

FORUM

# Learners' Production of Passives during Syntactic Priming Activities

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Previous research has shown that during syntactic priming activities, L1 speakers produce more target structures when they are prompted by a lexical item that occurred in their interlocutor's previous utterance. This preliminary study investigated whether L2 speakers are similarly influenced by lexical items during syntactic priming activities. Korean EFL learners from three proficiency levels carried out a picture description activity with a researcher whose interactional contributions were scripted with passive sentences. The results indicated that the learners produced more passives when they were prompted by verbs that had occurred in the researcher's passives. Directions for future research to investigate the relationships among syntactic priming, lexical items, and L2 development are suggested.

Syntactic priming is the tendency for a speaker to produce a syntactic structure that occurred in the recent discourse rather than an alternative structure. While debate about the mechanisms responsible for syntactic priming remains, some first language (L1) researchers have suggested that it occurs due to the residual activation of the morpho-syntactic information stored with individual lexical items. Support for this view comes from empirical studies which demonstrated that syntactic priming is greater when participants are prompted by lexical items, typically verbs or nouns, which occurred in an interlocutor's previous utterance, as opposed to being prompted by new lexical items (Branigan *et al.* 2000; Branigan *et al.* 1995; Pickering and Branigan 1998). In addition, L1 acquisition studies have shown that young children produce developmentally-advanced constructions only when their utterances can incorporate the same high frequency lexical items, such as pronouns, used in the researcher's preceding sentences (Savage *et al.* 2003).

Syntactic priming has also been shown to occur in second language (L2) speech production (Gries and Wulff 2005; McDonough 2006), and recent interaction studies have reported that English L2 learners often repeat lexical items that were initially produced by an interlocutor during syntactic priming activities (McDonough and Mackey 2006, *in press*). These studies raise interesting questions about whether L2 learners also produce more syntactic

structures when prompted by lexical items that occurred in their interlocutor's previous utterances. Sensitivity to individual lexical items is compatible with usage-based approaches to the acquisition of syntax, in which language development proceeds from formulaic expressions to limited scope patterns and finally to abstract representations (see Ellis 2005 for an overview). When learners are in earlier stages of development, they may depend on individual lexical items to produce complex constructions. For lower-level learners then, more developmentally-advanced structures may be elicited during syntactic priming activities if the prompts include lexical items previously produced by an interlocutor. As their abstract linguistic representations develop, learners' reliance on individual lexical items may decrease, which would allow for a wider variety of lexical items to be targeted in syntactic priming activities. However, L2 research to date has not systematically investigated whether learners from different proficiency levels produce more developmentally-advanced structures when prompted by lexical items that occurred in their interlocutor's previous utterances. Thus, as an important first step, this preliminary investigation addressed the following research question: 'Do Korean EFL learners produce more passives when prompted by verbs that occurred in their interlocutor's passive sentences?'

## METHOD

The participants were 76 undergraduate students (48 men and 28 women) at a large private university in South Korea. Their mean age was 23.61 years ( $SD=2.77$ ) and their mean amount of previous English study was 9.09 years ( $SD=2.73$ ). Since no objective measure of the participants' English proficiency was available, a cloze test adapted from the text used in Sasaki (2000) was administered. Based on the descriptive statistics ( $M=14.50$ ,  $SD=5.99$ ), the participants were divided into three relative proficiency groups. The high group consisted of 14 participants who scored at least one standard deviation above the mean on the cloze test (21 and higher). The middle group consisted of 45 participants whose cloze test scores were between one standard deviation above and below the mean (9–20), and the low group consisted of 17 participants who scored less than one standard deviation below the mean (1–8).

The target structure was the passive, which English L2 speakers may have difficulty producing during spontaneous written and oral speech production, or may underuse relative to native English speakers (Hinkel 2004; Watanabe *et al.* 1991; Williams and Evans 1998; Zhou 1992). Since individual verbs may be associated more strongly with the passive form, the conversation corpora of the Longman Spoken and Written English Corpus were used to identify any distributional biases associated with individual verbs (Biber *et al.* 1999). Seventy verbs were selected based on their ease of elicitation using illustrations and their occurrence in the passive in the corpora (see the

Appendix for the complete list of verbs). Included in the study were three verbs that occurred 26 or more times per million words in the passive form, 29 verbs that appeared in the passive between 2 to 18 times per million words, and 38 verbs that were unlikely to occur in the passive (1 or less per million words). The individual verbs in each category were randomly assigned to the researcher's and the learner's materials.

The materials consisted of a picture description activity in which the researcher and the learner each had a set of 40 picture cards that illustrated a person undertaking a transitive action. The researcher's pictures were labelled with 20 passive sentences and 20 active sentences that served as fillers, while the learner's pictures were labelled with verbs only. Of the learners' pictures which followed the researcher's passive sentences, 10 were labelled with the same verb produced by the researcher, while another 10 were labelled with a different verb. In other words, the materials sought to differentiate between passives in two contexts: same-verb prompts and different-verb prompts.

Each learner met individually with a researcher for a 60-minute session. The researcher explained that they would take turns describing pictures, and the learner was given a few practice pictures. Next, the learner and the researcher took turns describing their pictures, with the researcher always speaking first in order to ensure that her passive sentences were delivered before the learner spoke. The entire session was audio-taped, and the recordings were transcribed by one of the researchers.

