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Instruction Effects of Teaching Relative Clauses on Comprehension and Production in Korean EFL Classes

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This study investigates the effects of three different types of instruction, namely form-based, comprehension-based, and production-based on the development of Korean university students' (n=137) comprehension and production of English relative clauses (RCs). The extent of improvements was analyzed by administering pre-and post-tests consisting of two comprehension tests (selecting the right form of RCs and the right picture descriptions) and one production test (combining two sentences). Findings of this study suggest that all three types of instruction increased participants' comprehension and productions of RCs. However, there appeared differential effects by the instruction type. It was found production-based instruction was most effective in promoting comprehension, followed by comprehension-based instruction. Comprehension-based instruction worked best with the development of production, suggesting that the effects of comprehension training did not only work for increasing comprehension skills, but also transfer to production skills. The type or level of tasks employed for each instruction appeared to play an important role in causing such results. Form-based instruction displayed the lowest improvements in both comprehension and production of RCs. A sentence-combination task employed for form-based instruction appear to result in mere explicit rule explanations without chances to notice rules in context or use their knowledge in practice.

[relative clauses/instruction/comprehension/production/form/meaning]

I. INTRODUCTION

Relative clauses (RCs) are adjectival clauses used to modify a noun. They are often dealt with one of the major grammatical points to learn in English as a foreign or second language (EFL/ EFL) classroom as they appear frequently in everyday reading or

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listening materials when describing situations or objects in detail using complex sentences. However, still a number of EFL learners especially at the elementary or low intermediate level tend to avoid using RCs in their sentences whether in speaking or writing. Schachter (1974) identified the reasons why RCs are often avoided by EFL or ESL learners by comparing differences in relativization by language. For example, in English, RCs follow the head noun, while in Korean the RCs occur before the head noun. RCs are marked by relative pronouns like *who, which*, or *that* in English, while RCs by a particle in Korean. Along with these differences, RCs involve figuring out a complex process of embedding. These all seem to cause learners to have difficulty in comprehending and producing RCs.

Research on the acquisition of RCs has been primarily carried out in two areas, first to find out an optimal condition or instruction for promoting the acquisition of RCs (e.g., Doughty, 1991; Izumi, 2002; Izumi & Izumi, 2004; Takayuki, 2002; Yabuki-Soh, 2007), and second to investigate the difficulty order of types of RCs to determine which types of RCs should be taught first (e.g., Aarts & Schils, 1995; Eckman, Bell, & Nelson, 1988; Keenan & Comrie, 1977; Yabuki-Soh, 2007).

This study explores differential effects of the three types of instruction—form-based, comprehension-based, and production-based instruction—on comprehension and production of RCs by 137 Korean university students learning an EFL. Thus, the purpose of this study is to suggest effective instruction designs for facilitating both comprehension and production of RCs for Korean EFL learners..

II. LITERATURE REVIEW

1. Types of Formal Instruction

Formal instruction can be primarily divided into explicit and implicit types based on the distinction between 'focus on forms' and 'focus on form'. Or it can also take a form of combination of both explicit and implicit types. Focus on forms' refers to "instruction that seeks to isolate linguistic forms in order to teach and test them one at a time." (Ellis, 1994, p. 639). Thus, instruction derived from 'focus on forms' emphasizes directly teaching explicit rule representations. The focus is solely on linguistic features. On the other hand, 'focus on form' termed by Long (1991) involves indirectly teaching target items by providing learners with opportunities to induce rules from examples given to them. Accordingly, instruction based on 'focus on form' is more implicit in nature. Learners engaged in focus-on-form instruction need to clearly focus their attention on specific target linguistic features while communicating. Learners, thus, are led to

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alternate their focus between form and meaning.

The advantages and disadvantages of each type of instruction have been reported by numerous studies. Studies showing advantages of explicit instruction over implicit instruction indicate that explicit instruction tends to be more beneficial when the target feature is simple rather than complex (Reber, Kassin & Cantor, 1980), and may help learners move beyond stable interlanguage patterns in the learning of question forms (Spada & Lightbown, 1999). However, Norris and Ortega (2000) in their meta-analysis of L2 instruction while concluding an advantage of explicit instruction over implicit instruction, cautiously suggest direct comparisons between explicit and implicit instruction are difficult as most instruction carried out in classroom settings often employs a combination of both types of instruction.

