

Task-Processing Conditions as Influences on Spoken Language Performance

Jeong-Weon Song
(Hanyang University)

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The study investigated the effects of three task-processing conditions on the 18 variables of fluency, complexity, and accuracy in an oral narrative task produced by students of low English proficiency. A 2-by-2-by-2 research plan was designed, with the two familiarity conditions (familiar or unfamiliar story), two planning conditions (with or without 10 minutes of planning time), and two cognitive load conditions (sequenced or jumbled pictures). The results of the MANOVA statistical test were not significant, except for the univariate result of familiarity for subordinate clauses, one of complexity measures ($p=.014$). Subordinate clauses were produced more in the unfamiliar story conditions, and different types of subordinate clause markers were used in familiar and unfamiliar story conditions. Although the univariate results for planning were not significant ($p=.051$), students in the planned conditions managed more subject ellipsis than those in the unplanned conditions. These findings address a number of pedagogic issues for teachers and material designers how tasks could be selected and combined under different conditions.

I. INTRODUCTION

Basing himself on the information processing theory, Anderson (1983) described how humans have a limited capacity in terms of focus of attention and information-processing ability. In other words, only a small subset of the whole can be attended to at a given moment, and not all the information can be processed by humans. In terms of language learning, this could be much more obvious to the second/foreign language learners with lower language proficiency. As the process of speech production is incredibly fast and automatic (Levelt, 1989), second/foreign language learners generally lack automaticity in the process of speech production. It is important to examine which type of classroom activities, in what conditions, facilitate opportunities to practice L2 speech production. As a

result, many researchers have investigated the effects of task-processing conditions on the oral output of language learners, such as planning before L2 tasks, the learners' background knowledge, and the cognitive load of the task. This was to ascertain whether these task-processing conditions might facilitate the process of spoken language performance. This may be because although students carry out the same type of task, their language performance can be different depending on the task-processing conditions. Nevertheless, there were not enough studies which carefully considered these three task-processing conditions in speaking.

The present study is therefore to investigate the effect of three task-processing conditions on the language performance in an oral narrative task for post-beginner Korean University students in an EFL context. The study addresses the following research question:

Do three task-processing conditions (planning time, story familiarity, and sequencing of pictures) affect the students' oral output, in terms of fluency, complexity, and accuracy, in a narrative task?

II. REVIEW OF LITERATURE

Task-based teaching has been emphasized in EFL/ESL teaching since it provides learners with a meaningful activity context and with an opportunity to practice the use of language, which was stated by Robinson, Ting, and Urwin (1995). With this approach, language learners can learn speaking skills, and the process of speech production can be facilitated. In line with the research into the effects of task-processing conditions on second language performance, Skehan (1996a) provided a broad picture of such conditions as follows: 1) code complexity regarding syntactic and lexical difficulty; 2) cognitive complexity including both cognitive processing and cognitive familiarity; 3) communicative stress (time pressure, modality, scale, stakes, and control). These factors were further divided by Robinson et al. (1995) into three cognitive complexity factors (the amount of cognitive load, planning time, and prior knowledge of the content). These task-processing factors are the focus of the study, and these will be discussed in detail.

1. A Cognitive Approach to Pre-task Planning before Speaking

The concept of planning has been widely used in models of L1 language production. After information is processed in the short-term store, it can be stored in the long-term memory, and planning may be useful to earn the time for retrieval (Eysenck, 1984). As the process of speaking is approximately five or six times faster than that of writing, as

Skehan (1996b) emphasised, planning may ease the task and lessen communicative stress, and this allows students to retrieve information from their long-term memory.

To investigate the importance of planning, it is necessary firstly to find out the characteristics of planned and unplanned discourse, which Ochs (1979) distinguished based on the idea of forethought and that of design or organisation. Unplanned discourse is “that lacks forethought and organisational preparation” (p. 55). On the other hand, planned discourse is “that has been thought out and organised (designed) prior to its expression” (p. 55).

The features of unplanned and planned discourse are as follows (Ochs, 1979). Firstly, in unplanned discourse, speakers depend on the immediate context, while those in planned discourse produce propositions that are linked by syntax. Secondly, speakers in unplanned discourse use morphosyntactic structures acquired in the early stages of language development. However, in planning discourse, structures that occur in later development can be found, such as frequent uses of demonstrative modifiers and definite articles.

