

Task Complexity and Writing Prompts and Performance in EFL High School Students' Narrative Writing

Myung-Hye Huh*

(Korea University)

Jongbong Lee

(Michigan State University)

Huh, Myung-Hye, & Lee, Jongbong. (2018). Task complexity and writing prompts and performance in EFL high school students' narrative writing. *English Teaching*, 73(4), 55-72.

We explored whether task complexity, operationalized by the two types of writing prompts, affects EFL high school students' narrative writing in terms of syntactic complexity, lexical complexity, fluency, cohesion, and text quality. 32 intermediate EFL students who were randomly assigned to two prompt groups completed a written narrative task based on a series of sixteen pictures. Task complexity was operationalized as a bare versus frame prompt. The results indicate that the task complexity had an impact on lexical sophistication measures. The students in the framed prompt group were able to include more sophisticated vocabulary in their narratives than those in the bare prompt group. The findings are discussed in terms of the Limited Attentional Capacity Model in that the students in the bare prompt group might have prioritized meaning rather than form in order to ease attentional overload. The findings of our study could assist teachers in selecting writing prompts that have the potential to elicit the targeted features of writing performance.

Key words: task complexity, writing prompt, writing performance, narrative writing, EFL high school student

1. INTRODUCTION

Over the past 40 years, second language (L2) teaching has become characterized by the spirit of Communicative Language Teaching (CLT) (Celce-Murcia, Dörnyei, & Thurrell,

* Myung-Hye Huh: First author; Jongbong Lee: Corresponding author

1997). One of the most prominent perspectives within the CLT framework is task-based language teaching (TBLT) (Brown & Lee, 2015; Kormos, 2014). TBLT is at the very heart of CLT by placing the use of tasks at the core of language teaching (Bygate, Skehan, & Swain, 2001; Ellis, 2003; Samuda & Bygate, 2008). In a TBLT environment, speaking is generally treated as the default form of language learning (Manchón & Roca de Larios, 2011). Nevertheless, second language writing has been part of TBLT-oriented educational practice and research (Byrnes & Manchón, 2014).

In applying the TBLT to L2 writing research, a number of researchers continue examining two competing hypotheses regarding the effect of task complexity on written production: (1) the Limited Attentional Capacity Model (Skehan, 1998; Skehan & Foster, 2001) and (2) the Cognition Hypothesis (Robinson, 2001, 2011). Specifically, Skehan's (1998) limited capacity hypothesis provided a psycholinguistic rationale for how learners' limited processing capacity would affect the complexity, accuracy, and fluency (CAF) of performance. As the name suggests, some aspects of performance will be attended to while others will not, hence its common moniker, the Trade-off Hypothesis.

By contrast, Robinson's Cognition Hypothesis (2001) favors a multiple-resources view of processing where learners have the capacity to attend to various aspects of language and language processing simultaneously. Robinson (2001) argues that task complexity factors can either be resource-directing or resource-dispersing. The number of elements involved in a task, the amount of contextual support available, and the reasoning demand needed from the speaker are all resource-directing. In contrast, amount of planning time available, task structure, whether the task makes single or dual demands, and whether the learner has some prior knowledge are resource-dispersing factors. Robinson (2001) proposes that any of these factors can be manipulated to increase or decrease the cognitive demand of a task. Manipulation of cognitive task complexity along these factors is thought to promote L2 performance (Johnson, 2017).

The most common writing tasks for EFL students at the elementary and intermediate levels are narrative. Concerning the narrative task, the writing prompt itself plays an important role in determining the success of writing experience (Scott, 1996). According to Kroll and Reid (1994), prompts actually occur in several different formats. A *bare prompt* is simple and direct and states the entire task. A *framed prompt* presents a situation or set of circumstance. A *reading-based prompt* provides a text of varying length, and the students are asked to summarize, explain, or interpret the text. Writing prompt aligns with the definition of task used in the TBLT literature as a 'workplan' that involves some kind of instructions for the outcome (Ellis, 2009).

In Vygotskian theory, Frawley and Lantolf (1985) expect the speaker for whom the task is difficult to begin the discourse by externalizing the macrostructure in order to achieve self-regulation. Macrostructure refers to "the presence of extra discursive information as

speakers attempt to externalize their inner knowledge of discourse” (Roebuck, 1998, p. 28). In the context of a difficult task, externalization is one way of displaying a speaker’s knowledge so that it can be manipulated more easily. Such externalization is exactly what happens in the following opening statement by an EFL student in the picture narration:

Chull-su, a 26-yr-old salesman, got fired yesterday ago. Unfortunately, he didn't get any money for his three-month-work. He decided to kill himself and thought "I'm going to have whatever I want before I die." Right off the bat, he drove a fastfood restaurant. He ordered a pack of French fries and coke as well as big cheese burgers.¹

The student begins the discourse by identifying the participant in the narrative, who is literally named by him. What he is doing, in labelling the character, is making explicit the fact that there is a participant in the discourse. He is understandably externalizing a fundamental feature of discourse macrostructure. The opening statement is an “attempts to control the task, not attempts to relate information” (Frawley & Lantolf, 1985, p. 26). In this way, a difficult task may influence the nature of language production. For that matter, we tend to think that the types of writing prompts would contribute to task difficulty and affect students’ ability to write. Turning to TBLT research itself, cognitive and linguistic complexity may be best manipulated through the formats of writing prompt.

