

〈原著論文〉

## Examination of the Efficacy of Instruction of English Conditionals with Skill Acquisition Theory

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### Abstract

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This pilot study examines the effectiveness of using principles of Skill Acquisition Theory to teach conditional sentences over a short term. Three conditional grammatical structures were introduced to a single learner using PPP lesson sequence over a 6-week period. Results of the post-treatment and delayed post-treatment tests indicate potential for short-term gains in both productive and receptive proficiency with English conditional structures using this instruction style.

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**Key words:** Skill Acquisition Theory, PPP, Conditionals, Teaching English, SLA

The conditional sentence structures are some of the biggest challenges facing both teachers and learners of English. They are syntactically complex, being composed of a subordinate and main clause. In addition, there are a variety of semantic variations that are subtle and difficult even for native speakers to understand. Furthermore, there is disagreement among researchers on the number of semantic categories of conditionals. Traditionally, conditionals are divided into four categories: zero, first, second and third conditionals. However, some researchers contend that this division, while useful for pedagogical purposes, does not take into account the full range of actual uses of conditional sentences (Maule, 1988). Beyond classification of conditionals, there is disagreement as to how grammar, in general, is best taught. Some researchers advocate teaching grammar inductively, while others insist grammar is best taught deductively. Another debate centers on whether grammar should be taught intensively or extensively. In fact, some researchers question whether grammar should be taught at all. With such controversy surrounding conditionals, and the instruction of grammar in general, it is no wonder teachers and language learners alike are often at a loss for how best to approach them in formal study.

The current case study uses Celce-Murcia and Larsen-Freeman's (1999) classification of conditionals into 3 distinct categories, and examines whether or not conditionals can be effectively taught in a short period of time using lessons designed using the PPP style of lesson teaching based on Dekeyser's (2007) Skill Acquisition Theory in a man-to-man setting.<sup>(1)</sup>

## Literature Review

### Conditionals

A conditional sentence is a complex grammatical structure that contains a conditional clause (*if*-clause) and a main clause. There is controversy among researchers and teachers as to how many categories of conditionals exist in English. For pedagogical purposes, many modern textbooks use the traditional division of zero, first, second and third conditionals, with equal focus on each type (Jones & Waller, 2011). However, some researchers contend that, while this division is convenient for pedagogical purposes, it does not accurately reflect the full range of conditionals commonly used by native speakers (Maule, 1988; Jones & Waller, 2011). A recent semantic hierarchy of conditional sentence types proposed by Celce-Murcia and Larsen-Freeman (1999) divides conditionals into three major categories by the different kinds of semantic relationships that exist between the *if*-clause and the main clause. These categories are factual, future (predictive), and imaginative conditionals. Each category is divided further into sub-categories.

Factual conditionals can be timeless or time-bound. Timeless conditionals express generic or habitual facts. Time-bound conditionals express implicit and explicit inferences. Implicit inferences refer to conditionals that express guesses about specific time-bound relationships. Explicit inferences refer to conditionals for which there is no definite relationship between the two clauses in terms of tense, aspect or modals. Explicit inferences contain an inferential modal in the main clause, most commonly *must* or *should*.

Future conditionals can either have strong conditions and results, degrees of either weakened conditions or results, or both. Future conditionals with strong conditions and results express plans in the future, with an explicit indication of future time, such as *will* or *be going to*. Future conditional sentences with degrees of weakened conditions or results, on the other hand, lack certainty in either the condition or result. As such, they contain a weaker modal of prediction, such as *may* or *should*, in either or both clauses.

Imaginative conditionals have two subtypes: hypotheticals and counterfactuals. Hypotheticals

express a condition and result in either the future or the present that the speaker thinks is unlikely yet possible. Future hypotheticals take either *were to* + *V* or *V* + *simple past* in the *if*-clause, and *would* in the main clause. Present hypotheticals take either simple past or present subjunctive in the *if*-clause and *would* in the main clause. Counterfactual conditionals express events in either the present or past that are impossible. Present counterfactuals take either the simple past or present subjunctive in the *if*-clause and *would* in the main clause. Past counterfactuals take the past perfect in the *if*-clause and *would have V* + *-en* in the main clause.