On the contrary, there are also studies supporting the effectiveness of more of an implicit type of instruction over explicit one or other types of instruction with an implicit nature. Types of instruction following an implicit domain can be named 'comprehension, interpretation or meaning-based instruction' or 'production-based instruction'. Of course, depending on the degree of explicitness added to a certain type of instruction, the characteristics of instruction can be determined as either explicit or implicit. There are some research findings supporting positive effects of comprehension-based instruction on production. VanPattern (2004) demonstrated the effectiveness of comprehension instruction termed 'processing instruction' over production instruction on both production and comprehension. Burger and Chretien (2001), pointing out the similarity between comprehension-based instruction and content-based learning, showed that learners engaged in content-based learning improved L2 speaking even though production skills such as speaking were not highlighted in the content-based learning. Trofimovich, Lightbown, Halter and Song (2009) in their 2-year longitudinal study on ESL learners, displayed that comprehension practice in listening and reading without any speaking helped develop L2 pronunciation, strongly implying the possibility of the transfer effect of comprehension on production through continuous exposure to the specific linguistic forms and practice.

2. Instruction Research on RCs

There have been a myriad of studies on the effects of instruction types on RCs as well as in L2 research as shown in the previous section, but findings on the role of each type of instruction on RCs appear quite mixed.

Yabuki-Soh (2007), for instance, demonstrated the effectiveness of explicit form-based instruction over comprehension and a combination of both form and meaning practice in both comprehension and production of Japanese RCs. On the other hand,

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Doughty (1991) found opposite results showing positive effects of meaning-oriented treatment involving visual enhancement and various forms of comprehension practice over rule-oriented instruction on comprehension skills of RCs by ESL learners at intermediate level. Kim's research (2007) on the acquisition of English RCs by Korean university students revealed the explicit-inductive/cooperative instruction was more effective than the explicit-deductive/individualistic instruction on both sentence combination test and grammaticality judgment test. However, while the explicit type of instruction was revealed effective when integrated with cooperative instruction, the learners favored cooperative instruction over explicit-inductive instruction. Cooperative learning was perceived by the students in this research as communicative language teaching through more communication and interaction. Explicit-inductive instruction indicates an explicit rule representation of rules with examples, which is considered most effective in presenting difficult new materials (Ellis, 1994).

In relation with the effects of production or output practice, Izumi (2002), focusing on the importance of noticing in influencing Interlanguage development, examined the effects of producing output (production practice) vs. input comprehension practice using visual enhancement on relativization. Her findings suggest production combined with input comprehension practice can best promote noticing of RCs in the input, thus affecting subsequent learning of RCs in both production and comprehension, while input enhancement for the sole purpose of comprehension may not lead to improvements in RC learning. In her subsequent study done with her colleague, Izumi and Izumi (2004), however, found that the group instructed in comprehension practice (i.e. picture sequencing task) used English relative clauses more accurately both in comprehension and production than the group with production training (i.e. picture description task).

To account for the inconsistent results with the previous findings of Izumi's study (2002), Izumi and Izumi noted the production activities learners involved led to mere repetition of the RC form, not giving a room for processing how RCs are used through form and meaning mapping.

Why such mixed findings depending on the instruction type were found is uncertain. It is only assumed the effectiveness of treatment may depend on the way each instruction is implemented and the characteristics or readiness of the learner(s). However, the mixed findings are in a way more intriguing in searching for an answer for what kind of instruction works best for the participants under investigation and why a certain instruction works better than others. Based on the aforementioned research findings and theories, this study attempts to answer the following research questions:

1. Of the RC teaching methods, form-based, comprehension-based and production–based instruction, which instruction is most effective in both facilitating comprehension and

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production of RCs?
2. Are there any differential effects of each type of instruction on comprehension or production of RCs? If any, what are the differential effects?

III. METHOD

1. Participants

The participants of this study consisted of 137 Korean university students learning EFL drawn from 3 English classes called 'Basic TOEIC'. The original sample included 150 students, approximately 50 from each class. However, only the data from 137 students who participated in all the RC instruction sessions and both pre- and post-tests were dealt with for this study. As a result, the number of the participants for 3 classes was 49, 45, and 43, respectively. The classes were open for all graders and majors, so their majors and grades varied. According to a TOEIC test administered during the course, their TOEIC mean scores turned out 392, 410, and 415 respectively for all three classes, suggesting their English level around high elementary to low intermediate. The number of English majors was relatively equal in each class, 6, 5, and 4, and their TOEIC scores were slightly higher than the average ranging from 400 to 500. Even though most of the participants reported they had never taken TOEIC lessons before, they all had prior instruction in English in their primary and secondary school for more than 10 years. All of the participants were taught by the same instructor for a semester in 2011, and RCs were one of the main grammar points to learn for TOEIC lessons.