In this light, it would be intriguing to explore the extent to which cognitive task complexity, operationalized as different format of writing prompts, would impact on the writing performance. We, therefore, investigate the effects of cognitive task complexity, manipulated through bare and framed prompts, on performance in narrative writing task of high school EFL students. We intend to answer the question of how different types of writing prompts that make different cognitive demands on EFL students affect the linguistic features of output. The findings of our study could assist teachers in selecting writing prompts that have the potential to elicit the targeted features of writing performance.

2. COGNITIVE TASK COMPLEXITY AND WRITING PROMPTS

The notion of task has drawn on various theoretical perspectives. Of special relevance to our study is a psycholinguistic perspective, which focuses on “tasks as engaging students in certain types of mental processing that lead them to language use and, ultimately,

¹ Source: Student text originally published in Huh (2008).

language acquisition” (Ruiz-Funes, 2014, p. 166). Within this view, two influential models of task complexity guide our investigation: (1) Skehan and Foster’s Limited Attentional Capacity Model (Skehan, 1998; Skehan & Foster, 2001) and (2) Robinson’s Cognition Hypothesis (Robinson, 2001). These models make contrasting explanations and claims as to the effect of increasing task complexity along various dimensions on L2 performance (Kormos, 2011).

Skehan and Foster’s Limited Attentional Capacity Model views attention and working memory as limited in capacity. Therefore, they assume that more demanding tasks require more attentional resources from learners, thus resulting in trade-off effects among the complexity, accuracy, and fluency of performance (Skehan & Foster, 1999, 2001). As noted by Byrnes (2014), “the processing capacities expended on one performance characteristic would not be available in the other” (p. 84). Skehan and Foster also claim that as task complexity increases, learners will focus their attention on the content of the message over language form, due to their limited attentional resources.

Robinson’s (2001) Cognition Hypothesis presents a multiple-resources view of processing where learners have the capacity to attend to various aspects of language and language processing simultaneously. As a consequence, in Robinson’s view, attentional resources are more flexible than the Limited Attentional Capacity Model suggests, and increases in cognitive task complexity could lead to dual increases in accurate and complex language production. The notion of task complexity in this hypothesis refers to task characteristics that can be manipulated to affect the cognitive demands in attention, memory, reasoning, or other mental processing demands placed on the language learners when they perform a task.

To operationalize the Cognition Hypothesis, Robinson (2011) then developed the Triadic Componential Framework that details the means by which complexity might be manipulated between tasks and across syllabi. Within the Triadic Componential Framework, a distinction is made between *resource-directing* and *resource-dispersing* elements. The *resource-directing* dimension makes conceptual demands such as reference to past or present events, few or many elements, and more or fewer reasoning demands. Task complexity along the *resource-directing* dimension results in increased accuracy and complexity as learners have to devote their attentional resources to the demands of the task. At the same time, fluency decreases as students have to process language.

On the other hand, “the *resource-dispersing* dimension makes procedural demands on the learner” (Ruiz-Funes, 2014, p. 167). This dimension includes planning time, prior knowledge provided in the task, and the number of tasks to complete. Task complexity along the *resource-dispersing* dimension will result in decreased fluency, accuracy, and complexity levels in oral production as it will limit the attentional and working memory of learners. When increased in complexity, *resource-dispersing* elements do not direct

learners' attention to the language required to meet the demands of a complex task. Instead, attention is dispersed, making the completion of a task more difficult. For example, less planning time is considered a *resource-dispersing* element.

A large body of research put forward by the Limited Attentional Capacity Model and the Cognition Hypothesis received mixed support (for a recent review see Johnson, 2017). Although such studies analyzed different aspects of task complexity and used different measures to assess the linguistic quality of writing performance, and thus their findings are often contradictory, they seem to suggest that more complex tasks might have beneficial effects on writing quality. For example, the two studies by Kuiken and Vedder (2007, 2008) manipulated resource-directing task demands.

In a first study, manipulating task complexity through the number of task requirements resulted in a significant decrease of errors in the students' written performance. The researchers further note that although task complexity encouraged a lexically more varied text, it did not influence syntactic complexity of the written performance. In a follow-up study, college-level Dutch learners of Italian and French completed two letters that involved different degrees of cognitive complexity in terms of number of requirements and type of decision to be made. Results indicated a decrease of errors and an increase in lexical variation in the more complex task.

