

Washback Effect of Grammar Learners' Test Preparation Conditions on English Production and Its Pedagogical Implications*

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[Abstract]

This study aims to suggest a practicable way of promoting L2 grammar for language production for English educators faced with limitations in their pedagogical circumstances. It investigates the washback effect of the learners' test preparation conditions on English sentence production under the same grammar instruction. Two different test preparation conditions (conventional multiple choice vs. production-based test) were administered to evaluate 101 university students' grammar knowledge. The results from a paired *t*-test and ANOVA confirmed that the production-based test preparation has a positive effect on promoting L2 learners' grammar knowledge for language use. In addition, the findings regarding stimuli effect suggest that instead of storing grammar rules as stimuli in the learners' memory system, the production with L2 stimuli was most promoted in the condition of the production-based test preparation. This has significant implications for some Korean L2 learners whose grammar is stored as metalinguistic knowledge separately

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from the L2 system and thus it can be hard to facilitate an effective L2 production.

Key Words: Washback effect, English grammar, Grammar teaching, Production-based test, Grammar test

1. Introduction

Grammar education in Korea has been well established and the Korean English learners spend considerable amount of time learning English grammar. Yet, to the consternation of many English educators, those learners struggle to channel their mental knowledge of grammar into sentence formation and verbal utterances. Many Korean L2 learners can recite grammar rules and L1 translation equivalents of the target L2 words; however, the syntactic and semantic information seem to be stored separately. As Nam (2011) pointed out, the L2 vocabulary is learned mainly through L1 translation equivalents for language reception and the L2 grammar is memorized and stored as metalinguistic knowledge. Due to the lack of tangible nexus between the two major spheres of knowledge, the Korean L2 learners seem to 'assemble' all the information they access from separate storages, sometimes outside their mental lexicon, to produce English sentences.

Korean researchers and English educators have made substantial effort to seek ways to promote grammar knowledge for English production. However, arguments regarding inductive vs. deductive grammar instruction and implicit vs. explicit grammar instruction are still ongoing and the empirical evidence from many studies is contended and lacks consensus. Whilst successful communication as the ultimate goal of the L2 grammar instruction is generally recognized, its classroom

implementation in Korea is yet to materialize due to the limitations that the in-service English educators face such as large class size. Even if the grammar teaching method that promotes communication is attempted in class despite many practical limitations, its successful implementation may be hampered by the students' learning aimed at test preparation. Worse still, the tests that are based on English comprehension may not motivate the learners to produce the desired language. Simply put, beyond the test preparation requirements and basic rote learning, many Korean students would not attempt to take their English language learning to the next level.

Given that grammar learners in Korea are expert test takers for certain format of grammar tests, the relation between the grammar test format and the washback effect should be of importance. With regard to vocabulary learning, Ko (2014) confirmed the washback effect on vocabulary test format. It was found that the learners' production was of higher quality with the knowledge of taking a productive-based test. Considering the washback effect on vocabulary test format, it should come as no surprise the washback effect on grammar test format. Nevertheless, to restore the status quo that still maintains conventional multiple-choice grammar test format the current study can be beneficial in two different ways. First, previous studies have not provided empirical evidence confirming the positive effect of production-driven grammar test preparation on sentence-level production. Empirical evidence of the washback effect may provide grammar instructors with satisfactory reasons for changing their test formats. Second, it provides a practical way to promote L2 production in grammar teaching, taking into consideration the current teaching environments and the limitations of the available teaching methods. That is, grammar instructors who face real classroom challenges in Korea and would consider the communicative grammar teaching to be unworkable in their classes, may thus consider more pragmatic suggestions to be readily applicable to their particular

situation.

Therefore in order to seek practical ways to promote English production in a grammar class in Korea, the study was designed to reflect realistic classroom environments. First, the grammar knowledge in production will be tested in a written form in this study as the implementation of oral tests would not be realistic in a large class. However, the attained knowledge is also expected to be utilized for the learners' subsequent oral communication. Second, learners' L1 (Korean) as a medium of instruction as well as direct explanation of grammar rules will be maintained to reflect the prevalent grammar teaching methods in Korea. Third, the grammar knowledge in production will be examined at a sentence level to assure the instructors' convenience for evaluation.

In addition, various stimuli (L1 meaning on a sentence level, L2 lexical item, contextual clues in L2) will be examined. This will ensure replicating actual English production in real life situations where speaker/writer's intention rather than grammar rules triggers the production as stimuli. This issue may be critical for grammar learners in Korea whose grammar learning by rote is of no use to trigger the grammar knowledge in English production.

2. Literature Review

2.1 Grammatical Competence and Grammar Instruction

Since Canale and Swain (1980)'s theoretical framework and pedagogical implications of communicative competence have shed light on second language learning/teaching, grammatical competence has been fully integrated in communicative competence. As

Canale (1983: 7) defines, it is “the knowledge and skill required to understand and express accurately the literal meaning of utterances”. In order to express meaning accurately, form-function mapping seems essential. As Braidí (1999) points out, however, the acquisition of grammatical forms and their functions has not successfully taken place in SLA. Since grammatical competence requires more than just simple manipulation of declarative rules, the need for the development of association between form and function through practice has been realized (Ellis, 2002). For example, Cowan (2008)’s book ‘The teacher’s grammar of English’ introduces the teaching methods to promote learners’ grammatical competence for language production.

