



Effects of Pre-task Planning, Online Planning, and Combined Pre-task and Online Planning on Young Learners' Oral Production

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Abstract

Exploring the effects of task planning as an implementational variable on second language (L2) performance has witnessed a noticeable growth over the past years (Ellis, 2005a; Skehan, 2014b). Building on this bulk of research, this study aimed at investigating the effects of three task planning conditions, i.e., pre-task planning (PTP), online planning (OLP), and the combination of pre-task and online planning (PTP+OLP), on young learners' oral complexity, accuracy, and fluency. The participants were 60 EFL learners aged between 10 and 12 who were randomly assigned to one of the four conditions in the study, including the no planning (NP) condition ($n = 15$ in each group). The participants were asked to watch a short silent video and narrate its story. The results of the statistical analyses indicate that while PTP increases fluency, OLP and OLP+PTP improve both accuracy and syntactic complexity. The findings suggest that

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teachers of young L2 learners should utilize the promising potentials of different task planning conditions to channel learners' language production toward more fluent, accurate, and complex production.

Keywords: accuracy, complexity, fluency, narrative tasks, task planning,

Introduction

Various aspects of task-based performance have been the focus of a growing body of research since late 1980s. Among different variables affecting second language (L2) performance, a large number of studies have researched the impacts of task planning on L2 production (see Ellis, 2005a, 2009; Skehan, 2014a). L2 production has been commonly measured in terms of three distinctive areas, including complexity, accuracy, and fluency (CAF) (Skehan, 2009, 2014b; Skehan & Foster, 2008). It is claimed that scrutinizing the changes in interlanguage system through CAF measures can explain how the L2 develops (Norris & Ortega, 2009).

Researching the effects of different planning conditions on L2 learners' oral performance is significant both for theory and practice (Ellis, 2009). Concerning the practical implications, task planning studies can broaden our knowledge of the methodology of task-based teaching (Ellis, 2009). In fact, knowing the influential variables in task-based planning research informs teachers' pedagogic decisions and makes them more effective in assisting learners in their attempts to learn a new language (Skehan & Foster, 2008). On the theoretical side, "it serves to test claims regarding the nature of variability in learner language and the validity of models of speaking such as that of Levelt (1989) as this has been applied to L2 production" (Ellis, 2009, p. 474). Planning studies have been informed by information processing theory (Ellis, 2005b) and their results have been mainly interpreted and discussed within cognitive-based models, such as Levelt's (1989) model of speech production and Skehan's (1998) Limited Attention Capacity model.

In Levelt's (1989) model, different aspects of speech production are processed by components which work autonomously in three main stages, namely conceptualization, formulation, and articulation. The conceptualization of a message begins with deciding on a desired communicative goal. Then, the

speaker produces a nonlinguistic message which is ready to be converted from a pre-verbal message to a linguistic one. In the formulator, the propositionally organized preverbal plan activates the items in the lexicon and the needed lexical items are retrieved to form a planned message both syntactically and phonologically. In the final stage, i.e., the articulation stage, the prepared phonetic plans from the formulator are retrieved, unfolded, and articulated. Within each of these three stages, an inspecting mechanism which works as a sub-system monitors the intended product.

According to Skehan (1998), a major challenge for L2 learners is that since the attentional resources are limited, attending to different aspects of language equally seems to be impossible. This hypothesis, also known as the Trade-off Hypothesis, posits that all areas of language cannot improve simultaneously, and ability enhancement in one area will come at the cost of impairment elsewhere (Skehan, 1998, 2009). Skehan believed that the trade-off effects can be controlled through manipulation of performance conditions (e.g., the availability of planning time) or design features of the tasks (e.g., task structure). Skehan (1998) argued that certain task characteristics, such as task design, can “predispose learners to channel their attention in predictable ways,” (p. 112) and be an effective tool for an equal promotion of language development in the areas of CAF.

