The Interpretation of English Sentences with Quantifier and *Wh*-Phrase by College-Level Korean EFL Learners: The Collective and Distributive Interpretation

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There has been considerable research which investigates whether the underlying linguistic competence of L2 learners is constrained by principles and parameters of UG, parallel to the situation in L1 acquisition. In terms of the Scope Principle (henceforth SP), a principle of UG, which is associated with the scope interaction between a quantified expression and a *wh*-phrase, some experimental studies in EFL settings were conducted to investigate whether or not interlanguage grammars can be characterized by the principle. These experiments were carried out through the Truth Value Judgment Task (henceforth TVJT) alone, showing contrasting and confusing results, especially between Japanese learners and Korean learners. That is, while Japanese EFL learners observed the SP, Korean EFL learners did not despite the fact that both Japanese L1 grammar and Korean L1 grammar disallow the distributive interpretation, especially in the ambiguous sentence like *what does everyone have?* Therefore, the present study aims to confirm whether the same results are obtained provided that the identical experiment using the TVJT is repeated in other EFL learners. Noticeably, this study employed an additional, complementary task (Question and Answer Task, QAT) in addition to the TVJT as an attempt to increase the accuracy of the task and reflect learners' actual knowledge of the target features. In QAT, the subjects were asked to write the answers to the target questions involving quantifiers and *wh*-questions in English. Results from the TVJT appeared, on the face of it, to provide support for the claim that the Korean EFL learners are under control of the Scope Principle. However, findings from QAT revealed that they are not constrained by the principle. Thus, it would be reasonable to conclude that the results of the present experiment do not fully support the claim that the Korean EFL learners' interlanguage grammar has access to the UG-driven Scope Principle. Instead, it can be argued that Korean learners' interlanguage grammar may be affected by their L1 grammar, which gives rise to the claim that the explicit instruction on the interpretation of those sentences is required as part of overcoming this problem.

Key Words: Interlanguage grammar, quantifier, Scope Principle, truth value judgment task, Universal Grammar

Ⅰ. INTRODUCTION

There have been numerous attempts to find out the answers to the question as to whether an innate biologically endowed linguistic faculty, in other words, Universal Grammar (UG), which was proposed initially by Chomsky, constrains interlanguage

grammars in L2 acquisition. UG is assumed to be motivated by so-called the argument of the *poverty of the stimulus* (also known as the *logical problem of language acquisition*). This concerns the fact that it would not be possible to account for a considerable mismatch between the input that a child is exposed to and the abstract, grammatical knowledge attained by the child, without postulating a built-in system of universal linguistic principles and grammatical properties (Baker & McCarthy, 1981; Hornstein & Lightfoot, 1981).

Many studies have investigated whether or not interlanguage representations are characterized in terms of principles and parameters of UG, and have attempted to gain insight into the nature of interlanguage competence during the course of L2 acquisition (Christie & Lantolf, 1998; Kanno, 1997, 1998; Perez-Leroux & Glass, 1999). Researchers have examined the availability of UG in terms of the Scope Principle[1] (henceforth SP), which is one of the principles of UG, using the Truth Value Judgment Task[2] (henceforth TVJT) with the assumption that in L2 acquisition, UG continues to operate till the final state, whereas L1 distinct from UG plays a weighty role at the initial state.

The experiments of the SP, however, showed contrasting and confusing results. That is, while Japanese EFL learners observed the SP, Korean EFL learners did not even though both Japanese L1 grammar and Korean L1 grammar do not allow *the distributive interpretation*, only permitting *the collective reading* in ambiguous sentences containing a quantified expression and a *wh*-phrase. Therefore, the present study is designed to verify whether the same results will be obtained provided that the identical experiment using the TVJT is repeated in other Korean EFL learners.

In the previous studies, the task used to find out whether EFL learners successfully

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[1] The Scope Principle: A quantifier A has scope over a quantifier B in case A c-commands a member of the chain containing B (Aoun & Li, 1989).

    a.   Who has everything? (unambiguous)

        LF: $[_{CP}$ Who$_1$ $[_{IP}$ t$_1$ $[_{VP}$ everything$_2$ $[_{VP}$ has t$_2$]]]]

        In (a), *who*$_1$ c-commands *everything*$_2$, but *everything*$_2$ does not c-command *who*$_1$ and *t*$_1$. Thus, *who*$_1$ has scope over *everything*$_2$, whereas *everything*$_2$ does not scope over *who*$_1$ or the trace of *who* (t$_1$) (collective interpretation alone).

    b.   What does everyone have? (ambiguous)

        LF: $[_{CP}$ What$_1$ $[_{IP}$ everyone$_2$ $[_{VP}$ does t$_2$ $[_{VP}$ have t$_1$]]]]

        In (b), *what*$_1$ c-commands *everyone*$_2$. In addition, *everyone*$_2$ c-commands the trace of *what* (t$_1$). Thus, *what*$_1$ has scope over *everyone*$_2$ (collective interpretation) and e*veryone*$_2$ has scope over t$_1$ (distributive reading).