Thirdly, speakers in unplanned discourse tend to repeat and replace lexical items which Schegloff, Jefferson, and Sacks (1977) called ‘repair’ or error-correction, as speakers need to think of an idea on the spot and have to search for the suitable word to express it clearly, which may cause repetitions. Lastly, in unplanned discourse, the form and content of sequentially arranged social acts tend to have greater similarity than in planned discourse. This is because when speakers have not organised their discourse, they may retain the same morpho-syntactic format to express content. Forethought and planning are required to change both the form and the content of a message.

As planned and unplanned discourses are strongly distinguished, many researchers investigated the influence of pre-task planning before speaking on second language performance in task-based learning (Crookes, 1989; Ellis, 1987; Foster & Skehan, 1996; Kawauchi, 2003; Mehnert, 1998; Ortega, 1999; Skehan & Foster, 1996, 1997; Wendel, 1997; Wigglesworth, 2000; Yuan & Ellis, 2003). Many studies reported that planning facilitated a more significant effect on fluency (Crookes, 1989; Foster & Skehan, 1996; Kawauchi, 2003; Mehnert, 1998; Ortega, 1999; Wigglesworth, 2000; Yuan & Ellis, 2003). Most studies also supported the increased complexity (Crookes, 1989; Foster & Skehan, 1996; Mehnert, 1998; Ortega, 1999; Wigglesworth, 2000; Yuan & Ellis, 2003). Complexity especially increased for more cognitively demanding tasks (Foster & Skehan, 1996), and for the higher proficiency learners (Wigglesworth, 2000).

The effects of planning on accuracy were not consistent since accuracy was significantly higher with planning on some measures, but not for all measures as follows. The studies by Foster and Skehan (1996, 1997), and Mehnert (1998) found a planning effect on global accuracy measures (such as error-free t-unit or error-free clauses), whilst other studies found such an effect on specific accuracy measures (Crookes, 1989, target language use of

'the'; Ellis, 1987, for regular past and copular; Ortega, 1999, for the TLU-noun modifier). On the other hand, Wendel (1997) and Wigglesworth (2000) did not find any accuracy result at all.

In short, the planning task-processing factor seems to have an effect on students' oral performance as it seems to reduce the amount of cognitive work and facilitate the process of speech production.

2. Content Familiarity

The second task-processing factor is content familiarity, and the positive influence of prior knowledge of the content has been researched mostly in reading comprehension (Carrell, 1984; Carrell & Eisterhold, 1988; Johnson, 1982), but a few studies have examined it in relation to listening (Chiang & Dunkel, 1992; Gass & Varonis, 1984; Markham & Latham, 1987; Weissenreider, 1987) and to content familiarity in oral interaction (Selinker & Douglas, 1985; Zuengler & Bent, 1991).

Some studies that investigated the effect of planning also considered the content familiarity of the task (Ellis, 1987; Foster & Skehan, 1996; Mehnert, 1998; Skehan & Foster, 1997, 1999). However, it should be noted that familiarity was not carefully controlled. For example, 'the planned writing' and 'planned speech' in Ellis's study (1987) can be considered as familiar content, and these conditions produced the greatest accuracy in terms of regular past tenses. On the other hand, 'unplanned speech' was looked on as unfamiliar, and this produced less accuracy in terms of the past copular.

Studies by Foster and Skehan (1996), and Skehan and Foster (1997) examined the familiarity and cognitive load of the task in relation to planning time more than any other studies, though not in depth. In their studies, 'the personal task' (Foster & Skehan, 1996) and 'the narrative task' (Skehan & Foster, 1997) contained familiar and clear inherent structured information, which produced more fluency and accuracy. On the other hand, the content of 'the decision-making task' (Skehan & Foster, 1997) was less familiar to the speakers. These investigations support the view that content knowledge also plays a significant part in speaking, and this provides direct literature for the present study. Mehnert (1998) also considered the familiarity of the content in two tasks. One was 'the instruction task' that contained familiar information, and the other was the exposition task that included unfamiliar information. The latter task type was expected to be cognitively more difficult; nevertheless planning unexpectedly had a significant effect on fluency and complexity in both task types.

The results of the above studies suggest that when students communicate on a familiar topic, this may reduce their cognitive complexity load, what the speakers have to do during speaking, and help them produce more oral output.

3. The Amount of Cognitive Load Depending on Various Tasks

The amount of cognitive load considers the information of the task in terms of the number of elements and the degree of complexity of content organisation in the task. Brown, Anderson, Shillcock, and Yule (1984) researched the effects of cognitive load differences on task performance, such as static, dynamic and abstract relationships. The results showed that static tasks were easier than dynamic tasks, and abstract tasks were the most difficult.