Review of Literature

The results of early planning studies (Crookes, 1989; Ellis, 1987) suggested that planning leads to predictable effects. Since then, a good deal of research has investigated the effects of different planning-related constructs on L2 performance, including different lengths of planning time (Li et al., 2015; Mehnert, 1998), various types of planning (Ahmadian, 2012; Ahmadian & Tavakoli, 2011; Kim, 2013; Stroud, 2019; Wang, 2014), and different proficiency levels (Baleghizadeh & Shahri, 2017; Wigglesworth, 1997). The findings generally point to a positive impact of planning on L2 performance. Several studies have shown that planning can increase fluency (Foster & Skehan, 1996; Mehnert, 1998; Ortega, 1999); others have reported

improvements in accuracy although with mixed results (Ellis, 1987; Foster & Skehan, 1999; Mehnert, 1998; Ortega, 1999). Research has also revealed that planning leads to increased complexity (Crookes, 1989; Foster & Skehan, 1996; Mehnert, 1998; Ortega, 1999; Yuan & Ellis, 2003).

Compared to other task-related variables, such as task-based interaction (see Garcia Mayo, 2018 for a comprehensive review), fewer studies have explored the effects of task planning on *young* learners. In one study, Philp, et al. (2006) investigated the effect of planning on the L2 production of two groups of young learners aged 5–7 years, and 11–12 years. They explored the relationship between different amounts of planning time on children’s task-based interactions, linguistic performance in terms of feedback provision and use, and CAF. The participants worked on a two-way, picture description, information gap task. The groups were given either 0, 2, or 5 minutes for pre-task planning time. The results of Philp et al.’s study showed that 2-minute planning time was just partially advantageous to children’s linguistic accuracy and fluency, and 5-minute planning time enhanced their output complexity. The authors reported that when provided with 5 minutes for planning before the task, children produced more complex language. They also concluded that giving the young participants time for planning did not necessarily lead to more learning opportunities as well as more fluent and accurate production.

In another study, taking Skehan’s (1998, 2009) trade-off hypothesis into account, Sample and Michel (2014) explored the effects of task repetition on the interactions among CAF measures. Following Ellis’s (2009) framework, Sample and Michel considered task repetition to be a type of task planning. The participants were six young EFL learners (four girls and two boys) aged 9. They repeated an oral spot-the-difference task 3 times. Sample and Michel reported that task performance was promoted by repetition of the task, although with different impacts on the CAF dimensions and with fluctuations from the first to the second and to the third performances. The obtained mean scores indicated that complexity values decreased over repetitions (except for the number of clauses); that there was no general direction of changes found in accuracy measures; and that fluency steadily increased over the repetitions, particularly

in the second performance.

Despite the bulk of research in the field of task planning, two issues seem to have been overlooked. First, few studies have focused on *young* learners, and it appears that age-related cognitive impacts are being neglected. Research with young and adult L2 learners has shown differences between the learning and cognitive processes of these two groups (Mackey & Sachs, 2012). According to Long (2015), theories of second language acquisition (SLA) are divided into two categories: either asserting that biological maturation poses constraints on language learning through one or more sensitive periods, or denying such limitations. Further, Long claims that only the theories that acknowledge maturational constraints are able to explain the variability of ultimate attainment existing between children and adults. What Long has pointed out clearly indicates the significance of taking the possible effects of age of learner into consideration in teaching, as well as in research. Lack of enough data from well-designed empirical research makes it inappropriate to assume that task planning on adults' production results in similar impacts for young learners (Mackey & Oliver, 2002).

Second, although there is a plethora of research exploring different types of planning (Ahmadian, 2012; Ahmadian & Tavakoli, 2011; Ellis, 2005a; Ortega, 1999; Skehan & Foster, 1999; Stroud, 2019; Tavakoli & Skehan, 2005; Wendel, 1997; Yuan & Ellis, 2003), few studies have examined such effects across various conditions in a single study. Therefore, our understanding of the effects of task planning opportunities mainly comes from separate studies. One of the planning conditions in the current study, which has not been extensively researched, is the availability of pre-task and online planning simultaneously. Earlier, Yuan and Ellis (2003) and Ellis (2009) hypothesized that providing participants with the opportunity to plan both before and while doing a task might solve the problems caused by limited attentional resources leading to improvements in the CAF aspects. This study, therefore, sought to address the above-mentioned lacunas in task planning research by addressing the following questions:

1. What are the effects of pre-task planning, online planning, and

combined pre-task and online planning on the *fluency* of young EFL learners in an oral narrative task?

2. What are the effects of pre-task planning, online planning, and combined pre-task and online planning on the *complexity* of young EFL learners in an oral narrative task?
3. What are the effects of pre-task planning, online planning, and combined pre-task and online planning on the *accuracy* of young EFL learners in an oral narrative task?

