

Effects of Recasts in SLA: A Review for Research Synthesis

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Abstract

L2 researchers have been investigating the role and effect of recasts as a type of negative feedback in SLA. The present study reviews sixteen empirical studies on recasts from a synthetic perspective. Since there are many moderator factors which may reduce or enhance the effect of recasts, this study examined and compared the studies in terms of 1) definition of recasts, 2) learner factors (age, proficiency, and developmental readiness), 3) language factors (morphemes or type of L2 structures), and 4) measures. Findings indicate that overall, recasts play a facilitative role in SLA and that the degree of effectiveness is dependent on the operationalization of recasts and the moderator variables. Suggestions are made for future research on recasts and their synthesis.

Key words: *recasts, negative feedback, research synthesis, moderator factors*

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I. Introduction

The role of negative feedback in second language acquisition has been of great interest to many L2 researchers and its facilitative role has been widely accepted in the field (Long, 1996; Schachter, 1991; White, 1991). Yet, it still remains controversial as to which type of feedback should be given to learners (Carroll & Swain, 1993; Chaudron, 1977, 1988; N. Ellis, 1995).

Of all the different kinds of negative feedback, recasts, an implicit type of negative feedback, have recently drawn special attention from a group of L2 researchers (Doughty, 1994; Doughty & Varela, 1998; Long, Inagaki & Ortega, 1998; Lyster, 1998a, 1998b; Lyster, & Ranta, 1997; Mackey & Philp, 1998; Ohta, 2000 Oliver, 1995; Roberts; 1995). More recently, recasts have been investigated as a type of focus on form techniques (Doughty & Varela, 1998). Norris and Ortega (2000) synthesized the findings of some of these studies on recasts and found quite a large effect size about recasts. However, given the very limited number of the studies included (i.e. three studies involving four experiments), any conclusion about the effect of recasts in L2 acquisition might be hasty until more studies are conducted and synthesized in this area. Indeed, some researchers question the relative effectiveness of recasts, arguing that recasts are not as effective as other types of negative feedback such as elicitation, metalinguistic clues, clarification requests, or repetition of error (Lyster & Ranta, 1997).

In addition to the scarcity of research, there are other

difficulties hindering the synthesis of studies on recasts. One of them is the inconsistency in the definition of recasts across studies. This is evident in the existence of various subtypes of recasts in the literatures, such as *focused recasts*, *corrective/noncorrective recasts*, and *simple/complex recasts*. Different conceptions of recasts naturally could result in different findings and interpretations. Another stumbling block in synthesizing research findings on the effect of recasts is a number of moderator variables which may reduce or enhance the effect of recasts. They include learners' age, proficiency, relative structural complexity of L2 form, and measures. Thus, Norris and Ortega's (2000) suggested that it is necessary to investigate not only the relative effectiveness of particular instructional techniques but also the potential impact of a range of moderator variables. Any claim that fails to consider such moderator variables may well be untenable because there is no substantial reason to believe that recasts are effective regardless of those variables. On the contrary, Long (to appear) noted that "there is some evidence that recasts, like instruction in general, are differentially frequent and effective (certainly not a magic wand), depending on task, setting, learner age, proficiency, type of L2 structure, and developmental stage" (p 21).

With these factors in mind, the present study attempted to reanalyze and synthesize the findings of previous studies on the effect of recasts in SLA. Fifteen studies involving sixteen empirical studies were examined and compared in terms of 1) definition of recasts, 2) learner factors (age, proficiency, and developmental readiness), 3) language factors (morphemes or type of L2 structures), and 4) measures. Finally, on the basis of the

findings, the role of recasts in SLA was discussed.

II. Method

Despite their great efforts, Norris and Ortega (2000) found only three studies involving four experiments on recasts in SLA. Since then, however, more studies have been conducted on recasts due to the recently increased interest in the role of recasts in SLA. Of many potentially relevant studies, the present study reviewed only descriptive or experimental studies which were published between 1990 and 2004¹⁾. Although they are evidently relevant to recasts, the following studies were excluded from the analysis of the present study: unpublished manuscripts, theses, or dissertations on recasts (Mito, 1993 Richardson, 1995), review papers (Long, 1996 Long, to appear; Doughty, 2000), and studies which investigated recasts only as a subpart of other variables instead of an independent variable (Mackey, 1999 White, 1991). As a result of applying these criteria, fifteen papers including a total of sixteen studies were chosen for the study. The complete list of the studies is presented in Appendix A.

¹⁾ The list of papers included in the review of this paper is far from exhaustive. There might exist other papers which meet the inclusion criteria of this paper but were left out. Yet, this does not undermine the significance of the present study, given that the main purpose of this study is not to make any conclusive statement about the effectiveness of recasts but to show what has been done so far in this area and what should be done in the future study by carefully reviewing the previous studies.

III. Analysis and synthesis of the studies

A. Definitions and types of recasts

The term, recasts, has been widely used in L1 child acquisition literature. More recently SLA researchers have borrowed the term in their studies on the role of negative feedback in L2 acquisition but only with a wide variety of designations. Without doubt, such non-conformity in terminology could lead to different results and different interpretation of the role of recasts, which, might have been one of the factor causing the confusion about the effects of recasts in SLA.