Though there are three distinct categories of conditionals, not all are equally represented in frequency of usage. Hwang (1979) analyzed a corpus of over 60,000 words of English speech and almost 360,000 words of written English to identify the most commonly used grammatical patterns of conditionals. He found that the seven most commonly used syntactic constructions in order of their frequency of occurrence in his corpus were: a) *if* + *pres.*, *pres*, b) *if* + *pres.*, *will/be going to*, c) *if* + *past* {*would* / *might* / *could*}, d) *if* + *pres.*, {*should* / *must* / *can* / *may*}, e) *if* + {*were* / *were to*}, {*would* / *could* / *might*}, f) *if* + {*had* + *en* / *have* + *en*}, {*would* / *could* / *might*} *have*, and g) *if* + *pres.*, {*would* / *could* / *might*}. A disparity exists in the commonality of occurrence of the various conditional constructions in native-speaker speech. These results help us make more realistic and informed choices about which structures to cover when planning lessons and the order in which to teach them, introducing and emphasizing the most common structures first.

### Teaching grammar

There are many issues one must take into account when teaching grammar. According to Ellis (2006), if we assume that grammar should be taught to English language learners as they study, we must then ask several important questions. The first of these is whether grammar instruction should be massed in a short period of time, or distributed over a longer period of time.

Miles (2014) examined how 45-Korean students performed on an error identification task and translation task after either distributed or mass instruction of explicitly taught adverb phrases. He found that on immediate posttests, both groups performed equally well. On a delayed posttest, however, the group that received distributed instruction out performed both the massed instruction and control groups. Miles claimed that knowledge processed through spaced learning shows less decay over time than knowledge processed through massed learning. On the other hand, in a much more expansive study of 700 students in French elementary schools

in Québec, Collins, Halter, Lightbown, and Spada (1999) showed that massed learning may be more effective than spaced learning in certain situations. After 10 months of communicative ESL lessons, students in massed instruction programs outperformed peers who received distributed instruction on several different tests of vocabulary recognition and production. The researchers argued that students who received relevant instruction in large, intense doses were better able to process information in a meaningful way than those who received the same instruction in a “drip-feed” over time. The important distinction between the design of these two studies is the length of treatment. Miles treated his students for a single semester, or half-year. Collins et al’s study treated their students for close to twice that time, which may indicate that mass-instruction is most effective when administered over longer periods of time.

Another important question posed by Ellis (2006) is whether or not there is any value in teaching explicit grammatical knowledge. In a study involving close to 1,000 participants, Lightbown and Spada (1990) found that learners taught with activities focusing exclusively on meaning developed a high level of fluency, communicative confidence, and listening comprehension. These students, however, suffered deficiencies in the complexity and linguistic accuracy of their production. Lightbown and Spada (2013) went on to suggest that Focus on Form instruction interventions may be necessary to draw learners attention to salient forms in order to notice, understand and further put to use these forms in later communication. Norris and Ortega (2000) supported this argument by saying that a conscious awareness of how a structure works is beneficial for learners encountering a form for the first time. This notion was further supported by Ellis (2006) who argued that explicit knowledge of grammatical forms can assist the acquisition of implicit knowledge. All of these results thus add to a building argument for recognizing importance of at least some degree of explicit grammatical instruction in a well-balanced curriculum.

Explicit knowledge of a grammatical structure, however, is not sufficient for fluent use of the structure. This knowledge must be unconsciously accessible as implicit knowledge for it to be functionally useful in communication. Thus, a final important question posed by Ellis (2006) is whether or not there is a best way to teach grammar for implicit knowledge. Researchers, like Krashen (1981), who take a non-interference position on instruction, argue that the explicit learning of a grammatical form does not equal acquisition. They argue that learners can only fully acquire grammatical knowledge through extensive exposure to comprehensible input and time to reflect. Millard (2000) also stated that it is impossible to teach for implicit knowledge. He argued that that implicit knowledge must be fostered and that learners need focused,

meaningful communicative practice to do this. DeKeyser (2007) supported the argument that implicit knowledge only develops through a process that begins with recognizing a rule and proceeds through extensive practice towards full implicit knowledge. This idea is the basis of DeKeyser's Skill Acquisition Theory.