Major concern among researchers and educators in recent years is the issue of inductive vs. deductive grammar instruction. Supporters of the deductive grammar teaching believe that grammar rules should be introduced first so that learners have opportunities to apply them during practice (Erlam, 2003; Robinson, 1996; Seliger, 1975). On the other hand, the inductive approach recognizes the learners’ ability to discover the grammatical system and confirm their hypothesis from comprehensible input (Haight et al., 2007; Sun & Wang, 2003; Vogel et al., 2011). A transition towards the inductive approach becomes more apparent in ESL textbooks. For example, Carter, Hughes, and McCarthy (2000) demonstrate how to implement inductive instruction in their book ‘Exploring grammar in context’. However, the needs for explicit attention to grammar forms in the instruction have continuously been promulgated (e.g., Ellis & Laporte, 1997; Norris & Ortega, 2000; Spada, 1997).

Although opinions and empirical findings regarding the most effective method still seem controversial, the consensus has been reached regarding ‘the language use’ as the ultimate goal of grammar instruction. For example, grammar for the realistic language use has been suggested in the frame of ‘focus on form’ rather than ‘focus

on forms' (Long, 1991; Long & Robinson, 1998), practice of grammar in communicative contexts (Dekeyser, 1998), and output hypothesis (Gass, 2013; Swain, 2000; Swain & Lapkin, 1995).

2.2 Priming Grammar knowledge in production: A connectionist view

Language learning has been seen as building networks in the 'connectionist view', and further, the network consists of associations that are strengthened by repeated use of the nodes (Ellis & Humphreys, 1999; Levine, 2000). Since competition models allowing for spreading activation among the nodes in the network have emerged, language processing including the concept of cues and priming has been better explained in the connectionist theory (MacWhinney & Bates, 1989; MacWhinney, 2015).

The existence of syntactic priming has been attested by many researchers. Bock (1986) revealed that a certain syntactic form which appeared in a previous speech was used as a cue and primed the use of the form in a subsequent utterance. Luka and Barsalou (1998) also found evidence of syntactic priming in a grammaticality judgment test. The results suggest that the experience of grammar features in a recent reading was employed for later use in the grammaticality judgments.

As Ellis (2002) explains, attaining and using grammar knowledge for language production are based on the strength of associations, and more importantly, the frequency and recency of the target grammar in turn affect the strength of connections. In addition, the acquired knowledge is not a collection of discrete rules but the integration of previous experiences of the examples.

To explain L2 learning in Korea in this connectionist view, the association

between L1 and L2 translation equivalents may be strengthened through frequent memorization of translation equivalents, which does not promote strong associations with L2 conceptual representations. The syntactic information stored as metalinguistic knowledge has weak connections with L2 lexicon. As such, Korean L2 learners can have difficulties producing English sentences. That is, for language production they seem as though they follow two parallel processes: on the one hand, they tend to retrieve the L2 semantic information from its L1 translation equivalents through the strong association, and on the other, they access syntactic information from a separately stored metalinguistic knowledge. Case in point- the syntactic information for an English word 'suggest' may be stored separately with the cue 'subjunctive-infinitive without to' and the cue 'verbs followed by gerunds', both of which often do not have associations in their mental lexicon. Thus, in the L2 learner's mind, first concept (or intention) triggers his/her L1 lexical item through the strong connection (Kroll & Stewart, 1994). Second, the L1 word triggers its L2 translation equivalent via the link strengthened through the learning process. Third, the L2 word (e.g., *suggest*) will trigger its syntactic information. The problem may arise in the third assumption if the L2 word can not trigger its syntactic information since the cue as a trigger is not efficiently set during the learning process. That is, if the L2 learner's acquisition is meant to trigger the target word 'suggest' only through the cue of its grammar rule, its syntactic information may hardly be triggered in real communication where the grammar rules never trigger the lexical information.

2.3 Previous Studies in Korea

A major interest of recent research in Korea has been the ways to promote Korean L2 learners' grammatical competence as a component of communicative competence.

For example, Kim (2009) insisted on the need for grammar instruction for the development of oral proficiency. Lee (2005) stressed the need for grammar instruction for communicative competence by providing the comparison between English curriculum in Korea and in America. However, as Kim (2006) pointed out from her analyses of video-taped high school English classes, grammar instruction in high school is not aimed at communicative competence.

Studies concerning teachers' and learners' perception of grammar instruction also reveal that both teachers and learners put a premium on grammar teaching than on communicative aims (Lee & Oh, 2016; Lee, 2004; Park, 2012). However, studies concerning the perception of instructional approach have yielded mixed results. Inductive grammar instruction was valued higher than deductive approach in Park (2012)'s, while explicit grammar instruction was preferred in Kang (2013)'s study. Furthermore Lee (2005) observed the difference of perception between teachers and learners. The explicit instruction was viewed as the most effective way of grammar teaching by teachers while implicit instruction was favored by learners.

Empirical experiments have been conducted to find the most effective grammar instruction, albeit with inconsistent findings. For example, Do and Choi (2014) postulated that implicit and incidental learning was more effective than explicit grammar instruction. In contrast, the effect of explicit approach was observed in a grammaticality judgment task and an oral-elicited imitation task in Kim (2014)'s study. Further, no dramatic difference of the effect between implicit and explicit approach was found in Kim (2006)'s study.