Method

The present study had a single-factor, between-participants design with task planning as the independent variable involving four levels: pre-task planning (PTP), online planning (OLP), combined pre-task and online planning (PTP+OLP), and no planning (NP).

Participants

The participants were 60 young EFL learners, 39 girls and 21 boys. They aged between 10 and 12. They all came from the same city, i.e., Tehran and shared the same L1 background—Persian. Thus, it could be assumed that they shared almost the same cultural and educational background. Crookes (1989) has claimed that working with participants with the same L1 and similar cultural background can reduce the varying L1 transfer effects and different conditioned learning styles will no more be considered as threats to validity of the study. The participants all had learned English in a formal context and none had the experience of living in an English-speaking country. In terms of age of onset, the participants were not noticeably different ($M = 7.90$, $SD = .81$) (the information about the participants' age of onset was collected from their parents). Before collecting the data, the participants were told that the tests and the tasks they were going to complete would be only used for research purposes and the results would not have any impact on their term scores. In addition, since the participants were young, we asked parents to sign the written consent forms.

Materials

Several planning studies have used short videos as prompts for narrative tasks (Ahmadian et al., 2015; Skehan & Foster, 1999; Wang & Skehan, 2014). We, too, utilized a video-prompted narrative task, the British stop-motion animated series *Shaun the Sheep*. The main reasons for choosing this animated series were: (a) the episodes are made for children thus they would be appealing to the young participants of this study, (b) they are not lengthy (each episode is nearly 6 minutes), (c) there are no instances of speech which alleviates comprehension problems (Skehan & Foster, 1999), and (d) since the episodes have no speech or conversation, the learners' performance will not be affected by the immediate exposure to authentic language (Ahmadian, 2012; Ahmadian & Tavakoli, 2014). It was also important to select an episode which was not culturally biased (Skehan & Foster, 1999). Thus, the first author, along with three experienced EFL teachers, watched 10 episodes and selected one called *Save the Tree*. The selected episode was pilot tested in terms of comprehensibility and cultural understanding. Fortunately, no one of the participants in the piloting phase had a problem.

Procedure

To select the participants, a version of the Pearson Test of English (PTE) Young Learners: Breakthrough whose reliability was checked and approved (Cronbach's Alpha = .81) was administered to 117 learners studying at A2 level in a private language center located in Tehran, Iran. The participants had three ninety-minute English classes per week. Among those who had scored between one standard deviation below and above the mean, 60 learners were randomly selected and invited to participate in the study. Then, the selected participants were randomly assigned to one of the four conditions (15 in each group). Following previous research (e.g., Ahmadian & Tavakoli, 2011; Yuan & Ellis, 2003), it was also necessary to assure that the participants were not significantly different in terms of their online processing ability across the groups. According to Hale (1989), as cited in Yuan & Ellis (2003), learners process the language in real time when they do a listening task. Therefore,

listening tasks can be considered to be an indication of participants' online processing. To control for the effects of participants' differential online processing ability, the scores from the PTE Young Learners Listening part, including 15 items (30 marks) were marked and calculated separately. Then, the scores were entered into a one-way ANOVA (with the alpha set at 0.05). The results of the ANOVA revealed that the participants' listening scores were not significantly different across the groups, $F(3, 56) = .993, p = .403$, leading to the conclusion that the participants were not significantly different in regard to their online processing ability.

To collect the data, the participants were met individually with the first author in a quiet classroom. In order for the participants to feel more comfortable and to avoid any miscomprehensions, the instructions were given in their first language. The video was displayed on a computer screen and the oral narratives were recorded by a small digital voice recorder. Following Wang and Skehan' (2014) procedure, the main characters' photos and their names were printed on separate cards and given to the participants. This could help the participants focus on the narration of the events and not to worry about the characters' names. The audio files were segmented and coded into analysis of speech units (AS-units) (Foster et al., 2000). To ensure that the coding process was conducted reliably, 20% of the data (3 narratives from each group) were segmented, coded, and scored by an independent expert in the field of EFL, against which the data coded and scored by the present researcher was checked. The results of the recoding analyses were subjected to a Pearson product-moment correlation. Intercoder reliability coefficient magnitude turned out to be .92 for AS-units.