Kormos (2011) explored the relationship between task complexity in narration and the linguistic and discourse characteristics of texts produced by EFL students in Hungary and L1 students of English in the UK. They completed two narrative tasks that provided different levels of cognitive complexity in terms of more/less demand for plot conceptualization. The results show that there are significant effects of cognitive task complexity only on the lexical complexity of L2 written production. In a similar study, Frear and Bitchener (2015) found the manipulation of cognitive task complexity to impact only a single feature of syntactic complexity in addition to the lexical complexity of ESL students' letter writing.

In assessing second language writing, researchers have investigated how different types of task affect test scores. In particular, Hamp-Lyons and Mathias (1994) found that in tasks which were judged as more difficult by expert raters, students achieved higher scores than in tasks which were deemed easier. Namely, prompts that were judged to be difficult often produced high scores. However, the researchers found that there was no clear answer in determining the relationship between writing prompt difficulty and student scores (e.g., Jennings et al., 1999; Spaan, 1993). Kroll and Reid (1994) stress the importance of designing writing prompts that allow students to demonstrate their ability to write rather than to decipher a writing prompt.

According to Ellis (2003), cognitive task complexity can comprise the interaction of two elements manipulated in the design of pedagogical tasks. These elements are types of

information and amounts of information. We will assume here that task complexity is closely bound up with the format of writing prompts. Accordingly, we manipulate cognitive task complexity by types and amounts of information in writing prompts, that is, two types of prompts (a bare prompt; a framed prompt). On that basis, we believe that different formats of prompts to write on would affect the cognitive burden or mental effort students experience during writing by placing varying demands on students' cognitive resources.

In our study, the effects of modifying these elements are analyzed using Skehan's Limited Attentional Capacity Model and Robinson's Cognition Hypothesis. Although both frameworks were conceptualized primarily for oral tasks (Manchón, 2014; Tavakoli, 2014), we use them with the assumption that they can provide the theoretical questions for exploring the writing prompt complexity-writing performance relationship in EFL narrative writing. As a starting point, it is necessary to look at the key constructs involved in the both models. A principal independent variable in these models is cognitive task demands, which Skehan (1998) terms as cognitive complexity and Robinson (2001) as task complexity.

Skehan (2009) posits that task variables may impose more or less pressure at the conceptualization and/or formulation stages of the speech production process. And the outcomes of task performance are influenced by the extent to which these stages can handle the cognitive demands imposed by the task on working memory or attentional capacity. Robinson (2011) claims that making tasks more cognitively complex will "not only have predictable impact on speech production processes but also allocation of attentional and memory resources to input, and retention of that input" (Révész, 2014, p. 88). In both models, a key dependent variable is the complexity, accuracy, and fluency of linguistic performance. In light of the literature outlined above, our study addressed the following research questions:

1. What are the effects of task complexity, operationalized by the two types of prompts, on quality of EFL high school students' narrative writing?
2. How do the two different prompts affect the EFL high school students' written narrative tasks in terms of syntactic and lexical complexity, fluency and cohesion measures?

3. THE STUDY

3.1. Participants

The participants in this study were 32 high school students, who were Korean native

speakers learning English as a foreign language in Foreign Language High School in Seoul. Their ages were between 16 and 17 years. They were all females. At the time of data collection for our study, they had just begun their second year of 3-year academic study. The teacher rated their level of English proficiency as above intermediate, which was also supported by the results of the test that was administered at the end of their first year. In order to make sure that the two groups are similar in terms of proficiency, their final grades for English were compared. Table 1 demonstrates the descriptive statistics of the two group's scores. No statistical differences in proficiency were found between the groups. The two groups appear to be similar in terms of English proficiency.

TABLE 1
Mean Scores of Final Grade by Group

Task Conditions	Bare Prompt ($N = 16$)		Framed Prompt ($N = 16$)	
	$M(SD)$	95% CI	$M(SD)$	95% CI
Scores	91.46 (9.47)	86.40, 96.50	91.30 (9.80)	86.08, 96.50

3.2. Task and Procedure

Students constructed a story based on a series of sixteen pictures. The pictures were adopted from a tale of a peddler, *Caps for Sale*. The pictures serve as writing prompt. Students were provided with writing tasks that had cognitive task complexity manipulated in the writing prompt, in other words, the format of writing prompts would impose different information processing demands on the students. Versions A and B of the task (Task A and Task B) were randomly assigned to the students so that effects may be attributed to task complexity alone. As for Task A, only pictures were given, perhaps best belonged to what Kroll and Reid (1994) call a bare prompt. For Task B, the opening (*Once there was a peddler who sold caps.*) and closing statements (*And slowly, slowly, he walked back to town calling, "Caps! Caps for sale! Fifty cents a cap!"*) were presented with pictures in the so-called framed prompt.