In the L1 child acquisition research, Farrar (1992) defined recasts as those utterances "in which parents explicitly correct the child's sentence by adding syntactic or semantic information" (p. 90). Specifically, he referred to this type of feedback as *corrective recasts*, which is distinguishable from *noncorrective recasts*, "utterances that expand a child's sentence by using some of the same words from the previous sentence and model a grammatical morpheme but is not a correction of a noun or verb phrase" (p. 92).

While bringing the term into the SLA field, Long (1996) noted that recasts are a combination of the following four properties: (1) reformulation, (2) expansion, (3) semantic contingency, and (4) position (following the child's utterance). In his more recent work, Long (to appear) provided a comprehensive definition of recasts: "a corrective recast may be defined as a *reformulation* of all or part of a *learner's immediately preceding utterance* in which one or more non-target-like (lexical, grammatical,

etc.) items is/are replaced by the corresponding target language form(S), and where, throughout the exchange, *the focus of the interlocutor is on meaning, not language as objects*" [italics added] (p.2). It should be noted that expansion is not incorporated in this definition.

When the definitions of recasts in the sixteen studies were reviewed in terms of the four properties, that is, reformulation, position, semantic contingency, and expansion, all the studies contained reformulation, position properties, and less explicitly semantic contingency as common factors, as shown in Table 1.

Table 1. Properties of recasts

Properties Studies	Position	Semantic contingency	Reformul -ation	Expansion	Other properties
Ayoun (2001)	+	+	+	-	
Carroll & Swain (1993)	+	+	+	-	
Doughty (1994)	+	+	+	-	
Doughty & Varela (1998)	+	+	+	-	Intonation
Iwashita (2003)	+	+	+	-	Confirmation check
Izumi (2000)	+	+	+	-	
Leeman (2003)	+	+	+	-	
Long et al. (1998)a	+	+	+	-	
Lyster (1998a)	+	+	+	+	Intonation, Translation
Lyster & Ranta (1997)	+	+	+	+	Intonation, Translation
Lyster (1998b)	+	+	+	+	Intonation, Confirmation check
Mackey & Philp (1998)	+	+	+	-	Confirmation check
Oliver (1995)	+	+	+	-	
Ohta (2000)	+	+	+	+	
Roberts (1995)	+	+	+	-	

Note. a. this paper includes two studies

As far as the expansion property is concerned, however, the studies showed different views. Doughty (1994) restricted recasts to responses that reformulate a preceding utterance without adding any information, assigning a separate category for expansion. In contrast, Lyster (1998a, 1998b), Lyster and Ranta (1997), and Ohta (2000) included expansion in recasts, even though

Lyster (1998b) attempted to distinguish recasts with expansion from other types of recasts by subcategorizing them into "incorporated recasts (recasts with expansion)" as opposed to "isolated recasts (recasts with reduction)". It is noteworthy that Lyster found that the former led to more repairs than the latter did, which is also consistent with the findings of Chaudron (1977). These results indicate that including the expansion property in the definition of recasts is likely to undermine the effect of recasts. This might be simply because expanded recasts are often not distinguishable from topic continuation, thus creating an inappropriate situation for learners to respond to recasts, as Oliver (1995) pointed out.

Sometimes, utterances that function as confirmation checks were also regarded as recasts, as in Leeman (2003), Lyster (1998b) and Mackey and Philp (1998). In such cases, the utterances could be differentiated from simple confirmation checks in that they contained reformulation. However, it is still arguable as to whether such utterances should be classified as recasts or comprehension checks. Intonation and translations were other properties of recasts found in a few studies. For instance, Doughty and Varela (1998) provided recasts with emphasis on the reformulated parts and added stress, which they called *focused recasts*.

Recasts can also be broken into subtypes depending on the number of errors. Long (1996) divided recasts into *simple recasts*, in which one component is changed, and *complex recasts*, in which two or more components are changed. Oliver (1995) and Doughty (1994) also distinguished the two subtypes of recasts.

In sum, recasts have been defined, sub-categorized, and named variously across studies. To avoid any

confusion this inconsistency might cause and be able to synthesize research findings on recasts, a standardized definition of recasts or a classification tool for various types and subtypes of recasts should be developed and shared among researchers. With regards to the classification tool, some hints can be found in Chaudron's (1977) classification of feedback types. In his comprehensive list of feedback types, two features are particularly relevant to recasts: "repetition with change" and "repetition with change and emphasis". Each feature has two options of "reduction" and "expansion" in terms of length. Adding a category of "maintenance" for utterances which keep the structure of the previous utterance, there are six possible types of recasts, which are presented in Table 2.

Table 2. Types of recasts

NNs: He go to the movies last night.