[2] The Truth Value Judgment Task is associated with "assessing the appropriateness of a sentence in relation to some context; that is, subjects have to indicate whether the sentence is true in the context provided" (White, 2003, pp. 45-46).

interpret ambiguity of the quantified and *wh*-sentences was only the TVJT. For the present study, in order to increase the accuracy of the task and ensure that the subjects reflect their actual and accurate knowledge of the target features, another task besides the TVJT was employed in which the subjects were asked to write the answers to the target questions with a quantified expression and a *wh*-phrase in English (Question and Answer Task, henceforth QAT). The results from the additional task were utilized as a meaningful basis on which a significant inference was deduced. The organization of the study is as follows: in section 2, as a theoretical background to the present study, a survey of the previous literature on the UG-driven principle, the Scope Principle and the previous experiments performed to investigate its availability by the EFL learners is presented. Section 3 is the experimental design. Section 4 demonstrates the findings and the analyses of the experiment. Section 5 concludes the study with a summary of the findings from the experiment, presenting certain implications along with suggestions for future research.

Ⅱ. REVIEW OF LITERATURE

In the field of L2 acquisition, the distinct contrast between the consistent success of L1 acquisition and the variable degrees of success in L2 acquisition has been one of the central issues. Many researchers have focused on the search of the sources or factors that contribute to such inconsistency in L1 and L2 language acquisition. Universal Grammar and L1 transfer have been considered as the representative sources or factors.

When it comes to UG, the question addressed has been to what extent adult L2 acquisition can be accounted for by the same universal principles that govern L1 acquisition. It has led to one of the crucial issues in L2 acquisition research, namely the possibility that L2 interlanguage grammars are under control of the principles of UG. With a view to investigating whether L2 learners indeed have access to these principles of UG, researchers have explored UG principles such as the Subjacency Principle[3] (Bley-Vyroman, Felix, & Ioup, 1988; Schachter, 1989; White, 1985, 1989), and the Binding Principle[4] (Cook, 1990; Hirakawa, 1990). While some researchers view L2 acquisition as fundamentally different from L1 acquisition in that it mostly draws on learners' general learning strategies than universal principles and parameters (e.g., Bley-

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[3] It refers to the constraint of distance of *wh*-movement: it prevents a *wh*-phrase from moving 'too far' from its original position (Chomsky, 1981a, b, 1986).

[4] It refers to the constraint of interpretation of overt NP: it places constraints on coreference between various kinds of NPs (Chomsky, 1981a).

Vroman[5], 1992), others support the Full Transfer Full Access Hypothesis[6] that the L1 grammar initially fully transfers to the L2, and UG is also fully accessible in L2 acquisition (e.g., Schwartz & Sprouse, 1996).

In particular, several L2 studies have investigated quantifier scope ambiguities in sentences with *wh*-QP questions, and doubly quantified and *wh*-sentences. According to Aoun and Li (1989, 1993) and May (1985), the Scope Principle refers to a principle which is relevant to the scope interpretation and covert movement at Logical Form (LF), and more specifically, is concerned with the scope interaction of a quantifier and a *wh*-phrase. They also revealed that the relationship between a universal quantifier and a *wh*-phrase demonstrates a scope difference in English as in the instances "Who has everything?" (unambiguous: collective interpretation only) and "What does everyone have?" (ambiguous: both collective and distributive interpretation).

Lee, Yip, and Wang (1999) explored inverse scope interpretation (also known as the distributive or pair-list reading) of quantifier in Chinese-English interlanguage with intermediate and advanced Chinese learners of English. The experiment exhibited that the L2 learners accepted the inverse scope interpretation parallel to the native speakers of English, and also displayed native-like susceptibility to the application of thematic role and the inverse scope assignment depending on quantifier types. Therefore, it was claimed that L2 grammar of Chinese L2 learners appears to be constrained by UG. Miyamoto and Yamane (1996) also maintained that similar outcome was acquired from the experiment in which they examined how the ambiguity and unambiguity interpretation of English *wh*-QP questions was judged by Japanese L2 learners of English by using a truth value judgment task[7] (TVJT). Even though their L1 grammar does not include the distributive reading in ambiguous sentences, the intermediate and advanced learners responded to the scope interpretation in *wh*-QP questions in a near native-like way, in contrast with lower proficiency level of learners who did not accept distributive readings of *wh*-QP questions. The researchers claimed that their L2 grammar is constrained (or driven) by UG. Presently, a lot of L2 acquisition researchers appear to share the claim that UG is at least fully available at the final state of L2 acquisition despite the fact that there is considerable disagreement as to the initial state (Eubank, 1994; Schwartz & Sprouse, 1996). Kim (2004) conducted the replication experiment with intermediate and advanced levels of Korean L2 learners by utilizing the same

[5] Bley-Vroman's Fundamental Difference Hypothesis is that UG no longer survives L1 acquisition, which means that all the linguistic mechanisms available to the L1 acquirer are no longer available to the L2 learner. Thus, the initial state of L2 acquisition is the L1 grammar.

[6] There are other hypotheses that UG still mediates the interlanguage grammars: the Minimal Trees Hypotheis of Vainikka and Young-Scholten (1994), and the Valueless Features Hypothesis of Eubank (1994).