2.4 Limitations of Previous Studies vs. the Design of the Present study

Although many studies have attempted to determine as to which direction the grammar instruction should go, the consensus has not been reached on the most effective way. One possible explanation for the inconsistency of the results is that the tests to evaluate the learners' grammar knowledge for English production in the previous studies may not have fully elicited genuine production from the learners (e.g., Kim, 2006; Kim & Cho, 2010). For one, learners' answers to a multiple choice test can hardly be considered language production. Second, a fill-in-the-blank type of the test requires only word level production. Third, unscrambling word order (e.g., *what/films/see/this week*) also requires limited production. As discussed above in the connectionist view, the cue priming the learner's production in a real communication is different from any of these stimuli in the tests.

Although many researchers suggest grammar teaching methods to promote communicative competence in class, the pedagogical viability in classrooms in Korea however has remained questionable. It can be said that the majority of teachers in Korea deal with large class sizes, conventional textbooks, limited class hours for communicative activities, and most importantly, test-oriented learning goals, among others. If there appears to be a positive effect on the development of the learners' English production by changing the conventional multiple-choice test to a production-based test, this should be seen as a practical solution for in-service teachers in Korea. As such, the present study compared Korean L2 learners' English production in two different test preparation conditions. That is, in order to investigate the washback effect, the learners were informed of the test type (either conventional multiple-choice or production-based test) they would take, although in actual tests

their grammar knowledge was evaluated in both types in each condition of the test preparation. The research questions are as follows:

1. Is there any washback effect of the Korean L2 learners' test preparation conditions on sentence-level production?
2. Is there any difference in the Korean L2 learners' grammar knowledge in English production among different stimuli provided in the test?

3. Method

3.1 Participants

A total of 101 college students participated in the study. They were freshmen majoring in English at a local university. They were taking a class titled 'Basic English Grammar' in two classes (N=52, N=49). The class met twice a week and it lasted 75 minutes. Their grammar scores (a practice test of TOEIC part 5 and part 6) ranged from 65.22% to 86.96%. There was no significant difference in scores for class 1 (M=77.37, SD=6.00) and class 2 (M=75.29, SD=5.82; $t(99)=1.77$, $p=.08$, two-tailed). Since most grammar classes in public education system in Korea are not divided according to the results of a placement test, the study was not designed to compare groups according to their L2 proficiency.

3.2 Materials and Procedure

Since the study investigates the effect of test preparation conditions rather than the

teaching methods, the grammar instruction in the study was designed not to be vastly different from the one prevalent in Korea. In order to reflect the realistic grammar classes in Korea, the participants' L1 (Korean) was mainly used in class and grammar rules were explicitly explained. Possible differences of the instruction in the study from other ordinary grammar class in Korea may be that the participants were provided with many English example sentences and the contexts in which the examples can be used. The learners were also encouraged to find the sentences in their English dictionary and to make sentences on their own.

The questions in the two different test preparation conditions contained the same grammar features from their textbook (See Table 1) although the questions were different to avoid the repetition effect. The study has acceptable internal consistency of the scales (42 items) with Kuder-Richardson-20 (KR-20) Reliability Analysis (Test 1: .64; Test 2: .73).

Table 1 Grammar Features Used in the Study

Grammar features	nouns (singular and plural, countable and uncountable)
	articles
	some any many much a little a few all most no none both
	pronouns (possessives, reflexive, indefinite pronouns)
	prepositions
	adjectives
	adverbs
	comparative
	superlative
	adverbs of degree
	tense and aspect (present, past, future, continuous, present perfect)

The tests included 21 questions in the multiple choice test and 21 questions in the production-based test. In the production-based test, different stimuli were used; L1 meaning on the sentence level, L2 lexical item, and contextual information (7

questions in each section). Table 2 shows the examples.

Table 2 Examples of Questions in the Tests

Test type	Stimuli	Example
Multiple-choice	Grammar rules	Could you give me () about courses?
		a. an advice b. some advices c. some advice d. a advice
Production-based	L1 meaning	내가 거기에 도착하자마자 너한테 전화할게: _____
	L2 lexical item	as easily as: _____
	Contextual information	A: (If)_____, _____. B: Yeah. But you don't have a car, so you have to take a bus to school.

The test was conducted twice in different conditions with intervals of four classes (2 weeks). As shown in Table 3, in one test preparation condition, the participants were informed that the class planned to take a multiple choice test, and a production-based test in the other condition. Sample questions were shown to the participants for their understanding of test types. In order to obtain accurate data, the order of the test preparation condition was different in the two classes. That is, one class was asked to prepare for the multiple choice test first and then the production-based test after the intervals, while the other class was asked to prepare for the production-based test first and then the multiple choice test. There was no significant difference in scores between one class ($M=29.06$, $SD=4.71$) and the other class ($M=29.35$, $SD=4.46$); $t(99)=.31$, $p=.76$, two-tailed). Although the participants were asked to prepare for certain type of the test, they were given both types of the tests in each condition. The test lasted 30 minutes (10 minutes for the multiple choice and 20 minutes for the production-based test).

Table 3 Test Procedures

Test preparation conditions	What learners were informed that	Actual test
Conventional	they planned to take a multiple choice test	a multiple choice test
		+ a production-based test
Production-based	they planned to take a production-based test	a multiple choice test
		+ a production-based test

3.3 Data Collection and Analysis

First, the answers in each test were collected manually and organized using Microsoft Excel program. Since the study evaluated the participants' target grammar, minor spelling errors were not deemed consequential. Second, the data were fed to the statistics program SPSS 24. Third, to compare the participants' grammar knowledge in English production in two different test preparation conditions, paired independent *t*-test was used. Fourth, ANOVA was used to compare the participants' grammar knowledge in English production among different stimuli.