2. Research Design

A quasi-experimental design was performed in this study. The study was conducted in a university classroom setting, involving 3 TOEIC introductory level classes. At the beginning of the course, a pre-test on RCs was administered throughout the three classes. The pre-test involved two types of comprehension task using multiple-choice types and one production test for combining two sentences using RCs. In the fifth week of the course when RC patterns were introduced as a grammar structure to learn in the textbook, the participants were given three different types of instruction for RCs in their class time according to their class allocation. Thus, they were naturally divided into 3 different groups, namely, regular and 2 experimental groups. The regular and the first experimental group received two 50-min class periods in a row respectively and the second experimental group had two 50-min class periods in a row and one 50-min class lesson (one class period is

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equal to 50 minutes). The types of instruction they received were form-based for the regular group, comprehension-based for the first experimental group and production-based for the second experimental group. The term 'regular' was used for the form-based group as the most commonly used instruction type in TOEIC classes tends to favor explicit rule explanations or explicit noticing of grammatical rules rather than communication. Also, another feature to notice in this research design is that three class periods were allotted only for the production-based group. At first, the same two class periods were allotted for the production-based group as in the other two classes, but the activities needed for production required two full class periods—the participants needed to explore ideas together to make sentences using RCs. Since most of the students were not used to making their own sentences in English, organizing groups and assigning roles in the group were important, which also took more class time than expected. After the production-based activity, an additional time was also necessary to check with the whole class what they had done in previous class and the check-up required reviewing RC patterns. That's why learners in the production-based group were given one more class time.

In the sixth week, one week after the RC instruction was provided, the post-test was conducted. The same two sets of the comprehension test were first taken by the participants of 3 groups. Then, the participants were also asked to take the production test (PT) consisting of 5 items. The overall research design is shown in Table 1.

TABLE 1

Overall Research Design

1st week	Pre-test - Comprehension test : 1) identifying the right form of relative pronouns (CT 1) 2) identifying the right picture description (CT 2) - Production test (PT): Combining two sentences using RCs
5th week	Treatment - Regular group (n=49): form-based instruction (two 50-min class periods) - Experimental 1 group (n=45): comprehension-based instruction (two 50-min class periods) - Experimental 2 group (n=43): production-based instruction (three 50-min class periods)
6th week	Post-test - Comprehension tests - Production test

3. Types of Instruction

1) Form-based Instruction

The regular group received the most explicit type of instruction. The participants in the

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form-based group were basically given rule explanations for RCs from the instructor and did TOEIC exercises, multiple choice types in nature provided by the textbook. The focus was primarily on identifying correct forms of relative pronouns for a given sentence, and head nouns modified by RCs. In a textbook used, the students were led to learn RC patterns by the way of combining two sentences. Let's take one example.

Mr. Watson is the manager. + *He is responsible for the new project.*

↓

➔ *Mr. Watson is the manager* ***who*** *is responsible for the new project.*

As in this example, only the relative pronoun *who* is enhanced in boldface and indicated as replacing a pronoun *He* using an arrow sign. The participants of this group were exposed to chances to analyze RC patterns by practicing two-sentence combination. For example, the key to analyzing the RC sentence in the above example is to figure out the original position of the relativised noun '*who*' in the RC and the position of the head noun '*the manager*' in the matrix clause. Repeatedly, the participants were asked to identify the head noun and the RC in a variety of sample sentences as a pair and then separate them into two independent sentences. Also, they were told to recombine two independent sentences written by other students using RCs and to compare their answers with each other. They tended to have more difficulty with the relative pronoun in the position of object rather than with the relative pronoun in the position of subject. Teaching RCs using two sentence combination tasks seems to be prevalent in formal settings. However, as Takayuki (2002) warned, this kind of training can be too mechanical "far removed from a real use of relative clauses" (p.30) and might be confusing to learners because they may consider relative pronouns as a sentence connector rather than a modifier of a head noun. Therefore, it was explained the RC cannot stand alone and be separated from the noun phrase to show the difference in the role between sentence connectors and RCs.

In the second half of the class, other chances to test their knowledge on the RC rules were given through TOEIC exercise questions as the following.

Anyone [*who, whose, which, whom*] violates the regulations will be punished.

Mr. Duncan, _____ firm lost a lot of money, called for more bonus for himself.
1) which 2)whose 3)whom 4)that

In fact, the above example is too basic to appear on the TOEIC test—how to interpret the RC was not emphasized as multiple choice types do not necessarily require comprehending the meaning of a sentence to choose the right answer but rather

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recognizing an appropriate form to fill in was on the focus. However, as the textbook was targeting for TOEIC beginners, this kind of questions most commonly appeared. No further exercise to practice their knowledge was provided to the participants. The other two groups were also presented with RC rules using the same examples above through the textbook, but the focus of the instruction differed.

2) Comprehension-based Instruction

Of the two experimental groups, the first group was instructed in comprehension-based training, which focuses on both the form and meaning of RCs. In order to focus the participants' attention on the role of RCs as a modifier of a noun phrase, a variety of sentence samples including RCs were first presented with the parts of noun phrases and RCs italicized as in the following examples.