[7] It was developed by Crain and McKee (1986) and Crain and Thornton (2000).

method, TVJT and similar materials. However, the outcome of her experiment was considerably different from that of Miyamoto and Yamane (1996). Results revealed that both experimental groups (advanced and intermediate levels of learners) did not observe the Scope Principle, which means in the ambiguous quantified and *wh*-sentences they did not accept the distributive interpretation, only allowing the collective reading. On the basis of this, she led to the conclusion that the Scope Principle is not available to adult Korean learners and UG does not activate in L2 grammar. Instead, she claimed that in terms of the interpretation of those target sentences Korean learners' L2 grammar is affected by their L1 grammar. She also mentioned that she was not able to provide an appropriate answer to the contrasting results between Miyamoto and Yamane's (1996) experiment and her study: why Japanese EFL learners observed the Scope Principle, whereas Korean EFL learners did not despite the fact that both L1 grammars do not permit the distributive interpretation in the ambiguous quantified and *wh*-sentences. Recognition of this problem was what motivated this replication experiment and accordingly, the research questions were formulated.

Ⅲ. RESEARCH QUESTIONS

The research questions of the present study are as follows:

(1)   Do Korean EFL college-level learners successfully access the sentences containing universal quantifier phrase and *wh*-phrase, particularly regarding the distributive interpretation in the ambiguous sentence such as "What does everyone have?"

(2)   How does the additional task (QAT) employed in this study represent Korean EFL college-level learners' knowledge of the interpretation of the target sentences, when compared to TVJT?

Ⅳ. METHODOLOGY

1. Participants

Thirty Korean learners of English and six native speakers of English participated in this experiment. Based on TOEIC scores, the Korean EFL learners were divided into two experimental groups: an intermediate group who had the TOEIC scores below 700 (15 male) and an advanced group who had the TOEIC scores over 800 (15 male). All participants were undergraduate students at a university. They had never lived in English-speaking countries before and thus their English learning experience was mostly

based on classroom instruction. The average time they had spent studying English through formal classroom instruction was approximately 10 years. These subjects were taking an advanced or an intermediate General English conversation classes during the fall semester. The control group of six native speakers was also included.

2. Procedure

As in the experiments of both Miyamoto and Yamane (1996) and Kim (2004), the experiment was carried out primarily based on the Truth Value Judgment Task[8] methodology, but Question and Answer Task was additionally employed. There were six types of pictures containing different sentence type interpretation statements, generated from two types of target questions: "Who has everything?" and "What does everyone have?" The six sentence type interpretation statements were as follows: (1) True Statement of the Collective Interpretation, (2) False Statement of the Collective Interpretation, (3) False Statement of the Distributive Interpretation, (4) True Statement of the Collective Interpretation, (5) False Statement of the Collective Interpretation, and (6) True Statement of the Distributive Interpretation (APPENDIX).

The specific data elicitation procedure was as follows: At first participants were presented with each picture (in total 10 pictures) in random order on a computer screen. Six pictures containing the quantified and *wh*-sentences with the unambiguity and ambiguity interpretation were designed to investigate the Scope Principle (SP) and the other four pictures were designed as fillers (or distracters). The same format of the pictures was given to all the subjects. First, with regard to QAT, subjects were asked to write their answers to the target questions in English in the given answer sheet (APPENDIX). The time limit was 15 seconds for each picture. After that, participants were presented with ten other pictures of the same format. The pictures included a dialogue between two people in which the first speaker describes or explains a picture to the other speaker and asks her/him a target question containing both an unambiguous and an ambiguous *wh*-phrase and quantified and *wh*-question. The second speaker responds to the target question, providing an appropriate answer. The dialogue was shown in written English beneath each picture. Then, the subjects were asked to judge the truth value of the second speaker's statement by choosing True or False and marking in their answer sheet (APPENDIX). Each picture was shown for 10 seconds. Each subject was tested individually in a designated room with the experimenter's help when

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[8] The task is not associated with explicit grammaticality judgments on the form of the sentences, but with the meaning of the sentence (White, 2003).

necessary. The correct answers were counted for the two tasks. A perfect score was 10 points each.

3. Materials

Two types of target questions that were explored in the experiment were as follows:

(a) Who has everything? (unambiguous: collective reading only)
(b) What does everyone have? (ambiguous: collective and distributive readings)

Table 1 shows six different patterns generated from the two types of target questions.

TABLE 1
Six Patterns of Experimental Sentence Types

	Target Question	Interpretation	Statement
Type 1	(a)	Collective	True
Type 2	(a)	Collective	False
Type 3	(a)	Distributive	False
Type 4	(b)	Collective	True
Type 5	(b)	Collective	False
Type 6	(b)	Distributive	True

Ⅴ. RESULTS AND DISCUSSION

The appropriate answers for the first task and the correct answers for the second task were counted respectively. Unclear answers were considered to be inappropriate ones.

Table 2 shows the overall appropriate response rate for QAT in which participants wrote their answers to the target questions in English. Here, C and D stand for the collective interpretation and the distributive interpretation respectively.

