to examine the effects of cognitive demands of tasks (operationally defined in terms of reasoning demand and dual task demand) (Fukuta & Yamashita, 2015), and also task repetition (Fukuta, 2015) on attention shifts in L2 oral performance. The round of interviews was conducted based on the guidelines proposed by Gass and Mackey (2000) and involved having individual learners listen to their recorded speech and, upon noticing any instances of dysfluency markers (i.e., false-starts, self-repairs, repetitions, fillers, and pauses), asking them to verbalize what they had been thinking at that moment. GoldWave version 6.52 was used to identify the periods of pauses. All interviews were conducted in Persian.

Following the guidelines proposed by Fukuta (2015), the coding of protocol data was done based on the occurrence of *episodes* which signaled attention to conceptualization or linguistic form. Generally, conceptualizing deals with the way speaker wishes to convey his intended message. The episodes related to form were categorized in terms of (a) syntactic encodings, which have to do with word order, sentence structure, and morpho-syntactic processing, (b) lexical choices, which correspond to lexis or lexicalized phrases, and (c) phonological encodings, which pertain to the phonological features of speech. The following examples extracted from the retrospective interview data of the current study, exemplify each of the above episodes. Participants' retrospective comments (RCs) are translated from Persian into English.

Conceptualizing:

Example: The person in the picture is a.... **young man**.

Participant's RC: At first I thought the guy in the pictures is a boy, but then I realized that he is a young man. I was thinking how to describe the person.

Syntactic encoding:

Example: Many strange things....**happen**.... when he is walking in the street.

Participant's RC: At that time, I was not certain whether I should say "are happening" or "happen". I thought that "happen" is the right verb form.

Phonological encoding:

Example: I see that the streets are very busy and a....**pedestrian** is listening to music.

Participant's RC: Here, was thinking whether the word is pronounced as "pederestrian" or "pedestrian".

Lexical choice:

Example: The man is**jogging** and doesn't pay attention to accidents.

Participant's RC: I was not sure whether it was more appropriate to say "jogging" or "walking".

To estimate the intercoder reliability coefficient, the researcher asked a colleague to code ten percent of the corpus. The results showed an agreement coefficient of 0.87.

Next, in order to analyze participants' oral performance in terms of linguistic criteria, the recorded data were transcribed and analyzed with regard to complexity, accuracy, and fluency. To obtain more comparable results, it was decided to use the measures previously utilized in the related literature (i.e., [Ahmadian & Tavakoli, 2011](#); [Yuan & Ellis, 2003](#)). Therefore, the following measures were preferred to tap complexity, accuracy, and fluency, respectively:

Syntactic complexity (amount of subordination): the ratio of clauses to AS-units (the Analysis of Speech Unit) in the participants' production was used to tap complexity. According to [Foster, Tonkyn, and Wigglesworth \(2000, p.365\)](#), AS-unit is "... a single speaker's utterance consisting of an independent clause or sub-clausal unit, together with any subordinate clause(s) associated with it".

Error-free clauses: the percentage of error-free the clauses. The analysis included all syntactic, morphological and lexical errors.

Number of syllables produced per minute of speech: the number of syllables in each participants' speech, divided by the number of seconds taken for task completion and multiplied by 60.

Coding reliability was established through intercoder reliability. Ten percent of all the transcripts were analyzed by an experienced colleague yielding a reliability coefficient of 0.84 percent.

4.3 Data Analysis

The coding procedure was followed by quantitative analyses of the data. First, descriptive statistics related to the number of each type of episode along with the performance areas of complexity, accuracy, and fluency were calculated. As the next step, the means of different episodes and measures of performance were

compared across groups through a series of independent-samples t-tests. The software used was SPSS.

5. Results

This experiment studied the way carefully planning speech while performing a task impacts upon intermediate EFL learners' performance and attention shift. The descriptive statistics related to participants' performance and protocol analyses are set out in Table 1. Generally, as shown in the table, planners produced more complex ($M= 1.095$; $SD= 0.035$) and accurate ($M= 29.29$; $SD=1.89$) speech. On the contrary, their production was less fluent in comparison with those who were not allowed to carefully plan online ($M= 48.08$; $SD=1.48$). With regard to the occurrence of episodes, the outcomes suggested that online planning yielded more instances of attention towards form in terms of lexis ($M= 5.73$; $SD= 2.93$), syntax ($M= 2.26$; $SD=1.75$), and phonology ($M=0.66$; $SD= 0.48$). This performance condition, however, resulted in fewer cases of episodes related to conceptualization ($M= 3.26$; $SD= 3.05$).