### **Skill Acquisition Theory**

The central concept of DeKeyser's (2007) Skill Acquisition Theory states that there are three types of knowledge and three learning stages involved in the acquisition of a skill. The first type of knowledge is declarative knowledge. Declarative knowledge is defined as the "knowledge or information about things and facts" (DeKeyser & Criado, 2013, p. 1). In the context of grammar, this is the knowledge of grammatical rules, both morphosyntactic and phonological, and of word meanings. Activation of declarative knowledge requires a learner hold a large amount of information in working memory, which yields a considerable cognitive burden. The cognitive burden of focusing on form then hinders fluency. The second type of knowledge is procedural knowledge. Procedural knowledge refers to "knowledge about how to perform various processes and behaviors." (DeKeyser & Criado, 2013, p. 1). In the context of grammar, this refers to the unconscious, implicit set of rules that are recalled when producing language. For example, when conjugating verbs into simple past tense, we unconsciously draw upon a rule that, for most regular past tense verbs, adding -ed to a verb accomplishes this task. The third type of knowledge is automatized knowledge. Automatized knowledge develops as result of the rebuilding and polishing of procedural knowledge so that, in the case of language, correct linguistic behavior is displayed quickly and accurately (DeKeyser & Criado, 2013). In the context of grammar, this refers to the improvement of qualitative abilities, like recalling large groups of rules for co-production as a single set, as well as quantitative abilities, such as minimizing errors and increasing the speed of recall and production.

The first of the three stages of learning required to acquire a skill is initial acquisition. Initial acquisition refers to declarative coding of knowledge about a given topic. In grammar instruction, initial acquisition occurs when a learner encounters a new piece of factual information related to a particular grammar point by self-study, instruction or observation of a master. Following initial acquisition, learners are able to practice the skill to transfer declarative encoding into procedural knowledge. This stage is referred to as the gradual development stage. At this stage, learners practice a structure, but still require declarative knowledge to scaffold their production as recall is not yet automatic. After a large amount of practice, less and less

conscious processing power is necessary to execute the structure. At this point, learners have entered the third stage of acquiring a skill known as final consolidation. In final consolidation, knowledge becomes automatized. Automatization is defined as the elimination of one or more cognitive processes necessary to execute a skill.

The principles of Skill Acquisition Theory have been applied to language teaching in the form of the *PPP* approach to activity sequencing (Criado, 2010). The three P's stand for three consequent lesson phases: presentation, practice and production. In the presentation phase, the teacher presents the target structure in either an inductive or deductive way. Students have to induce the meanings and rules of the target forms from meaningful texts or examples. This phase provides students with a declarative knowledge base. In the practice phase, learners are engaged in highly controlled practice activities. The target of these activities is to develop a high degree of accuracy with a form so that it can later be used to develop fluency. This phase encourages proceduralization of declarative knowledge. In production phase, learners are engaged in activities which offer more autonomous control. Without the scaffold of teacher support, the students must draw on procedural memory repeatedly, which in turn fosters automaticity. When considering how best to teach complex grammatical forms explicitly over a short time, Skill Acquisition Theory gives a strong foundation for curriculum design that potentially fosters deeper knowledge development in a principled way.

### **Practice and Feedback**

During the gradual development stage, learners engage in a large amount of practice to transfer knowledge from declarative encoding to procedural knowledge. DeKeyser and Criado (2013) recommend that this practice take the form of discrete-item-based practice with a strong focus on form. The two purposes of practice are (a) to test and polish declarative knowledge and (b) establish an accurate foundation to be further drawn upon, which aids in further proceduralization. To achieve this, DeKeyser (2007) recommends a proactive approach to learner feedback during practice. There are differing opinions about the role and effectiveness of teacher feedback during production activities. The most popular form of feedback in the classroom is a recast, although research shows that learners rarely perceive morphosyntactic feedback correctly (Mackay, Gass, & McDonough, 2000). Ashwell (2000) argued that learners benefit more from direct and explicit feedback. He found that explicit feedback on writing has a positive effect on the development of grammatical accuracy. The current study design adopted immediate explicit feedback following mistakes to better foster the accurate uptake of

declarative knowledge of form.

