Journal of Pan-Pacific Association of Applied Linguistics, 21(1), 65-84.

Salience-Enhanced Recasts and Their Effects on Learners' Production of Uptake and Modified Output*

Yoko Asari
Tokyo University of Science

Asari, Y. (2017). Salience-Enhanced Recasts and Their Effects on Learners' Production of Uptake and Modified Output. ***Journal of Pan-Pacific Association of Applied Linguistics, 21*****(1), 65-84.**

Recasts, a type of implicit feedback, is widely used by EFL teachers for improving learners' communicative competence. Research suggests that teachers may use salience enhancement techniques in order to highlight the positive/negative evidence in recasts. This study was conducted to identify types of recasts and examine the relationship between recast features and learners' uptake and modified output. The data consist of 569 recast episodes retrieved from 15 NS teachers. The results revealed that recasts vary considerably in effectiveness according to factors such as the way in which they are provided. More specifically, short, segmented, and interrupting recasts were better predictors of modified output as they were more likely to help learners to notice the gap between the target form and its interlanguage form. The present study suggests that teachers equipped with such highlighting techniques would be able to promote learners' L2 development more effectively.

Keywords: corrective feedback, modified output, recasts, salience-enhancement, uptake

1 Introduction

With a rise in demand for communicative foreign language (FL) instruction, a growing body of research has been focusing on corrective feedback (CF) strategies that trigger learners' attention to linguistic forms while maintaining the focus on meaning. In this respect, recasts, a type of implicit CF, have captured many researchers' and ESL/EFL teachers' interest. Sheen (2006, p. 365) defined recasts as "the teacher's reformulation of all or part of a student's utterance that contains at least one error within the context of a communicative activity in the classroom." Below are examples of recasts (Examples 1 and 2).

* The present paper is an abridged version of Chapter 3 of my doctoral dissertation, "Investigation of the Effect of Recasts from Multiple Perspectives: The method, the teacher, and the learner," submitted to Waseda University in 2015. The Introduction is from other parts of the dissertation as well.

Example 1 (Carpenter *et al.* 2006, p. 227):
NNS: If a storm occur, it's gonna produce a lot of waves.
NS: If a storm occurs, it's gonna produce a lot of waves. (recast)

Example 2 (Ellis & Sheen. 2006, p. 576)
NNS: Yes. I stand in the first row.
NS: You stood in the first row? (recast)

Recasts are an effective CF technique in focus on form (FonF) classrooms as the juxtaposition of recasts and learners' original utterances can trigger learners' 'noticing the gap' without interrupting the flow of communication (Long, 1996). Doughty and Varela (1998) state that recasts "can draw learners' attention to form unobtrusively while their attention remains on processing meaning. . . . Recasts are potentially effective since the aim is to add attention to form to a primarily communicative task rather than to depart from an already communicative goal in order to discuss a linguistic feature" (p. 114). Other advantages, such as the fact that recasts are less face-threatening and time-consuming when compared to other explicit forms of CF, make recasts one of the most frequently used types of CF amongst FL teachers.

At the same time, however, the acquisitional value of recasts has been questioned. The inefficiency of recasts generally centers on the saliency of negative evidence in recasts: The lack of clear indicators may lead learners to misinterpret or overlook the intended correction (e.g., Lyster, 1998). In order to overcome this limitation, researchers have been searching for ways to enhance the saliency of the positive and/or negative evidence in recasts.

1.1 Salience-enhanced recasts in relation to uptake

The prevailing view in CF literature is that CF types fall on an implicit/explicit continuum; recasts are plotted on the implicit end. Yet a closer examination of transcriptions from previous studies suggests that recasts can be remarkably explicit depending on the way they are provided. Sheen (2006) was one of the first researchers to identify the features of different recasts used by FL teachers and how the different features affect learners' noticing of the interlanguage (IL) and target language (TL) gap. Specifically, she collected recasts arising naturally in communicative ESL/EFL classrooms and examined the relationship between characteristics of recasts and learners' different degrees of uptake.

Uptake is "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance" (Lyster & Ranta, 1997, p. 49). As this definition includes a wide range of

learners' overt and covert immediate responses to CF, they are further subcategorized based on how successfully learners are able to use teachers' CF in reformulating their original utterance (i.e., repair, needs-repair modified, needs-repair unmodified, and acknowledgment). The different uptake types and their definitions are provided below. The definitions and examples are quoted verbatim from Egi (2010, pp. 8-10).