Task Conditions

No Planning (NP). In this condition, participants performed the task immediately after watching the video. They were told that they would have only 4 minutes for performing the task. This amount of time was determined by conducting a small pilot study with 12 young learners from the same language center. In the piloting phase, it took 2–4 minutes for the learners to finish the

task. Following Yuan and Ellis's (2003) procedure, the maximum time spent by the participants in the pilot study (i.e., 4 minutes) was established as the time limit. This time limit would put pressure on the participants and prevent them from engaging in online planning. Here are the instructions for the participants in this group:

You will now watch a silent video. This video has a story. Please tell this story in English immediately after the video is finished. Imagine that you are telling the story to someone who has not watched the video and likes to know all the details of the story. Notice that you will have only 4 minutes to narrate the whole story.

Pre-task Planning (PTP). PTP was operationalized by providing the participants with 5 minutes for planning prior to performing the task. In most previous planning studies with adult subjects, the time allocated for pre-planning was 10 minutes (e.g., Crookes, 1989; Foster & Skehan, 1996; Ortega, 1999; Skehan & Foster, 1997; Yuan & Ellis, 2003). However, the commonly allocated planning time with adult participants needed to be reconsidered because comparing to adults, children have more limited attention span, and it appears that they can easily get bored or distracted. Thus, following Philp et al. (2006), 5 minutes were given to pre-task planners. They were given pencil and paper to make notes and were told to plan for content and language needed for the task within the given time. The planning sheets were taken away before the participants started narrating. This was done for two reasons: (a) to avoid confound of modality (written and spoken) and (b) to provide the evidence proving that participants engaged in some planning activities (Crookes, 1989; Yuan & Ellis, 2003).

Online Planning (OLP). Building on Levelt's (1989) model of speech, Yuan and Ellis (2003) conceptually defined online planning as "the process by which speakers attend carefully to the formulation stage during speech planning and engage in pre-production and post-production monitoring of their speech acts" (p. 6). Clearly, for performers to be able to pay more attention to production and monitor their speech, they need time. Without being under time pressure, it is believed that performers are able to monitor their language and

(re)formulate their production while carrying out the task. To operationalize OLP, we allocated unlimited amount of time to the participants in this group for completing the task. As with the NP condition, the online planners did not have time to engage in pre-task planning. They started the task immediately after they watched the video. The instructions given to the participants in this group were the same as those of the NP group. However, unlike the no-planners, the online planners were told that they were allowed to take as much time as they want for telling the story.

Combined Pre-task and Online Planning (PTP+OLP). PTP+OLP is a less examined condition in task-planning studies. The participants in this planning condition were given the chance of engaging in *both* pre-task planning and online planning. This was operationalized by giving the participants 5 minutes for pre-task planning, as well as unlimited time for doing the task to engage in online planning.

Measurement of the Variables

Following Yuan and Ellis (2003), to ensure that participants in online planning groups engaged in significant online planning, we calculated the length of time taken to fulfill the task and the number of syllables produced by each participant and compared them across all the four conditions. This was done to determine if the participants had performed the tasks in line with the stipulated planning conditions.

Planning: Independent Variables.

- Length of time: the total number of seconds on task was counted for each participant.
- Total syllables: the number of syllables produced by each participant was counted.
- Meaningful syllables: the total number of syllables excluding the syllables that were repeated, replaced, or reformulated.

Dependent Variables. Fluency, accuracy, and complexity of participants' oral production were the dependent variables in the present study. To assess the different dimensions of participants' oral production, we

implemented the following measures which have been used in previous planning studies (Ahmadian, 2011; Ahmadian, 2012; Ahmadian & Tavakoli, 2011, Ahmadian, Tavakoli & Vahid Dastjerdi, 2012; Yuan & Ellis, 2003).

Complexity Measures.

– Syntactic complexity (amount of subordination): the ratio of clauses to the Analysis of Speech Units (AS-units) in the participants' production. AS-unit is defined as "a single speaker's utterance consisting of an *independent clause* or *sub-clausal unit*, together with any *subordinate clause(s)* associated with it" (Foster et al., 2000, p. 365).

– Syntactic variety: the total number of different grammatical verb forms used in participants' performances. In keeping with previous task planning studies (Ahmadian, 2012; Yuan & Ellis, 2003), we used tense (e.g., simple present, simple past, past continuous, etc.) and modality (e.g., should, must, etc.) as the grammatical verb forms.

Accuracy Measures.

– Error-free clauses: the percentage of error-free clauses. All syntactic, morphological and lexical errors were taken into consideration.