Robinson (1995) found out that more difficult 'There-and-Then' narrative tasks elicited more accurate and complex language but not fluent language than the less difficult 'Here-and-Now' narrative tasks. Foster and Skehan (1996), and Skehan and Foster (1997) also provided that the narration tasks with sequenced picture, and the decision-making tasks with simple outcome were less difficult than narrative with jumbled picture, and decision-making with complex outcome. The latter, more difficult tasks, produced the most complex language. Skehan and Foster (1999) carried out another research and found out that the more structured task was less difficult than the less structured one.

In task-based oral assessment, Wigglesworth (2000) also supported the idea that a structured task makes the task easier than an unstructured task. As many different studies have suggested, tasks can be easier or more difficult depending on the amount of cognitive load.

III. RESEARCH METHODOLOGY

1. Design of the Study

The study was a 2-by-2-by-2 multi-factorial design with two planning conditions (with or without 10 minutes of planning time), two familiarity conditions (familiar or unfamiliar story), and two cognitive load conditions (sequenced or jumbled pictures). It was hypothesized that the three task processing conditions (story familiarity, planning, and sequencing of pictures) would affect the last variable - oral output - in terms of 18 measures of fluency, complexity and accuracy. As such, the first three serve as independent variables, and oral output acts as dependent variables.

2. Participants

The subjects of the present study were 56 first year undergraduate students in Korea who had enrolled in my general English class. They had two hours of conversational class and another two hours of LAB work. Considering the results of the mid-term exam of the course (a speaking and listening test), their level of English language proficiency in terms of

speaking could be classified as upper beginners. Their ages ranged from 18 to 20 years old, and they were from the same cultural background. Students with the same gender (either female or male) were then selected and randomly allocated to one of the eight conditions. The results of the ANOVA ($F=.812$, $p<.582$) proved that there was no significant difference in the mean of the students' grade for the mid-term exam in the eight different conditions.

3. Data Collection Instruments

To collect the main data, an oral narrative task was used with a set of ten pictures based on one familiar story and one unfamiliar. These stories were selected based on the results of a pre-questionnaire given to the subjects. Each set of ten pictures for the familiar and unfamiliar stories was arranged in sequenced and jumbled order. Sequenced pictures were arranged according to the story line. On the other hand, for the jumbled pictures, a set of familiar pictures was arranged in random order, and this random order was also applied to the set of unfamiliar pictures.

4. Implementation of Data Collection

In order to avoid any problems that might be caused by the unfamiliarity of the task and the interlocutor (Plough & Gass, 1993), the students carried out the narrative task with the same interlocutor three times during the lesson.

To collect the data, 7 students were allocated to each of the 8 conditions. In order to control the planning time, one group of students entered the language lab first and was provided with ten minutes' planning time. When the ten minutes had elapsed, those with no planning also entered the lab. The students with an opportunity for planning (condition 1) were paired off with those with no planning time (condition 2) as Table 1 shows. When the students narrated the story to their partner, it was recorded using a small tape recorder. As a result, the data were collected in one session.

TABLE 1
The Eight Different Conditions of Data Collection

	A familiar story			An unfamiliar story			
	Sequenced pictures		Jumbled p		Sequenced p		Jumbled p
Plan	No Plan	Plan	N/P	Plan	N/P	Plan	N/P
Condition 1	2	3	4	5	6	7	8
7 Students	7 Ss	7 Ss	7 Ss	7 Ss	7 Ss	7 Ss	7 Ss

5. Analysis

The students' recorded oral output was transcribed and analyzed in terms of 18 measures

of fluency, complexity and accuracy, as follows:

- a. Fluency - total length of pauses, total number of pauses, replacements, revisions, and repetitions;
- b. Complexity - the length of t-units (gross number of words per t-unit, net number of words per t-unit, and the number of words without repetitions per t-unit), the number of subordinate clauses per t-unit, type-token ratio;
- c. Accuracy - number of error-free t-units, t-units with up to one error, t-units with up to two errors, errors of prepositions, errors of verbs, errors of word orders, errors of noun plural -s, total specific errors.

Some measures were used by previous researchers, and others were modified and redefined to analyse the present data set. These measures were standardized and divided by the total number of t-units. Alpha coefficients for the reliability of two intra-raters and two inter-raters indicated a satisfactory level of reliability (see Appendix). To examine the statistical significance, the MANOVA statistical test was applied to 3 independent variables and 18 dependent measures.