4. Results

Both multiple choice and production-based tests were investigated in each condition of test preparations. Results show, first, test scores in the condition of conventional multiple-choice test preparation and then the production-based test preparation. Second, for more detailed comparisons, the multiple choice test and the production-based test scores were compared respectively in two conditions. Third,

stimuli difference was compared in the two conditions.

Table 3 Conventional Multiple-choice Test Preparation Condition:
Comparisons between Multiple Choice and Production-based Test

	N	Multiple choice test		Production-based test		<i>t</i>	<i>p</i>	<i>d</i>
		M	SD	M	SD			
Conventional test preparation	101	17.19	2.29	12.02	3.13	17.07*	.00	.74

$p < .05$

Note. *d*=Cohen's *d*

As shown in Table 3, a paired-samples *t*-test was conducted to evaluate the difference between test types in the conventional test preparation condition. When the learners were informed that they had been designated to take a multiple-choice test, their production-based test scores were lower than those of multiple-choice test. There was a statistically significant decrease in test scores from multiple choice ($M=17.19$, $SD=2.29$) to production-based test ($M=12.02$, $SD=3.13$), $t(100)=17.07$, $p < .00$ (two-tailed). The mean decrease in grammar knowledge was 5.17 with a 95% confidence interval ranging from 4.57 to 5.77. The eta squared statistic (.74) indicated a large effect.

Table 4 Conventional Test Preparation Condition:
Comparisons among Different Stimuli

Stimuli	N	M	SD	Factor	Mean difference
L1	101	5.28	1.53	L2	1.54*
				Context	2.27*
L2	101	3.73	1.05	L1	-1.54*
				Context	.72*
Context	101	3.01	1.06	L1	-2.27*
				L2	-.72*

In order to investigate what triggers the learners' grammar knowledge most in their

sentence production, the production-based questions were provided with different stimuli in the study. In Table 4, a one-way between-groups analysis of variance was conducted to explore the difference among different types of stimuli provided in the production-based test in the conventional test preparation condition. Since the assumption of homogeneity of variances has been violated ($p < .05$), Welch's adjusted F ratio was obtained. There was a statistically significant difference at the $p < .05$ level in scores for the three stimuli (L1, L2, and Context). Welch's $F(2, 196) = 74.52$, $p < .001$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for all the types of stimuli (L1: $M = 5.28$, $SD = 1.53$), (L2: $M = 3.73$, $SD = 1.05$), (Context: $M = 3.01$, $SD = 1.06$) were significantly different from one another.

Table 5 Production-based Test Preparation Condition: Comparisons between Multiple Choice and Production-based Test

	N	Multiple choice test		Production-based test		<i>t</i>	<i>p</i>	<i>d</i>
		M	SD	M	SD			
Production-based test preparation	101	18.27	2.14	16.04	2.97	9.17*	.00	.46

$p < .05$

Note. *d* = Cohen's *d*

As Table 5 shows, a paired-samples *t*-test was conducted to evaluate the difference between test types in the condition of production-based test preparation. There was a statistically significant decrease in test scores from multiple choice ($M = 18.27$, $SD = 2.14$) to production-based test ($M = 16.04$, $SD = 2.97$), $t(100) = 9.17$, $p < .00$ (two-tailed). The mean decrease in grammar knowledge was with a 95% confidence interval ranging from 1.75 to 2.71. The eta squared statistic (.46) indicated a large effect. When the learners knew they would take a production-based test, their scores of both test types were higher than those in the condition of conventional test

preparation (See also Table 3). In the same test preparation condition, their production-based test scores were relatively lower than those of the multiple-choice test.

Table 6 Production-based Test Preparation Condition:
Comparisons among Different Stimuli

Stimuli	N	M	SD	Factor	Mean difference
L1	101	5.85	1.05	L2	-.16
				Context	1.67*
L2	101	6.01	1.06	L1	.16
				Context	1.83*
Context	101	4.18	1.27	L1	-1.67*
				L2	-1.83*

In Table 6, a one-way between-groups analysis of variance was conducted to explore the difference among different types of stimuli in the condition of production-based test preparation. Since the assumption of homogeneity of variances has been violated ($p < .05$), Welch's adjusted F ratio was obtained. There was a statistically significant difference at the $p < .05$ level in scores for the three stimuli: L1, L2, and Context. Welch's $F(2,199) = 71.82$, $p < .001$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for context stimuli ($M = 4.18$, $SD = 1.27$) was significantly different from L1 stimuli ($M = 5.85$, $SD = 1.05$) and L2 stimuli ($M = 6.01$, $SD = 1.06$).

Table 7 Comparisons between Two Different Conditions of Test Preparations

	N	Condition 1		Condition 2		<i>t</i>	<i>p</i>	<i>d</i>
		M	SD	M	SD			
Multiple choice test	101	17.19	2.29	18.27	2.14	-4.61*	.00	.18
Production-based test	101	12.02	3.13	16.04	2.97	-17.72	.00	.76

$p < .05$

Note. Condition 1: Conventional multiple-choice test preparation condition, Condition 2: Production-based test preparation condition, d = Cohen's d

As shown in Table 7, a paired-samples *t*-test was conducted to evaluate the difference of grammar knowledge in both multiple choice and production-based test between two different test preparation conditions. When the learners had prior knowledge that they would take a production-based test, their test scores both in the multiple choice and the production-based test formats improved. The improvement was more striking in the production-based test format.

