

Constitution of form-orientation: Contributions of context and explicit knowledge to learning from recasts

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Abstract

This article investigates a language learner's cognitive ability (i.e., form-orientation) in detecting the corrective nature of non-salient feedback, by reviewing the operationalizations and reported effectiveness of recasts in recent SLA literature. Two directionalities which seem to have resulted in the divergent findings of recast effectiveness will be discussed: (a) operationalized (or intact) explicitness or implicitness of recasts, which designate the level of noticeability (i.e., feedback factors) and (b) contextual variables, including where a study was conducted and participants' learning background, which ultimately influence the effectiveness of recasts on language development (i.e., learner factors). To expose learner factors accordingly, learning contexts and learner's explicit knowledge will be discussed as possible variables in forming cognitive orientation. By taking an interdisciplinary approach to explore the constitution of the orientation, namely, SLA, psycholinguistic, and sociocultural approaches, this article concludes that contexts and explicit knowledge interdependently create the cognitive ability that enhances the efficacy of implicit recasts on second language processing, which then arguably determines subsequent language development.

Résumé

Cet article porte sur la capacité cognitive de l'apprenant en langue (forme d'orientation) relativement à la détection de la nature corrective des commentaires non-saillants, en examinant l'opérationnalisation et l'efficacité de la reformulation rapportée dans la littérature récente de l'ALS. Deux directionalités qui semblent avoir abouti à des conclusions divergentes quant à l'efficacité de la reformulation seront abordées: (a) une reformulation explicite ou implicite qui désigne le niveau de perceptibilité (facteurs de rétroaction) et (b) les variables contextuelles, y compris le lieu où l'étude a été réalisée et les antécédents d'apprentissage des participants, qui finalement influencent l'efficacité de la reformulation sur le développement du langage (les facteurs de l'apprenant). Conséquemment, pour exposer les facteurs de l'apprenant, les contextes d'apprentissage et les connaissances explicites de l'apprenant seront discutés en tant que variables possibles dans la formulation d'une orientation cognitive. En adoptant une approche interdisciplinaire pour étudier la constitution de l'orientation, à savoir l'ALS, la psycholinguistique, et les approches socioculturelles, cet article conclut que les contextes et les connaissances explicites créent de façon interdépendante la capacité cognitive qui améliore l'efficacité des reformulations implicites dans le traitement de la langue seconde, qui, par la suite, détermine le développement ultérieur du langage.

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Introduction

Interaction studies in the field of SLA seem to have reached a mature stage (see Mackey, 2007), considering the emergence of meta-analysis studies since 2000 (Keck, Iberri-Shea, Tracy-Ventura, & Wa-Mbaleka, 2006; Li, 2010; Lyster & Saito, 2010; Mackey & Goo, 2007; Norris & Ortega, 2000; Russell & Spada, 2006; Spada & Tomita, 2010; see also Spada, 1997) in which researchers seek tendencies in findings of previous studies by combining and reanalyzing statistical results (Lipsey & Wilson, 2001). These studies have reported that interaction in general (either conversational or didactic) and corrective feedback in the paradigm of form-focused instruction (FFI) facilitates second language (L2) learning. The extent to which these meta-analyses represent findings from the literature should be open to discussion because, to conduct a meta-analysis, one must exclude studies that do not conform to the statistical analysis (see Matt & Cook, 1994). For example, most observational studies are excluded from analysis because they do not usually report means and standard deviations required to obtain effect sizes. Also, when compared to meta-analyses in other psychological disciplines, SLA research does not seem to have produced sufficient number of experimental studies in order to offer generalizable statements. Nonetheless, SLA meta-analysis studies provide us with insights into the present discussion: (a) whether explicit or implicit instruction is more effective (see Spada & Lightbown, 2008); (b) whether contextual factors are a variable affecting L2 learning behaviours (see Dörnyei, 2006).

In this vein, since FFI has become an area of focus, a vast amount of research has been undertaken investigating recasts as one type of corrective feedback. This type of corrective feedback has created much debate among researchers as it can take different forms—implicit or explicit (Long, 1996; Sheen, 2006), resulting in divergent outcomes in language development.