Repair:
Learners successfully correct the original erroneous utterance that triggered a recast by either (a) repeating all or part of the CF or (b) incorporating the CF into a longer statement (Lyster & Ranta, 1997).
NNS: Megane o a, ka, kakemasu.
[(She) wears glasses.]
NS: Obaasan wa megane o kakete-imasu ka?
[Is the old lady wearing glasses?]
NNS: Kakete-imasu.
[(She) is wearing (glasses)]

Needs-repair modified:
Learners modify the problematic form incorrectly or only partially correctly.
NNS: A. . . marshmallows ga moeru.
[Marshmallows burn]
NS: A, soo desu ka. Mashumaro o yaiteimasu ne.
[Oh, really. (He) is grilling marshmallows, isn't (he).]
NNS: Ma. . . Haite.
[Ma. . . grill?]

Needs-repair unmodified:
Learners repeat the original error with no modifications, express difficulty responding to the CF linguistically, or circumvent the problematic form altogether even though the response was clearly a reaction to some aspect of the CF.
NNS: Kawa no kaban, ao kaban dake motteimashita.
[A leather bag, (he) only had a blue bag.]
NS: Motteita no wa aoi kaban desuka?
[What he was carrying was a blue bag?]
NNS: Ao kaban, hai.
[Blue bag, yes]

Acknowledgment:
Learners simply acknowledge the CF.
NNS: Neko ga totemo kawaii da to itteimasu.

[(He) is saying that cats are very cute]
NS: Petto no neko ga kawaii to itteiru n desune?
[He is saying that the cat he has is cute?
NNS: Hai.
[Yes]

Learners' production of uptake has been commonly used in CF research as a yardstick to judge whether learners were able to notice their interlocutors' corrections (e.g., Pica, 2002; Sheen, 2004). Mackey et al. (2000) conducted a study that focused on learners' perceptions about interactional feedback. The learners in their study received CF focused on a range of forms on morphosyntactic, lexical, and phonological levels. After completing the tasks, learners watched videotapes of their interactions and were asked to introspect about their thoughts at the time when the original interactions were in progress. The learners' recall comments indicated that, for 66% of the feedback episodes where they modified their problematic utterances, they correctly identified the linguistic focus of the feedback. In contrast, for most of the episodes (89%) where they did not modify their output, they failed to identify the target of the feedback. While uptake may not guarantee L2 development, the above results seem to suggest that uptake is a strong predictor of noticing, a necessary condition for learning (Schmidt, 1990, 2001).

Going back to Sheen's (2006) study, she found from her observational study that FL teachers manipulate characteristics such as length of recasts (short vs. long), linguistic focus (pronunciation vs. grammar), types of change (substitution vs. addition), mode (declarative vs. interrogative), the use of reduction (partial vs. whole), and the number of changes (single vs. multiple). She reported that the recasts arising in her study tended to be short, more likely to be declarative in mode, reduced, repeated, with a single-error focus, and they involved substitution rather than deletions and additions. Furthermore, these characteristics were observed to be positively related to learners' production of repair.

Building on Sheen's (2006) study, Asari (2012b) previously conducted a similar study and examined 343 recasts produced by 22 native speaker (NS) teachers. This study found that, along with the features mentioned by Sheen (ibid), the teachers in this study provided recasts with a sign of approval or with a cue (i.e., "*Ah!*"). In terms of features that are correlated to uptake, the results showed that recasts that are short, segmented, and provided in the declarative mode elicited higher rates of learners' production of repair. A close examination of the transcription revealed that some recasts were segmented and short because the teachers would provide spontaneous recasting immediately after the error. Such so-called 'interrupting recasts' may also be successful at eliciting learners' production of successful uptake, hence a feature worthy of investigation.

As there is a possibility that there are other salience-enhancement

techniques that have not yet been detected, there is still a need to conduct studies that aim to build on previous studies in developing a taxonomy of recasts. This is what the present study purports to do. Furthermore, the present study is different from the one conducted previously (Asari, 2012b) in that learners' noticing of salience-enhanced recasts will be measured in terms of the production of uptake and *modified output* rather than uptake and *repair*. Through recent interaction research, researchers have come to a consensus as to the value of focusing on learners' production of not only repair but also needs-repair modified. Learners' attempt to reformulate the erroneous part of their utterance has benefits regardless of whether the reformulation is targetlike or not in that the production of modified output also (a) triggers the noticing of IL-TL discrepancies, (b) encourages hypothesis testing, (c) strengthens existing knowledge representations, and (d) promotes automaticity (Swain, 1995, 2005) (i.e., see Sheen, 2008, pp. 840-843, for more comprehensive definitions of *uptake*, *modified output*, and *repair*).

2 Research Questions

The research questions for the present study are as follows:

(1) What are the main characteristics of recasts found in adult L2 communicative lessons?
(2) Which of these characteristics of recasts are related to learner uptake?
(3) Which of these characteristics of recasts are related to learner modified output?