IV. RESULTS

1. Descriptive Statistics

Descriptive statistics are reported in terms of numbers of participants, means and

TABLE 2
The Descriptive Statistics for Complexity Measures

Conditions		G/W	N/W	W/R	S/C	TTR
1. FPS	M	8.45	6.38	7.60	.07	49.14
	SD	2.16	.62	1.89	.08	9.35
2. FPJ	M	9.33	6.27	7.95	.06	44.64
	SD	3.59	1.79	2.85	.08	12.58
3. FNPJ	M	8.66	6.21	7.27	.06	46.39
	SD	2.22	1.17	1.43	.08	6.26
4. FNPJ	M	8.60	6.05	7.26	.04	47.76
	SD	2.80	.66	1.76	.07	8.76
5. UFPS	M	9.54	6.72	7.84	.16	46.03
	SD	3.72	1.51	2.06	.17	8.66
6. UFPJ	M	7.93	5.78	6.51	.19	50.32
	SD	2.39	.66	1.12	.13	10.78
7. UFNPS	M	7.70	5.79	6.75	.05	45.67
	SD	2.41	1.49	1.94	.06	7.46
8. UFNPJ	M	8.77	7.01	8.24	.10	41.86
	SD	2.52	1.33	2.43	.11	8.75

Note: G/W=Gross Words, N/W=Net Words, W/R=Words without Repetitions, S/C=Subordinate Clauses, M=Mean, SD=Standard Deviation, F=Familiarity, UF=Unfamiliarity, P=Planning, NP=No Planning, S=Sequenced, J=Jumbled

standard deviation in Table 2 for only 5 five measures of complexity, across the eight different condition groups (N=56). The following mean scores represent the total scores of each student's story, not the score per sentence.

2. Results of the MANOVA Test

The Multivariate Analysis of Variance (MANOVA) was applied to investigate statistically significant differences between 3 independent variables and 18 dependent variables of oral output, but there was no significant effect. Since the 18 dependent variables represent three aspects of the oral output in narrative tasks (fluency, complexity, and accuracy), the MANOVA test was re-applied to measures of fluency and accuracy separately, and there was no significant result. Next, the MANOVA test was applied to complexity measures, and the results did not show any significance (refer to Table 3), except for a significant univariate test of familiarity for subordinate clauses ($p=.014$) as Table 4 shows.

TABLE 3
The Results of MANOVA for Complexity Measures

Effects	Value	Exact F	DF	Error DF	Sig. of F
Familiar x plan x sequence	.934	.623	5.00	44.00	.683
Familiar x plan	.865	1.377	5.00	44.00	.251
Familiar x sequence	.948	.481	5.00	44.00	.789
Plan x sequence	.919	.776	5.00	44.00	.572
Familiar	.818	1.961	5.00	44.00	.103
Plan	.895	1.016	5.00	44.00	.420
Sequence	.985	.133	5.00	44.00	.984

TABLE 4
The Result of Univariate of Familiarity in MANOVA Test

Effect .. Familiarity						
Multivariate Tests of Significance (S = 1, M = 1 1/2, N = 21)						
Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F	
Wilks	.81776	1.96113	5.00	44.00	.103	
Univariate F-tests with (1,48) D. F						
Vari-able	Hypoth. SS	Error SS	Hypoth. MS	Error	F	Sig. of F
G/W	1.02330	372.17809	1.02330	7.75371	.13198	.718
N/W	.13269	72.57963	.13269	1.51208	.08775	.768
W/R	.46293	192.19682	.46293	4.00410	.11561	.735
S/C	.06954	.51770	.06954	.01079	6.44766	.014*
TTR	14.37244	4109.44869	14.37244	85.61351	.16788	.684

Note: G/W=Gross Words, N/W=Net Words, W/R=Words without Repetitions, S/C=Subordinate Clauses, *=statistically significant ($p<.05$)

According to Tabachnick and Fidell (1989), “when there is a non-significant multivariate F, but a significant univariate F for one of the dependent variables, the non-significant multivariate F should be reported, and the univariate result can be offered as a guide to future research, with only tentative interpretation” (p. 399).

When the MANOVA test was applied to complexity measures, a univariate test of planning for subordinate clauses ($p=.051$) (refer to Table 5) was not statistically significant. However, this result indicates that there could be an oral output difference between planned and unplanned conditions.