NS:

	Repetition with change	Repetition with change and emphasis
Maintenance	Type A He went to the movies last night.	Type B He WENT ^a to the movies last night (./?) ^b
Reduction	Type C (He) went.	Type D (He) WENT (./?)
Expansion	Type E You think that he went to the movies last night, but I don't think so.	Type F You think he WENT to the movies last night, but I don't think so. Or Why do you think he WENT to the movies last night?

Note. a: intonation and/or stress,

b: either falling or rising intonation

In the table, Types A and C are the most typical and most widely accepted definitions of recasts (Ayoun, 2001; Doughty, 1994 Izumi, 2000; Leeman, 2003; Long et al., 1998 Mackey and Philp, 1998 Oliver, 1995 Roberts, 1995). They were called *recasts* and *partial recasts*, respectively, in Roberts (1985). Lyster's (1998b) *isolated declarative recasts* also belong to these types. On the other hand, Doughty and Varely's (1998) *focused recasts* are good examples of Type B. Lyster's (1998b) *isolated interrogative recasts* also can be considered Types B and D. Finally, Types E and F can be found in Lyster's (1998b) *incorporated declarative recasts* and *incorporated interrogative recasts*, respectively. Yet, it should be noted that these types of recasts are controversial in that they are often classified into separate categories from recasts in other studies (Doughty, 1994; Oliver, 1995).

In sum, quite a range of negative feedback has been referred to as recasts across studies. Given that the amount and effect of recasts are more likely to be dependent on the definition of the term, the inconsistency should be kept in mind in interpreting the results of studies on recasts. Considering the mechanism of how recasts facilitate L2 acquisition, it can be predicted that the broader the concept of recasts is, the smaller the effectiveness of recasts would be. Any beneficial effect of recasts would be attributed to the fact that such feedback given at the moment when the learner's meaning is already prevalent can draw learners' freed-up attention to mismatches between their initial utterances and feedback given, and by doing so, cause them to focus on form and notice the form (Long, in press; Doughty, in press). However, expansions or translations in response to a student's use of the L1 are less likely to

enjoy such a psycholinguistic benefit.

B. Learner factors: age, developmental readiness, and proficiency

With regard to the effect of recasts, of great interest and concern to both researchers and teachers is whether recasts are equally effective for learners of different ages and different proficiency levels. So far, few studies have compared the effect of recasts across different ages or different proficiency levels. Yet, the comparison of studies which have investigated different groups of L2 learners would shed some light on the question.

1. Age and developmental readiness

Long (to appear) claims that "in general, except that if anything, older (L2) learners appear to notice recasts more efficiently than do children (perhaps due to heightened metalinguistic awareness), giving additional cause for optimism about their likely effectiveness for adult SLA" (p. 7). This claim needs to be checked by empirical studies.

Of sixteen studies reviewed in this paper, five investigated child L2 learning and eleven investigated adult L2 acquisition either inside or outside classrooms. When only studies reporting quantitative data about recasts were considered, there were eight studies: four on child L2 learners and four on adult L2 learners. These studies were summarized and compared in Table 3.

Table 3. Quantitative data from six studies on recasts

Study	Subjects	Error^a	Corrective feedback & NNS's Responses^b					
			Recast			Negotiate		Ignore
Oliver (1995)	eight NS-NNS child dyads (8-13 yrs.) -NS: 8 from Intensive Language Classes - NNS: 8 from mainstream classes	283/692 Seq. (41%)	F: 63/172 (37%) ·single error (69%); multiple errors (31%) ·transparent errors(93%); opaque errors(7%) ·errors in singularity/plurality and sub-verb agreement R: (10%) cf. 35% in appropriate interactions	F: 109/172 (63%) ·single error (22%); multiple errors (78%) ·transparent errors (78%); opaque errors(22%) ·errors in aux/copula, pronoun, word order /choice,word omission, and subject omission R: ??				111
Lyster & Ranta (1997)	students of four French immersion classes (Grade 4/5)	1,104/3,268 U (34%)	F: 686/1,104 (62%)			R: 376/686 (55%)		
			Recast	Repetition	Clarification	Elicitation	Metalinguistic	Explicit correction
			F:375 (55%) R:115 (31%)	F:36 (5%) R:28 (78%)	F: 73 (11%) R: 64 (88%)	F:94 (14%) R:94 (100%)	F:58 (8%) R:50 (86%)	F:50 (7%) R:25 (50%)
								418
Lyster (1998a)	students of four French immersion classes (Grade 4/5)	921 Seq.	F: 558/921(61%) R: 186/558 (33%)					
			Error type	Recast		Negotiation of form	Explicit correction	
				F: 334 (60%) R: ??		F: 190 (34%) R: ??	F: 34 (6%) R: ??	363
			Grammatical (457)	F: *185 R: 19		F: 69 R: *34	F: 3 R: 3	200
			Lexical (167)	F: 50 R: 8		F: *73 R: *44	F: 10 R: 3	34
			Phonological (148)	F: *67 R: *39		F: 24 R: 15	F: 13 R: 10	44
			L1 use (149)	F: 32 R: ??		F: 24 R: ??	F: 8 R: ??	85
Lyster (1998b)	students of four French immersion classes (Grade 4/5)	1,123/3,387 U (33%)	F: 699/1,123 (62%) R: ??					
			Recast F: 377 (54%) R: 115 (31%)				Corrective repetition	Other feedback
			isolated declarative	isolated interrogative	Incorporated declarative	Incorporated interrogative	F:91 (13%) R: ??	F:231 (33%) R: ??
			F:251 (36%) R:93 (37%)	F:46 (7%) R:14 (30%)	F:64 (9%) R:5 (8%)	F:16 (2%) R:3 (19%)		424