### **Purpose and Research Questions**

The main purpose of this study is to make an argument for whether or not the syntactic structure and meaning of the three different types of conditional sentences can be taught effectively over a short period of time using principles from Skill Acquisition Theory. The research questions for this study are as follows:

- 1) Do lessons designed with principles of Skill Acquisition Theory raise learner consciousness of the difference between the grammatical patterns associated with commonly used conditionals in spoken discourse in a short period of time in a measurable way?
- 2) Do the above lessons increase the accuracy of controlled and free production of commonly used conditionals in spoken discourse as measured by the number of mistakes in usage?

## **Methods**

### **Participant**

The participant, Lily (pseudonym) was a 28 year-old Iranian female studying at a Japanese university, who had been living in Japan for 8 years. Her native language was Farsi and she was a fluent Japanese speaker. She had studied English formally in Iran for 7 years before coming to Japan, but had no further formal study. At the time of this case study, Lily had taken the Cambridge PET and passed with a 4 or above in all bands, meaning her ability was approximately B1 on the Common European Framework of Reference for Languages (Council of Europe, 2001).

### **Instruments**

In this study, three different tests were administered: a pre-treatment test, a post-treatment test and a delayed post-treatment test. Each test consisted of three tasks. The first task was a comprehension task, modified from Ko (2013), with 16 multiple-choice questions used to measure how well the learner understood the semantic meaning of *if*-conditionals. An example of a question has been included below:

*Choose the option that best fits the meaning of the sentence.*

If it snows this winter, I'll go skiing.

- A. I may ski.
- B. I will ski.
- C. I won't ski.
- D. I skied.

The second task was a controlled production task, also modified from Ko (2013), with 33 cloze-questions to understand how well the learner could produce *if*-conditionals. An example of the question has been included below:

*Read the conversation and fill in the blanks. There is a hint to help you. Sometimes you need to write more than one word.*

A: What should we do this weekend?

B: If it \_\_\_\_\_ (be) sunny, we \_\_\_\_\_ (go) to the beach.

Modifications to the above two instruments included the creation of new test items because only a small number were available for reference. The third task was a free production task, which consisted of list of conversational prompts designed by the researcher to test the learner's ability to produce *if*-conditionals in conversation. The final instrument was a survey administered immediately after the delayed post-treatment test to measure the learner's opinion of (a) how confidently she understood each conditional structure (b) the perceived usefulness of each lesson and (c) how much she enjoyed each lesson.

## **Procedures**

Research was conducted over six sessions. Sessions were spaced one week apart over a period of six weeks. In the first session, Lily was interviewed to gather personal information and discuss the research focus. In the second session, the pre-treatment test was administered. In the third, fourth and fifth sessions, one lesson was given on factual, future, and imaginative conditionals respectively. Each lesson lasted approximately one-hour and fifteen-minutes.

All lessons were conducted according to the following procedure. First, in the presentation phase of the lesson, a consciousness raising activity was run. The purpose of these activities was to encourage the inductive restructuring of preexisting grammar knowledge to encourage a



learner to form their own explicit explanation of how a new grammatical structure functions (Ellis, 2002). Doing so encourages learners to pay closer attention to form, and makes explicit grammatical instruction more effective. (Richards and Schmidt, 2002). Furthermore, implicit grammatical introductions can foster organic noticing of the target conditional form, as noticing a gap in a learner's own current linguistic understanding is the first step in establishing a motive for learning of the target form (Schmitt, 1990). In this activity, the learner read several dialogues, highlighted *if*-conditional sentences and was asked questions about the form and meaning of each. Dialogues were written in either AB or ABA format, and language controlled so that, as much as possible, only the 1,000 most common words in English language were used. The second activity in the presentation phase was a short, explicit grammar lesson given on the structure or structures relevant to the lesson. Next, during the practice phase of each lesson, the learner engaged in a controlled production activity. In this activity, the learner used a prompt to produce a sentence requiring the relevant structure to fill in a line in a dialogue. An example of a prompt has been included below:

A: I love the colored leaves! When can we go to the park to see them?

(weather / get cold / leaves / change)

B: \_\_\_\_\_

After each question, the researcher gave explicit feedback on grammatical accuracy. Immediate, explicit feedback was given to encourage accurate practice in the gradual development stage of learning. The final activity in each lesson was the production phase, which was a free conversation / role-play activity. The researcher used a list of prepared prompts to set up situations that required the learner to produce structures relevant to the lesson. At the end of the fifth session, the post-treatment test was administered. In the sixth and final session, the delayed post-treatment test was administered and was followed by the survey and a discussion of survey contents.