TABLE 5
The Result of Univariate of Planning in MANOVA Test

Effect .. Planning						
Multivariate Tests of Significance (S = 1, M = 1 1/2, N = 21)						
Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig.of F	
Wilks	.89646	1.01635	5.00	44.00	.420	
Univariate F-tests with (1,48) D. F						
Vari-ables	Hypoth. SS	Error SS	Hypoth. MS	Error	F	Sig. of F
G/W	2.00264	372.17809	2.00264	7.75371	.25828	.614
N/W	.00801	72.57963	.00801	1.51208	.00530	.942
W/R	.12404	192.19682	.12404	4.00410	.03098	.861
S/C	.04312	.51770	.04312	.01079	3.99795	.051
TTR	62.30830	4109.44869	62.30830	85.61351	.72779	.398

Note: G/W=Gross Words, N/W=Net Words, W/R=Words without Repetitions, S/C=Subordinate Clauses

A hypothesis of the present study was made to determine how three task processing independent variables (8 conditions with a combination of familiarity, planning, and sequencing) would affect students’ oral output in terms of 18 measures of fluency, complexity, and accuracy dependent variables. Considering the results of MANOVA, this hypothesis was not supported. However, as the univariate test of familiarity for subordinate clauses, ones of complexity measures, showed a ‘p’ score of $p=.014$, familiarity conditions seemed to have an impact on subordinate clauses. This result will be further discussed.

V. DISCUSSION

This section discusses the statistical results for a significant univariate test of familiarity (familiar and unfamiliar conditions) for subordinate clauses ($p=.014$), ones of complexity measures. The specific discussions are as follows: firstly, the reasons why subordinate

clauses were produced more in unfamiliar conditions; secondly, the use of different types of subordinate clause markers in familiar and unfamiliar conditions; and lastly, patterns of more subject ellipsis in planned conditions. Although MANOVA results for planning were not statistically significant ($p=.051$), this indicates that there could be an oral output difference between planned and unplanned conditions. That is, more subordinate clauses in the unfamiliar conditions were produced especially when there was planning time. Students in planned conditions also managed more subject ellipsis than those in unplanned ones, which will be discussed.

1. The Effect of Unfamiliarity in Increasing Subordinate Clauses

Among the 8 different conditions (a combination of two levels of 3 independent variables) of the present study, more subordinate clauses were produced in the unfamiliar planned story conditions ($\bar{X}=1.12$) than in the familiar planned one ($\bar{X}=0.06$). This result seemed to be consistent with the findings of earlier research that found complexity of language occurring from the task that included unfamiliar information (the narrative task in Foster & Skehan, 1996; and the decision-making task in Skehan & Foster, 1997, though in these studies familiarity was not controlled in the same way as in the present one). However, more subordinate clauses in unfamiliar condition of the present study seems to be only partly consistent with the findings of Mehnert (1998) who found it in two tasks that included both familiar and unfamiliar information.

There are several possible reasons why subordinate clauses appeared more often in the unfamiliar story than in the familiar one, such as the following: 1) the number of items and details in the unfamiliar picture of the story; 2) paraphrasing of unknown words in the unfamiliar story; 3) the explanation of the logic of the unfamiliar story. These points are discussed in more detail below.

1) The Number of Items and Details in the Unfamiliar Picture of the Story

The first possible reason was concerned with the items and details in the unfamiliar story. As Brown et al. (1984) pointed out, the difficulties of the narrative task could be different, depending on the number of elements. As such, although the pictures were carefully chosen, there could have been some intervening variables.

2) The Paraphrasing of Unknown Words in the Unfamiliar Story

The second possibility might be that the students used more subordinate clauses to paraphrase and describe the people and the story. For example, when they did not know the

name of the man in the narrative, they expressed themselves by saying 'the man who was sitting on the grass', using the subordinate clause marker- who. As the students lacked knowledge about the characters, the descriptive 'who' was used twice more in the unfamiliar story condition than in the familiar one.

3) The Explanation of the Logic of the Unfamiliar Story

The last possible reason why subordinate clauses were used more in the unfamiliar condition seems to be the most appropriate for the present study. Although the pictures of the unfamiliar story were not necessarily more difficult, the students with the unfamiliar story seem to have used subordinate clauses to explain the possible logic of the story. This may have been because they had to pay special attention to provide feasible explanations and to find possible clues linking ten different pictures to make up a story. When the students were unfamiliar with the story, they were not given any information or any of the reasons underlying the events of the story, nor did they know the characters in the pictures.