(continued)

Study	Subjects	Error ^a	Corrective feedback & NNS's Responses ^b				
			Recast	Repetition	Clarification	Expansion	Ignore
Doughty (1994a)	college-level learners of French as a foreign language	353/U (33%)	F: 183 (68%) triggered by single error (174); multiple error (9) R: 62/183 (34%)	F: 8 (3%) R: 4(50%)	F: 68 (25%) R: 6 (9%)	F:12 (4%) R: 0 (0%)	82
Iwashi-ta (2003)	College-level learners of Japanese as a foreign language			Recasts	negotiation	ignore	Total
			Locative word order	36 (32.7%)	16 (14.55 %)	58 (52.73%)	110 (100%)
			Locative particle	64 (31.1%)	20 (9.71%)	122 (59.22%)	206 (100%)
			te-form verb	121 (39.9%)	10 (3.3%)	172 (56.8%)	303 (100%)
Izumi (2000)	college-level ESL learners	45.40 % ~ 45.88 % of NNS turns		negotiate	recast		ignore
			Task 1 (authentic)	13.10%	F: 9.99%	R: 25%	76.95%
			Task 2 (jumbled)	8.49%	F: 11.64%		79.87%
Roberts (1995)	adult learners of Japanese as a foreign language (beginner level)	??		F: 92/ ?? R (noticed): 33/92 (36%)			
			Recast	Partial recast	Cue	Request	Repeat
			F:27 (29%) R:9 (33%)	F:38 (41%) R:16 (42%)	F:10 (11%) R:3 (30%)	F:6 (7%) R:2 (33%)	F:4 (4%) R:2 (50%)
						F: 0 R: 0	F:4 (4%) R:1(2 5%)
							??

Note. a. U: utterance, Seq.: sequence as error units

b. F: provided feedback instances and percentage,

R: responded instances and percentage,

?: data irretrievable from information given in the study.

* shaded columns: data about recasts.

Table 3 reveals that the distribution of recasts as negative feedback widely varies across studies. In adult L2 studies, while Doughty (1994) and Roberts (1995)

were in agreement on the high frequency of recasts (68% and 71%, respectively), Iwashita (2003) reported a much lower percentage of recasts (31 ~ 40%). More surprisingly, Izumi (2000) found only 10% of L2 learners' errors were responded by recasts. Izumi attributed this low rate of recasts to the predominant meaning focus in untutored, task-based settings. In child L2 studies, Lyster (1998a, 1998b) and Lyster and Ranta (1997) reported substantially higher percentages of recasts than Oliver (1995) (54~60% vs. 37%). The difference seems to be related to the broad definition of recasts by Lyster and his colleague, which might have inflated the frequency of recasts.

A more interesting finding is that adult L2 learners did not always respond to them much more frequently than child learners, as shown in the percentage of response to recasts in Table 3 (25 ~ 38% and 31 ~ 35%, respectively.). These results are quite different from adult learners' much higher incorporation of recasts revealed by Richardson (1995) and Yamaguchi, Iwasaki, and Oliver (1999) (46% and over 60%, respectively), and Long's (to appear) cautious claim of adult learners' advantage of using recasts over child learners. Without doubt, it is worth further studying whether adult and child learners are different in either the amount of recasts provided or the amount of response to the recasts or both.

Ohta (2000) did not present any quantitative results but provided more crucial evidence of the utility of recasts by adult L2 learners of Japanese. The analysis of the learners' private speech showed that even though they did not respond to recasts immediately, they were actively utilizing recasts addressed to other classmates as well as those addressed to themselves. It remains to be

shown whether child learners are able to use such incidental recasts as well as adult learners.

When it comes to experimental studies, there was one study on child L2 learners and seven studies on adult L2 learners. Doughty and Varela (1998) investigated child L2 learners ranging from 11 to 14. Using a pretest-posttest control group design, they examined the effect of focused recasts in learning simple past and past conditional verb tenses. The results strikingly demonstrated that learners with recasts outperformed learners without recasts in terms of gains in posttests and maintenance of the gains in a delayed posttest.

All the seven experimental studies involving adult L2 learners investigated college-level students who were learning English, Japanese, Spanish, or French L2 as a second or foreign language. All of them demonstrated the facilitative role of recasts in adult L2 learning either partially or completely. Some of them further showed the superiority of recasts to other types of instructional treatment.