Table 1. Descriptive statistics for performance measures and episodes

	Minimum		Maximum		Mean		SD	
	POP	COP	POP	COP	POP	COP	POP	COP
Complexity	1.02	1.04	1.11	1.16	1.05	1.09	0.03	0.03
					7	5	1	5
Accuracy	21.6	25.3	31.4	33.2	27.0	29.2	2.39	1.89
	4	6	4	7	1	9		
Fluency	47.6	44.3	51.7	50.6	49.7	48.0	1.21	1.48
	6	3	9	6	3	8		
Syntactic episodes	0	0	4	5	1.06	2.26	1.27	1.75
Lexical episodes	0	1	9	11	3.2	5.73	2.78	2.93
Phonological episodes	0	0	1	1	0.26	0.66	0.45	0.48
Conceptualization on episodes	1	0	12	9	6.60	3.26	3.64	3.05

Note: POP: Pressed online planning; COP: Careful online planning

Table 2. Independent samples t-tests

	Std. error difference	t-value	df	Sig. (two-tailed)
Complexity: POP vs. COP	0.01240	-3.066	28	0.005

Accuracy: POP vs. COP	0.78956	-2.895	28	0.007
Fluency: POP vs. COP	0.49451	3.341	28	0.002
Syntactic episodes: POP vs. COP	0.56005	-2.143	28	0.041
Lexical episodes: POP vs. COP	1.04502	-2.424	28	0.022
Phonological episodes: POP vs. COP	0.17275	-2.316	28	0.028
Conceptualization episodes: POP vs. COP	1.22772	2.715	28	0.011

To establish the statistical significance of the obtained results, independent samples t-tests were run. As displayed in Table 2, the mean differences for the measure of complexity produced under planned and unplanned conditions were of statistical significance, $t(28) = -3.066$; $p = 0.005$ (two-tailed). The results for accuracy and fluency were the same, $t(28) = -2.895$; $p = 0.007$ and $t(28) = 3.341$; $p = 0.002$. These analyses confirm that completing the narrative task under careful online planning condition assisted complexity and accuracy but impaired fluency. Hence, considering the first research question, it can be stated that whereas careful online planning favors complexity and accuracy, it negatively influences fluency of EFL learners' speech.

As regards the second research question posed above, the results of statistical analyses confirmed that mean differences in terms of episodes were significant across the groups. The statistics reported in Table 2 show that online planners produced more pauses due to attention to lexis ($t(28) = -2.424$; $p = 0.022$), syntax ($t(28) = -2.143$; $p = 0.041$), and phonology ($t(28) = -2.316$; $p = 0.028$), and fewer instances of pauses caused by effort at conceptualization ($t(28) = 2.715$; $p = 0.011$). These findings provide the answer to the second research question: careful online planning enables EFL learners to pay closer attention to monitoring their message in terms of form. In what follows, the results will be discussed with reference to previous research findings and related theoretical issues.

6. Discussion

The obtained findings of this research point to considerable influence of careful online planning on the linguistic quality and the number of episodes related to content and form. All in all, the results demonstrated that whereas the carefully planned speech was more complex and accurate, the language generated under pressed online planning condition was more fluent. This finding resonated with

the results of [Ahmadian and Tavakoli \(2011\)](#), and [Saeedi \(2020\)](#) in terms of complexity, accuracy, and fluency. They also replicated [Yuan and Ellis \(2003\)](#) with regard to complexity and accuracy. Regarding fluency, however, the findings did not chime with Yuan and Ellis as they did not report any significant fluency differences. These findings lend further support to the efficacy of careful online planning in raising complexity and accuracy of L2 speech; gains which come at the cost of fluency. With respect to the issue of attention allocation, the results of participants' retrospective comments on their performance indicated that the opportunity to carefully plan L2 speech shows its effects in the occurrence of more instances of episodes related to syntactic encoding, lexical choice, and phonological encoding. By contrast, speech produced under pressed online planning condition contains more dysfluency markers related to conceptualization. This piece of evidence was in a way similar to and, in effect, upheld the validity of the results of [Ahmadian and Tavakoli \(2014\)](#) who stated that careful online planning caused learners to effectuate more Error repairs which pertain to grammatical accuracy, and fewer Appropriacy and Different information errors which relate to meaning. The higher number of episodes related to form therefore clinches the conviction that careful online planning prompts learners to prioritize focusing on formal aspects of language while performing a meaning-based task. Below, these findings will be discussed with reference to related theories of speech production, attention, and SLA.