The students, therefore, may have used subordinate clauses to construct an account (supported by many uses of 'that'), or to imagine what the characters were thinking and doing in order to make sense of the story. This is supported by many expressions such as 'think that', 'thought that', 'dream that', and etc. that were used to explain what had already happened and what would happen next, and to supply reasons as the following examples from database show.

Example 1: in unfamiliar, sequenced, planning condition

Sleep man think if I king *

Example 2: in unfamiliar, jumbled, planning condition

He think that king's clothes looks very good*

Example 3: in unfamiliar, jumbled, planning condition

People think a man crazy

The above examples represent that the speakers were trying to express their ideas which were not necessarily the original story as it would be extremely difficult to guess the correct purpose behind a story simply by looking at the pictures when they did not know the story.

Coughlan and Duff (1994) also reported a similar result. In the picture description task, different subjects carried out the same task, and they also used many 'I think' phrases, as well as 'maybe', 'perhaps' and 'who', to describe people. As Coughlan and Duff (1994) pointed out, the students "must draw inferences from the limited information available in the picture – for example, the exact function of a building...or the motivation behind the

character's dancing... – he qualifies his observations with the phrases 'I think' or 'maybe'" (p. 180).

From the above quotation, the pictures employed in their study were from a commonly used source ('Beech scene' in Heaton, 1966), and the items included were those with which the students were supposed to be familiar, such as 'beech', 'a building', and etc. However, since there was no fixed story-line and the students could describe anything in the pictures, these could be considered as unfamiliar. Similarly, the pictures of the unfamiliar story in the present study also used items that the students had seen before, such as king, shoes, etc., but they did not know in any detail the identity of the king or the function of the shoes in the original story. In order to narrate the story, the students also made greater use of 'think that' phrases.

As for the familiar story, the students used subordinate clause markers, such as 'think that' phrases, on fewer occasions (only three times). This may be because they already knew the plot and the reasons underlying the events behind the pictures, and were already familiar with the characters.

2. Different Types of Subordinate Clause Markers in Familiar and Unfamiliar Conditions

When the subordinate clauses that were produced by students were compared, different types of subordinate clause markers were used in the unfamiliar and familiar story conditions as Table 6 shows. In the familiar story, 'because' was employed seven times, and 'that' four. However, in the unfamiliar condition, 'that' appeared 20 times, and 'because' was not used at all.

TABLE 6
Summary of the Use of Subordinate Clause Markers

Familiar story conditions: Total (23)	Unfamiliar story conditions: Total (52)
Familiar story with planning time (6 types & total 12)	Unfamiliar story with planning time (7 types & total 32)
Because – 4 That – 3	That – 18 When – 7
When – 2 Where – 1	After – 2 Who – 2
Who – 1 After – 1	While – 1 Where – 1
	If – 1
Familiar story without planning time (4 types & total 11)	Unfamiliar story without planning time (4 types & total 20)
Because – 3 That – 3	That – 12 Who – 6
Who – 3 What – 2	When – 1 As if – 1

One possible reason for the students in the familiar condition using more subordinate markers, such as ‘because’, might be because they had already known the logic and reasons underlying the story and about characters as the following examples from the database show:

Example 1: in familiar, sequenced, planned condition

So bad queen try killing Snow White princess because bad queen hate Snow White princess.

Example 2: in the familiar, sequenced, no planning condition

a. The stepmother hate Snow White because Snow White is pretty woman.

b. One day stepmother (stepmother) angry because the mirror talks that Snow White is beautiful.

On the other hand, students in the unfamiliar condition used subordinate clause markers, such as ‘think that’ and ‘who’ to explain their idea of the story and to construct a story as they had no knowledge of the reasons underlying the narrative. The following shows examples from the database.

Example 1: in unfamiliar, sequenced, planning condition

Sleep man think if I king *

Example 2: in unfamiliar, jumbled, planning condition

He think that king’s clothes looks very good*

Example 3: in unfamiliar, jumbled, planning condition

People think a man crazy

It seems that when the students were familiar with the story, the cognitive load was lower but less challenging. They, therefore, simply described the familiar logic connecting the pictures. However, when they were in the situation where they had to recount an unfamiliar story, the cognitive load was much greater but more challenging and demanded an explanation of the logic of the story. For that reason, we may assume that unfamiliarity with the story generally leads to greater use of certain types of grammatical forms, such as subordinate clauses, and even different types of subordinate clause markers, such as ‘think that’ phrases.