There was a statistically significant increase in multiple choice test scores from conventional test preparation ($M=17.19$, $SD=2.29$) to production-based test preparation condition ($M=18.27$, $SD=2.14$), $t(100)=-4.61$, $p<.00$ (two-tailed) and also in production-based test scores from conventional test preparation ($M=12.02$, $SD=3.13$) to production-promoted test preparation ($M=16.04$, $SD=2.97$), $t(100)=-17.72$, $p<.00$ (two-tailed). The mean increase in grammar knowledge was 1.08 with a 95% confidence interval ranging from -1.54 to -.61 (multiple choice test) and -4.47 to -3.57 (production-based test). The eta squared statistic (.18 in the multiple choice test and .76 in the production-based test) indicated a large effect.

Table 8 Comparisons of Stimuli between Two Different Conditions of Test Preparations

Stimuli	N	Condition1		Condition2		t	p	d
		M	SD	M	SD			
L1	101	5.28	1.53	5.85	1.05	-4.61*	.00	.18
L2	101	3.73	1.05	6.01	1.06	-23.09*	.00	.84
Context	101	3.01	1.06	4.18	1.27	-9.65*	.00	.48

$p<.05$

Note. Condition 1: Conventional multiple-choice test preparation condition, Condition 2: Production-based test preparation condition, d =Cohen's d

In Table 8, a paired-samples *t*-test was conducted to evaluate the difference of grammar knowledge with different stimuli between two different test preparation

conditions. When the learners prepared for the production-based test, their grammar knowledge in production with the L2 stimuli improved the most, followed by that with context stimuli. Improvement of production with the L2 stimuli indicates that their grammar knowledge is stored within the L2 network, and the improvement of production with context stimuli suggests that the grammar knowledge may be triggered more easily in actual English communication.

There was a statistically significant increase in test scores from conventional test preparation (L1 stimuli $M=5.28$, $SD=1.53$; L2 stimuli $M=3.73$, $SD=1.05$; context stimuli $M=3.01$, $SD=1.06$) to production-promoted test preparation (L1 stimuli $M=5.85$, $SD=1.05$, $t(100)=-4.61$, $p<.00$; L2 stimuli $M=6.01$, $SD=1.06$, $t(100)=-23.09$, $p<.00$; context stimuli $M=4.18$, $SD=1.27$, $t(100)=-9.65$, $p<.00$). The mean increase in grammar knowledge was with a 95% confidence interval ranging from -0.82 (L1 stimuli), -2.47 (L2 stimuli), -1.41 (context stimuli) to -0.33 (L1 stimuli) -2.08 (L2 stimuli) -0.93 (context stimuli) respectively. The eta squared statistic (L1 stimuli .18; L2 stimuli .84; context stimuli .48) indicated a large effect.

5. Discussion

5.1 The Conventional vs. Production-based Test

It is undeniable that conventional test types such as multiple choice test still prevail in grammar classes in Korea. It may be an inevitable consequence of conventional instructional methodologies in some classes or the needs for evaluating L2 learners' grammar knowledge for language production that have not yet been realized in other classes. This study yielded the evidence supporting the view that the ostensibly

similar grammar knowledge of the learners may be evaluated differently according to the test types. The test scores were found to be lower in the production-based test than in the multiple choice test ($M=12.02$, $SD=3.13 < M=17.19$, $SD=2.29$; $M=16.04$, $SD=2.97 < M=18.27$, $SD=2.14$) both in the condition of conventional multiple-choice and the production-promoted test preparation. This suggests the possibility that a learner showing high level of grammar knowledge in the conventional multiple-choice test may not necessarily have the grammar knowledge sufficient for language production. Thus this leads to the need for tests that evaluate genuine grammar knowledge for actual language use.

Since the current study is mainly targeted at English educators in Korea whose dramatic change in teaching methods may be realistically difficult due to their institutional circumstances, it focused on the washback effect from different test preparations. Therefore, the only difference was made in the learners' test preparations, all the while maintaining the same teaching methods. That is, the learners were informed to take the particular test type although they took both types of tests in each condition. The findings show the significant difference in the different conditions ($t(100)=-4.61$, $p<.001$ two-tailed). In the condition of the production-based test preparation the learners' grammar knowledge was found to be higher ($M=18.27$, $SD=2.14$) than in the condition of the conventional multiple-choice test preparation ($M=17.19$, $SD=2.29$). This implies that the production-based test preparation promotes the higher grammar knowledge in both multiple-choice and production-based test formats. The effect was more predominant in the production-based test (mean difference $M=4.02$, $SD=2.28$) than in the multiple choice test (mean difference $M=1.08$, $SD=2.35$). This suggests that the production-based tests implementation is advisable in grammar classes in Korea to enhance the learners' English production. Although the effect was drawn from the learners' test

preparation while the same teaching methods used in both conditions, the findings of the current study are in line with Kim & Cho (2010)'s study that supports the effect of output-enhanced grammar instruction on language production.

5.2 Stimuli Effect in the Production-based Test

Grammar scores in the production-based test varied in different types of stimuli in the study. In the condition of conventional test preparation, the learners' grammar knowledge was retrieved more with L1 ($M=5.28$, $SD=1.53$) than L2 ($M=3.73$, $SD=1.05$) or context stimuli ($M=3.01$, $SD=1.06$). It can be speculated that the learners' L1 was predominantly used to store the knowledge in their mental lexicon. On the other hand, in the condition of production-based test preparation, their grammar knowledge was retrieved most with L2 stimuli ($M=6.01$, $SD=1.06$). This finding suggests that the L2 word entailing given syntactic knowledge was used to store the information during their production-based test preparations. The mean difference between two different test preparation conditions revealed that the production-based test preparation promoted L2-driven grammar knowledge most ($M=2.28$, $SD=.99$), followed by L2 context ($M=1.17$, $SD=1.22$).