The bare prompt was actually quite demanding since students wrote a story based on only pictures. In this sense, Task A was consequently considered to place a relatively high cognitive load on the students in terms of the ways in which they begin their discourse. Based on Skehan and Foster's (1999, 2001) model, Task A probably required more on-line processing; thus, it is more complex. On the basis of Robinson's (2001) triadic componential framework of task characteristics, the increase in complexity was brought by *resource-dispersing* variable, that is, by giving or taking away *frames*. The tasks represented two levels of presumed task complexity along the \pm *frames* variable in the prompt. On that basis, Task B was classified as a cognitively less complex task because the story unfolds through the frames. The students were given 30 minutes to finish their writing but were not

allowed to use dictionaries or any other materials.

3.3. Analyses

Fluency, lexical complexity, structural complexity, cohesion and text quality measures were used to find task effects on the EFL students' written narratives. Fluency was measured by the number of words produced in 30 minutes. For lexical complexity, Coh-metrix (McNamara et al., 2014) and Range program (Heatley et al., 2002) were utilized. The D index, lexical diversity, can consider the influence of text length. As a mathematically probabilistic model, D index can measure lexical diversity reliably. The lexical sophistication was assessed with the Range program, which compares the percentage of the words in the students' narratives to the most frequent 1000 words and 2000 words of English.

For lexical density, the Coh-metrix was used to find noun phrase density in the narratives. Syntactic complexity was measured by the L2 syntactic complexity analyzer (Lu, 2010). Of 14 measures obtained from the analyzer, mean length of clause, clauses per sentence, dependent clauses per clause, coordinate phrases per clause, and complex nominal per clause were included in the analysis because some measures in the same category (e.g., mean length of T-unit and mean length of sentence) in the analyzer are highly correlated. Cohesion indices were calculated with the help of Coh-metrix.

Of the different measures of cohesion, referential cohesion and conceptual cohesion measures were obtained. For referential cohesion, Coh-metrix measures content word overlap for all sentences. To measure conceptual cohesion, Coh-metrix shows Latent Semantic Analysis (LSA), a statistical method of calculating semantic association between sentences. Conceptual cohesion is measured in terms of how all sentences are related conceptually. Coh-metrix calculates this semantic overlap between all sentences. Table 2 summarizes the task performance measures used in our study.

For the quality of students' writing, all the writings were scored by two experienced, trained raters who are native English-speaking teachers. The holistic ratings were performed by them using a five-point scale, with 1= weak and 5 = strong. Independent samples t-tests were utilized to compare the students' narratives in terms of linguistic complexity, fluency, cohesion, and text quality between the two task conditions. The alpha level was set as .05. An effect size calculator (Wilson, 2001) was also utilized to find effect sizes, Cohen's *d* values (Cohen, 1988). Cohen's *d* is considered to be the most appropriate effect size estimate. The *d* values larger than .40, .70, and 1.00 were considered as small, medium, and large (Plonsky & Oswald, 2014).

TABLE 2

Task Performance Measures					
Lexical Diversity	Lexical Sophistication	Lexical Density	Structural Complexity	Cohesion	Fluency
D	Lexical range	Noun phrase density	Mean length of clause (MLC) Clauses per sentence (C/S) Dependent clauses per clause (DC/C) Coordinate phrases per clause (CP/C) Complex nominal per clause (CN/C)	Content word overlap between all sentences Semantic overlap between all sentences	Total number of words in 30 minutes

4. RESULTS AND DISCUSSION

The first question this study aimed to answer was the effects of task complexity, operationalized by the two types of prompts, on quality of EFL high school students' narrative writing. Table 3 shows the comparison of writing quality between two prompt groups. With respect to our first research question, writing quality is similar across the two groups. The means of two groups are very similar, and 95% confidence intervals for the means of two groups overlapped. Once again, an independent samples *t*-test demonstrates that the differences between the two groups are not statistically significant ($t(30) = -.98, p = .33$), suggesting that the students in both groups revealed similar writing quality, regardless of the type of prompts.

TABLE 3
Comparison of the Writing Quality between Two Prompt Groups

	Bare Prompt (<i>N</i> = 16)			Framed Prompt (<i>N</i> = 16)			Comparison (<i>t</i> -test)			
	<i>M</i>	<i>SD</i>	95% CI	<i>M</i>	<i>SD</i>	95% CI	<i>t</i>	<i>p</i>	95% CI	<i>d</i>
Writing Quality										
Holistic Rating	3.63	.67	3.27, 3.98	3.38	.76	2.97, 3.78	-.98	.33	-.77, .27	.34

The second research question was to investigate the extent to which two different prompts affect the EFL high school students' written narratives in terms of syntactic complexity, lexical complexity, cohesion, and fluency. No statistical differences were found between groups with regard to syntactic complexity, lexical diversity, lexical density,

cohesion, and fluency. The descriptive statistics presents similar trends in fluency, syntactic complexity, lexical diversity, lexical density, and cohesion (see Table 4). The means of two groups are similar, and 95% confidence intervals for the means of two groups overlapped. Table 4 further indicates that the students in both groups produced a similar amount of words in 30 minutes and used a similar amount of cohesive devices and structures in their narratives.