Mr. Watson is *the manager who is responsible for the new project*.
The salesperson who I met was very polite.
Mr. Kim was *the salesperson who I met.*

This way allowed students to recognize RCs as an adjective clause attached to a noun phrase and to see the whole part can be embedded into a main clause as a subject, an object or a complement. As a subsequent activity, the participants were asked as a pair to make sentences using a noun phrase such as '*the salesman who I met*" by inserting it into other given sentence patterns like '*I had lunch with* _____' *or* '_____*is wearing a cap*.' '_____ I hate. or 'I gave him _____'. By this activity, they were enabled to judge which sentence is grammatically and meaningfully acceptable when inserting it into the matrix sentence. This activity was employed so that the participants could discover the RC rules through understanding meaning in the context.

In the second half of the lesson, they as a whole read a passage which included a number of RC patterns. Then they were given questions to answer about the content of the passage. They had to follow the sentences or part of the sentences given in the passage to give right answers by either writing or speaking. Since only two class periods were offered for the comprehension-based instruction as in the form-based instruction, TOEIC exercises involving choosing the right form of relative pronoun were skipped during the class.

3) Production-based Instruction

The second experimental group was instructed in production-based training. The activities designed for production-based instruction take both explicit and implicit

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characteristics, but at the same time they are considered most implicit in nature. The participants in this group were basically given the similar kind of instruction to the comprehension-based group for the first half of the lesson. The focus of this first lesson, however, was more on the rule explanations by the instructor. In the second half of the lesson for RCs, they were taught how to construct noun phrases modified by RCs and then apply them to a real sentence for 50 minutes. For this practice, they had to not only understand how RCs were used and interpreted in a sentence but also apply their understanding on RC patterns into a real sentence to produce their own sentences. To help create their own sentences, first they were given pictures. As a pair, they had to describe a thing or a person in the picture using RCs. Before they started, the instructor first showed one picture and asked questions such as 'what is this?' and 'what is it doing?' as an example. For example, if they have a picture of a dog barking at a stranger, they may make a sentence like '*This is a dog which is barking at a stranger.*' At this stage, they were not asked to write down their answers, but they could just freely make sentences. Then, the following chart was used in class.

Noun	Category of Noun	Detailed description of Noun
Hip Hop	Music	Use rhyme, not melody to make a song
:	:	:

They were first asked to produce a noun phrase using RC with the given example in the chart above and then make a sentence by inserting it into a main clause like '*Hip Hop is music which uses rhyme not melody to make a song'*. They were then asked to go on to make a similar chart using other nouns and produce sentences. While engaged in this activity, the participants made a list together, exchanged their ideas, and consequently peer correction was expected. For this activity, the participants were grouped with 3 other students and two of the members were assigned a role of a summarizer and a presenter. They were asked to make at least 10 sentences and told to receive a plus point if chosen for the best performance. The key to the best performance was to make sure: 1) whether appropriate RC forms were used; 2) whether there were a subject and a verb in their sentences; and 3) whether the sentences they completed made sense. Interestingly, the participants were quite devoted to producing sentences and seemed to enjoy group work. The full two 50-min class periods were consumed for this production-based activity. For check-up, additional one class period was required; they presented their own sentences as a group, revised the sentences they produced with the whole class, which all required reviewing RC rules.

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4. Pre- and Post-Test Materials

In order to provide potential changes in experimental and regular groups' acquisition of RCs, two forms of a comprehension test and a production test were developed as pre- and post-tests. The comprehension tests were intended to examine whether the participants were aware of RC rules (explicit knowledge) especially for the CT 1, and the production test—a sentence combination test—was aimed at assessing their knowledge on how to use RCs (implicit knowledge). Tests were administered in the order of the comprehension tests first and then the production test. The comprehension tests included three relativization types—subject, direct object, object-of-preposition relatives. The production test dealt only with subject and object relatives. Pre- and post-tests were administered with a 5-week time gap to avoid a memory effect on their post-test performance.

1) Comprehension Test 1

At the beginning of the course, the pre-test on RCs was conducted in all three classes. The two sets of the comprehension test were comprised of multiple-choice type questions. The first comprehension test (CT 1) included 10 items for choosing the right relative pronoun form among the four choices given (Appendix A). The CT 1 was designed to figure out the degree of the participants' basic understanding on RC rules such as whether they were aware that a person type of a head noun needs the relative pronoun *who* or *that* but not *which*. Five minutes were given for the CT 1.