### **Analysis**

Items in the pre-treatment, post-treatment and delayed post-treatment tests were evaluated based on the number of correct answers out of total number of test items. Results from the tests were compared to determine the effect of the treatment. Results from the survey and consequent interview were used to frame the results of the test in terms of learner attitude

towards the treatment.

## Results and Discussion

### Results

The research questions of this case study were:

- 1) Do lessons designed with principles of Skill Acquisition Theory raise learner consciousness of the difference between the grammatical patterns associated with commonly used conditionals in spoken discourse in a short period of time in a measurable way?
- 2) Do the above lessons increase the accuracy of controlled and free production of commonly used conditionals in spoken discourse as measured by the number of mistakes in usage?

Table 1 contains data collected in pre-treatment, post-treatment and delayed post-treatment comprehension task reported in terms of number of correct answers out of total number of items.

**Table 1 Results of the comprehension task**

	Factual	Future	Imaginative
Pre-treatment	4/5(80%)	3/3(100%)	6/8(75%)
Post-treatment	3/5(60%)	3/3(100%)	4/8(50%)
Delayed post-treatment	4/5(80%)	3/3(100%)	6/8(75%)

The data in Table 1 indicate a small drop in accuracy determining the meaning of conditional sentences between the pre-treatment and post-treatment tests. Overall, no significant gains were observed between the pre-treatment and delayed post-treatment tests.

**Table 2 Results of the controlled production task**

	Factual	Future	Imaginative
Pre-treatment	3/7(43%)	10/13(77%)	2/13(15%)
Post-treatment	3/7(43%)	8/13(62%)	6/13(46%)
Delayed post-treatment	6/6(100%)	9/14(64%)	11/13(85%)

Table 2 contains data collected in pre-treatment, post-treatment and delayed post-treatment controlled production task reported in terms of number of correct answers out of total number

of items. These data indicate overall gains in the accuracy of controlled production between the pre-treatment and delayed-post treatment tests. The discrepancy in the total number of test items in the factual and future conditional data set can be accounted for by the nature of ambiguity of factual and future conditionals. For certain problems on the test, more than one conditional form was an acceptable answer depending on the context assumed by the learner. The following question is an example of an item with both acceptable factual and future conditional answers.

A: When will we get to Omiya?

B: If we \_\_\_\_\_ (catch) the next train, we \_\_\_\_\_ (arrive) in 6 minutes!

If the test taker assumes a factual interpretation, their answer could read *If we catch the next train we arrive in 6 minutes!* However, this sentence can also be represented with the future conditional as *If we catch the next train, we will arrive in 6 minutes!* When presented with the choice, Lily more often chose to answer the controlled production prompts with the future conditional, presumably because it was the interpretation she was most likely to use in her own life.

The data in Table 3 indicate a significant rise in accuracy of free production of *if*-conditional sentences between the pre-treatment and delayed post-treatment tests. The discrepancy in number of items between tests can be accounted for by the difficulty of item control due to the nature of the task. The free production task was a guided conversation using prompts issued by the instructor. Though the researcher issued the same number of prompts in each test, the number of attempts of each conditional type varied by test.

**Table 3 Results of the free production task**

	Factual	Future	Imaginative
Pre-treatment	2/5( 40%)	2/4(50%)	4/19(21%)
Post-treatment	6/6(100%)	7/8(88%)	9/14(64%)
Delayed post-treatment	5/5(100%)	6/9(67%)	11/14(79%)

In addition to the pre-treatment, post-treatment, and delayed post-treatment tests, a simple survey was administered following the final session. The first section of the survey asked Lily to assess her understanding of the conditional forms covered in this treatment pre and post-

treatment on a Likert scale. The ratings were (1) I didn't understand (2) I didn't understand well (3) I understood a little (4) I understood well (5) I understood perfectly.

**Table 4 Self-reported level of understanding of conditional types**

	Factual	Future	Imaginative
Pre-treatment	1	2	1
Post-treatment	5	4	3

*Note.* Rating scale from 1 = *I didn't understand* to 5 = *I understood perfectly*.