3 Method

3.1 Participants

The data for this study were collected from private one-teacher/one-learner lessons at a language school in Tokyo, Japan. 15 native English speaking teachers were each paired with one of 30 adult Japanese EFL learners who participated in this observational study. The data were originally collected for Asari (2012a,b); information about the lessons and participants is given therein. Two 40-minute lessons were recorded per teacher.

3.2 Coding

The lessons were recorded on an IC recorder and NS teacher-EFL learner interactions were transcribed by the researcher. Only the CF technique of particular interest to the study, namely recasting, was examined and coded. For this study, any form of CF was considered a recast if it took the form of "the teacher's reformulation of all or part of a learner's utterance, minus the

error" (Lyster & Ranta, 1997, p. 46) and, in addition, met the following conditions:

(1) It occurs during a lesson aimed at improving speaking skills (situations in which the teacher provides language in written form while speaking shall be excluded as interaction involving such a technique cannot be considered purely spoken interaction).
(2) It is adjacent to an ill-formed utterance (CF provided one or more turns later shall not be considered a recast).
(3) It has a focus on reformulation of one or multiple targeted forms (learners frequently make multiple errors in a single turn).
(4) It retains the central meaning of the learner's utterance (the purpose of recasts, which is to assist learners in saying what they intend to say, would otherwise be defeated).

Despite the above, *multi-move recasts* (see examples and definitions below of *repeated recasts*, *combination recasts*, and *corrective recasts*, which are different types of multi-move recasts; examples and definitions are quoted verbatim from Sheen, 2006, pp. 371-372) have been excluded from the analysis.

Repeated recasts:
Recasts that teacher repeats either fully or partially
S: They probably like . . . horse or ride horse.
T: Okay, a race horse? A race horse.

Combination recasts:
Recasts that occur with other corrective feedback types
S: In San Francisco, I didn't need a car. I used transportations.
T: Transportation. Uncountable.
Corrective recasts:
Recasts that are preceded by repetition
S: I pay the cost.
T: I pay? I'll pay the cost.

In the end, a total of 569 single-move recast episodes arising from the dyadic interactions were coded and transcribed, and eight features that may influence the salience of recasts were found from the present dataset: segmentation, emphasis, intonation, verbal cue, sign of approval, linguistic focus, timing, and length. The coding categories were based, in part, on research by Loewen and Philp (2006), Sheen (2006), and Asari (2012b). Definitions of different features of recasts (some taken from Loewen & Philp,

2006; Sheen, 2006; Asari, 2012b) are provided below (Table 1) with examples (taken from the recording of the teacher-learner interaction from the present study).

Table 1. Different Features of Recasts, Their Descriptions, and Examples

Feature	Description	Example
Segmentation		
Segmented	The recast is a partial recast of the learner's utterance	S: If the desk is dirty T: Messy
Whole	The recast is an entire recast of the whole trigger utterance	S: Jake's hobby is make furniture T: Jake's hobby is making furniture
Emphasis		
Stressed	Linguistic item that is recast is given atypical stress, through pitch, additional pausing and emphasis	S: I have impatient. T: I AM impatient
Unstressed	Linguistic item that is recast is not given atypical stress	S: He exercise two or three times a week. T: He exercises twice or three times a week.
Intonation		
Rising-tone	The recast is provided with rising intonation	S: There were some problem. T: There were some problems?
Falling-tone	The recast is provided with falling intonation	S: They like to increasing to expand their business T: They'd like to expand their business.
Verbal cue		
With cue	The recast is provided with an additional verbal signal (e.g., *ah!* or *oh!*)	S: Last year did you go to traveling? T: Ah! Did you go traveling?
No cue	The recast is provided without an additional verbal signal	S: I went … I went swimming for relax. T: To relax.
Sign of approval		
With approval	The recast is provided with an additional sign of approval (e.g., *That's right* or *yes*)	S: I like … I like TV show. T: Yeah. You like TV shows.
No approval	The recast is provided without an additional sign of approval	S: I went … I went swimming for relax. T: To relax.
Linguistic focus		
Morphyosyntactic	The recast modifies the morphology or syntax of the learner's utterance	S: But Janet want to go to beach. T: Wants to go