2) Comprehension Test 2

The second comprehension test (CT 2) required a higher degree of understanding on RC uses (Appendix B). The test consisted of 5 items. For each item, participants saw a picture and were given 4 sentences describing what was happening in a picture using RC patterns. They were then asked to decide which sentence best described the picture given for each item. They were given 30 seconds for each item. The CT 2 involves not only finding out the right form of relative pronouns but also identifying the right person or object in a picture modified by RCs. (e.g. *There are customers who serve food. vs. There is a waiter who serves*.) The participants also needed to involve interpreting the RC sentences given, so they needed to be aware of how RC patterns were used and why they were used to perform the CT 2 successfully.

3) Production Test

For the post-test, the participants were given 5 pairs of simple sentences and were

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required to combine each pair to make one sentence by converting one of the sentences into RCs (Appendix C). The test consisted of 5 items, and was completed in 7 minutes. As a direction for the PT, the following example was given.

Ex. I read the book. You mentioned the book.
➔ I read the book (that) you mentioned.

5. Data Analysis

The two comprehension tests employed multiple choice types, so it was relatively easy to calculate their scores. One point was given for each correct answer, and an average was calculated. However, the PT was a guided writing type of a test. The participants tended to make trivial mistakes unrelated to RC uses such as omitting a third person singular *–s* at the end of the verb (e.g. *I like Sumi who live next door.*) or spelling and article mistakes. Such mistakes were considered correct answers, so one point was given for it. However, mistakes such as wrong choices of relative pronouns, wrong choices of head nouns or incorrect uses of pronouns in RC (e.g., *Shakespeare is a writer who [he] wrote 'Romeo and Juliet'. Or I like Sumi who [I] first met in high school)* were considered incorrect. No point was given for that item.

IV. RESULTS

1. Findings of Pre-test

As explained in Method, the pre-tests deal with comprehension tests, CT 1 and CT 2. and the production test. As shown in Table 2, results obtained from the CT 1 were relatively similar throughout the three groups, with the mean scores 5.59 for the form-based group (FBG), 5.44 for the comprehension-based group (CBG), and 5.24 for the production-based group (PBG). The mean scores across the three groups suggest they did not have a strong foundation on RCs. The difference in their mean scores was not statistically significant according to the results of a one-way ANOVA (F= .40, p = .66).

Results obtained from the CT 2 also lend support to the findings of CT 1. The mean scores of the CT 2 turned out 2.95 for the FBG, 3.0 for the CBG, and 3.02 for the PBG. There is no statistical difference in their mean scores (F= .05, p = .94). This suggests that their level of understanding on RC rules was considered equal irrespective of the group. The mean scores of the PT also indicate that the three groups under investigation are homogeneous in their ability to produce as well as understand RCs. The mean scores were

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1.12 for the PBG, 1.13 for the CBG, and 1.04 for the PBG, suggesting that their ability to use RCs in sentences might be lower than their understanding of RCs. Again, no significant statistical difference was found with F= .11, p =.889.

TABLE 2

Pre-test Results by Group

Type	Group	M	SD	F	p
CT 1	FBG	5.59	1.38		
(*n*=10)	CBG	5.44	2.03	.406	.667
	PBG	5.24	2.14		
CT 2	FBG	2.95	0.76		
(*n*=5)	CBG	3.0	1.02	.054	.948
	PBG	3.02	1.05		
PT	FBG	1.12	0.92		
(*n*=5)	CBG	1.13	1.14	.118	.889
	PBG	1.04	0.87		

Note. One point was given for each item. Thus, *n* here refers to the full score of the given test.

2. Findings of Post-test

Table 3 illustrates the mean scores of the comprehension and production tests for the three regular and experimental groups. For the CT 1, the mean scores for the FBG, the CBG, and the PBG were 6.69, 7.25 and 7.66, respectively. The group mean scores for the CT 2 were 3.69 for the FBG, 3.9 for the CBG, and 3.97 for the PBG. For the PT, the mean scores obtained for the three groups were 2.16 for the FBG, 2.86 for the CBG, and 2.73 for the PBG.

TABLE 3

Post-test Results by Group

Type	Group	M	SD	F	P
CT 1	FBG	6.69	2.02		
(*n*=10)	CBG	7.25	1.55	.406	.024
	PBG	7.66	1.47		
CT 2	FBG	3.69	1.10		
(*n*=5)	CBG	3.90	.83	.054	.328
	PBG	3.97	.89		
PT	FBG	2.16	1.47		
(*n*=5)	CBG	2.86	1.03	.118	.013
	PBG	2.73	1.00		

Results of a one-way ANOVA indicate that a significant differential effect of the instruction types on the CT 1 (F = .406, p = .024) as well as on the PT (F = .118, p = .013). The results of scheffe comparisons of groups further suggest that there is a considerable

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difference between the FBG and the PBG on the CT 1 (p = .026) and between the FBG and the CBG on the PT (p = .024). However, no statistically remarkable difference in the different instructional effect was found from the results of the CT 2.