The data indicate that Lily felt she understood all forms more at the end of treatment than at the beginning. She felt most confident with the simplest form, factual, and was less confident with future and imaginative conditionals, as grammatical and semantic complexity of sentence structure increased.

The second section of the survey asked Lily which of the three lessons was most useful for her. Lily responded that the second lesson on future conditionals was most useful because they are used often in daily conversations. On the other hand, the lesson on imaginative conditionals was not useful because she rarely uses them or encounters them, and they are confusing.

The third section of the survey measured Lily's affect towards each part of the lesson procedure on a Likert scale. The ratings were (1) I hated the activity (2) I disliked the activity (3) The activity was ok (4) I liked the activity (5) I loved the activity. Lily was further encouraged to explain each answer. The results of the third section of the survey have been summarized in Table 5. Reasons have been paraphrased with the Lily's permission.

**Table 5 Learner Affect Towards Lesson Procedures**

	Rating	Reason
Highlight and guess	1	Did not understand at first. Don't think that guessing is useful.
Rule explanation	5	Explanations were easy to understand. Could check my understanding. This should come first.
Sentence practice	5	Had to think deeply about each problem. Liked feedback after every problem.
Free practice	5	Useful for real life when you have no time to think. Could feel myself getting better.

*Note.* Rating scale from 1 = *I hated the activity* to 5 = *I loved the activity*

These results indicate that Lily felt that all parts of the lesson, with the notable exception of the consciousness raising activity, were useful for her.

## Discussion

Despite the short length of this study, the learner made a noticeable improvement in the both controlled and free production of each type of conditional sentence. That Lily was able to make significant gain in her linguistic knowledge over a short, intense period of study is in line with the findings of Collins et al. (1999). Although Collins et al. measured gains in vocabulary development over a short period of time, results of the present study suggest similar gains may also be possible in grammar knowledge development. Furthermore, Lily made the most significant gains in productive accuracy with the comparatively complex imaginative conditional forms. This indicates that complexity of target grammar forms may not inhibit the effectiveness of short-term instruction. Gains may have been due in part to the density and personalization of feedback she received during instruction as well. According to the post-treatment survey, Lily said that she liked getting explicit feedback on her production during controlled practice. This explicit feedback likely made the target forms more salient during the productive phase, which Lightbown & Spada (1990) found to be an important factor in raising learner consciousness of target forms and increasing productive accuracy. Xu and Lyster's (2014) findings that Focus on Form interventions are more effective for more complex forms are also in line with both Lily's own feelings about the usefulness of feedback, as well as the gains in productive accuracy she exhibited.

The sequencing of lessons may also have had an effect on learner performance. In the pre-treatment test, the learner scored poorly on production of factual, future, and imaginative conditional structures. However, from her score on the Cambridge PET exam, we can assume she was aware of the grammar necessary to construct complex sentences prior to the study. Furthermore, she was likely aware of the grammar necessary to make basic factual and future conditionals. Though she may not have been aware of how to construct imaginative conditionals, by covering the less complex structures first, Lily experienced success with known grammatical structures before proceeding to unknown structures. Batstone and Ellis (2009) said that this type of lesson sequencing is effective for leading learners to success with more complex structures. Xu and Lyster (2014) also provided evidence that supports this claim. They suggested that learners must acquire structures in order of simple to complex. They additionally claim that learners may also acquire forms more easily in order of potential exposure. All forms introduced in this case study are all in Hwang's (1979) most commonly occurring conditionals in speech and are presented in almost the same order.

The sequencing of activities within lessons may also have an effect on learner performance.

These lessons, taught with the PPP approach, appear to have been effective at both raising Lily's awareness of the grammatical patterns as well as the accuracy of her production. This may have been because, as DeKeyser and Criado (2013) suggested, the learner had been given a strong foundation of declarative knowledge of each structures followed by ample opportunity to proceduralize this knowledge through controlled practice with a focus on accuracy, finishing with application in free conversation at the end of each lesson.

