

# The effect of interactive input enhancement on the acquisition of the English connected speech by Japanese college students

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**1 Introduction** Second language (L2) effects-of-instruction research over the past decade have investigated what types of instruction are most effective for fostering second or foreign language learning in L2 classrooms (Doughty & Williams, 1998; Doughty, 2003). Indeed, a number of L2 pronunciation researchers appeared to claim that classroom instruction should involve systematic treatments to draw L2 learners' attention to phonetic forms to develop well-balanced phonological competence (Pennington & Ellis, 2000; Moyer, 2004; Wrembel 2005 to mention a few). Looking at an English as a Foreign Language (EFL) classroom in Japan, L2 pronunciation researchers have begun to examine whether the communicative and cognitive instructional approach can significantly facilitate the process (Tanabe & Koyama, 1998; Abe, 2006). However, there remain a number of issues to be investigated; Most importantly, we need to know more about how and why classroom instruction incorporated into communicative language teaching promote L2 phonological development.

To obtain significant data for this issue, this study examined how a form-focussed instructional technique in which input was enhanced by means of teacher feedback and/or interaction affected L2 pronunciation learning. Due to the nature of the research questions, however, the analyses were limited to Japanese college students of engineering and the acquisition of four connected speech phenomena, namely, *rhythm*, *linking*, *assimilation* and *elision*. The connected speech was chosen because these features are considered to be critical communicative competence, and Japanese EFL learners are believed to have difficulty in learning these features (see Kohmoto, 1982; Watanabe, 1994).

The following two major questions were investigated: (1) Does Input Enhancement (henceforth, IE), in which a teacher provides explicit instruction, affect EFL learners' restructuring of their interlanguage phonology? (2) Do two types of IE, differing in the manner of instruction have different effects on EFL learners' acquisition of the English connected speech?

**2 Method** The participants were third-year students of high-school level enrolled in their intact EFL classes at a technical college. Their English levels at school were equivalent (low to intermediate). In this classroom-based study, the effects of the two types of IE and the control treatment were compared quantitatively. Two types of the IE treatment were provided to two separate experimental groups: Experimental Group 1 (Input Enhancement plus Explanation, IEE, n=30) and Experimental Group 2 (Input Enhancement plus Interaction, IEI, n=30). The IEE treatment emphasized input processing which aimed at making learners understand the connected speech processes with the help of teacher's explanation. The subjects in the IEE treatment were first given a listening task paying special attention to a form of connected speech. Then the teacher checked what they heard in the task. Following this, the teacher

explained the four aspects of phonology so that subjects could fully understand the connected speech phenomena. The treatment ended with a chorus reading. The subjects in IEI received an interactive approach, which was comprised of noticing and interaction. In this treatment, the subjects listened to two different versions of oral readings of the same material (one spoken in a natural speed and one without connected speech processes). Then the teacher asked the subjects to compare the differences between the two in pairs. After pair-discussion, they shared their findings in class. Finally the treatment ended with a chorus reading. A one-way analysis of variance (ANOVA) was run to determine if there were any statistically significant differences among the three groups' mean scores on the pre-test measuring ability to use English connected speech. No significant difference among the participants was revealed ( $F(2/87)=3.10$ ,  $p>.05$ , ns). The Pre- and Post-test consisted of 20 multiple-choice questions, including the targeted prosodic features. Examples of test sentences are listed in Table 1.

Aspect	Example
Rhythm	<b>Let's invite</b> them to the <b>party</b> .
Linking	She had <b>a</b> sad expression.
Assimilation	They married last <b>year</b> .
Deletion	He left <b>just now</b> .

Table 1. Example of Tested Sentences.

The whole period of evaluation lasted over a period of three months, starting from April 2006 until June 2006, with the following procedure; 1) Pre Test: April 2006, 2) Treatments (15 minutes each): April (x1), May (x7), 2006, 3) Post Test 1: May 2006, and 4) Post Test 2: June 2006. A period of five weeks was allowed for all eight treatments. Also, there was one month between the first and second post tests.

### 3 Results

#### 3.1 Instructional Effect

As shown in table 2, results of the repeated measures of ANOVA for the perception and production scores revealed a significant main effect for Instruction. The results, especially those from between-test comparisons, indicated that the IEI group receiving explicit instruction plus interaction performed significantly better than the IEE and NIE group ( $F(2,87)=3.10$ ,  $p<.01$ ,  $F(2,87)=3.10$ ,  $p<.001$ , respectively). Therefore, IEI positively affected learning connected speech. The level of improvement is indicated by the number of asterisks in the tables: the significance level of  $p < 0.05 = *$ ,  $p < 0.01 = **$ ,  $p < 0.01 = ***$ , and (ns) = ns.