Lexical	The recast provides a new or modified lexical item or phrase (open class items, e.g., nouns, verbs, adverbs, adjectives), including recasts of incorrect prefixes and suffixes	S: A woman is along a man. T: Besides a man.
Phonological	The recast modifies the learner's pronunciation of an item/items	S: They submit a report [repo:to]. T: Report
Multiple focus	The recast includes multiple changes, involving the phonology, the morphology, the syntax, or the vocabulary	S: She like green or blue clothes. T: She likes green and blue clothes
Timing		
Interrupting	The recast is provided soon after the occurrence of the learner's error	S: When I was a student, I'm good at T: I was good at
Uninterrupting	The recast is provided after the learner has finished his/her utterance	S: They concerned about their job's security. T: They are concerned about their job's security
Length		
One word	The recast contains one word	S: I like bargain T: Bargaining
Two words	The recast contains two words	S: My responsible are advice for customer. T: Giving advice
Three words	The recast contains three words	S: I medical doctor seventeen years T: I have been
Four words	The recast contains four words	S: Two men work on tan T: Two men are working
Five words	The recast contains five words	S: Eat breakfast. Nine o'clock I go to bed. T: I go to bed at
Six words	The recast contains six words	S: She went work on the walk. T: She went to work on foot.
Seven or more words	The recast contains seven or more words	S:Where would you go jogging? T:Where would you LIKE to go jogging?

3.3 Uptake

This study focuses on measuring the effectiveness of recasts in terms of the frequency of learners' uptake (all forms of learner responses following

recasts: repair, needs-repair modified, needs-repair unmodified, and acknowledgment) and modified output (repair and needs-repair modified). When Initiation-Response-Follow-up (IRF) episodes resulted in an extended negotiation which contained multiple learner uptake, only the first instance of the uptake was analyzed. The following dialogue (Example 3) is an example of an extended negotiation. The last two turns are excluded from the analysis.

Example 3: Extended negotiation
S: I leave home seven. (*initiation 1*)
T: I leave home *at* seven. (*response*)
S: Eh? Seven. (*follow-up / initation*)
T: I leave home at seven. (*response)*
S: I leave home at seven. (*follow-up*)

Those sequences where a recast was followed immediately by the teacher's topic continuation move, allowing no chance for learners to uptake, were coded as *no opportunity* (Example 4). 30 recast episodes that constituted no opportunity were excluded from the analysis for Research Questions 2 and 3.

Example 4: No opportunity
S: Vacation is almost two week.
T: Two weeks? That's a long break. What are you go to do?

3.4 Statistical analysis

Pearson's chi-square (χ^2) tests were used to test the significance of the relationship between the different characteristics of the recasts and learner uptake/modified output. The alpha level was set at .05. When the analysis involved variables with more than two coding categories (i.e., when the chi-square table was larger than 2 x 2), adjusted residuals of greater than 2.0 or less than -2.0 were used to identify significant differences (see Haberman, 1973; Loewen & Philp, 2006; Sheen, 2006).

4 Results

4.1 Research question 1

The teachers in this study showed apparent preferences in the ways in which they provided recasts: a majority of the recasts were segmented (60.43%), unstressed (92.97%), falling-tone (92.62%), uninterrupting (63.16%), unaccompanied by prior cues (93.85%), unaccompanied by a prior sign of approval (92.79%), and targeted towards a morphosyntactic error (71.00%).

About half of the recasts only consisted of one or two words (46.22%). Table 2 displays the frequency of recasts in each category.

Table 2. Breakdown of Characteristics of Recasts

Category	Frequency	Percentage
Segmentation		
Segmented	336	60.43%
Whole	220	39.57%
Total	556[a]	
Emphasis		
Unstressed	529	92.97%
Stressed	40	7.03%
Total	569	
Cue		
No cue	534	93.85%
With cue	35	6.15%
Total	569	
Approval		
No approval	528	92.79%
With approval	41	7.21%
Total	569	
Intonation		
Falling-tone	527	92.62%
Rising-tone	42	7.38%
Total	569	
Timing		
Uninterrupting	192	63.16%
Interrupting	112	36.84%
Total	304[b]	
Linguistic Focus		
Morphosyntactic	404	71.00%
Lexical	70	12.30%
Phonological	72	12.65%
Multiple focus	23	4.04%
Total	569	
Length		
One word	134	23.55%
Two words	129	22.67%
Three words	90	15.82%
Four words	83	14.59%
Five words	47	8.26%
Six words	34	5.98%
Seven or more words[c]	52	9.14%
Total	569	

[a]Of all the 569 recasts provided, 13 were recasts of utterances containing a single-word trigger. Only those recasts which were in response to trigger utterances susceptible to segmentation, i.e., ones consisting of two or more words, were chosen for analysis. [b]There were only 304 cases in which the utterance could have been interrupted in which the teacher was unable to interrupt the learner because of the location of the error in the latter's utterance. In the other cases, the error occurred at

the end of the sentence, denying the teacher a chance for an *interrupting recast*. [c]Due to the low cell counts of recasts exceeding seven words, recasts that included seven or more words were grouped together.