TABLE 2

Overall Appropriate Response Rate in Each Type (Task I)

Group	Type 1	Type 2	Type 3	Type 4		Type 5		Type 6	
	C	C	C	C	D	C	D	C	D
Advanced	100%	100%	100%	100%	0%	100%	0%	100%	0%
Intermediate	100%	100%	100%	100%	0%	100%	0%	100%	0%
Control	100%	100%	100%	100%	83%	100%	83%	100%	83%

* C: collective interpretation, D: distributive interpretation

For the Type 1-3, all participants wrote the collective interpretation statements correctly. However, for the other types in which both the collective and the distributive interpretations are accepted, while all experimental groups (intermediate and advanced groups) wrote only the collective interpretation statements, the control group, native speakers of English, responded in both interpretations. One native speaker seemed to misunderstand the target questions and gave unclear answers. The others except him wrote the appropriate answers. The results are consistent with those of Kim's (2004) experiment performed on other Korean EFL subjects, using TVJT alone.

As can be seen in Table 3, all groups correctly judged the truth value for the Type 1-3, in which only the collective interpretation of the unambiguous question "Who has everything?" is possible, rejecting their false statements. In particular, Type 3 is related with the distributive reading of the unambiguous sentence, which is not possible logically. As expected, all participants did not accept the false statement successfully. Type 4 is associated with the true statement of the collective interpretation of the unambiguous question and without exception all subjects accepted the statement as true. As Type 5 is closely related to the Type 4, all of the groups made their judgments on the truth value with relative ease.

TABLE 3

Overall Correct Response Rate in Each Type (Task II)

Group	Type I (C/T)	Type 2 (C/T)	Type 3 (C/T)	Type 4 (C/T)		Type 5 (C/F)		Type 6 (D/T)	
	T	T	T	T	F	T	F	T	F
Advanced	100%	100%	100%	100%	0%	0%	100%	47%	53%
Intermediate	100%	100%	100%	100%	0%	10%	90%	40%	60%
Control	100%	100%	100%	100%	0%	0%	100%	83%	17%

* C: collective interpretation, D: distributive interpretation, T: true statement, F: false statement

On the other hand, Type 6 has strikingly different results from the other types. The type was designed to investigate whether Korean EFL learners accept the distributive interpretation of the ambiguous quantified and *wh*-sentence "What does everyone have?" Interestingly, experimental groups accepted the distributive interpretation even though the percentage is not so high. These results seem to be considerably similar to those of the experiment performed by Miyamoto and Yamane (1996), in which they investigated the accessibility of UG in Japanese L2 learners of English in terms of the Scope Principle. In the experiment they revealed that concerning the ambiguous quantified and *wh*-sentence, Japanese EFL learners appeared to consider the distributive reading acceptable. In contrast, these results are different from those of the previous experiment in other Korean EFL subjects in which they rejected the distributive interpretation of the same type.

The question arises as to whether these results indicate that the SP is available to Korean L2 learners or not. Based on the results from task I, it is highly plausible that in the TVJT, they just considered the true statement possible without being much aware of the distributive interpretation because none of them showed the possibility of the interpretation in their answers. Thus, the results acquired from the experiment in the Japanese EFL subjects in which they accepted both collective (100%) and distributive (71.11%) interpretations may not be reliable because the experiment consisted of only one task, namely TVJT. Instead, it will be more reasonable to consider it to be affected by L1 grammar rather than the accessibility to UG in terms of the SP, lending support to the Kim's (2004) claim that UG may not be available at the final state of L2 acquisition.

Furthermore, if identical experiments are conducted in the future studies with the same format including QAT employed in this experiment, it is anticipated that similar results to this experiment will be obtained, endorsing the argumentation and conclusion of this study. In addition, an interview or a questionnaire which was not dealt with in this study may be needed to verify or confirm argumentation of the present study. Therefore, further researches using these methods are suggested.

From a pedagogical perspective, it appears that it is not possible for EFL learners of English to naturally acquire the distributive interpretation of the ambiguous quantified and *wh*-sentence through the L2 input and the L1 grammar, thus it may be implied that as an effective way of overcoming this acquisition problem, an explicit instruction on the interpretation of those sentences is required in the EFL classroom.

VI. CONCLUSION

This paper was motivated by recognition of the mixed results of the two previous studies which investigated the availability of UG in adult L2 learners' interlanguage

grammar, especially in terms of the Scope Principle. The two studies were conducted for the Japanese EFL and the Korean EFL learners of English respectively, revealing that in the former, Japanese learners seemed to accept the distributive interpretation of the ambiguous quantified and *wh*-sentences such as "What does everyone have?" but in the latter, Korean learners did not in spite of the fact that their L1 grammars do not approve the interpretation.

The present study repeated the previous experiments using the same methodology, TVJT, but with an additional written task included. Results seemingly indicate that the Korean EFL learners are under control of the Scope Principle, which means UG constrains or operates in the Korean L2 grammar since in the Type 6 they judged the distributive interpretation acceptable. However, a close look at the first task offered us significant information on the phenomenon. In this task it was not noticed that they were aware of the distributive or pair-list reading in the ambiguous quantified and *wh*-sentences. They only seemed to demonstrate their preference for the collective interpretation. This information may strongly imply that they simply chose the true or false statements without any severe awareness of the distributive interpretation, which leads to the conclusion that the results of the previous two experiments using only one task, TVJT, are not reliable. Thus it would be more reasonable to conclude that the results of the present experiment do not verify the claim that the Korean EFL learners are accessible to the UG-driven Scope Principle. Instead, it is implied that Korean learners' interlanguage grammar is more strongly affected by their L1 grammar. Therefore, it is recommended that as an adequate way of surmounting this acquisition problem an explicit instruction on the distributive interpretation of the ambiguous quantified and *wh*-sentence be offered in EFL classroom settings.