Type of Test	Test Phase	p-value	Comparison
Perception	PR	$p > 0.05$ (ns)	NIE < IEI < IEE
	P1	$p < 0.01$ **	NIE < IEE < IEI
	P2	$p < 0.001$ ***	IEE < NIE < IEI
Production	PR	$p > 0.05$ (ns)	IEE < NIE < IEI
	P1	$p < 0.001$ ***	NIE < IEE < IEI
	P2	$p < 0.001$ ***	NIE < IEE < IEI

Note. PR= Pretest, P1= Post-test 1, P2= Post-test 2

Table 2. Comparisons Among the Three Experimental Groups.

### 3.2 Differential Effects on L2 Phonology

*The Perception Data.* The results of the repeated measures of ANOVA in Table 3 suggest that for the perception data there was significant difference among the three groups for each aspect of phonology. The IEI group exhibited significant improvement in all the four aspects in the first and the delayed post-test. The general pattern of the IEI group outperforming the other two groups did not change in the two post-tests. In the following table, E stands for IEE, I for IEI, N for NIE.

Aspects		Perception		
		Pre-test	Post-test 1	Post-test 2
Rhythm	p-value comparison	< 0.05* N < I < E	< 0.05* N < E < I	< 0.001*** E < N < I
Linking	p-value comparison	> 0.05 (ns) N < I < E	< 0.05* E < N < I	> 0.05 (ns) E < N < I
Assimilation	p-value comparison	> 0.05 (ns) N < E < I	< 0.01* N < E < I	< 0.001*** E < N < I
Elision	p-value comparison	> 0.05 (ns) N < E < I	> 0.05 (ns) E < N < I	< 0.05* E < N < I

Table 3. Comparison Among Groups According to Aspect & Test Type

*The Production Data.* The results in the production data show that although there were no significant differences in the pretest scores among the three groups regarding *rhythm*, *linking*, *assimilation*, and *elision*, the effect of input enhancement and consciousness raising in the IEI treatment was robust and consistent (See Table 4).

Aspects		Production		
		Pre-test	Post-test 1	Post-test 2
Rhythm	p-value comparison	> 0.05 (ns) E < N < I	< 0.001*** N < E < I	< 0.001*** N = E < I
Linking	p-value comparison	> 0.05 (ns) E < N < I	< 0.001*** N < E < I	< 0.001*** N < E < I
Assimilation	p-value comparison	> 0.05 (ns) E < N < I	< 0.001*** N < E < I	< 0.001*** N < E < I
Elision	p-value comparison	> 0.05 (ns) E < N < I	< 0.001*** N < E < I	< 0.001*** N < E < I

Table 4. Comparison Among Groups According to Aspect & Test Type.

**4 Discussion** This study has investigated methodological difference, namely, IEI and IEE, and different effects they have on EFL learners' restructuring of their specific interlanguage phonology. Results indicated that the IEI group outperformed the IEE and NIE group on all tested items of post-tests. This suggests that IE plus interaction with teachers and students was more beneficial for L2 learning of connected speech than the other treatment groups.

This study has further examined whether the effect of instruction holds over the post-test period, if IE indeed has some effect on learners' restructuring of interlanguage phonology. This finding leads us to assume that instruction that appropriately incorporates IEI treatments into communication-oriented language learning can have a

lasting positive effect on L2 acquisition. More specifically, the results of this study suggest that lasting instructional effects can be obtained through providing learners with opportunities to think of the target form in a communicative task in combination with appropriate form-focused treatment that aims at strengthening the input to become intake. This, in consequence, had an effect which did not decline in the delayed post-test.

Regarding differential effects on learner performance of four aspects of English connected speech, results show that subjects in the IEI group improved significantly on all aspects more than IEE and NIE. This result, therefore, further supports for the superiority of IEI over IEE and NIE, which might be due to a consciousness raising task as a deliberate attempt on the part of the teacher to make the learner more aware of the specific feature of L2 pronunciation, so as to facilitate an understanding of the formal properties of those features, and to assist learners in developing their cognitive representation.

**5 Conclusions** This study to some extent has been successful in exploring the relationship between an instructional approach and phonological acquisition and in proposing that the IEI approach was more effective than the traditional approach. With this IEI procedure, the teacher could promote activation of such cognitive processes as noticing, cognitive comparison, and hypothesis modification without seriously disturbing the flow of communication. IEI is a candidate for such an optimal combination in real L2 pronunciation and EFL classrooms in a feasible and effective manner.

## References

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