4.2 Research question 2

The features that were related to learners' production of uptake were segmentation, timing, sign of approval, and length. In other words, segmented recasts, interrupting recasts, recasts provided without a sign of approval, and recasts that do not exceed two words led to learners' production of uptake. Table 3 shows the frequency of uptake corresponding to the characteristics of recasts, together with the chi-squared results.

Table 3. Characteristics of Recasts and Uptake

Category	Uptake	No Uptake	Recasts	%	χ^2	*df*	*p*	Adjusted Residuals
Segmentation								
Whole	138	61	199	69.35%				
Segmented	285	42	327	87.16%				
Total	423	103	526[a]		24.92	1	0.00	
Emphasis								
Unstressed	396	104	500	79.20%				
Stressed	34	5	39	87.18%				
Total	430	109	539		1.43	1	0.23	
Cue								
No cue	399	105	504	79.17%				
With cue	31	4	35	88.57%				
Total	430	109	539		1.79	1	0.18	
Approval								
Recast only	410	92	502	81.67%				
With approval	20	17	37	54.05%				
Total	430	109	539		16.29	1	0.00	
Intonation								
Falling-tone	404	98	502	80.48%				
Rising-tone	26	11	37	70.27%				
Total	430	109	539		2.23	1	0.14	
Timing								
Uninterrupting	126	66	192	65.63%				
Interrupting	101	11	112	90.18%				
Total	227	77	304[b]		22.55	1	0.00	
Linguistic Focus								
Morphosyntactic	300	84	384	78.13%				-1.6

Lexical	57	9	66	86.36%				1.4
Phonological	57	12	69	82.61%				0.6
Total	414	105	519[c]		2.77	2	0.25	
Length								
One word	121	10	131	92.37%				4.1*
Two words	107	17	124	86.29%				2.1*
Three words	73	14	87	83.91%				1.0
Four words	59	19	78	75.64%				-1.0
Five words	30	12	42	71.43%				-1.4
Six words	19	11	30	63.33%				-2.3*
Seven or more words[d]	21	26	47	44.68%				-6.3*
Total	430	109	539		60.60	6	0.00	

[a]Of all the 539 recasts provided (excluding cases of *no opportunity*), 13 were recasts of utterances containing a single-word trigger. In order to ascertain the effect of segmentation on the possibility of uptake, only those recasts which were in response to trigger utterances susceptible to segmentation, i.e., ones consisting of two or more words, were chosen for analysis. [b]There were only 304 in which the teacher was able to interrupt the learner because of the location of the error in the latter's utterance. In the other cases, the error occurred at the end of the sentence, denying the teacher a chance for an *interrupting recast*. [c]In order to ascertain the effect of each of the linguistic focuses on the possibility of uptake, the 20 multiple-focus recasts were excluded from our calculation. [d]Due to the low cell counts of recasts exceeding seven words, recasts that included seven or more words were grouped together.

4.3 Research question 3

The features that were related to learners' production of modified output were emphasis, intonation, segmentation, timing, sign of approval, and length. In other words, stressed recast, falling-tone recasts, segmented recasts, interrupting recasts, recasts provided without a sign of approval, and recasts that do not exceed two words led to learners' production of modified output. Table 4 shows the frequency of modified output corresponding to the characteristics of recasts, together with the chi-squared results.

Table 4. Characteristics of Recasts and Modified Output

Category	Modified Output	No Modified Output	Recasts	%	χ^2	*df*	*p*	Adjusted Residuals
Segmentation								
Whole	92	107	199	46.23%				
Segmented	249	78	327	76.15%				
Total	341	185	526[a]		48.56	1	0.00	
Emphasis								
Unstressed	314	186	500	62.80%				
Stressed	32	7	39	82.05%				

Total	346	193	539		5.83	1	0.02	
Cue								
No cue	321	183	504	63.69%				
With cue	25	10	35	71.43%				
Total	346	193	539		0.85	1	0.36	
Approval								
Recast only	334	168	502	81.67%				
With approval	12	25	37	54.05%				
Total	346	193	539		17.43	1	0.00	
Intonation								
Falling-tone	331	171	502	65.94%				
Rising-tone	15	22	37	40.54%				
Total	346	193	539		9.67	1	0.00	
Timing								
Uninterrupting	99	93	192	51.56%				
Interrupting	93	19	112	83.04%				
Total	192	112	304[b]		30.11	1	0.00	
Linguistic Focus								
Morphosyntactic	242	142	384	63.02%				-1.7
Lexical	51	15	66	77.27%				2.2
Phonological	45	24	69	65.22%				0.00
Total	338	181	519[c]		5.04	2	0.08	
Length								
One word	105	26	131	80.15%				4.4*
Two words	94	30	124	75.81%				3.1*
Three words	59	28	87	67.82%				0.8
Four words	47	31	78	60.26%				-0.8
Five words	20	22	42	47.62%				-2.3*
Six words	13	17	30	43.33%				-2.5*
Seven or more words[d]	8	39	47	17.02%				-7.1*
Total	346	193	539		79.01	6	0.00	