However, the results revealed only significant differences between the two groups in terms of lexical sophistication. The students in the bare prompt group used more words from the first 1000 word range (the most frequent 1000 words of English) than the students in the framed prompt group ($t(30) = 2.71, p = .01$). Compared to the students in the framed prompt, the students in the bare prompt seemed to use more frequent vocabulary in their narratives. The Cohen's d value ($d = .95$) shows approximately a large effect size, which indicates the high statistical power.

The students in the framed prompt group included more words from the second 1000 most frequent words than those in the bare prompt group with significance ($t(30) = -2.29, p = .03$). On average, 15.03 percentage of their narrative consists of vocabulary from the wordlist 2 range (the 2nd 1000 most frequent words of English) ($t(30) = -2.36, p = .03$). Different from the students in the bare prompt group, the students in the framed prompt group included more words from the less frequent vocabulary range. The effect sizes from wordlist 2 token ($d = .80$) and wordlist 2 token percent ($d = .83$) show that the statistical powers are in the medium range.

Our study considered two research questions that aimed to identify the effects of task complexity along the different formats of writing prompt on EFL high school students' writing performance. With respect to our first research question, we found that the students in both groups demonstrated similar text quality, measured by holistic ratings. Possibly, the provision of \pm frames availability may not be large enough to make differences in two groups' text quality. Hence, it might be argued that, if the writing prompts are made for increasing task complexity with the \pm ideas or \pm macro-structures in Ong and Zhang (2010), the students might show different text quality as they respond to different prompts.

With respect to our second research question, we found that the different formats of writing prompt affected one measure of linguistic features: lexical sophistication. No other measures were affected by an increase in task complexity. In other words, the students' writing score, syntactic complexity, lexical diversity, lexical density, and fluency were not affected by manipulation of cognitive task complexity. Indeed, our data on writing performance measures do not support the idea that increased task complexity manipulated through the factor \pm frames leads to more focused attention to language form by the EFL high school students. Consequently, the findings are not in line with Robinson's prediction.

TABLE 4
Descriptive Statistics and t-test Results for all Measures in the Two Prompt Groups

Measures	Bare Prompt (N = 16)		Framed Prompt (N = 16)		Comparison (t-test)				
	M	SD	95% CI	M	SD	95% CI	t	p	d
Fluency									
Total words	220	44.21	196.44, 243.56	218.69	62.76	185.25, 252.13	.07	.95	-.37, .88, 40.51
Lexical Diversity									
D	58.3	16.4	49.55, 67.03	57.52	10.85	51.74, 63.3	.16	.88	-.92, 6, 10.81
Lexical Sophistication									
Wordlist 1 token	185	39.49	163.96, 206.04	177.69	52.69	149.61, 205.76	.44	.66	-.26, 3, 40.93
Wordlist 1 token percent	83.9	3.42	82.1, 84.1	81.08	2.38	79.8, 82.34	2.71	.01*	.70, 4, 96
Wordlist 2 token	26.94	4.88	24.34, 29.54	31.75	6.84	28.11, 35.39	-2.29	.03*	-.9, 10, -.52
Wordlist 2 token percent	12.58	3.06	10.95, 14.21	15.03	2.79	13.53, 16.52	-2.36	.03*	-.4, 5, 6, -.33
Lexical Density									
Noun phrase density	356.98	26.8	342.7, 371.25	371.62	25.79	357.88, 385.35	-1.57	.13	-.33, 6, 3, 4, 34
Syntactic Complexity									
MLC	6.99	.88	6.52, 7.46	6.58	1.06	6.01, 7.15	1.18	.25	-.30, 1, 11
C/S	1.25	.22	1.12, 1.36	1.26	.13	1.19, 1.33	-.21	.84	-.01, .06
DC/C	.16	.06	.13, .19	.19	.07	.15, .23	-1.20	.24	-.08, .02
CP/C	.11	.07	.07, .15	.08	.05	.06, .11	1.03	.31	.02, -.03
CN/C	.42	.17	.33, .51	.41	.15	.33, .49	.21	.83	.06, -.10
Cohesion									
Content word overlap	.11	.04	.09, .14	.10	.03	.09, .11	1.04	.31	-.01, .04
Semantic word overlap	.17	.07	.13, .20	.12	.08	.08, .16	1.77	.09	-.01, .10

Note: Token percent = Token percentage of total words in a text. *p < .05

In comparing the + *frames* and – *frames* task, the students in the + frames group (a framed prompt) were able to use more sophisticated vocabulary than those in the – frames group (a bare prompt). The students without *frames* depended on “fast real-time access to existing interlanguage resources” (Robinson, 2011, p. 17) such as frequent vocabulary rather than extending discourse with sophisticated vocabulary. In the cognitively less complex + *frames* task, students displayed significantly greater lexical sophistication. This might indicate that in the cognitively less complex, task students had more resources at hand that they could direct their attention to using sophisticated vocabulary (cf. Kormos, 2011).