In this regard, for many, noticeability is a key construct, as it ultimately reflects a learner's cognitions to detect the corrective nature of a recast (see Doughty, 2001; N. Ellis, 2005; Gass, 2004; Long & Robinson, 1998; Robinson, 1995, 2003; Schmidt, 1990, 1995; Skehan, 1998, 2002; Tomlin & Villa, 1994; VanPatten, 1996). Whether a learner notices the corrective nature in given feedback may depend upon its explicitness. This is because noticing has been claimed to be of "necessity for successful language learning" (Schmidt, 2001, p. 23); that is, feedback must be noticed in order for learners to conduct a cognitive comparison (R. Ellis, 1994) and to be "engaged in the process of focused input analysis" (N. Ellis, 2005, p. 328). Therefore, explicitness or saliency of recasts must be carefully examined, because if saliency is intentionally increased to the extent that a recast unequivocally functions as negative evidence (i.e., a type of input that provides information as to what is not grammatically acceptable in the target language) (Pinker, 1984), this then poses the question as to whether the noticed gap is a result of what can be considered implicit feedback. In other words, without examining how explicit a recast is made to learners, it is hard to decide whether recasts facilitate L2 acquisition through positive or negative evidence.

To add to Nicholas, Lightbown, and Spada's (2001) comprehensive review of recast studies, and to extend Ellis and Sheen's (2006) suggestions for dealing with recast effectiveness, the current review article explores L2 learners' cognitions that may determine the degree to which recasts benefit L2 development. More specifically, it seeks L2 learners' cognitive ability to notice recasts (i.e., form-orientation), borrowing a claim that explicit knowledge is a factor that enhances noticing (Robinson, 2003), and a rather broad claim which draws on a sociocultural approach (Watson-Gegeo, 2004), stating that language learning behaviors are influenced by individual differences formed by learning experiences (Dörnyei, 2006). To be clear at the beginning, this article is not intended to establish arguments that recasts need to be noticed to be conducive to L2 development or that noticeability is the sole variable that determines corrective feedback effectiveness. These claims surely need further empirical evidence to be substantiated. Rather, given that noticing has been found to be facilitative of L2 development, this article contributes to our understanding of corrective feedback by revealing learners' cognition that seems to increase the chance of noticing. The three questions addressed in this article are: (a) What roles do contexts play in second or foreign language acquisition *research*? (b) How does explicit knowledge affect the noticing of recasts? (c) What type of learners learn the most from recasts?

Although Segalowitz and Lightbown (1999) rightly addressed the gap between the SLA community and the L2 psycholinguistic community over ten years ago, it still seems to exist today. In addition, the gap between SLA and sociocultural approaches to L2 learning still remains to be closed. In the discussion of incommensurability of SLA and sociocultural theoretical discourses, Dunn and Lantolf (1998) claimed the importance of coexistence: "[i]t is about nothing less than active and intense *dialogic* engagement with these different discourses and world views" (p. 431). The present article takes this stance claiming that to fully understand the learners' cognitions, it is necessary to examine and interpret language learning phenomena from various perspectives, by inclusively incorporating and integrating findings using an interdisciplinary approach. This theoretical approach further adds another dimension to our understanding of corrective feedback effectiveness and it also bridges the gap between research and classroom practice.

Feedback Factors and Learner Factors on Recast Effectiveness

Drawing on the research of both L1 and L2 acquisition, Nicholas et al. (2001) explored recasts and claimed that in the domain of SLA "the definition of recasts has varied considerably" (p. 752) depending on research settings and the researcher's operationalization of recasts. The inconsistent operationalization of recasts largely stems from how an individual researcher conceptualizes recasts in terms of their explicitness. Considering the function of recasts that provides learners with corrected or modified versions of their initial erroneous utterances, recasts surely provide positive evidence to learners. Recasts can also provide negative evidence as they potentially provide learners with information about what they cannot say in the target language (Leeman, 2003).

Nevertheless, when it comes to explicitness or implicitness of recasts, the concept becomes a blur. Following convention that stems from the L1 acquisition research, recasts are generally categorized as implicit feedback, as seen in Long and Robinson's (1998) categorization of input and Loewen and Nabei's (2007) continuum of corrective feedback.

However, it can be also argued that the explicitness of recasts is largely affected by how a learner interprets the illocutionary force of any given recast. This is because, as Ellis and Sheen (2006) discussed, the degree of explicitness or implicitness lies in how corrective a recast is in nature (i.e., how didactic a recast is) and whether a learner treats recasts as correction (see also Egi, 2007; Kim & Han, 2007; Lyster & Izquierdo, 2009; Ranta, 2008). That is, the effectiveness of corrective feedback should be interpreted with two directionalities—one from providers and one from receivers: feedback factors affect the saliency of feedback and learner factors affect the ultimate effectiveness of feedback. What remains unanswered in the literature, however, is what are the factors that make recasts explicit and which variables make learners perceive recasts as negative evidence?