[a]Of all the 539 recasts provided (excluding cases of *no opportunity*), 13 were recasts of utterances containing a single-word trigger. In order to ascertain the effect of segmentation on the possibility of modified output, only those recasts which were in response to trigger utterances susceptible to segmentation, i.e., ones consisting of two or more words, were chosen for analysis. [b]There were only 304 in which the teacher was able to interrupt the learner because of the location of the error in the latter's utterance. In the other cases, the error occurred at the end of the sentence, denying the teacher a chance for an *interrupting recast*. [c]In order to ascertain the effect of each of the linguistic focuses on the possibility of modified output, the 20 multiple-focus recasts were excluded from our calculation. [d]Due to the low cell counts of recasts

exceeding seven words, recasts that included seven or more words were grouped together.

5 Discussion

Features that were related to uptake and/or modified output will be discussed in the following sections.

5.1 Emphasis and tone

Learners were more successful at producing modified output following stressed recasts, namely, recasts in which the positive evidence is made salient with the use of emphasis (Example 5). According to Chaudron (1977) and Leeman (2000, 2003), the efficacy of recasts is maximized when the positive evidence is enhanced. Given that learners are at most times exposed to more input than they can handle, stressed recasts can possibly help them focus on features and forms that require immediate attention.

Example 5: Stressed recast
T: What did you use yesterday?
S: Yesterday I used phone.
T: I used my phone.
S: My phone. Yesterday I used my phone.

Contrary to the case of stressed recasts, in which the additional emphasis on the positive evidence favorably impacted learners' ability to produce modified output, learners were less successful at producing modified output following rising-tone recasts, namely, recasts in which the negative evidence is made salient with the use of tone. In other words, learners were significantly more likely to be able to reformulate their erroneous utterances in the form of modified output if the recast was provided with a falling tone rather than with a rising tone. This result is in line with Lyster's (1998) findings. Having found that learners in his study produced repair less frequently when provided with recasts with a rising tone (which he called interrogative recasts) in comparison to recasts provided with a falling tone (which he called declarative recasts), he argued that recasts that are provided with a rising tone can be misinterpreted as confirmation checks, that is, responses to content rather than feedback with corrective force. This would explain why learners in the present study frequently produced uptake in the form of acknowledgment as in the example below (Example 6). Although the lack of introspective data makes it difficult to understand the intention behind the learner's acknowledgment, there is a possibility that uptake in the form of acknowledgment may not be an indication that noticing took place.

Example 6: Rising-tone recast
S: It broadcast the introduction of *This is It* [*title of a movie*]
T: The preview?
S: Yes

5.2 Sign of approval

Similar to the case of intonation, an additional sign of approval had a counterproductive effect. Learners were less successful at producing not only modified output but all degrees of uptake following recasts accompanied by a sign of approval. As shown in the example below (Example 7), the teacher's sign of approval seems to have been interpreted by the learner as a sign of back-chanelling, that is, a signal that invites the learner to continue talking.

Example 7: Recast with a sign of approval
T: What do you think about this place?
S: It looks like countryside.
T: Yeah, it looks like a countryside.
S: Yes, I think so.

Providing a sign of approval along with recasts is problematic for the following reason. Lyster (1998) noticed that FL teachers often give response to learners' utterance, correct or incorrect, by providing three kinds of signs of approval randomly, namely, (a) that which follows an error but does not correct it, (b) that which follows an error and corrects it in the form of a recast, and (c) that which follows a correct utterance. If teachers in this study were also inconsistent in their usage of a sign of approval, such inconsistency may have made recasts ambiguous, and consequently the corrective force in recasts may have gone unnoticed. This would explain the low frequency of learners' response following recasts accompanied by a sign of approval.

5.3 Length, segmentation, and timing

The results of short and segmented recasts are not surprising in light of previous studies, which have consistently revealed that these features influence learners' ability to provide uptake and modified output (e.g., Egi, 2007, Sheen, 2006). As in other studies, learners in the present study were more successful at producing uptake and modified output following segmented recasts. As regards length, learners' production of uptake and modified output was more frequent if the number of words in recasts was less than three. In contrast, learners were less successful at responding to recasts with (a) *uptake* if the number of words in recasts exceeded five and (b) *modified output* if it exceeded four. A close examination of the transcription revealed that short recasts notably took the form of segmented and/or

interrupting recasts. Below is an example of a short, segmented, and interrupting recast (Examples 8).