Building on [Levelt's \(1989\)](#) psycholinguistic account of speech production, it may be posited that having abundant time to plan speech while performing a task assists language learners to focus their focal attention on retrieving and applying required lexico-grammatical and phonological rules from their explicit L2 knowledge which, according to [Ellis \(2004\)](#), needs more time and cognitive effort to mobilize. Based on Ellis, contrary to implicit knowledge which is used through automatic processing, explicit knowledge is generally accessed through controlled processing and is drawn upon to monitor production. Accordingly, there are grounds to reason that allowing learners ample planning time enables them to access the relevant declarative L2 knowledge. Nevertheless, owing to their limited attentional resources, prioritizing formulation leads to a trade-off between focusing on form on the one hand and focusing on meaning on the other ([Skehan, 2009](#)). Put differently, prioritizing formulation taxed learners' limited attentional capacity such that they failed to simultaneously focus on elaborate conceptualization. The linguistic correlate of this psycholinguistic mechanism is enhanced complexity, and accuracy and decreased fluency. The effort at formulation also manifested itself in the number of episodes related to form as carefully planned speech featured more instances of pauses due to syntactic encoding, lexical choice, and phonological encoding and fewer pauses corresponding to conceptualization.

On the other hand, under pressed planning condition where explicit knowledge may not be readily accessible, the meaning-based nature of the task

seems to have predisposed learners to direct much of their attention to conceptualizing their speech. Indeed, it may be inferred that this group of participants were primarily concerned with unraveling the sequence of events displayed in the pictures and encoding their corresponding content, and transforming them into words. Given that they completed their narrations under time constraint, the learners seem to have primarily relied on what Skehan (1998) terms 'memory-based L2 knowledge' consisting of lexical items and formulaic sequences of L2 which need less processing time to access thereby conceptualizing their message more efficiently. The linguistic output of effort at conceptualization is more fluent but less accurate and complex speech. The results of participants' retrospective comments further upholds and adds cognitive validity to this explanation as learners who performed under pressed online planning condition paused more frequently to conceptualize their message and therefore their speech was associated with more instances of episodes related to conceptualization and fewer episodes corresponding to form.

Another possible explanation for findings regarding the occurrence of episodes is that because L2 learners' linguistic knowledge is limited and not fully automatic, they may chiefly look for contextual clues and semantic information to produce speech (Izumi, 2003, as cited in Fukuta & Yamashita, 2015). Related to this, it seems plausible to argue that performing under time limit causes working memory limitation which inhibits deeper processing operations involved in using syntactic information and instead leads to reliance on semantic information. As a result, unplanned speech is marked by more pauses due to conceptualization than syntactic and phonological encoding. On the contrary, availability of unlimited time to plan their speech enables them to carry out deeper processing involved in accessing limited and not fully automatized linguistic knowledge, hence effectuating more syntactic encoding.

7. Conclusion

To conclude, the present research was an attempt to advance current findings regarding the influence of task-based careful online planning on L2 learners' performance and attention allocation. Both performance and protocol data delineated that online planning induces learners to direct their attention towards aspects of form leading to enhanced complexity and accuracy of performance, gains which are made at the expense of aspect of meaning, i.e., fluency. Theoretically, the findings corroborate the centrality of tasks in SLA as their features manipulate learners' attention to form in a context where meaning is negotiated. Besides, the results uphold the basic assumptions underlying Skehan's (1998) Trade-off Hypothesis whereby owing to learners' limited attentional capacity, increased attention to form seems to result in failure to simultaneously focus on meaning. Thus, to foster a focus on form context, online planning needs to be coupled with other task implementation factors, e.g., pre-task planning. The outcomes also bear pedagogical significance in that they add

support to the utility of online planning as an effective pedagogical tool through which teachers can make tasks less demanding and assist the learners to learn syntax in a meaningful context. Therefore, when designing and implementing L2 tasks, practitioners are recommended to allow for online planning in order to address one of the valid concerns regarding the limitation of task-based language teaching, that is prompting a focus on negotiation of meaning to the detriment of attention to form.

The study has some limitations and suggestions for further research. The findings were based on samples of speech elicited through narrative tasks and therefore are not generalizable to other task types. Therefore, further research is needed to enhance the validity of findings using such tasks as information-gap to see whether online planning can trigger focus on form across tasks. Additionally, investigating the potential interaction between learner variables and online planning can be another avenue of research. Related to this issue, future studies should take into consideration such factors as learners' proficiency level, speaking style, and background.

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