Revised Hierarchical Model (Kroll & Stewart, 1994), despite its focus on lexical processing, and the lexical approach embracing grammar knowledge as syntactic structures of lexis (Hoey, 2005; Lewis, 1993; Robinson, 1989; Singleton, 2000) can explain the findings of the current study. According to the RHM, L1 is strongly connected to conceptual representations and therefore it is hard to evade in language retrieval especially in case of low proficiency. Considering new L2 information is simply added to the existing L1, the full access to L2 may not be readily available (Kroll & Tokowicz, 2001). This L1 mediation in L2 processing was found to be

more prevalent in Korean L2 learners with low L2 proficiency (Nam, 2011, 2014). Therefore it is presumable that the learners in the condition of conventional test preparation did not need to store the grammar knowledge for actual language use such as L2 lexical items or contextual cues and instead relied on their L1. According to the concept of 'network training' (Dell, 2000) in cognitive linguistics, the nodes in the network become stronger during the learning and the strong node becomes more available for retrieval and then production. Since the learners in the condition of conventional test preparation mainly relied on their L1 to store the information, their network is not efficiently organized for language use. This is in line with Nam (2014) pointing out 'lesser-dense network' for Korean L2 learners with low proficiency levels. Even though the same learners were tested in two conditions of test preparations, the production-based rather than conventional test preparation promoted the learners' dense network in the L2.

The production-based test preparation was also found to promote grammar knowledge with context stimuli; however, the effect was not as strong as the L2 stimuli. Two possible explanations may be helpful to understand this finding. First, this may be because the context stimuli provided in English required both language reception and production, which in turn may have been more demanding for the learners. Second, it is also possible that the teaching methods the learners were exposed to were designed to be close to common English grammar classes in Korea which cannot be said to be fully communicative, and thus was not sufficient for the effect of context stimuli to be most powerful. However, there was irrefutable evidence to suggest that production-based test preparation resulted in the improvement of grammar knowledge with context stimuli.

5.3 Pedagogical Implications

Although communicative grammar teaching methods and the test with context stimuli may be closest to the real language use, the present study would like to recommend the L2-driven teaching and test methods as the second best alternative to the educators who are faced with realistic limitations in their classes. It should be noted that what this study suggests is not L2-medium grammar instruction (EMI), but the L2-promoting approach for richer organization of their mental lexicon.

There are more pedagogical implications. First, teachers' grammar knowledge is an essential prerequisite to the implementation of the production-based test. As Yook (2008) pointed out, teacher education programs should provide pre-service teachers with opportunities to improve their own grammar knowledge. Second, as many researchers suggest, what to teach in grammar instruction is of great importance. For example, Lee (2012) placed emphasis on teaching verbs and further Nam (2013) advocated the positive effect of lexical approach on grammar teaching. Bae (2008) stressed the importance of discourse context in grammar teaching. These suggestions all point to a grammar teaching approach for language production. Third, in order to avoid any dispute over grading, it may be useful to set clear evaluation criteria. For example, in the present study minor spelling errors and punctuation marks were not reflected in the scores. In addition, any grammatically and contextually correct answers were accepted even though they were different from the expected target sentences (e.g, "Can I help you to carry the bag?" in place of "May I help you with the bag?"). Teachers may allow answers which are correct in all the grammar features that the learners have learned but contain errors from the grammar they have not yet learned in class. The implementation may be at the teachers' discretion; however, it is critical to provide the learners with detailed criteria before the tests so

as to avoid any confusion.

6. Conclusion and Implications

The study suggests a practicable way to promote L2 grammar knowledge for language production for English educators faced with limitations in their pedagogical circumstances. The study suggests the possibility that simply changing from conventional multiple-choice to production-based tests may promote Korean L2 learners' grammar knowledge for language use. The findings regarding stimuli effect suggest that instead of storing grammar rules in Korean as stimuli in the learners' memory system, the production with L2 stimuli was most promoted in the condition of the production-based test preparation. This can have significant implications for some Korean L2 learners whose grammar is stored as metalinguistic knowledge separately from the L2 system in that the knowledge stored with L2 stimuli in the entry forms denser L2 networks and facilitates more effective production. However the study has some limitations. First, although the study saw improvement in the learners' grammar knowledge with context stimuli in the condition of production-based test preparation, the effect was not as strong as the L2 stimuli. Since the context stimuli is the closest to the real language use, future research should seek better ways to promote it. Second, the study did not address the proficiency effect of learners. Future research may also explore whether this production-based test can also work for L2 learners with only rudimentary knowledge.