– Correct verb forms: the percentage of all verbs that are correctly used in terms of tense, aspect, modality and subject-verb agreement.

Fluency Measures.

– Syllables per minute of speech: the number of syllables within each narrative, divided by the number of seconds used to complete the task and multiplied by 60.

– Meaningful syllables per minute of speech: the number of meaningful syllables (operationalized by taking out the syllables, words, and phrases that were repeated, reformulated, or replaced) within each narrative, divided by the number of seconds taken to complete the task multiplied by 60.

Data Analysis

To analyze the data, a series of one-way ANOVAs were conducted. The

alpha for achieving statistical significance was set at .05. Moreover, the effect sizes for all omnibus F -tests were obtained by using η^2 , calculated as the sum of squares between groups divided by the total sum of squares. To interpret the power of η^2 we followed Cohen's criterion according to which .01 = small effect, .06 = moderate effect and .14 = large effect.

Results

Planning: Independent Variables

The mean scores presented in Table 1 reveal that participants in the groups with online planning opportunities spent more time on task completion. A one-way ANOVA shows that the difference in time taken to do the task is statically significant across the groups. The Tukey test shows that the spotted differences are significant when the NP and the PTP groups are compared with the OLP group or the PTP+OLP group. Moreover, the data in Table 1 indicate that in terms of total number of syllables the groups were significantly different. The Tukey results show that participants in conditions where online planning was available produced significantly more language than the NP group and the PTP group (except for the PTP-OLP comparison which was close to significant $p = .057$). Table 1 also provides interesting information regarding the total number of meaningful syllables which is an indicator of number of reformulations. Although the ANOVA shows a significant difference across groups, the results of the Tukey post hoc test reveals that the number of meaningful syllables is significantly different when the NP group is compared with the OLP or the PTP+OLP groups. On average, while participants in both the OLP and the PTP+OLP conditions reformulated about 23 syllables out of 147 and 149 respectively, no-planners only reformulated 16 syllables out of 126. Thus, the slower rate of speech production and more frequent reformulations by planners in the OLP group and the PTP+OLP group can be taken to argue that, as intended, when online planning is available, young learners monitor their language production more carefully. All in all, based on the data in Table 1, it can be said that the groups performed their tasks in accordance with the specified conditions.

Dependent Variables

The first research question concerned the effects of task planning on the fluency of young EFL learners' oral production. Descriptive statistics for the fluency measures (see Table 2) reveal that the PTP group produced the greatest number of both total syllables and meaningful syllables per minute. Results of the one-way ANOVA and Tukey post-hoc analysis presented in Table 2 show that there is a significant difference between the NP group and the PTP group regarding both measures of fluency. Also, a significant difference is observed between the PTP group and the OLP group in regard to the production of meaningful syllables per minute. These findings suggest that compared with the NP group, the PTP group performed the task more fluently, and the PTP group were more fluent than the OLP group in terms of producing more meaningful syllables per minute.

The second research question pertained to the effects of task planning on young learners' oral complexity. The descriptive data in Table 3 reveal that regarding syntactic complexity the PTP+OLP and OLP groups have obtained very close mean scores which are higher than those of the NP and PTP groups. Almost the same pattern is observed for syntactic variety. Interestingly, the PTP+OLP and OLP groups have gained the same and highest mean score. In addition, the descriptive data show that in comparison to the NP group, the PTP group have produced slightly more complex sentences. The inferential statistics presented in Table 3 show that the language produced by participants in the groups with on-line planning opportunities, i.e., the OLP and the PTP+OLP groups, was syntactically more significant than the production of the NP and PTP groups (except for the PTP-OLP comparison which was very close to significant ($p = .053$)).