In two different experiments, Long et al. (1998) assessed the relative utility of models and recasts in L2 Japanese and L2 Spanish learning by college students. The study of L2 Spanish learning supported the claim that recasts can be more effective than models in attaining some L2 structure, even though the other study on Japanese learners did not present any significant difference in effect between the two types of feedback. Similar findings were obtained in Iwashita (2003) who investigated Australian college students' learning of Japanese as a foreign language. Recasts had a beneficial impact on verb morpheme (*te-form*) but not on locative-initial construction.

Some other studies provided stronger evidence of the effectiveness of recasts. Carroll and Swain (1993) and Leeman (2003) found that the recast group outperformed the control group in learning English dative alternation and Spanish gender/number agreement, respectively. However, when the relative effectiveness of recasts was considered, they failed to find the superiority of recasts to other types of instructional treatment such as explicit hypothesis rejection, explicit utterance rejection, and enhanced saliency. However, Ayoun (2001) found that adult L2 learners of French who received recasts outperformed those who received grammar instruction in learning French *passécomposé* and *imparfait*, although they did not outperform the modeling group.

Mackey and Philp (1998) also provided strong evidence of the effectiveness of recasts in adult ESL learning. However, this study is more significant in that it considered the effect of recasts in relation to learners' developmental stages. Mackey and Philp divided learners into "ready" groups and "unready" groups depending on their developmental levels, as defined by Pienemann and Johnston (1987) and Pienemann, Johnston, and Brindley (1988). Then they delivered the treatment of either interaction without recasts or interaction with intensive recasts. The results showed that adult ESL learners produced more question structures at higher-levels when they were given interaction including intensive recasts than they did when they were provided with interaction only. However, this was not always the case with learners developmentally unready to learn. In other words, only learners developmentally ready to learn benefited from recasts and were able to sustain an increase of advanced structures, whereas the other groups did not show a

corresponding increase.

Although they were not based on any well established developmental sequences and levels, Ayoun (2001) and Iwashita (2003) considered learners'mastery level of the target structures identified in the pretest. Unlike Mackey and Philp (1998), both found that the beneficial effects of recasts were not constrained by learners' mastery level of the target structures. In other words, recasts were effective for all the learners regardless of their pretest scores.

In sum, both descriptive and experimental studies provided substantial evidence of the utility of recasts both in child and adult L2 learning. At present, however, it is difficult to determine the relative effectiveness of recasts depending on learners' ages because no study has been conducted to analyze the effect of recasts on adult L2 learning, directly compared to that on child L2 learning. Only some studies are suggestive of possibilities that adult learners appear to receive more recasts, but incorporate as much recasts as child learners do. Further studies are needed to explore this aspect.

In addition to learners' age, developmental readiness was closely related to the effect of recasts. Only learners who were developmentally ready could benefit from recasts. However, given the limited number of the studies on this variable and rather conflicting findings from some studies, the results remain inconclusive.

2. Proficiency

Proficiency is another variable to be considered in relation to learner factors. Interestingly enough, all the learners investigated in the studies belonged to a

beginner level or at best, an intermediate level. This may indicate that recasts are more appropriate to learners of a low proficiency level because compared to explicit feedback, they do not push learners to respond immediately and more importantly, do not interrupt the flow of communication. Unlike recasts, explicit feedback requires learners to already possess an adequate level of proficiency. However, these results do not necessarily mean that recasts cannot facilitate advanced learners to learn L2. Rather, it is likely that advanced learners notice and incorporate more recasts provided to them since more resources are available for focus on form. Again, this claim remains to be proven by empirical studies.

C. Linguistic factors: types of errors and L2 target structures

The effects of recasts could be constrained by linguistic factors. There is no reason to believe that all problematic structures are equally amenable to recasts. On the contrary, Long (1996) suggested that "negative feedback obtained during negotiation work or elsewhere may be facilitative of L2 development, at least for vocabulary, morphology, and language-specific syntax, and essential for learning certain specifiable L1-L2 contrasts" (p. 414). Likewise, Schwartz (1993) maintained that "negative evidence may affect vocabulary acquisition rather than grammatical structures." In the same context, recasts may be selectively facilitative of linguistic development depending on types of L2 forms and structures. If it is the case that recasts are more valuable for some forms than others, to know such forms that can most benefit from recasts is pedagogically of

great importance.

Oliver (1995), Roberts (1995), and Lyster (1998a) explored the relationship between the type of learner errors and the type of negative feedback. Oliver (1995) found that whereas negotiation was prompted by such errors as non-target-like use of auxiliary or copula, pronoun, word order or omission, word choice, and subject omission, recasts were more often provided for errors of singularity or plurality and subject-verb agreement. Oliver also illustrated that recasts were more often triggered by single errors than by multiple errors. A more significant finding of the study is that recasts occurred when the meaning of the preceding utterance was transparent. This indicates that recasts may be more favorable to such forms and structures that are semantically transparent. However, Oliver did not analyze learners' response to recasts in each error type, and as a result, she did not obtain results of the actual impact of recasts on L2 learning.

Although Roberts (1995) investigated the distribution of learners' noticing and understanding of feedback in response to different error types, the results were very limited in interpretation, in part because of the pooled data in terms of feedback, and in part because of the small number of tokens in some categories.