Works Cited

- Bae, Jungok. "Integrating Grammar Teaching into a Syllabus Comprising Communicative Activities with Both Fluency and Accuracy Emphasized." *The Journal of Linguistics Science* 46 (2008): 101-25. Web. 28 July 2017.
- Bock, J K. "Syntactic Persistence in Language Production." *Cognitive Psychology* 18 (1986): 355-87.
- Braidi, S M. *The Acquisition of Second Language Syntax*. London: Arnold, 1999.
- Canale, M. "From Communicative Competence to Communicative Language Pedagogy." *Language and Communication* 1.1 (1983): 1-47.
- _____, and M Swain. "Theoretical Bases of Communicative Approaches to Second Language Teaching and Testing." *Applied Linguistics* 1 (1980): 1-47.
- Carter, R., R Hughes, and M J. McCarthy. *Exploring Grammar in Context*. Cambridge: Cambridge UP, 2000.
- Cowan, R. *The Teacher's Grammar of English: A Course Book and Reference Guide*. Cambridge: Cambridge UP, 2008.
- DeKeyser, R. "Beyond Focus on Form: Cognitive Perspectives on Learning and Practicing Second Language Grammar." *Focus on Form in Classroom Second Language Acquisition*. Ed. C Doughty, and J Williams. Cambridge: Cambridge UP, 1998. 42-63.
- Dell, G S. "Commentary: Counting, Connectionism, and Lexical Representation." *Papers in Laboratory Phonology V*. Ed. M B Broe, and J B Pierrehumbert. Cambridge: Cambridge UP, 2000. 335-48.
- Do, Moonhee, and Incheol Choi. "Grammar Instruction for Korean Young Learners of English: Implicit or Explicit?" *Studies in Modern Grammar* 77 (2014): 93-115.

- Ellis, N C. "Frequency Effects in Language Acquisition: A Review with Implications for Theories of Implicit and Explicit Language Acquisition." *Studies in Second Language Acquisition* 24 (2002): 143-88.
- _____. and N Laporte. "Contexts of Acquisition: Effects of Formal Instruction and Naturalistic Exposure on Second Language Acquisition." *Tutorials in Bilingualism: Psycholinguistic Perspectives*. Ed. A M B de Groot, and J F Kroll. Mahwah, NJ: Erlbaum, 1997. 53-83.
- Ellis, R, and G W Humphreys. *Connectionist Psychology: A Text with Readings*. New York: Psychology Press, 1999.
- Erlam, R. "The Effects of Deductive and Inductive Instruction on the Acquisition of Direct Object Pronouns in French as a Second Language." *Modern Language Journal* 87 (2003): 242-60.
- Gass, S M. *Second Language Acquisition: An Introductory Course*. 4th Ed. New York: Routledge, 2013.
- Haight, C E, C Herron, and S P Cole. "The Effects of Deductive and Guided Inductive Instructional Approaches on the Learning of Grammar in the Elementary Foreign Language College Classroom." *Foreign Language Annals* 40.2 (2007): 288-310.
- Hoey, M. *Lexical Priming*. New York: Routledge, 2005.
- Kang, Munkoo. "A Framework Justification for Using Grammar Instruction in a CLT Focused Class." *Journal of the Korea English Education Society* 12.1 (2013): 191-206. Web. 28 July 2017.
- Kim, Doyoun. "The Effects of Implicit and Explicit Grammar Instruction on Learner Output." *Korea Journal of English Language and Linguistics* 6.3 (2006): 521-48.
- Kim, Haeyoung. "The Role of Grammar in Speaking Proficiency: Exploring the Need

- for Spoken Grammar.” *Modern English Education* 10.1 (2009): 46-65.
- Kim, Jeongeon. “Explicit Grammar Instruction and Development of Implicit Knowledge.” *English Language & Literature Teaching* 20.1 (2014): 93-112.
- Kim, Sungae. “Making Grammar Instruction More Communicative in High School English Classes.” *Foreign Languages Education* 14.1 (2006): 109-32.
- Kim, Jaekyung, and Cho, Youngwoo. “A Comparison of Input-enhanced and Output-enhanced Grammar Instruction.” *Korean Journal of Applied Linguistics* 26.2 (2010): 241-69.
- Kroll, J F, and E Stewart. “Category Interference in Translation and Picture Naming: Evidence for Asymmetric Connections between Bilingual Memory Representations.” *Journal of Memory and Language* 33 (1994): 149-74.
- Ko, Myonghee. “Vocabulary Test Format and Washback Effect.” *Foreign Languages Education* 21.2 (2014): 129-51. Web. 28 July 2017.
- Kroll, J F, and N Tokowicz. “The Development of Conceptual Representations for Words in a Second Language.” *One Mind, Two Languages*. Ed. J Nicol. Oxford: Blackwell, 2001. 49-71.
- Lee, Eunhee, and Heejeong Oh. “Korean EFL Learners’ Beliefs about Grammar Instruction.” *The Journal of Linguistic Science* 78 (2016): 307-26.
- Lee, Hwaja. “Grammar Teaching in Communicative Classrooms: Focused on Teachers’ Theories and Practice.” *English Teaching* 59.1 (2004): 3-26. Web. 28 July 2017.
- _____. “A Comparative Study on the Awareness of Grammar Instructional Approach by EFL Teachers and Learners.” *English Teaching* 60.1 (2005): 69-96. Web. 28 July 2017.
- Lee, Kyoungnam. “Investigation of the Importance of Grammar Instruction in FL Programs.” *Korea Journal of English Language and Linguistics* 5.2 (2005):

279-303.