Table 1.*Statistics for length of time, Total Syllables, and meaningful syllables*

	Mean (SD)				<i>F</i> value	Sig.	Location of Significance					
	NP	PTP	OLP	PTP+OLP			NP- PTP	NP- OLP	NP- PTP+ OLP	PTP- OLP	PTP- PTP+OLP	OLP- PTP+OLP
Length of Time (sec.)	158.93 (26.26)	165.79 (28.83)	210.94 (34.26)	203.80 (33.36)	10.895	.000**	.929	.000**	.001*	.001*	.007*	.921
Total Syllables	126.26 (22.79)	143.87 (28.56)	170.40 (27.18)	172.13 (32.63)	9.344	.000**	.323	.000**	.000**	.057	.038*	.998
Meaningful Syllables	110.40 (19.93)	129.00 (26.06)	147.60 (25.88)	149.47 (31.07)	7.419	.000**	.217	.001*	.001*	.217	.149	.997

* $p < .05$, ** $p < .001$

Table 2.*Descriptive and inferential statistics for the fluency measures*

	Mean (SD)				F value	Sig.	η^2	Location of Significance					
	NP	PTP	OLP	PTP+OLP				NP- PTP	NP- OLP	NP- PTP+ OLP	PTP- OLP	PTP- PTP+OLP	OLP- PTP+OLP
Syllables per min.	47.76 (4.27)	51.91 (3.55)	48.71 (4.94)	50.55 (3.41)	3.084	.035*	.14	.037*	.920	.254	.154	.801	.610
Meaningful Syllables per min.	41.77 (3.99)	46.54 (3.34)	42.15 (4.80)	43.74 (3.32)	4.594	.006*	.19	.008*	.993	.517	.017*	.218	.683

* $p < .05$

To answer the third research question which was posed to explore the effects of planning on accuracy, two measures were assessed: error-free clauses and correct verb forms. Descriptive data presented in Table 4 show that the NP group have obtained the lowest mean scores on both measures. Interestingly, similar to the complexity measures, the OLP and PTP+OLP groups have gained high and slightly different mean scores. Results of the Tukey post hoc test (see Table 4) indicate that the OLP and PTP+OLP groups outperformed the NP group in terms of producing both more error-free clauses and more correct verbs. Thus, it can be proposed that OLP and PTP+OLP opportunities significantly increase accuracy.

Discussion

Effects of Pre-task Planning

Pre-task planning was shown to improve young learners' oral fluency. This parallels the results of previous studies reporting positive effects of PTP on fluency (Bui & Huang, 2018; Foster & Skehan, 1996; Fujita, 2011; Li et al., 2015; Mehnert, 1998; Ortega, 1999). Adopting Levelt's (1989) speech model, it is plausible for us to argue that PTP seems to have provided the participants with reserving more attention from the conceptualization stage for the formulation stage which results in having more capacity for processing the information in the formulation stage. In fact, the process of converting the pre-verbal messages into language through the retrieval of required lexical items from the speakers' mental lexicon is boosted. Therefore, learners are able to produce language more fluently.

Table 3.*Descriptive and inferential statistics for the complexity measures*

	Mean (SD)				F value	Sig.	η^2	Location of Significance					
	NP	PTP	OLP	PTP+OLP				NP- PTP	NP- OLP	NP- PTP+ OLP	PTP- OLP	PTP- PTP+OLP	OLP- PTP+OLP
Syntactic complexity	1.18 (.074)	1.20 (.098)	1.33 (.167)	1.34 (.177)	5.946	.001*	.24	.939	.012*	.009*	.053	.041*	1.00
Syntactic variety	4.06 (1.27)	4.20 (1.20)	5.13 (1.45)	5.13 (1.24)	2.980	.039*	.13	.992	.124	.124	.214	.214	1.00

* $p < .05$

Table 4.*Descriptive and inferential statistics for the accuracy measures*

	Mean (SD)				F value	Sig.	η^2	Location of Significance					
	NP	PTP	OLP	PTP+OLP				NP- PTP	NP- OLP	NP- PTP+ OLP	PTP- OLP	PTP- PTP+OLP	OLP- PTP+OLP
Error-free clauses	28.40 (7.56)	32.62 (7.78)	39.21 (9.67)	38.08 (10.36)	4.756	.005*	.20	.571	.008*	.022*	.192	.345	.986
Correct verb forms	35.16 (6.70)	38.32 (7.23)	45.32 (10.11)	45.43 (8.71)	5.771	.002*	.23	.727	.008*	.007*	.108	.100	1.00

* $p < .05$

However, unlike the general trend reported in previous research with adult learners (Crookes, 1989; Ortega, 1999; Tavakoli & Skehan, 2005; Wang, 2014; Yuan & Ellis, 2003), PTP did not lead to greater complexity. This finding can be of particular interest and requires further interpretation. It is believed that PTP provides learners with an opportunity to plan for the conceptualization of message content and contributes to controlled processing and selective attention to form (Ellis, 2005b). Therefore, by easing the pressure on the conceptualization stage (Levelt, 1989), PTP assists learners to reach and employ their maximal level of lexical and structural knowledge, i.e., “the upper limits of their interlanguage” (Ortega, 1999, p. 138) which in turn can result in more complex speech. However, this is true only if learners can efficiently use their planning time. Working with young participants, Philp et al. (2006) reported that two minutes of planning time did not lead to the production of more complex language probably because children could easily get distracted and could not focus on their planning. Although in this study, unlike Philp et al.’s study, the task was monologic and performed in a quiet room, what they have noted can reflect the nature of differences existing between the way children and adults use their planning time.