Lily's superior performance on the delayed post-treatment test compared to the post-treatment test, despite receiving no instruction in the interim, might be explained by the researcher's lack of consideration of the limitations of working memory (Leahy and Sweller, 2004). The post-treatment test was administered immediately after the final lesson. In the final lesson, Lily was introduced to imaginative conditionals, which were not only a new concept for her, but contained grammatical structures (i.e. *past + would*) which she had never encountered. Research into Cognitive Load Theory (Sweller, VanMerirenboer, and Paas, 1998) suggested that learners may only be able to hold as few as three pieces of information in working memory at one time. Because Lily had not been given time to fully process the variety of syntactic structures she had encountered over three weeks of accelerated treatment, she experienced cognitive overload when asked to recall, discriminate and produce each form. Perhaps because she had a week to process the new information after the post-treatment test, Lily took the delayed post-treatment test with a lower cognitive burden and was therefore more successful without any further instruction.

One final point of note is that, although the consciousness raising activities seemed to be effective at leading the learner to an inductive understanding of each lessons main structure, the learner did not enjoy them. Furthermore, the learner did not feel they were an effective way to start a grammar lesson. In the post survey interview, Lily reflected that, though she was a successful learner of multiple languages, she had never experienced a consciousness raising activity similar to the one used in this lesson and did not understand their value. It seems as Koshi (1996) suggested, learners who come from cultures where inductive learning is not valued find their lack of explicit connection to instruction frustrating and not useful. Although evidence from the literature points to the effectiveness of consciousness raising activities in acquisition of new grammar structures (Ellis, 2002), future research must examine how this can be effectively communicated to and integrated into language education for learners from all educational backgrounds.

There are several pedagogical implications of this case study. First, lessons designed with

principles of Skill Acquisition Theory are an effective option for raising learner consciousness and accuracy of production of a variety of conditional forms. Second, teachers must be careful not to expect learners to produce all varieties accurately at once. The conditional grammar structure is complex and highly nuanced. The cognitive burden of trying to process multiple varieties of conditional structure may overwhelm learners as a result of the limitations of working memory in learning. Therefore, it may be more effective to take an intensive approach to each individual structure, studying and assessing each in-depth, than to take an extensive approach like that taken in this study. Finally, teachers should be mindful of the learning backgrounds of their students when including elements of curriculum design that may not be valued equally across different cultures. Consciousness raising activities prior to explicit grammatical instruction may turn off learners unfamiliar with this approach.

## Conclusion

Conditional sentences are a serious challenge for both teachers and students of English. To overcome this challenge, it may be useful to plan lessons around principles of Skill Acquisition Theory. Using principles of Skill Acquisition Theory in curriculum and lesson design, while being mindful of cognitive limitations and cultural differences, it is possible to raise learner consciousness of the difference between the many varieties of syntactical structures of conditionals over a short period of time. The main limitation of this case study was time. A longer treatment would be necessary to determine whether or not a learner taught with the approach detailed in this study can successfully acquire conditionals permanently. This is mainly because of the extensive practice necessary for true automatization of knowledge. An additional limitation was the insufficiency of the testing instrumentation. New instruments with items for which there is only one possible answer must be designed for accurate data analyses to better discriminate between and balance item types. An additional limitation was the number of participants and lack of a control. The present study had a single participant. Without addressing these limitations it is impossible to make any strong empirical conclusions. For further research, it would be meaningful to explore a similar study with a longer treatment and more subjects. It would also be useful to look at the effect that different kinds of activities have at each stage of the lesson, for example, sentence combining or translation in the practice phase and debates, simulations or essays in the production phase. Finally, it may be useful to look at learners from different backgrounds to further examine the effectiveness of this instruction on

learners with varied backgrounds.

### Notes

- (1) *Data for this study were collected and managed according to the ethical and legal standards of the TESOL Quarterly Research Guidelines. Informed consent to gather, analyze, and present the data anonymously was obtained using the TESOL Quarterly Release Form for Adults.*

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## Skill Acquisition Theory を用いた 英語仮定法文教授法の有効性検証

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### 抄 録

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本予備的研究では、英語の仮定法文を短期間で習得するにあたっての、Skill Acquisition Theory (技能習得理論) の有効性を検証する。本研究では、一人の学習者に3種類の仮定法文を与え、6週間にわたってPPP手法で授業を行なった。事後テストと遅延事後テストの結果は、本研究の授業法で学習者が短期間でも英語の仮定法文をより正確に理解・生産できるようになることを示している。

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キーワード：技能習得理論，英語教授法，仮定法，言語習得，文法指導法