REFERENCES

Aoun, J., & Li, A. (1989). Scope and constituency. *Linguistic Inquiry*, *20*(2), 141-172.

Aoun, J., & Li, A. (1993). *Syntax of scope*. Cambridge, MA: The MIT Press.

Baker, C. L., & McCarthy, J. J. (1981). *The logical problem of language acquisition*. Cambridge, MA: The MIT Press.

Bley-Vroman, R., Felix, S., & Ioup, G. (1988). The accessibility of Universal Grammar in adult language learning. *Second Language Research, 4*(1), 1-32.

Bley-Vroman, R., & Yoshinage, N. (1992). Broad and narrow constraints on the English dative alternation: Some fundamental differences between native speakers and foreign language learners. *University of Hawaii Working Papers in ESL, 11*, 157-199.

Chomsky, N. (1981a). *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, N. (1981b). Principles and parameters in syntactic theory. In N. Hornstein & D. Lightfoot (Eds.), *Explanation in linguistics: The logical problem of language acquisition* (pp. 32-75). London: Longman.

Chomsky, N. (1986). *Barriers*. Cambridge, MA: MIT Press.

Christie, K., & Lantolf, J. (1998). Bind me up bind me down: Reflexives in L2. In S. Flynn, G. Martohardjono, & W. O'Neil (Eds.), *The generative study of second language acquisition* (pp. 239-260). Mahwah, NJ: Lawrence Erlbaum Associates.

Cook, V. (1990). Timed comprehension of binding in advanced L2 learners of English. *Language Learning, 40*(4), 557-599.

Crain, S., & McKee, C. (1986). Acquisition of structural restriction on anaphora. In S. Berman, J. Choe, & J. McDonough (Eds.), *Proceedings of the 15th North East Linguistic Society* (pp. 94-110). Amherst, MA: GLSA, University of Massachusetts.

Crain, S., & Thornton, R. (2000). *Investigation in Universal Grammar: A guide to experiments on the acquisition of syntax and semantics*. Cambridge, MA: The MIT Press.

Eubank, L. (1994). On the transfer of parametric values in L2 development. *Language Acquisition, 3*(3), 183-208.

Haegeman, L. (1994). *Introduction to government & binding theory*. Oxford: Blackwell.

Hirakawa, M. (1990). A study of the L2 acquisition of English reflexives. *Second Language Research, 6*(1), 60-85.

Hornstein, N. (1995). *Logical Form*. Oxford: Blackwell.

Hornstein, N., & Lightfoot, D. (Eds.). (1981). *Explanation in linguistics: The logical problem of language acquisition*. London & New York: Longman.

Kanno, K. (1997). The acquisition of null and overt pronominals in Japanese by English speakers. *Second Language Research, 13*(3), 265-287.

Kanno, K. (1998). The stability of UG principles in second language acquisition: Evidence from Japanese. *Linguistics, 36*, 1125-1146.

Kim, M. (2004). The collective and distributive interpretation in second language acquisition: Evidence from Korean EFL learners. *Korean Journal of Applied Linguistics, 20*(1), 1-15.

Lee, T. H., Yip, V., & Chuming, W. (1999). Inverse scope in Chinese-English interlanguage. *Lingua Posnaniensis, 41*, 39-56.

May, R. (1985). *Logical form: Its structure and derivation*. Cambridge, MA: MIT Press.

Miyamoto, Y., & Yamane, M. (1996). L2 rigidity: The scope principle in adult L2 grammar. In A. Stringfellow, D. Cahana-Amitay, E. Hughes, & A. Zukowsky

(Eds.), *Proceedings of the 20th annual Boston university conference on language development* (pp. 494-505). Somerville, MA: Cascadilla Press.

Pérez-Leroux, A.-T., & Glass, W. (1999). Null anaphora in Spanish second language acquisition: Probabilistic versus generative approaches. *Second Language Research, 15*(2), 220-249.

Schachter, J. (1989). Testing a proposed universal. In S. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 73-88). Cambridge: Cambridge University Press.

Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access model. *Second Language Research, 12*(1), 40-72.

Vainikka, A. & Young-Scholten, M. (1994). Direct access to X'-theory: Evidence from Korean and Turkish adults learning German. In T. Hoekstra & B. D. Schwartz (Eds.), *Language acquisition studies in generative grammar* (pp. 265-316). Amsterdam: John Benjamins.

White, L. (1985). The acquisition of parameterized grammars: Subjacency in second language acquisition. *Second Language Research*, *1*(1), 1-17.

White, L. (1989). Linguistic universals, markedness and learnability: Comparing two different approaches. *Second Language Research*, *5*(2), 127-140.

White, L. (2003). *Second language acquisition and universal grammar*. Cambridge: Cambridge University Press.