Regarding accuracy, it was shown that PTP does not lead to significantly more accurate language. Philp et al. have also reported no significant effects of pre-task planning time on young learners’ accuracy. In adult pre-task planning literature, however, mixed results have been indicated. Whereas some studies reported positive effects of planning on accuracy (although not necessarily on all measures or for all tasks) (Ellis, 1987; Mochizuki & Ortega, 2008; Ortega, 1999; Skehan & Foster, 1997; Tavakoli & Skehan, 2005; Wigglesworth, 1997), other studies (that this work is in parallel with), failed to show any significant effects (Crookes, 1989; Elder & Iwashita, 2005; Ortega, 1999; Wendel, 1997; Yuan & Ellis, 2003). There are two reasons to account for the inconsistencies found here. Philp et al. (2006) have rightly pointed out that the mixed results in accuracy can be attributed to the different ways accuracy has been defined and measured in each study. For instance, while Skehan and Foster (1997) measured accuracy by calculating the

percentage of error-free clauses, Ortega (1999) performed target-like use analysis. The former is considered to be a general measure of accuracy, but the latter is a specific measure. Clearly, since these measures tap into different aspects of linguistic accuracy, the obtained results might vary based on the measurement method the researchers utilized. Another reason for gaining no significant impact on accuracy could have been the pressure caused by the time limit participants had for completing the task. Most of the studies that found positive results for PTP did not acknowledge that they controlled for the possible effects of online planning by setting a time limit. Thus, following Yuan and Ellis (2003) and considering the results of the present study regarding the positive effects of online planning on accuracy, it can be argued that the regulation of online planning could have affected the findings of the studies that observed improvements in accuracy as a result of PTP (Yuan & Ellis, 2003).

Effects of Online Planning

The results showed that OLP does not significantly improve young learners' oral fluency. The same result has been found in previous studies (Ahmadian & Tavakoli, 2011; Ellis & Yuan, 2005; Fujita, 2011; Yuan & Ellis, 2003). However, it was shown that OLP improves learners' language in terms of syntactic complexity as well as accuracy. The positive effect of online planning on syntactic complexity found here is in line with the results of Ahmadian and Tavakoli (2011). Research with adult learners has also reported more accurate production as a result of OLP (Ahmadian & Tavakoli, 2014; Ellis, 1987; Ellis & Yuan, 2005; Li & Fu, 2016; Yuan & Ellis, 2003).

According to Van Patten (1990), accuracy and/or complexity demand conscious attention to form, whereas fluency requires conscious attention to meaning. Therefore, there exists a competition between allocation of attention either to form or to meaning. It can be argued that when task performers are given ample time to complete a task, as it was with the participants in the OLP condition, they spend more time on attending to form in the formulation phase (Levelt, 1989). This attention to form, however, can be detrimental to fluency (Ellis & Yuan, 2005). In Ellis's (2005b) framework, a distinction has been made

between two types of online planning: pressured online planning in which learners are asked to perform a task within a time limit, and unpressured or careful online planning where no time limit is set. Similar to our findings, comparing the effects of these two types of online planning on fluency, Ellis and Yuan (2005) reported that unpressured online planning resulted in slower production in terms of number of produced syllables per minute. Yuan and Ellis attributed such dysfluency to limitations in the participants' procedural knowledge. Ahmadian and Tavakoli (2011) explained the slower language production by learners in the unpressured online planning condition in lights of Skehan' (1998) dual-mode system framework. According to Skehan, time restriction makes learners use their exemplar-based system, which in turn, may lead to more fluent production. On the other hand, since the rule-based system is supposed to be "parsimoniously and elegantly organized, with rules being compactly structured" (p. 89), it demands more time and attention. The obtained results from the PTP group and the OLP group in the current study provide more evidence to lend support to Skehan's argument.