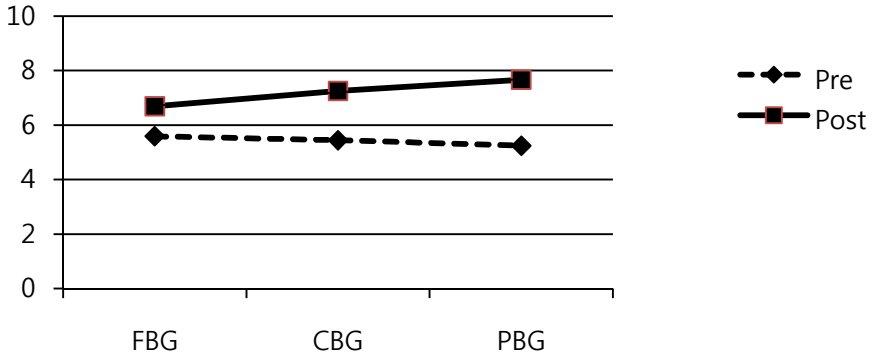
3. Findings of Pre-test vs. Post-test

All three groups increased their scores on both tests. Table 4 shows comparisons of the mean scores of the comprehension and production tests between pre-and post-tests by group. Gains of the mean score in the CT 1 and the PT are also illustrated in Figures 1 and 2.

TABLE 4
Descriptive statistics for Pre-and Post-Test

	CT 1		CT 2		PT	
Group	Mean	Gain	Mean	Gain	Mean	Gain
FBG						
Pre-test	5.59		2.95		1.12	
Post-test	6.69	1.1(11%)	3.69	0.7(14%)	2.16	1.04(20%)
CBG						
Pre-test	5.44		3.0		1.13	
Post-test	7.25	1.81(18%)	3.90	0.9 (18%)	2.86	1.73(35.6%)
PBG						
Pre-test	5.24		3.02		1.04	
Post-test	7.66	2.42(24%)	3.97	0.9 (18%)	2.73	1.69(33.8%)

FIGURE 1
Comparison of Means between CT 1 Pre-and post-test by Group



For the CT 1, the PBG made the most improvement with a mean gain score, 2.42, followed by the CBG with 1.81 and the FBG with 1.1. The group mean scores for the CT 2 were 3.69 for the FBG, 3.9 for the CBG, and 3.97 for the PBG, displaying the similar level

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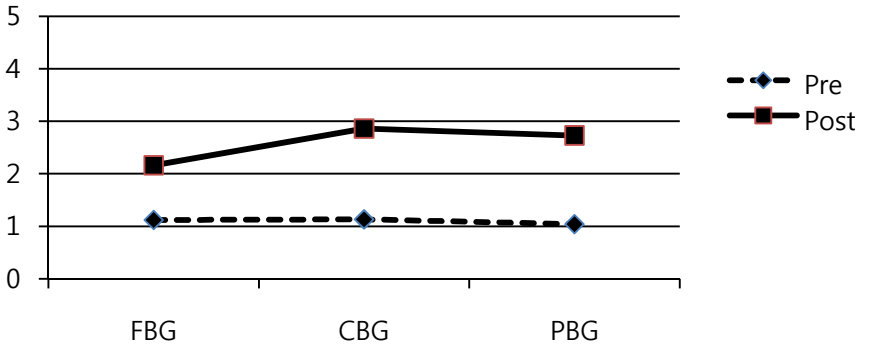
of mean score gains ranging from 0.7 to 0.9 across the three groups. Given the number of questions for the CT2 was half the size of the CT 1, the degree of the gains obtained in the CT 2 is considered similar to those of the CT 1. Finally, for the PT, the mean scores obtained from the three groups were 2.16 for the FBG, 2.86 for the CBG, and 2.73 for the PBG, resulting in the greatest improvement from the pre-test particularly on the CBG and PBG. The most gains were observed from the CBG with the mean gain score 1.73, followed by the PBG with 1.69 and the FBG with 1.04.

FIGURE 2

Comparison of Means between Production Pre- and post-test by Group



V. DISCUSSION

According to the findings of this study, instructional effects appeared most conspicuous in the improvements of participants' production abilities. The participants who received the comprehension–based instruction displayed the highest gains (35.6%) on the PT, followed by the PBG with the second highest gains (33.8%). In other words, the comprehension-based instruction turned out more effective than the production-based instruction in promoting production skills in the case of guided sentence-level writing. This could be accounted for by the transfer effect of comprehension training into production as demonstrated in the previous research (Izumi, 2002; Kim, 2007; VanPattern, 2004). The CBG was trained to complete sentences by connecting given parts of sentences—they were given various matrix clauses and head nouns modified by RCs. Also, the CBG read a passage having various RC patterns and then was asked to answer questions about the passage. These activities led the CBG participants to follow the well-constructed RC sentences given in the passage and task. This appears to not only help them figure out how

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RC sentences are constructed in context but also provide ample opportunities to practice RC sentences with plentiful model sentences, thus leading to the high gains even on their post production test.