APPENDIX

TASK 1: Additional task employed in this study with the six types

Direction: write the appropriate answers to each question in English in the given answer sheet.

TYPE 1
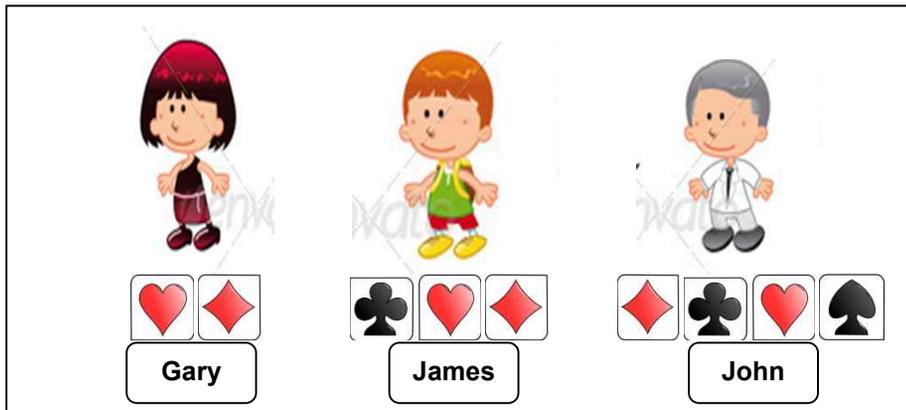
Q: Who has everything?

TYPE 2

Q: Who has everything?

TYPE 3

(Towel)(Soap)   (Shampoo)   (Shampoo)(Towel)(Soap)

Cathy   Susan   Sally
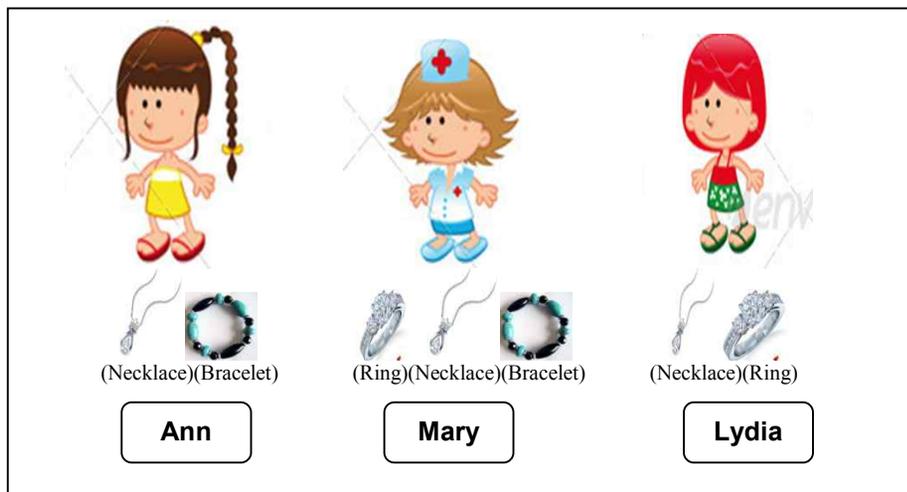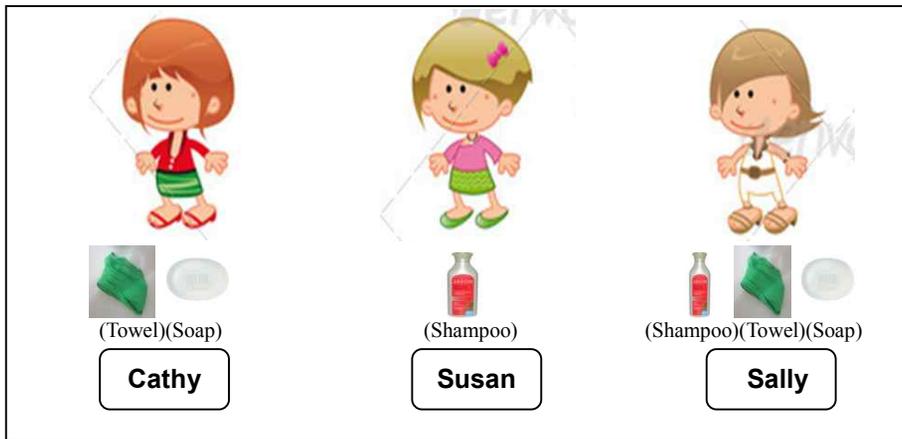
Q: Who has everything?