Typically, generating ideas is the first step in writing a narrative. Deciding what to say about a topic is often more difficult for students than determining how to say it (Scott, 1996). The students in bare prompt group handled such demands of producing opening statements. These demands created cognitive constraints, which refers to the demands placed on memory or attention. In order to juggle converging constraints and to reduce cognitive burden, these students may use the strategy of using the most frequent vocabulary to construct their discourse. Indeed, they might have prioritized meaning rather than form when attentional overload. This might lead to trade-offs in production similar to predictions made by the Limited Attentional Capacity Model (Skehan, 1998; Skehan & Foster, 2001).

The question arises, then, why our study found such minor effects of cognitive task complexity on task performance. We would have several ways to explain the findings. In our study, task complexity was operationalized through the ± *frames*. We singled out the factor ± *frames*, and it was manipulated based on the different formats of writing prompt. Perhaps the ± *frames* variables were not high enough to trigger different outputs as proposed by Robinson’s Triadic Componential Framework. Another factor to consider is that task performance may be inextricably linked with the characteristics of the picture narrative task.

Since the two narrative tasks provided the students with similar opportunity to display the linguistic resources they possess, the learners may focus on constructing the storyline based on the pictures instead of restructuring language and using different kinds of vocabulary. Thus, the students in the two groups may produce similar amount of language and use similar structures in their narrative. This observation seems to be similar to the results of Ellis and Yuan (2004), who used picture narrative tasks to find planning effect in their tasks. They did not find a significant difference in syntactic complexity and lexical variety between planning, online planning, and no planning tasks. The learners in their study showed similar linguistic complexity, regardless of the task conditions. In this regard, “task properties of narrative writing have a significant impact on the nature of performance” (Skehan et al., 1998, p. 245).

Another explanation is that while narrative tasks can be valuable for developing communicative language skills, it does not necessarily involve complex cognitive functioning (Scott, 1996). In discussing the cognitive processes involved in the different modes of writing, Schultz (1991) has advanced a similar argument. In Schultz's (1991) terms, "narrative writing involves primarily linear cognitive processing, whereas argumentative writing draws on more complex, higher-level cognitive processes" (p. 981). In this way, "producing the narrative mode presents writers with neither major organizational problems, nor with any requirement to use sophisticated syntax and vocabulary...That is, cognitively simpler task actually elicit simpler language" (Schultz, 1991, p. 981). Overall, the factor \pm *frames* was overruled by the inherent characteristics of narrative mode itself.

It is not possible to make a straightforward comparison between the present findings and previous studies because of the different variables used in previous investigations. Still, the results of our study echo those of Kormos's (2011) study, which examined into the effects of task complexity on narrative writing performance. She found that the narrative task with content support elicited the L2 learners to use more complex vocabulary than the narrative task without content support. Although both the more complex and the less complex tasks equally provided the learners with opportunities to display their linguistic knowledge, the less complex task promoted the use of abstract vocabulary. She concluded that, with the more complex task, learners appeared to have fewer attentional resources available to use more abstract vocabulary. As such, the results from our study partially concur with the result from Kormos's (2011) research.

5. CONCLUSION

Our study investigates task effects on written narratives by manipulating prompts. The results indicate that the EFL students' writing is affected by prompts; in particular, the variable of the prompt exerted an impact on lexical sophistication measures. The findings concerning the higher variety and range of words in the framed prompt group might be explained by reference to the availability of attentional resources (Skehan, 1998; Skehan & Foster, 2001). This might have helped EFL students retrieve more sophisticated vocabulary from their memory (e.g., Kormos, 2011; Macaro, 2014), not repeating words in close proximity.

In the bare prompt group, having students generate and inscribe the text without *frames* could make them rely on the most frequent vocabulary of English as they focus exclusively on constructing the story. The effects of trade-offs on writing complexity are the production of less complex language as a way of expressing meaning when attention limits

are reached. On the basis of these results, Skehan's (1998) predictions are convincing. It is also possible to assume that writing prompt complexity is a task characteristic that affects EFL writing performance. In our study, however, only narrative task was used. Therefore, further research with different discourse modes (e.g., persuasion) might be needed to corroborate the findings of our study, and replicate results.