Example 8: Short, segmented, and interrupting recast
T: What are you doing this weekend?
S: In this Sunday =
T: = This Sunday.
S: This Sunday, my sister will take a business exam.

Because timing is a feature that has not yet been investigated by many researchers, the discovery of interrupting recasts is particularly profitable. Much like segmented recasts, the greatest advantage of interrupting recasts is that they are possibly less demanding on learners' working memory (WM) than uninterrupting recasts. In terms of recasts, the WM, or more precisely, the phonological loop, can be a determinant of how much learners can benefit from recasts. Responsible for handling verbal and acoustic information, the phonological loop comprises two subcomponents, and one of them is the phonological store, which holds verbal information for short periods of time before the stored information is lost due to decay or interference (Révész, 2012). When recasts are provided immediately after the occurrence of the learners' errors, the distance between the learners' IL and the TL in the recasts are minimized. Theoretically speaking, learners would be better able to maintain the incorrect learner utterance and the positive evidence in recasts for further IL/TL comparison. In fact, Asari's (2012a) study, which examined how learners' ability to produce uptake and modified output is affected by the distance between the error and the correction, showed that there is a threshold at which the task of noticing and modifying an error becomes disproportionately more onerous for beginning learners. Specifically, low-proficient learners were not able to produce repair if the number of the intervening words between their error and the positive evidence in the recasts was two or more.

For the interest of the study, the same analysis was conducted with the data from the present study. Recast episodes were categorized first by (a) the number of words which learners and teachers uttered between the error and the TL form in the recast then (b) the relation between these numbers and learners' uptake and modified output (see Asari, 2012a, p. 27, for more detail). As shown in the tables below (Tables 5 and 6), the adjusted residuals indicate that learners are most successful at producing uptake and modified output if there were no intervening words between the error and the TL in the recasts (adjusted residuals > 2.0). In contrast, learners were least successful if the intervening words exceeded six words (adjusted residuals < -2.0).

Table 5. Chi-Square Analysis of Distance of Recasts and Uptake

Category	Uptake	No Uptake	Recast	%	χ^2	*df*	*p*	Adjusted Residuals
Zero word	109	12	121	90.08%				3.2*
One word	79	16	95	83.16%				0.9
Two words	57	21	78	73.08%				-1.6
Three words	58	16	74	78.38%				-0.3
Four words	44	11	55	80.00%				0.0
Five words	43	12	55	78.18%				-0.3
Six words or more	40	21	61	65.58%				-2.9*
Total	430	109	539		18.62	6	0.01	

Table 6. Chi-Square Analysis of Distance of Recasts and Modified Output

Category	Modified output	No Modified Output	Recast	%	χ^2	*df*	*p*	Adjusted Residuals
Zero word	96	25	121	79.34%				3.9*
One word	68	27	95	71.58%				1.7
Two words	47	31	78	60.26%				-0.8
Three words	48	26	74	64.86%				0.1
Four words	32	23	55	58.18%				-1.0
Five words	33	22	55	60.00%				-0.7
Six words or more	22	39	61	36.07%				-4.9*
Total	346		539		37.15	6	0.00	

The current study supports Long's (2007) claim that one of the strengths of recasts is that "the incorrect and correct utterances are juxtaposed" (p.14). As articulation takes place in real time and there is a limit to the capacity of phonological store, the more information there is to process in recasts, the more likely it is that all or part of the positive evidence in recasts will fade before it can be rehearsed for production through modified output. In summary, recasts that are segmented and/or provided immediately following an occurrence of an error minimize the number of words in recasts and the distance between the recast and the error, and these features help alleviate the cognitive burden on learners' WM.

6 Conclusion

The results of the present study show how the different features in recasts can positively or negatively affect learners' subsequent L2 production. To sum up, recasts that are stressed, segmented, short, interrupting, and located in the proximity of the erroneous form are especially effective at triggering learners' uptake and/or modified output. On the other hand, recasts that are provided with a rising tone and accompanied by a sign of approval prevent learners

from grasping the intent of the teachers' correction and providing uptake and/or modified output.

As language teachers today are expected to use efficient teaching techniques that bring about a positive impact on learners' L2 development in a limited amount of class time, the results of the present study provide valuable pedagogical implications. The study, however, must be interpreted with caution for the following reasons. First, as the data for this study were collected from dyadic interactions, it can be predicted that the learners were more aware of the teachers' correction, and this may have resulted in a higher rate of production of uptake and modified output than if learners had been provided with recasts in a classroom setting. Secondly, uptake only covers learners' immediate reaction following a CF (Lyster and Ranta, 1997) and excludes all cases of delayed modification or L2 development. For this reason, future studies should be conducted in an experimental setup to ascertain how some features can contribute to long-term L2 development.