The production-based instruction did also contribute to enhancing participants' production of RCs (33.8% gains). Making their own sentences using RCs appeared to add opportunities to explore the target structure, RCs further and enjoy their learning process, thus encouraging them to promote their RC sentence production skills. However, it was unexpected the highest gains were not from the PBG but from the CBG. Along with the possible transfer effect of comprehension training to production suggested above, task familiarity seemed to affect as well in causing higher gains in the production test from the CBG; the skills required in the sentence-combination writing were more similar to those needed in the connection activity for the CBG than to the skills required in the production-based instruction, which are free writing in nature. In other words, it could be said that the complexity level of the comprehension-based instruction was more appropriate for the participants' level of language development than that of the production-based instruction.

It is also noteworthy that both groups' performance in the post production test was still not high enough to use RC structures accurately (probability of right answers at less than 60%) despite the high gains displayed in the results. The reason for this relatively low performance on the PT is not certain. One speculation might be that the participants may have not been ready to accept the level of complexity the RC production required as it was in advance of their language developmental stage. Therefore, as shown in the findings of Izumi & Izumi's research (2004), the participants of this study may have not been fully engaged in constructing meaning by resorting to form they had seemingly achieved in their production of RC sentences. In this sense, in order to make the RC patterns more teachable through production practice, it seems important to devise production activities suitable for the learners' stage of language development. It can be also expected with caution that long-term practice for producing RC sentences might be helpful in developing more accurate uses of RCs in production.

The gains from the first comprehension test (CT 1) revealed a different instructional effect of RCs on comprehension as well. Most impressive were the greatest gains obtained from the production-based group (24%), not from the comprehension-based group (18%) or the form-based group (11%). It was predicted initially the highest gains would be shown in the results of the FBG, as the FBG received intensive instruction using the same types of TOEIC questions as those in the CT 1. However, the gains the PBG obtained were more than double those of the FBG. The result may indicate that the production-based instruction played an important role in reinforcing the comprehension of RC rules and uses as well as the production of sentences with RCs as suggested in Izumi's research (2002). It also suggests that mere explicit explanations of the grammatical rules without practice to

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apply those rules into real language may not be as effective as more meaning-focused or practice-based instruction in the comprehension of grammatical rules. Overall, given that the effect of the production-based instruction was most obvious in the improvement of the CT 1 rather than the PT of all the tests, it is suggested the production-based instruction might have been more optimal in maximizing the accurate and full comprehension of RCs especially for the learners at the beginning to lower intermediate level than in fully engaging in producing RC sentences.

As explained in the Results section, there was no instructional effect statistically on the CT 2 ($p > .328$). However, all three groups regardless of the type of instruction they received preformed better on their post-tests with the gains from 14 to 18 %. A possible reason for no instruction effect on the CT 2 could be ascribed to the fact that the items in the CT 2 tend to be too easy to reflect the differential effect of instruction as the pre-test results show (an average score in the pre-test across the group was 3 out of 5). The CT 2 was designed to deal with more complex patterns of RCs such as identifying a right object or a right person modified by RCs from the pictures given. The participants seemed to have felt less difficulty in identifying the modified head nouns with the help of visual aids and multiple choice items. Rather, they seemed to have more difficulty finding out what forms of relative pronouns to use and how to place relative pronouns into a sentence as the CT 1 results revealed. The focus of the CT 2 was on identifying the former, the right modified head nouns rather than on the latter.

VI. CONCLUSION

This study have yielded findings on how three instructional types on RCs, namely, form-based, comprehension-based, and production based instructions affect EFL participants' ability to comprehend and produce RCs. Drawn from the findings of this study, this study suggests that there are strong instructional effects on both comprehension and production of RCs in the following ways.

Firstly, while the three different types of instruction appeared to have promoted the participants' knowledge of RC structures in comprehension and production, findings suggest that production-based instruction may be more beneficial in improving participants' more accurate and full comprehension of RC rules than the other two types of instruction. Even though the production-based instruction also contributed highly to the promotion of production skills in the sentence combination writing, gains obtained were more striking in the development of comprehension skills of RCs. Thus, it is considered the production-based instruction used in this study seemed to play a more essential role in reinforcing participants' comprehension of RCs than in improving production. It was speculated that

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the production-based instruction might have been too difficult or complex for the participants to process as it was beyond their language developmental stage. There seems to be a need to design or select activities with an appropriate level of complexity for learners' level of language development especially for production practice.