Lyster's (1998a) study is more inclusive than the previous two studies in that it compared learners' responses in relation to the feedback type as well as the error type. Lyster investigated the distribution of feedback types across four different error types: grammatical, phonological, lexical, and L1 use. The results showed that there is significant interaction between feedback type and error type. While the majority of lexical errors

triggered negotiation of form (55%), a majority of phonological, grammatical errors, and L1 use were followed by recasts (64%, 72%, and 50%, respectively). In the analysis of repairs per error type, recasts proved to be superior to other types of feedback in phonological repairs (61%). Even though recasts were provided for the majority of grammatical errors, they did not lead to as many repairs as negotiation of form did (34% and 61%, respectively). Most of the lexical repairs were due to negotiation of form (80%).

The above three studies were inconsistent in their findings. For instance, while Oliver (1995) did not find a significant difference in the feedback type invited by phonological errors, Lyster (1998a) reported that phonological errors were more frequently followed and repaired by recasts. Despite these differences in results, these studies are suggestive of the existence of a relationship among feedback type, error type, and learners' response. In other words, recasts may be more triggered by some types of errors than by other errors. Likewise, recasts may be more effective in correcting some types of errors than other errors. Our remaining task is to identify such error types that favor recasts and also benefit most from recasts.

In addition to error type, syntactic complexity is a factor to be considered in studies on recasts. This factor concerns whether or not recasts are available for all problematic structures. The effect of syntactic complexity was evident in Long et al. (1998). In the study on L2 Spanish learning, the researchers obtained different results from two different structures. In learning adverb placement, the recast group outperformed both the control group and the group hearing models. However,

there were no significant differences among the three groups in object to picalization. The researchers explained the discrepancy between the two structures in terms of perceived structural difficulty. Even though both structures are subject to the same processing constraints, they may be different in meaning bearing or saliency. That is, Spanish adverbs are multisyllabic, stressed, meaning bearing, and thus more salient than object to picalization. However, Leeman (2003) who chose Spanish gender and number agreements which she argued have low perceptual salience and limited communicative value found the beneficial effect of recasts for the targets. Iwashita (2003) also found the effects of recasts only in one of the two structures she investigated. She attributed the results to the different structural difficulties of *te-form* verb and locative-initial construction.

Except for the three studies, none of the studies on recasts compared the effects of different structures. Although Ayoun (2001) investigated two target structures, *passécomposé* and *imparfait* in French, she did not measure the effects of recasts for each structure. It is more often the case that one structure was targeted and on the basis of gains in the test, the effects of recasts were determined. So far, dative alternation (Carroll & Swain, 1993), simple past and past conditional (Doughty & Varela, 1998), and question formation (Mackey & Philp, 1998) in English, *te-form* verb (Iwashita, 2003) in Japanese, gender and number agreement (Leeman, 2003) and adverb placement (Long et al., 1998) in Spanish, and *passécomposé* and *imparfait* (Ayoun, 2001) in French are those structures which have proved to benefit from recasts. In the future, a wider range of forms and structures needs to be put to tests in studies on recasts.

Also, considering the differential effects of recasts on different structures in Long et al. (1998) and Iwashita (2003), it will be fruitful to investigate exactly what features of target structures affect the role of recasts in L2 learning.

D. Measures

As is often the case in studies measuring some effects or attainment, the results of studies on recasts are highly dependent on the types of measures employed. In turn, measures are closely related to constructs which the measures intend to assess. Therefore, it is important to examine both measures and constructs the measures intend to assess, before comparing results across studies.

Most of the descriptive studies have regarded learners' immediate repetition or incorporation of recasts as the evidence of the effectiveness of recasts (Doughty, 1994 Oliver, 1995 Lyster, 1998a, 1998b Lyster and Ranta, 1997). This *immediate response measure* restricts the scope of learners' response to utterances immediately following feedback and based on the distribution of learners' response, determines which types of feedback are more effective than others.

However, this claim should be considered with a caveat. Strictly speaking, the studies demonstrated that some feedback techniques elicited more response, not that they facilitated acquisition. There is a wide gap between the two claims. Immediate responses do not always guarantee acquisition. They might be a mere reflection of the operation of short-term memory or deployment of already existing L2 knowledge. Moreover, when measures include every sort of response regardless

of repair, as is the case in the three studies by Lyster and his colleague, it is much more difficult to believe that such measures are valid barometers of acquisition. Indeed, in the study on the role of recasts in acquisition, Mackey and Philp (1998) could not find any significant relationship between learners' immediate responses and L2 development.

More seriously, the measure of prioritizing learners' immediate response as evidence of effectiveness of feedback denies learners' active roles in acquisition from a psychological perspective. With regard to this point, Ohta (2000) is noteworthy. On the basis of findings from L2 Japanese learners' private speech, Ohta emphasized that the absence of learners' response should not be regarded as the absence of attention or of salience, or as the ineffectiveness of a particular feedback type. In the same vein, Izumi (2000) showed that some recast forms were not incorporated immediately but turned up later.