Effects of Combined Pre-task and Online Planning

Yuan and Ellis (2003) and Ellis (2009) hypothesized that learners might be able to overcome problems resulting from limitations in their attentional resources if they have the opportunity to prepare themselves before the task as well as enough time to engage in planning their output online. Our data supports this hypothesis to some extent. It was shown that PTP+OLP helps learners to produce more complex and accurate language. However, PTP+OLP failed to show significant improvements on fluency.

The results of our study showed that PTP alone can significantly boost fluency. On the other hand, it was found that OLP results in slower language production. Considering these findings along with the lack of significant impact of PTP+OLP on fluency, it seems that providing the learners with ample time to conduct the task (OLP) has overshadowed the positive impacts of PTP on fluency. In line with the results of previous studies (Ahmadian & Tavakoli, 2011; Ellis & Yuan, 2005; Fujita, 2011; Yuan and Ellis, 2003), lack of more fluent

language production in PTP+OLP can be attributed to the lack of time pressure during task performance in the PTP+OLP condition.

We also found that PTP+OLP can improve young learners' oral language in terms of complexity and accuracy. Interestingly, whereas PTP alone did not result in neither more complex nor accurate production, OLP improved both. Therefore, it can be suggested that it is the presence of OLP that can improve young learners' linguistic complexity. This finding provides further support for Levelt's (1989) speech production model in that providing young learners with ample time to perform a narrative task can benefit the formulation stage. As a result, they will have more opportunities to access syntactic information, as well as enough time to spend on the controlled processing required for monitoring the language being produced in terms of grammatical complexity (Ellis, 2009). Moreover, in regard to the proposal suggested by Ellis and Yuan (2005), OLP can induce learners to engage in more extensive micro-planning of the pre-verbal message which leads to elaborate propositions and more complex and accurate formulations. On the other hand, what this finding implies is that time restriction in the NP group did not allow learners to attempt their cutting-edge language as it taxes their working memory (Ahmadian & Tavakoli, 2011).

Conclusion

The fundamental aim of researchers who work in the field of instructed SLA is "to understand phenomena that make a difference in teaching and learning, first and foremost" (Norris & Ortega, 2009, p.557). It is proposed that in comparison to native speakers, L2 learners lack parallel processing ability and undergo serial processing in speech production, which can lead to a major challenge in L2 production (Skehan, 2014b). In terms of pedagogy, therefore, the necessity of providing opportunities to facilitate L2 learners' production should be taken into account.

This study was designed to investigate the effects of planning on young learners' oral narrative performance. Inevitably, like any other scientific enquiry, the current research faced a number of limitations which have to be

taken into consideration before attempting to generalize the findings. The results are to be seen as modest and suggestive rather than conclusive. Firstly, the current research was a cross-sectional study which aimed at investigating production and not learning. Although there have been some arguments regarding increases in language complexity, production, or deployment of forms, in agreement with Philp et al. (2006), equating such improvements with linguistic development does not seem to be right. Additionally, this study was mainly, to use Ortega's (1999, 2005) term, product-oriented, that is, its major focus was on the impact of planning on performance. Therefore, any interpretations of the findings in regard to developing the young learners' interlanguage should be done cautiously. Secondly, previous task-based research has shown task type to be an influential variable on learners' language quality (e.g., Bygate, 2001; Foster & Skehan, 1996; Skehan & Foster, 1997). Since the effects of the planning conditions were investigated on the learners' language elicited through a video-prompted narrative task in this study, the results will not necessarily hold for other task types.

The major contribution that this study makes to the existing literature is the discovery that while pre-task planning time improves young learners' oral fluency, online planning and combination of online planning and pre-task planning result in more accurate and syntactically complex structure. These findings further our understanding how task planning, as implementational variables, can cause systematic changes in different performance areas, such as language complexity, accuracy, and fluency. Hence, if EFL teachers wish to improve one of the above-mentioned language aspects, then results such as those reported in the present research as well as other task planning studies should make a contribution. For instance, as shown in this study, if teachers wish to improve young learners' language fluency, they should provide learners with pre-task planning opportunities. Another example of the practicality of the results for language teachers is that if they implement a given narrative task without setting a time limit, the learners' attention will be oriented toward form, which, in turns, will lead to more accurate and complex language production.

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