- Lee, Wonhyuk. "Teaching English Grammar in an EFL Setting with Focus on the Importance of the Choice of Forms and Timing of Focus on Form." *The New Studies of English Language & Literature*, 53 (2012): 241-57.
- Levine, D. *Introduction to Neural and Cognitive Modeling*. 2nd ed. Mahwah, NJ: Lawrence Erlbaum, 2000.
- Lewis, M. *The Lexical Approach*. Hove: Language Teaching Publications, 1993.
- Long, M H. "Focus on Form: A Design Feature in Language Teaching Methodology." *Foreign Language Research in Cross-cultural Perspective*. Ed. K de Bot, R Ginsberg, and C Kramsch. Amsterdam, The Netherlands: Benjamins, 1991. 39-52.
- _____, and Robinson, P. "Focus on Form: Theory, Research, and Practice." *Focus on Form in Classroom Second Language Acquisition*. Ed. C Doughty, and J Williams. Cambridge: Cambridge UP, 1998. 15-41.
- Luka, B, and L Barsalou. "The Role of Sentence Priming on the Implicit Memory of Syntactic Structures." *Proceedings of the 20th annual meeting of the Cognitive Science Society*. Ed. M A Gernsbacher, Mahwah, NJ: Erlbaum, 1998. 1240-40. Web. 28 July 2017.
- MacWhinney, B. "Multidimensional SLA." *Usage-based Perspectives on Second Language Learning*. Ed. S Eskildsen, and T Cadierno. New York: Oxford UP, 2015. 22-45.
- _____, and E Bates. *The Crosslinguistic Study of Sentence Processing*. New York: Cambridge UP, 1989. Print.
- Nam, Hyunjeong. "Konglish Phenomenon: L1 Activation in L2." *English Teaching* 66.4 (2011): 191-211.
- _____. "Implementing Lexical Approach to Teaching English Grammar to Korean

- L2 Learners.” *Modern Studies in English Language & Literature* 57.3 (2013): 329-47.
- _____. “L1 Mediation in L2 Lexical Access: Emerging Evidence from Word Association Tests.” *The Journal of Modern British & American Language & Literature* 32.3 (2014): 39-65.
- Norris, J, and L Ortega. “Effectiveness of L2 Instruction: A Research Synthesis and Quantitative Meta-analysis.” *Language Learning* 50 (2000): 417-528.
- Park, Chankyu. “A Study on Undergraduate Students' Perception of Learning English Grammar: A Case Study.” *Studies in Linguistics* 24 (2012): 105-23.
- Robinson, P. “Learning Simple and Complex Rules under Implicit, Incidental, Rule-search Conditions, and Instructed Conditions.” *Studies in Second Language Acquisition* 18 (1996): 27-67.
- _____. “Procedural Vocabulary and Language Learning.” *Journal of Pragmatics* 13 (1989): 523-46.
- Seliger, H W. “Inductive Method and Deductive Method in Language Teaching: A Re-examination.” *International Review of Applied Linguistics in Language Teaching* 13 (1975): 1-18.
- Singleton, D. *Language and the Lexicon: An introduction*. London: Arnold, 2000.
- Spada, N. “Form-focused Instruction and Second Language Acquisition: A Review of Classroom and Laboratory Research.” *Language Teaching* 30 (1997): 73-87.
- Sun, Yu-Chih, and Li-Yuch Wang. “Concordancers in the EFL Classroom: Cognitive Approaches and Collocation Difficulty.” *Computer Assisted Language Learning* 16.1 (2003): 83-94.
- Swain, M. “The Output Hypothesis and Beyond: Mediating Acquisition through Collaborative Dialogue.” *Sociocultural Theory and Second Language Learning*. Ed. J P Lantolf, Oxford: Oxford UP, 2000. 97-114.

- _____, and S Lapkin. "Problems in Output and the Cognitive Processes They Generate: A Step towards Second Language Learning." *Applied Linguistics* 16 (1995): 371-91.
- Vogel, S, C Herron, S P Cole, and H York. "Effectiveness of a Guided Inductive versus a Deductive Approach on the Learning of Grammar in the Intermediate-level College French Classroom." *Foreign Language Annals* 44 (2011): 353-80.
- Yook, Cheongmin. "Conceptual and Practical Understanding of Knowledge about Grammar and Grammar Teaching." *The Journal of Linguistics Science* 45 (2008): 165-96.

국문초록

문법시험 준비 조건과 영어생산능력간의 세환효과 및 교육적 영향

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본 연구는 교육현장의 현실적 제약 속에서 영어문법을 교육하는 교수자에게, 효과적 영어사용을 도모하는 영어문법 교육에 대한 실용적 제안을 하고자 한다. 동일한 교육에 노출된 학습자들의 시험준비 조건이 상이할 때, 영어 문장 생산에 어떤 세환효과를 가지는지를 탐구하고자 한다. 실험에는 101명의 대학생들이 참여하였고, 전통적인 객관식문제 유형과 문장생산중심의 두가지 시험준비 조건이 주어졌다. t-test 와 ANOVA 로 도출된 결과에 따르면, 문장생산중심의 시험준비가 학습자들의 영어생산을 위한 문법지식 향상에 긍정적 영향을 준다는 사실이 밝혀졌다. 또한 문장생산중심의 시험준비일 경우 보다 많은 학습자가 문법공식을 영어도출을 위한 자극으로 기억 체계에 저장하기보다, 목표언어 자극을 통하여 영어문장을 생산하는 것으로 나타났다. 이는 문법공식을 목표언어 시스템 외부에 초언어 지식으로 저장하여 영어생산에 어려움을 가지는 영어문법 학습자에게 큰 의미가 있을 것이다.

주제어 : 세환효과, 문법교육, 생산중심 평가, 객관식 시험, 목표언어 자극

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