3. A Planning Effect on Syntactic Complexity of the Unfamiliar Condition

Although the result of MANOVA test for the planning variable was not statistically significant ($p=.051$), this indicates that there could be an oral output difference between planned and unplanned conditions. That is, as the comparison of mean scores in Table 7

shows, subordinate clauses in unfamiliar conditions were induced more when there was planning time.

TABLE 7
Mean Scores of Subordinate Clauses with and without Planning

	F/S	F/J	UF/S	UF/J
With planning	0.07	0.06	0.16	0.19
Without planning	0.06	0.04	0.05	0.10

Note: F=Familiar, UF=Unfamiliar, S=Sequenced, J=Jumbled

In addition to this, with planning, students (5 out of 7) were able to manage more subject ellipsis, more correct referents and greater use of subordinate clauses, as the following examples show.

Example 1: in planning, unfamiliar, sequenced condition

And he go is town

And it's the place (place) the drink (drink)(drink)(drink) wine with high levels man.

And after he go town no (no) more person.

1a. So still in the peoples town can't (can't) believe king.

2a. So after < king / people > can't believe the king king run away the town < in / on > the horse.

3a. So and he [*find a real / find real*] king and < return / give > is his king's crown shoes purse.

In example 1, 'it' in line 2 refers to the 'town' of the previous sentence. The subordinating conjunction 'after' was used in lines 3 and 2a. In line 3a, 'he' refers to 'the king' of the previous sentence.

Example 2: in planning, unfamiliar, sequenced condition

The king took a walk alone.

A strange person stand under tree.

The king was slept by the him.

[He was / he talked] (he talked) that I am (I am) a king to many people.

1a. The strange person take a horse at the night.

2a. <He / the strange person > go to the king and then talk about [*he was / he did*]

3a. if he give a shoes <by/to> king

4a. he give a shoes to king

5a. and that he dreams about [he was a king/ he king].

As for the second example, 'him' in line 3 refers to the strange person in line 2. 'He' in line 4 refers to 'the king' in the previous sentence. In line 3a, an adverbial clause with 'if' was used. The participant sometimes repeated the same subject, nevertheless was able to use the pronoun 'he' in lines 3a, 4a, and 5a.

On the other hand, without planning, most of the students in unplanned and unfamiliar conditions (six out of seven) made 'less frequent use of subject ellipsis' than those in the planned and unfamiliar conditions, as the following examples from transcripts show.

Example 1: in unplanned, unfamiliar, sequenced condition

Ugly man drink drinks another people.

Ugly man rides horse.

Ugly man say people.

Ugly man clothes off.

The king clothes on.

Ugly man is < sleep / dreams >

Example 2: in unplanned, unfamiliar, sequenced condition

Strange angel [*talked one man / talk is one man*].

Strange angel on the horse is (is) dark.

A strange angel is king.

King give (give) king shoes.

A strange angel is [*on it / on the king clothes*] (king clothes).

Strange angel is thinking.

Strange angel take water (water) (water)

Example 3: in unplanned, unfamiliar, sequenced condition

The monster king drink drinking with people.

The monster king ride horse in the night.

The monster talking two people.

Monster and king talking about shoes.

The monster dreams the king.

As the above examples demonstrate, most of the sequenced lines comprise simple clauses with a subject and verb, that is, when the speakers produce speech at a normal speed under pressure of time, they use a simplified structure, as mentioned by Bygate (1987). In Wendel's study (1997), participants with no planning generally produced simple clauses with less frequent use of subject ellipsis. Foster-Cohen (1999) also mentions that beginners may produce short sentences that include a subject in a coordinate clause,

whereas more advanced learners may omit the subject in such clauses.

Even in the same unfamiliar story conditions, students' sentence structures were different in regard to planning time. Although the results of MANOVA for a planning variable were not significant, planning time seems to be useful for the coherence of sentences and organizing the interrelationships between referents and events on a conceptual level.