Some experimental studies also assessed immediate responses to measure the effects of recasts. For instance, Long et al. (1998) and Ayoun (2001) implemented tests right after learners received recasts and other types of instruction. However, they complemented the measure with a pretest. The researchers could determine the effects of recasts by comparing posttest scores with those of pretest. This *Pretest-posttest design* appears to show more direct evidence of acquisition in that it displayed what learners actually gained as a result of treatments. Nonetheless, this measure suffers from another problem. Given the implicit nature of recasts, measuring immediate incorporation or learning can undermine the effects of recasts in comparison with the effects of more explicit feedback types. It is more likely that learners do not

incorporate recasts in their immediate turns as often as they do elicitation, clarification requests, etc. because they are not pushed or urged to do so. It remains to be shown what type of feedback will prove to be the most effective in the long term.

As an attempt to overcome shortcomings of the pretest-posttest design, some researchers used *delayed posttests*. Carroll and Swain (1993), Iwashita (2003), and Leeman (2003) implemented a delayed posttest one week after the treatment and the immediate posttest. While Iwashita (2003) and Leeman (2003) found the similar level of performance one week later, Carroll and Swain (1993) observed somewhat different pattern emerged in the delayed posttest. The group receiving explicit hypothesis rejection showed significant difference in their performance outperformed the group receiving modeling and implicit feedback in the delayed posttest, which was not observed in the immediate posttest. However, this leaves another controversial question of how long is enough to measure genuine acquisition.

Mackey and Philp (1998) followed the maintenance of the effects of recasts much longer. They tested learners three times: right after treatments, one week later, and five weeks later. Interestingly, all five groups, including four experimental groups and one control group, showed different patterns in transitions from the first posttest to the third posttest. Only the group which was developmentally ready and provided with recasts displayed a linear increase in the number of higher-level question forms through the posttests, even though the results were complicated by the highest pretest scores. The other groups either did not present any significant differences or showed significant differences only between

the pretest and one of the posttests. In other words, even though interaction facilitated short term learning, the effects were not maintained to the time of the third posttest. The results demonstrated the importance of investigating the long-term effects of feedback on L2 acquisition. Doughty and Varela (1998) also used a delayed posttest and they confirmed the maintenance of the experimental group's gains on all six measures after two months.

The previous studies used different measures to assess the effects of recasts: immediate response design, pretest-posttest design, and pretest-posttest-delayed posttest design. They showed the possibility that different results and conclusions will be obtained depending on the measures employed. Nonetheless, the relationship between measures and feedback types is an area of research that is largely unexplored.

IV. Conclusion

This paper reviewed fifteen papers involving sixteen studies on recasts for the purpose of investigating the effectiveness of recasts in L2 acquisition with focus on the role of moderator variables. With a synthetic approach, I analyzed and compared the studies in terms of four aspects: definition, learner factors (age, proficiency, and developmental readiness), language factors (types of errors and L2 target structures), and measures.

This study revealed that a wide range of definitions has been used across studies. Given that how to define recasts can affect the effectiveness of recasts, researchers

and readers need to pay more attention to the definition of recasts when they conduct research and interpret findings on recasts. At the same time, standardized definitions and taxonomy are in need so that researchers can rely on the same criteria.

The review of the studies also suggested that learners differentially use recasts depending on developmental readiness, age, and proficiency. Yet, overall, these variables have been less explored in the literature. Particularly, there has been no study which compared different age groups to measure relative effects of recasts depending on learners' age. Likewise, few studies investigated the recast effects for advanced-level L2 learners.

Language factors, including types of errors and L2 target structures, also appear to influence the effect of recasts. Despite the insufficient number of studies on this area, there have been several findings. First, single errors benefit more from recasts than multiple errors do. Second, some error types and structures appear to favor recasts more than other errors do. What should be answered is exactly what features of the target forms and structures determined the effectiveness of recasts. Saliency and communicative value of the targets have been suggested as some possible factors.

Finally, the studies used different measures: immediate response measure, pretest-posttest design, and pretest-posttest-delayed posttest design. A longitudinal design is another measure which was not employed by the studies reviewed here.

This paper raised more questions than presented answers partly due to several limitations: in spite of an effort to cover studies on recasts inclusively, this study

resulted in including only fifteen papers involving sixteen studies. There may be many more studies conducted but not published or in progress now. However, it is more likely that research on recasts is in a fledgling state, and thus there remains much to be done. This study has shown such a necessity by identifying what has been done already and suggesting what should be done in further research.