References

Asari, Y. (2012a). The relationship between the timing of recasts, repair, and learners' proficiency levels: Analysis of NS-NNS recast episodes. *Journal of Pan-Pacific Association of Applied Linguistics, 16*(2), 21-34.

Asari, Y. (2012b). Types of recasts and learners' uptake. *Dialogue, 10*, 1-20.

Asari, Y. (2015). *Investigation of the effect of recasts from multiple perspectives: The method, the teacher, and the learner.* Unpublished doctoral dissertation. Waseda University, Tokyo.

Carpenter, H., Jeon, S., MacGregor, D., & Mackey, A. (2006). Learners' interpretation of recasts. *Studies in Second Language Acquisition, 28*(2), 209-236.

Chaudron, C. (1977). A descriptive model of discourse in the corrective treatment of learners' errors. *Language Learning, 27*, 29-46.

Doughty, C., & Varela, E. (1998). Communicative focus on form. In C. Doughty, & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (p.114-138). Cambridge: Cambridge University Press.

Egi, T. (2007). Interpreting recasts as linguistic evidence: The roles of linguistic target, length, and degree of change. *Studies in Second Language Acquisition, 29*(4), 511-537.

Egi, T. (2010). Uptake, modified output, and learner perceptions of recasts: Learner responses as language awareness. *The Modern Language Journal, 94*, 1-21.

Ellis, R., & Sheen, Y. (2006). Re-examining the role of recasts in L2 acquisition. *Studies in Second Language Acquisition, 28*, 575-600.

Haberman, S. J. (1973). The analysis of residuals in cross-classified tables. *Biometrics, 29*(1). 205-220.

Leeman, J. (2000). *Towards a new classification of input: An empirical study of the effect of recasts, negative evidence and enhanced salience on L2 development.* Unpublished doctoral dissertation, Georgetown University Washington DC.

Leeman, J. (2003). Recasts and second language development: Beyond negative evidence. *Studies in Second Language Acquisition, 25*, 37-63.

Loewen, S., & Philp, J. (2006). Recasts in the adult L2 classroom: characteristics, explicitness and effectiveness. *The Modern Language Journal, 90*(4), 536-556.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. Ritchie and T. Bhatia (Eds.), *Handbook of Second Language Acquisition* (pp. 413-468). San Diego, CA: Academic Press.

Long, M. H. (2007). Second and foreign language education. In S. Mathinson & W. Ross (Eds.), *Battleground schools: An encyclopedia of conflict and controversy* (pp. 249-254). Westport, CT: Greenwood Press.

Lyster, R. (1998). Recasts, repetition, and ambiguity in L2 classroom discourse. *Studies in Second Language Acquisition, 20*, 51-81.

Mackey, A., Adams, R., Strafford, C., & Winke, P. (2010). Exploring the relationship between modified output and working memory capacity. *Language Learning, 60,* 501-533.

Pica, T. (2002). Subject matter content: How does it assist the interactional and linguistic needs of classroom language learners? *The Modern Language Journal*, 86, 1-19.

Révész, A. (2012). Working memory and observed effectiveness of recasts on different L2 outcome measures. *Language Learning, 62*(2). 93-132.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11,* 129-158.

Schmidt, R. (2001). Attention. In P.J. Robinson (Ed.). *Cognition and Second Language Instruction* (pp. 3-32). Cambridge, U.K.

Sheen, Y. (2004). Corrective feedback learner uptake in communicative classrooms across instructional settings. *Language Teaching Research, 8*, 263-300.

Sheen, Y. (2006). Exploring the relationship between characteristics of recasts and learner uptake. *Language Teaching Research, 103*, 361-392.

Sheen, Y. (2008). Recasts, language anxiety, modified output and L2 learning. *Language Learning, 58*(4), 835-874.

Swain, M. (1995). Three functions of output in second language learning. In G. Cook, & B. Seidlhofer (Eds.), *Principle and practice in applied*

linguistics: Studies in honour of H.G. Widdowson (pp. 125-144). Oxford, U.K.: Oxford University Press.

Swain, M. (2005). The output hypothesis: theory and research. In E. Hinkel (Ed.), *Handbook on research in second language learning and teaching* (pp. 471-484). Mahwah, NJ: Lawrence Erlbaum Associates.

Appendix
List of Symbols

Symbol	Definition
Underlined word(s)	Stress
=	Interruption
?	Rising-tone
-	Abrupt cut-off

Yoko Asari
Tokyo University of Science
1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601
Phone: +81-3-3260-4271
Email: asari.y@rs.tus.ac.jp

Received: April 30, 2017
Revised: June 30, 2017
Accepted: July 5, 2017