As for task complexity, what may be an easy task for one student may be a difficult task for another (Koda, 1993). The difficulty of a writing task is related to other variables, such as task interpretation of individual students (Ruiz-Funes, 2015). By extension, writing prompt difficulty would inevitably be influenced by individual differences. Therefore, another avenue of further research to pursue relates to how the students themselves view the difficulty of particular writing prompts. Further, qualitative analyses of students' perception on prompt difficulty could provide more insight into the degree of difficulty students experience depending on their affective attributes. Such analyses "capture how task characteristics and learner factors together contribute to the extent of cognitive effort experienced by learners" (Révész, 2014, p. 90).

Again, the choice of a particular picture story certainly limits the generalizability of our findings as it plays a role in EFL high school students' choice of words. Despite the limitations, the results of our study hold significant implications for writing prompt design in a task-based writing. In our study, the framed prompt provided opportunities for students to stretch their lexical resources. This would suggest that teachers should be aware of the importance of designing writing prompts that create a 'linguistic scaffolding' (Koda, 1993) for a given task. Additionally, our findings concerning the effects of different writing prompt on task performance may contribute to a renewed understanding of Korean EFL high school students' choice of words in their written narrative.

REFERENCES

- Brown, H. D., & Lee, H. (2015). *Teaching by principles: An interactive approach to language pedagogy* (4th ed.). White Plains, NY: Pearson Education.
- Bygate, M., Skehan, P., & Swain, M. (2001). Introduction. In M. Bygate, P. Skehan, & M. Swain, M. (Eds.). *Researching pedagogic tasks: Second language learning, teaching, and testing*. (pp. 1-20). London, UK: Longman.
- Byrnes, H. (2014). Task-based language learning - Insights from and for L2 writing: An introduction. In H. Byrnes & R. M. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 1-23). Amsterdam: John Benjamins.
- Byrnes, H., & Manchón, R. M. (2014). Theorizing language development at the intersection of 'task' and L2 writing: Reconsidering complexity. In H. Byrnes & R.

- M. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 79-103). Amsterdam: John Benjamins.
- Celce-Murcia, M., Dörnyei, Z., & Thurrell, S. (1997). Direct approaches in L2 instruction: A turning point in communicative language teaching? *TESOL Quarterly*, 31, 141-152.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Ellis, R. (2009). Task-based research and language pedagogy. In K. Van den Branden, M. Bygate, & J. M. Norris (Eds.), *Task-based language teaching: A reader* (pp. 109-129). Amsterdam: John Benjamins.
- Ellis, R., & Yuan, F. (2004). The effects of planning on fluency, complexity, and accuracy in second language narrative writing. *Studies in Second Language Acquisition*, 26, 59-84.
- Frawley, W., & Lantolf, J. P. (1985). Second language discourse: A Vygotskian perspective. *Applied Linguistics*, 6(1), 19-44.
- Frear, M. W., & Bitchener, J. (2015). The effects of cognitive task complexity on writing complexity. *Journal of Second Language Writing*, 30, 45-57.
- Hamp-Lyons, L., & Mathias, S. P. (1994). Examining expert judgments of task difficulty on essay tests. *Journal of Second Language Writing*, 3(1), 49-68.
- Heatley, A., Nation, I. S. P., & Coxhead, A. (2002). RANGE and FREQUENCY programs. Retrieved on July, 3, 2018, from the World Wide Web: <http://www.victoria.ac.nz/lals/resources/range.aspx>.
- Huh, M-H. (2008). The use of private writing in written English narratives. *English Language Literature*, 54(6), 1051-1070.
- Jennings, M., Fox, J., Graves, B., & Shohamy, E. (1999). The test-takers' choice: An investigation of the effect of topic on language test performance. *Language Testing*, 16, 1-20.
- Johnson, M. D. (2017). Cognitive task complexity and L2 written syntactic complexity, accuracy, lexical complexity, and fluency: A research synthesis and meta-analysis. *Journal of Second Language Writing*, 37, 13-38.
- Koda, K. (1993). Task-induced variability in FL composition: Language-specific perspectives. *Foreign Language Annals*, 26(3), 332-346.
- Kormos, J. (2011). Task complexity and linguistic and discourse features in narrative writing performance. *Journal of Second Language Writing*, 20, 148-161.
- Kormos, J. (2014). Differences across modalities of performance: An investigation of linguistic and discourse complexity in narrative tasks. In H. Byrnes & R. M.

- Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 193-216). Amsterdam: John Benjamins.
- Kroll, B., & Reid, J. (1994). Guidelines for designing writing prompts: Clarifications, caveats, and cautions. *Journal of Second Language Writing*, 3(3), 231-255.
- Kuiken, F., & Vedder, I. (2007). Task complexity and measures of linguistic performance in L2 writing. *IRAL*, 45, 261-284.
- Kuiken, F., & Vedder, I. (2008). Cognitive task complexity and written output in Italian and French as a foreign language. *Journal of Second Language Writing*, 17, 48-60.
- Lu, X. (2010). Automatic analysis of syntactic complexity in second language writing. *International Journal of Corpus Linguistics*, 15(4), 474-496.
- Macaro, E. (2014). Reframing task performance: The relationship between tasks, strategic behavior, and linguistic knowledge in writing. In H. Byrnes & R. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 53-77). Amsterdam: John Benjamins.
- Manchón, R. M. (2014). The internal dimension of tasks: The interaction between task factors and learner factors in bringing about learning through writing. In H. Byrnes & R. M. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 27-52). Amsterdam: John Benjamins.
- Manchón, R. M., & Roca de Larios, J. (2011). Writing to learn in FL contexts: Exploring learners' perceptions of the language learning potential of L2 writing. In R. M. Manchón (Ed.), *Learning-to-write and writing-to-learn in an additional language* (pp. 181-207). Amsterdam: John Benjamins Publishing Company.
- McNamara, D. S., Graesser, A. C., McCarthy, P., & Cai, Z. (2014). *Automated evaluation of text and discourse with Coh-Metrix*. Cambridge: Cambridge University Press.
- Ong, J., & Zhang, L. J. (2010). Effects of task complexity on the fluency and lexical complexity in EFL students' argumentative writing. *Journal of Second Language Writing*, 19(4), 218-233.
- Plonsky, L., & Oswald, F. L. (2014). How big is "big"? Interpreting effect sizes in L2 research. *Language Learning*, 64(4), 878-912.
- Révész, A. (2014). Towards a fuller assessment of cognitive models of task-based learning: Investigating task-generated cognitive demands and processes. *Applied Linguistics*, 35, 87-92.
- Robinson, P. (2001). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics*, 22, 27-57.
- Robinson, P. (2011). Second language task complexity, the cognition hypothesis, language learning, and performance. In P. Robinson (Ed.), *Second language task complexity: Researching the cognition hypothesis of language learning and performance* (pp. 3-37). Amsterdam: John Benjamins.

- Roebuck, R. (1998). *Reading and recall in L1 and L2: A sociocultural approach*. Stamford, CT: Ablex Publishing Corporation.
- Ruiz-Funes, M. (2014). Task complexity and linguistic performance in advanced college-level foreign language writing. In H. Byrnes & R. M. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 163-192). Amsterdam: John Benjamins.
- Ruiz-Funes, M. (2015). Exploring the potential of second/foreign language writing for language learning: The effects of task factors and learner variables. *Journal of Second Language Writing*, 28, 1-19.
- Samuda, V., & Bygate, M. (2008). *Tasks in second language learning*. Basingstoke, UK: Palgrave Macmillan.
- Schultz, J. M. (1991). Mapping and cognitive development in the teaching of foreign language writing. *French Review*, 64 (6), 978-988.
- Scott, V. M. (1996). *Rethinking foreign language writing*. Boston: Heinle & Heinle.
- Skehan, P. (1998). *A cognitive approach to language learning*. Oxford: Oxford University Press.
- Skehan, P. (2009). Modelling second language performance: Integrating complexity, accuracy, fluency and lexis. *Applied Linguistics*, 30, 510-532.
- Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning*, 49, 93-120.
- Skehan, P., & Foster, P. (2001). Cognition and tasks. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 183-205). Cambridge: Cambridge University Press.
- Skehan, P., Foster, P., & Mehnert, U. (1998). Assessing and using tasks. In W. A. Renandya & G. M. Jacobs (Eds.), *Learners and language learning* (pp. 227-248). Singapore: SEAMEO Regional Language Centre.
- Spaan, M. (1993). The effect of prompt in essay examinations. In D. Douglas & C. Chapelle (Eds.), *A new decade of language testing research: Selected papers from the twelfth annual language testing research colloquium* (pp. 98-122). Washington, DC: Teachers of English to Speakers of Others.
- Tavakoli, P. (2014). Storyline complexity and syntactic complexity in writing and speaking tasks. In H. Byrnes & R. M. Manchón (Eds.), *Task-based language learning: Insights from and for L2 writing* (pp. 217-236). Philadelphia: John Benjamins.
- Wilson, D. (2001). Practical meta-analysis effect size calculator. Retrieved on July, 3, 2018, from the World Wide Web: <http://www.campbellcollaboration.org/escalc/html/EffectizeCalculator-ome.php>.

Applicable levels: High school, territory, college

Myung-Hye Huh
Professor
Dept. of English Language Education, College of Education
Korea University
145, Anam-ro, Seongbuk-gu, Seoul 136-701, Korea
E-mail: myunghuh@korea.ac.kr

Jongbong Lee
PhD student
Dept. of Second Language Studies
Michigan State University
B-331 Wells Hall, 619 Red Cedar RD, East Lansing, Michigan, USA, 48824.
E-mail: leejongb@msu.edu

Received on September 24, 2018

Reviewed on November 17, 2018

Revised version received on December 5, 2018