Saliency of Recasts: Feedback Factors

By now, it is evident that recasts function differently depending on where learners' spontaneous speech data is collected; that is, classroom or laboratory settings: It has been revealed that learners tend to notice the corrective force in recasts more in laboratory settings (Lyster & Izquierdo, 2009; Lyster & Saito, 2010; Mackey & Goo, 2007). On the one hand, a number of classroom studies have found that recasts, "reformulation of all or part of a student's utterance, minus the error" (Lyster & Ranta, 1997, p. 48), are less effective in leading to subsequent students' self-corrections of the initial erroneous utterances (Havranek, 2002; Havranek & Cesnik, 2001; Lyster & Ranta, 1997; Panova & Lyster, 2002). These observational studies sought the noticing of recasts and subsequent L2 learning in the amount of uptake which "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). Though the validity of uptake as a measurement of noticing is debatable (see Gass, 2003; Lightbown, 1998; Long, 2007; Mackey, 1999; Mackey & Philp, 1998; McDonough, 2005, 2007; McDonough & Mackey, 2000, 2006; Nabei & Swain, 2002), there is also evidence from empirical studies showing that recasts are less noticeable than other types of corrective feedback (Ammar, 2008; Ammar & Spada, 2006; R. Ellis, 2007; R. Ellis, Basturkmen, & Loewen, 2001; R. Ellis, Loewen, & Erlam, 2006; Lyster, 2004; Sheen, 2007; Yang & Lyster, 2010). These studies compared recasts with other types of corrective feedback such as prompts that "withhold correct forms (and other signs of approval) and instead offer learners an opportunity to self-repair by generating their own modified response" (Lyster, 2004, p. 405), and showed that learners who received recasts did not improve test scores as much as learners who received prompting types of feedback.

In classroom studies, although frequency of feedback on a particular linguistic feature can be increased, the nature of corrective feedback is usually not affected by the experimental design. In Lyster's (2004) experiment, teachers were asked to choose an instructional treatment closest to what they would usually use in their classrooms; thus, the feedback their students received was similar to what they normally had been given by their teachers. The same can be said in Ammar (2008) and Ammar and Spada (2006), where the researcher(s) conducted preliminary observations to assign teachers to treatments, and the teacher who regularly gave recasts was chosen for the recast group. Therefore, as revealed by classroom observational studies (e.g., Lyster & Ranta, 1997), recasts in classroom studies, which are teachers' natural didactic discourse, are rather implicit feedback without prosodic stresses (Lyster, 1998).

On the other hand, a considerable amount of research in laboratory settings has shown that recasts can be an effective tool in L2 development. This research has reported that (a) recasts are facilitative in comparison with a situation where learners are given target forms before making an error (Long, Inagaki, & Ortega, 1998; Ortega & Long, 1997), (b) negotiations that include intensive or target-focused recasts are more effective than ones without recasts (Han, 2002; Ishida, 2004; Iwashita, 2003; Mackey & Philp, 1998), (c) learners tend to succeed in noticing recasts when they are trained and encouraged to do so (Philp, 2003), and (d) the degree of noticing recasts varies depending on their length and the number of changes in a set of conversation (Egi, 2007). It seems inexpedient, however, to interpret these findings as supportive evidence of recasts because the designs did not include other types of feedback to compare. That is, they showed that corrective feedback in general is effective in L2 development and that learners can benefit from recasts. There are also studies, however, that have reported that recasts were equally effective when compared to other types of feedback such as (a) explicit correction and metalinguistic feedback which asked the learners if they were sure about their utterance (Carroll & Swain, 1993; Kim & Mathes, 2001), (b) clarification request (McDonough, 2007), and (c) prompts (Lyster & Izquierdo, 2009).