TYPE 4

Ann

Susan

Laura

B   D

A   B   C   D

B
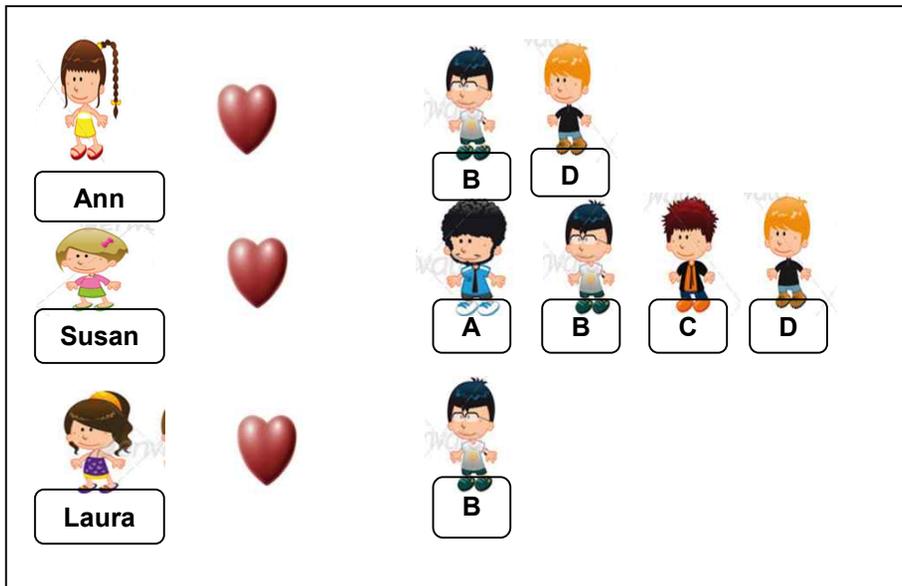
Q: Who does everyone love?

TYPE 5

Q: What does everyone have?

TYPE 6

Q: What does everyone have?

TASK 2: Truth Value Judgment Task with the six types
(Adapted from Kim's (2004) experiment)

Direction: judge the truth value of the second speaker's statement by choosing True or False and marking in their answer sheet.

TYPE 1
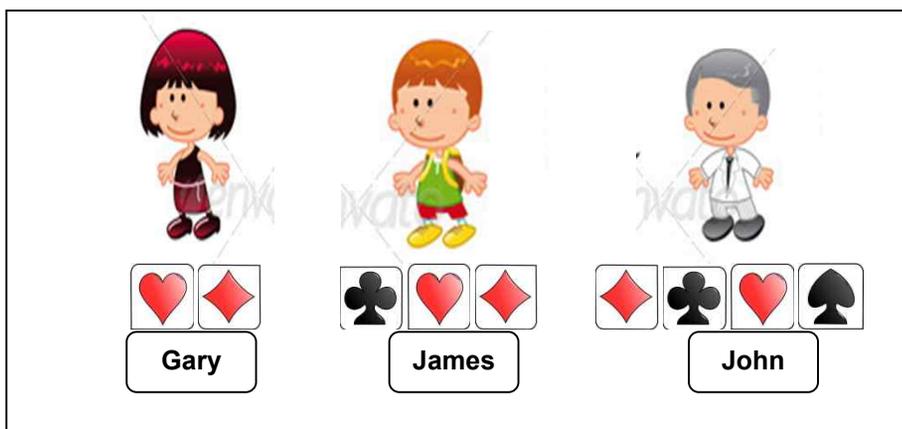
E1: These guys are playing cards! Hey, *who has everything?*
E2: Let me see... James has a club, a heart and a diamond. Gary has a diamond and a heart. John has a club, a heart, a spade and a diamond. Oh, *I know who has everything!* John has everything!

TYPE 2
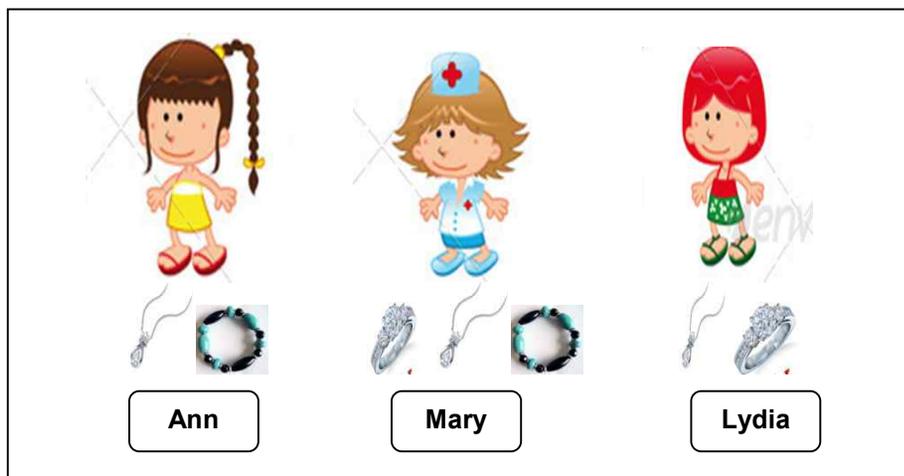
E1: These girls look great! Nice rings, necklaces, and bracelets. Hey, *who has everything?*
E2: Let me see... Ann has a necklace and bracelets. Mary has a ring, a necklace, and bracelets. Lydia has a ring and a necklace. Oh, *I know who has everything!* Ann has everything!