The learner's sentences were classified as passive, active, or other. Passive sentences were defined as sentences that had a patient in subject position and a verb phrase consisting of *be* + the past participle. Both responses with and without the agent expressed in a *by*-phrase were coded as passives. Active sentences were defined as sentences in which an agent was expressed as the subject, and the patient was expressed as the object. All other responses were classified as other, which included passives without auxiliary verbs, passives with the agent as the subject, and transitive actives without an object. Non-target-like morphosyntax, such as subject-verb agreement, verb tense, or non-target-like past participle forms (i.e. *telled* instead of *told*) was not considered in the analysis. An independent rater coded a subset of data (25 per cent) and simple percentage agreement between the researcher and the independent rater was 97 per cent.

## RESULTS

The sentences produced by the learners after the researcher's passives (same verb and different verb prompts) and active fillers are shown in Table 1 (since the distribution was not normal, the median and interquartile range (IQR) are reported as measures of central tendency and dispersion respectively). The low group produced a median of 2.00 passives when the prompts had the same verb but only 1.00 when the prompt had a different verb.

Table 1: Learners' production of passives by context and group

Group	Context					
	Passive—same verb		Passive—different verb		Active filler	
	Mdn	IQR	Mdn	IQR	Mdn	IQR
Low ( $n = 17$ )	2.00	3.00	1.00	3.00	.00	1.00
Middle ( $n = 45$ )	6.00	5.00	4.00	6.00	.00	1.00
High ( $n = 14$ )	9.00	3.00	8.00	4.00	.00	1.00

Note: The materials provided 10 same verb passive prompts, 10 different verb passive prompts, and 20 active fillers.

Table 2: Passives by verb prompt

Group	$Z$	$p$	$\eta^2$
Low ( $n = 17$ )	2.87	.004	.51
Middle ( $n = 45$ )	3.97	.000	.36
High ( $n = 14$ )	2.14	.032	.35

The middle group produced a median of 6.00 passives for the same verb prompts, but only 4.00 passives for the different verb prompts. Finally, the high group showed the same pattern, producing 9.00 passives for the same verb prompts and 8.00 passives for the different verb prompts. The learners rarely produced passives following the researcher's active filler sentences.

Individual Wilcoxon matched-pairs signed ranks tests (a non-parametric t-test for dependent samples) indicated that all three groups produced significantly more passives when prompted by verbs that had occurred in the researcher's passives (see Table 2). The eta squared values (which describe the amount of variance accounted for in the sample) indicated that the magnitude of the difference was higher for the low group (.51) than for the middle and high groups (.36 and .35 respectively).

In sum, these EFL learners produced more passives when their prompts had the same verb that previously occurred in the researcher's passive sentence.

## CONCLUSIONS

Undertaken as a preliminary investigation, this study has demonstrated that L2 learners produce more passives when they are prompted by verbs that occurred in their interlocutor's preceding passives. This confirms the findings of L1 research (Branigan *et al.* 1995; Pickering and Branigan 1998; Savage *et al.* 2003). While all three proficiency groups showed the same pattern, the effect sizes suggest that the impact of individual lexical items may have been

greater for low proficiency learners, who may be more dependent on individual lexical items than advanced learners. Based on the findings of this preliminary study, several lines of future research may be useful to gain further insight into the relationships among lexical items, syntactic priming, and L2 development. First, future studies might explore whether learners are also sensitive to other repeated lexical items, such as nouns. These are also believed to store morpho-syntactic information. Studies that target a variety of linguistic structures, besides passives and questions, would expand the empirical basis of L2 syntactic priming research. Second, classroom-based studies might investigate whether syntactic priming occurs during learner-learner interaction, as L2 syntactic priming studies to date have focused exclusively on interaction between learners and trained interlocutors. Finally, an interesting follow-up question is the extent to which producing developmentally-advanced structures with the same lexical items produced by an interlocutor impacts development. Recent L1 and L2 acquisition studies (McDonough and Mackey in press; Savage *et al.* 2006) have suggested that experience with developmentally-advanced constructions with a variety of lexical items may have a greater impact on development than repeated experiences with the same lexical items. Future studies might investigate this possibility more systematically by manipulating learners' experiences with constructions that differ in terms of their lexical variety. Our ongoing research focuses on these issues and aims to uncover more information about the relationship between syntactic priming and interaction-driven L2 learning.

#### APPENDIX: INDIVIDUAL VERBS TARGETED IN THE STUDY

Frequently occur in passive (26 or more per million)	Occur in passive (2 to 18 per million)			Unlikely to occur in passive (1 or less per million)		
set	throw	hang	blow	stack	select	drop
make	catch	paint	punish	circle	return	watch
tell	see	read	buy	lick	cuddle	grab
	bring	sell	raise	follow	knit	ride
	change	offer	ask	stir	repair	wipe
	scare	push	play	sweep	carry	show
	give	help	build	plant	empty	have
	break	steal	choose	sing	lead	wave
	find	cut	wash	hug	brush	dig
	open	clean		receive	toss	drive
				pour	bake	feed
				sew	refuse	deliver
				kick	draw	

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