VI. CONCLUSIONS AND SUGGESTIONS

Although many researchers have investigated the importance of three task processing conditions (planning time, story familiarity, and sequencing of pictures), there were not enough studies which carefully considered these factors in speaking. The present study has, therefore, investigated the effects of three task-processing conditions on students' oral narrative output. Story familiarity (familiar and unfamiliar) seemed to be an influential variable on subordinate clauses, ones of complexity measures. This is because subordinate clauses were induced more in unfamiliar conditions, and different types of subordinate clause markers were used in familiar (more use of 'because') and unfamiliar conditions (more use of 'that'). Next, the planning variable (with and without planning time) also seemed to be useful for the use of subject ellipsis, though statistically not significant. This is because more subordinate clauses in unfamiliar conditions were produced especially when there was planning. Students in planned conditions also managed more subject ellipsis than those in unplanned conditions, though not significantly.

Taking into account the summary of the study, the research into the effects of task-processing factors demonstrated how these could affect spoken performance of learners, and suggests pedagogic implications for teachers and material designers. The impacts of story familiarity imply that the content of the tasks and the materials play an important role in the students' language performance. Teachers need to consider a wide range of familiar and unfamiliar content, and allocate them according to the needs and proficiency of their students. As already explained, unfamiliar content, which is more difficult for beginners, seems to relate to higher complexity. Teachers may attempt to use more difficult and unfamiliar content to induce more subordinate clauses. Although the subjects of the study were beginners, it can be assumed that unfamiliar content would have a similar influence on the complex language of students with higher language proficiency, which, in fact, needs to be further researched. As different types of subordinate clause markers were used in different conditions, this also suggests that teachers could employ different task-processing conditions depending on the aim of

lessons.

If the teachers use an unfamiliar story, they could give a planning time before carrying out the task to enable the beginners to prepare the content. Planning time could be a useful pedagogic pre-task to enhance more coherent language among the students, and a useful strategy to encourage EFL learners to participate in the class. More subject ellipsis in the planning conditions supports the fact that the presence of planning time may have reduced the cognitive processing load and communicative pressure of the task. Teachers might also consider a planning activity as homework before the lesson by explaining the topic or giving the material for the task in advance.

This study recommends three things for future research, as follows: 1) language proficiency; 2) task type; and 3) other task-processing factors should be considered. It should be borne in mind, however, that, since the present study examines the influences of task-processing conditions for beginners in speaking, the results cannot be generalized for students with a different degree of language proficiency, so this therefore needs to be further researched. Secondly, the present study used different task-processing conditions only in a narrative task, so the effects of task-processing conditions in other task types need to be further researched. Finally, the present study has investigated three task-processing factors but as there might be others, they also need more investigation.

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APPENDIX

The Reliability Results

1. Inter-rater Reliability Analysis – Scale (alpha)

1) Fluency measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Repetitions	10.0	2	0.9991
Replacements	10.0	2	1.0000
Revisions	10.0	2	1.0000

2) Complexity measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Subordinate clauses	10.0	2	0.9449

3) Accuracy measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Num. of error-free t-units	10.0	2	0.9449
Num. of t-units w/ up to 1 error	10.0	2	0.9449
Noun plural –s errors	10.0	2	0.9910
Preposition errors	10.0	2	0.9662
Word order errors	10.0	2	0.9667

2. Intra-rater Reliability Analysis – Scale (alpha)

1) Fluency measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Number of pauses	56.0	4	0.9872
Pause length	56.0	4	0.9999
Revisions	56.0	3	0.9926
Replacements	56.0	3	0.9969
Repetitions	56.0	3	0.9991

2) Complexity measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Subordinate clauses	56.0	4	0.9986
Gross num. of words	56.0	4	1.0000
Net num. of words	56.0	3	1.0000
Num. of words w/o repetitions	56.0	3	1.0000

3) Accuracy measures

Reliability coefficients for different measures	Number of cases	Number of items	Alpha
Num. of error-free t-units	56.0	3	0.9990
Num. of t-units w/ up to 1 error	56.0	3	0.9976
Num. of t-units w/ up to 2 errors	56.0	3	0.9980
Num. of preposition errors	56.0	3	0.9968
Num. of verb errors	56.0	4	0.9943
Num. of noun plural –s errors	56.0	3	0.9988
Num. of word order errors	56.0	3	0.9948
Num. of total specific errors	56.0	3	0.9950

Applicable levels: secondary, tertiary, and adult education

Key words: task-processing conditions, an oral narrative task, story familiarity, planning

Jeong-Weon Song
Dept. of English Language Education
College of Education
Han-Yang University
17, Hangdang-Dong, Sungdong-Gu
Seoul 133-791, Korea
Tel: (02) 2220-1140/ C.P.: 018-280-9207
Email: edujws@hotmail.com

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