TYPE 3
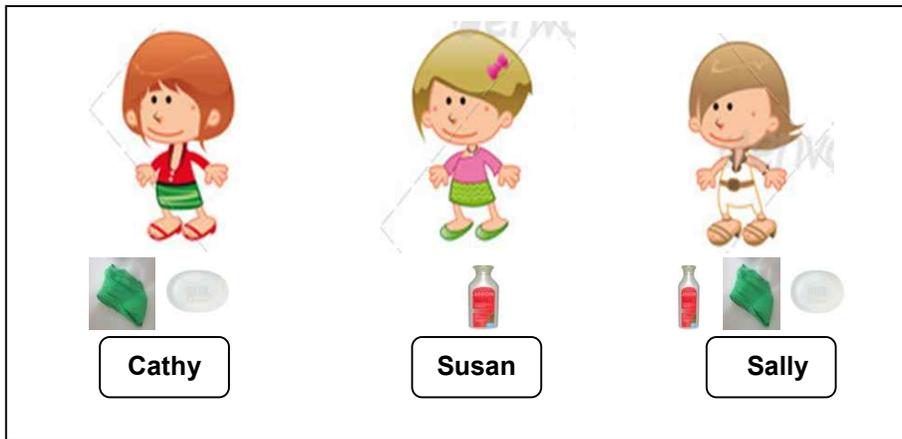
E1: These girls are going to take a shower! Do you know what you need to take a shower? Shampoo, soap, and a towel. Hey, *who has everything?*
E2: Let me see... Oh, *I know who has everything!* Cathy has soap and a towel. Susan has shampoo. Sally has soap, a towel, and shampoo!

TYPE 4
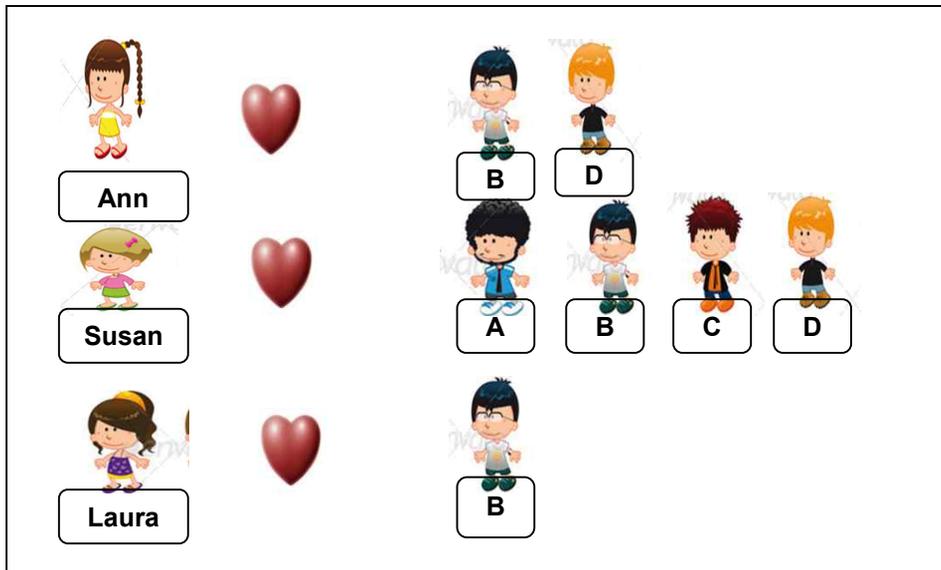
E1: These girls are falling in love with boys. The boy's names are A, B, C and D. Hey, *who does everyone love?*
E2: Let me see... Ann loves B and D. Susan loves A, B, C, and D. Laura loves B. Oh, *I know who everyone loves!* Everyone loves B.

TYPE 5

| Sam | Mark | Chris |
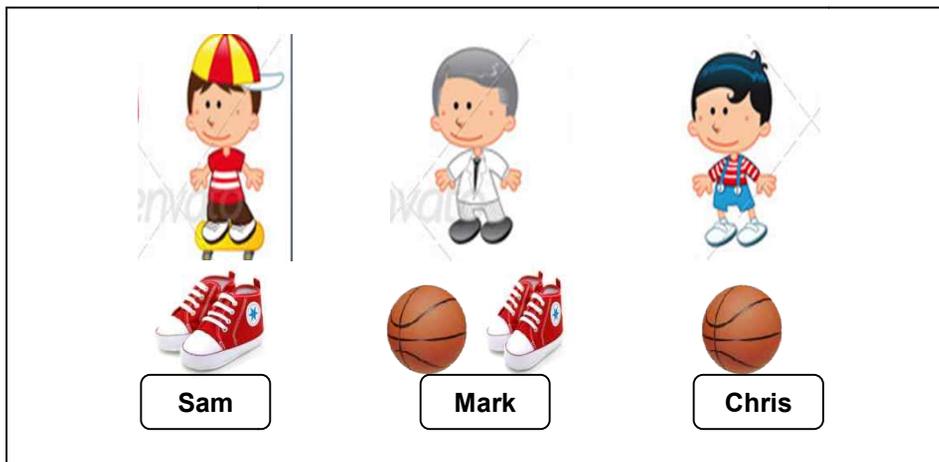
E1: These boys are going to play bowling! Hey, *what does everyone have?*
E2: Let me see... Sam has shoes. Mark has a ball and shoes. Chris has a ball. Oh, *I know what everyone has!* Everyone has a ball and shoes.

TYPE 6

| Eric | Henry | Paul |

E1: These guys are playing with toys! Hey, what does everyone have?
E2: Let me see... Oh, I know what everyone has! Eric has a Teddy bear and a car. Henry has a doll, a car, and a Teddy bear. Paul has a car!

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