Secondly, comprehension-based instruction might be used as an effective way to enhance production skills of RCs. The findings suggest that the effects of comprehension training did not only work for increasing participants' comprehension skills, but also transfer to production skills. In fact, comprehension-based instruction in this study turned out to work best with the development of production of RCs. Activities used for the comprehension-based instruction in this study included connecting parts of sentences consisting of matrix clauses and head nouns modified by RCs and answering questions by reading a passage with various RC sentences. These kinds of activities in the design stage were expected to allow learners opportunities to notice and induce RC rules by understanding meaning in a given context. It is however noteworthy that the effects of comprehension-based instruction used were not confined to enhancing comprehension, but caused the highest increase even in production of RCs. It may imply that intensive exposure to well-constructed target sentences in context may provide an effective condition for learners to help produce target grammar patterns as well as figure out the grammar rules.

Thirdly, form-based instruction displayed the lowest improvements in both comprehension and productions skills of RCs. It appears that the form-based instruction implemented in this research was limited to mere rule explanations without opportunities to use their knowledge in practice. Tasks for combining two sentences, which are considered the most favored instruction type when teaching RCs in classroom settings, did not seem to contribute to explicit noticing of RC rules. In addition, considering sentence combination tasks are the same one employed for the production test, their performance in the production test can be rather disappointing. The findings can suggest that form-based instruction employed in this research may not be as effective as more meaning- and practice-oriented training in the development of comprehension and production of RCs.

This study also revealed some limitations. The study was intended for the learners at the low intermediate level, so the findings of this study may not be applicable to other populations at other proficiency levels. Another limitation might be this study investigates only the immediate effect of RC instruction. To measure the acquisition of implicit knowledge, it might have been more desirable to administer a delayed post-test. Also, the measurement instruments employed in this study can be said highly explicit and analysis-oriented. Especially, the production test involving sentence combination writing using RCs has been criticized by some scholars in that it does not reflect real world activities (Takayuki, 2002). More consideration needs to be taken to devise appropriate measurements, particularly for measuring implicit knowledge.

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APPENDIX A

Comprehension Test 1

- 다음 빈 칸에 알맞은 답을 찾으시오.

1. The woman _____ you talk to is my teacher.
   1) whose 2) which 3) that 4) is
2. A fax is a machine _____ sends and receives messages along the telephone line.
   1) who 2) which 3) whose 4) ∅
3. The music _____ was composed by Beethoven was romantic.
   1) who 2) that 3) it 4) ∅
4. The meeting _____ was held last week was productive.
   1) who 2) that 3) of which 4) ∅
5. Jina loves New York _____ has a lot to enjoy.
   1) Who 2) which 3) where 4) ∅
6. The subject in _____ I'm interested is biology.
   1) Who 2) which 3) that 4) ∅
7. I have found a book _____ I was looking for.
   1) That 2) who 3) whose 4) was
8. Steven Spielberg is a director _____ made E.T.
   1) Who 2) which 3) where 4) when
9. I found a store _____ has just opened in town.
   1) Who 2) which 3) where 4) where
10. My brother is talking with his professor _____ hair is grey.
    1) who 2) which 3) whose 4) that

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APPENDIX B

Comprehension Test 2

- 다음 그림을 가장 잘 묘사한 문장을 고르시오.

1. 1) There is a man who is talking on the phone.
   2) There is a man who he talks on the phone.
   3) There is a computer which uses a man.
   4) There is a computer which is used by a man.

2. 1) There is a boy who is getting his hair cut.
   2) There is a man who is getting his hair cut.
   3) There is a boy who does man's hair.
   4) There is a man who he does his hair.

3. 1) There is a waiter who serves.
   2) There are customers who serve food.
   3) There is a waiter who is served.
   4) There are customers who they serve.

4. 1) There is a doctor who examines a woman.
   2) There is a man who examines a doctor.
   3) There is a woman who examines a doctor.
   4) There is a doctor who examines a woman.

5. 1) There are books which are on display.
   2) There are shelves which are empty.
   3) There are people who don't read books.
   4) There are some books who people read.

APPENDIX C

Production Test

- 다음의 두 문장을 관계 대명사를 이용하여 아래 예와 같이 한 문장으로 만드시오.

예) I read the book. You mention that book.
-> I read the book(that) you mentioned.

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1. I like Sumi. She lives next door.

2. I like Sumi. I first met her in high school.

3. Sumi studies economics. She wants to be an accountant.

4. Shakespeare is an English writer. He wrote ‘Romeo and Juliet’.

5. Romansh is a language. It comes from LATIN.

Examples in: English
Applicable Languages: English
Applicable Levels: Secondary/College

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