References

- Ayoun, D. (2001). The role of negative and positive feedback in the second language acquisition of passé composé and imparfait. *Modern Language Journal*, 85(2), 226-243.
- Carroll, S., & Swain, M. (1993). Explicit and implicit negative feedback: An empirical study of the learning of linguistic generalizations. *Studies in Second Language Acquisition*, 15, 357-386.
- Chaudron,C. (1977). A descriptive model of discourse in the corrective treatment of learners' errors. *Language Learning*, 27, 29-46.
- Doughty, C. (1994). Fine-tuning of feedback by competent speakers to language learners. In J. Alatis (Ed.), *Georgetown University Round Table on Languages and Linguistics 1993: Strategic Interaction and Language Acquisition: Theory, Practice, and Research* (pp, 96-108). Washington, D. C.: Georgetown University Press.
- Doughty, C. (2000). Negotiating the L2 linguistic environment. *University of Hawai'i Working Papers in ESL*, 18(2), 47-83.
- Doughty, C., & Varela, E. (1998). Communicative focus on form. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 114-138). Cambridge: Cambridge University Press.
- Ellis, N. (1995). Consciousness in second language acquisition: A review of field studies and laboratory experiments. *Language Awareness*, 4, 123-146.
- Farrar, M. J. (1992). Negative evidence and grammatical

- morpheme acquisition. *Developmental Psychology*, 28(1), 90-98.
- Izumi, S. (2000). Implicit negative feedback in adult NS-NNS conversation: Its availability, utility, and the discourse structure of the information-gap task. *Applied Language Learning*, 11(2), 289-321.
- Iwashita, N. (2003). Negative feedback and positive evidence in task-based interaction: Differential effects on L2 development. *Studies in Second Language Acquisition*, 25(1), 1-36.
- Leeman, J. (2003). Recasts and second language development: Beyond negative evidence. *Studies in Second Language Acquisition*, 25(1), 37-64.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of language acquisition. Volume 2: Second language acquisition* (pp. 413-368). New York: Academic Press.
- Long, M. H. (to appear). Recasts in SLA: The story so far. To appear in M. H. Long, *Problems in SLA*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Long, M. H., Inagaki, S., & Ortega, L. (1998). The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *Modern Language Journal*, 82(3), 357-371.
- Lyster, R. (1998a). Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms. *Language Learning*, 48(2), 183-218.
- Lyster, R. (1998b). Recasts, repetition and ambiguity in L2 classroom discourse. *Studies in Second Language Acquisition*, 20(1), 51-81.
- Lyster, R., & Ranta, L. (1997). Corrective feedback and

- learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19(1), 37-66.
- Mackey, A. (1999). Input, interaction and second language development. *Studies in Second Language Acquisition*, 21(4), 557-588.
- Mackey, A., & Philp, J. (1998). Conversational interaction and second language development: Recasts, responses, and red herrings? *Modern Language Journal*, 82(3), 338-356.
- Mito, K. (1993). *The effects of modeling and recasting on the acquisition of L2 grammar rules*. Unpublished Scholarly Paper, Honolulu: Department of ESL, University of Hawai'i.
- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50(3), 417-528.
- Ohta, A. (2000). Rethinking recasts: A learner-centered examination of corrective feedback in the Japanese language classroom. In J. K. Hall & L. Verplaete (Eds.), *Second and foreign language learning through classroom interaction*(pp. 47-71). Mahwah, NJ: Lawrence Erlbaum Associates.
- Oliver, R. (1995). Negative feedback in child NS-NNS conversation. *Studies in Second Language Acquisition*, 18(4), 459-481.
- Pienemann, M., & Johnston, M. (1987). Factors influencing the development of language proficiency. In D. Nunan (Ed.), *Applying second language acquisition research* (pp. 45-141). Adelaide: National Curriculum Research Centre, Adult Migrant Education Program.
- Pienemann, M., Johnston, M., & Brindley, G. (1988).

- Construction an acquisition-based procedure for second language assessment. *Studies in Second Language Acquisition*, 10, 217-243.
- Richardson, M. A. (1995). *The use of negative evidence in the second language acquisition of grammatical morphemes*. Unpublished M.Ed. thesis, Perth: Graduate School of Education, University of Western Australia.
- Roberts, M. (1995). Awareness and the efficacy of error correction. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning. Technical report*, No. 9 (pp. 162-182). Honolulu: Second Language Teaching and Curriculum Center, University of Hawaii.
- Schachter, J. (1991). Corrective feedback in historical perspective. *Second Language Research*, 7, 89-102.
- Schwartz, B. (1993). On explicit and negative evidence effecting and affecting competence and linguistic behavior. *Studies in Second Language Acquisition*, 15, 147-163.
- White, L. (1991). Adverb placement in second language acquisition: Some effects of positive and negative evidence in the classroom. *Second Language Research*, 7, 133-161.
- Yamaguchi, Y., Iwasaki, J., & Oliver, R. (1999). *Negative feedback in JFL task-based interaction*. Paper presented at the AILA conference, Waseda University, Tokyo, August.

Appendix A

Studies on recasts reviewed in this study

	studies
Descriptive	Doughty (1994) Izumi (2000) Lyster (1998a) Lyster (1998b) Lyster & Ranta (1997) Ohta (2000) Oliver (1995) Roberts (1995)
Quasi-experimental & Experimental	Ayoun (2001) Carroll & Swain (1993) Doughty & Varela (1998) Iwashita (2003) Leeman (2003) Long, Inagaki, & Ortega (1998)* Mackey & Philp (1998)

* This study includes two experiments.