Various factors contribute to the divergent findings of recast effectiveness. Lyster (1998), for example, claimed that recasts in classroom discourse are too ambiguous for learners to notice and that this ambiguity attributes to lower uptake rates following recasts. Surely, in classroom dynamics, corrective feedback cannot be controlled as much as in laboratories (Ammar & Spada, 2006)—in laboratories, the amount of feedback and focus is controlled in a sealed experimental environment and this may affect the saliency of recasts. Mackey and Goo (2007), detecting a significant difference between studies conducted in classrooms and laboratory settings, claimed that the result is the outcome of “the quantity and quality and often dyadic context for the provision of interactional treatments in laboratory settings” (p. 443). Nicholas et al. (2001) also claimed that this difference is due to “the dyadic nature of the laboratory interactions, which may help learners recognize the interlocutor’s feedback as corrective” (p. 749). Thus, the nature of feedback in the two contrasting research settings fundamentally differs. In addition, operationalization of feedback may have further increased the saliency of recasts. In Carroll and Swain’s (1993) study, for instance, learners were first trained to be given feedback and were told that they would be provided with recasts when making an error. The native-speaking interlocutors in McDonough’s (2007) study were trained to give feedback especially on the target structure.

The effect of operationalization of recasts on their saliency can be found in some classroom studies as well. In Doughty and Varela’s (1998) quasi-experimental study in content-based ESL classrooms, the teacher who taught the group that received *corrective recasting* first repeated the student utterance to highlight the error through stress and rising intonation, and when he or she did not self-correct, a recast was provided. Also, students were encouraged to repeat the given recast. In addition, students had gotten used to noticing recasts due to other classroom activities: the teacher circled errors and provided the correct form in learners’ written production, and the students were shown video recordings of their own oral reports and instructed to focus on accuracy. Ohta (2000) observed learners of Japanese in a college foreign language classroom. In this study, a microphone was attached to the students and the researcher was present in the classroom. As Russell and Spada (2006) pointed out, these experimental designs might have affected

the extent to which the students were attentive to the corrective intent of feedback and accuracy of their own utterances. In Ohta's (2000) study as well, students had engaged in grammar activities which might have enhanced noticing recasts. Ohta reported that in the classroom "a strong focus on form was maintained throughout teaching and learning activities, with explicit grammar lectures once a week" (p. 55). Therefore, in these studies, as is the case with the above laboratory studies, the saliency of recasts was increased for experimental purposes.

Thus, it can be argued, by examining how recasts were operationalized and how cognitively ready learners were to detect recasts, that the extent to which recasts served to facilitate L2 development as implicit negative evidence is questionable. That learners noticed that they were given negative evidence is not surprising since feedback was made explicit to a great degree and, at the same time, it is clear that the reported effectiveness of recasts was affected by the experimental designs. That is, the effectiveness of recasts varies depending on how explicitly they indicate to learners that their utterances are somewhat problematic and this explicitness can easily be affected by experimental design.

Divergent Findings in Classroom Studies: Learner Factors

To date, classroom studies, regardless of the contexts (i.e., foreign or second language contexts), generally concluded that prompting types of feedback are more effective than recasts in leading to more successful learner uptake. Nonetheless, there is clear evidence that recasts function differently when classroom studies are compared, in which the saliency of corrective feedback was not experimentally increased (i.e., implicit recasts); in other words, there is a considerable difference in terms of the degree of recast noticeability across studies.

Ellis et al.'s (2001) study conducted at a private language school in New Zealand, for example, showed that successful uptake following recasts (categorized under direct feedback) was 76.3%. In a similar context, Loewen (2004) observed classrooms at a language school in New Zealand. Although he found that prompting types of feedback were more predictive of successful uptake than were recasts, explicitness of recasts was eliminated from the statistical analysis—logistic regression—in the process of forward stepwise procedure. Thus, the extent to which a recast was explicit to learners is unclear. However, what this study does show is a high rate of successful uptake (73%), including an indirect type of recast without any prosodic stress, which, again, is inconsistent with the data from the other contexts. Lochtman (2002), having observed German classrooms at three Dutch-speaking secondary schools, concluded that recast effectiveness is comparable to other types of feedback. This claim was based on the finding that, although recasts did not lead to uptake as much as other prompting types of feedback, recasts resulted in "less unsuccessful uptake" (p. 281). In other words, when only successful uptake was taken into account as a sign of learners' noticing, recasts in those classrooms were equally as effective as explicit corrections.

In Asian contexts, a similar tendency in terms of the noticeability of recasts has been reported. For instance, Sheen (2004) collected data at private language schools in Korea. In this observational study, 82.5% of recasts were followed by successful uptake. Having mentioned that the majority of the learners were highly educated, holding bachelor's or master's degrees, Sheen suggested that the learners' educational backgrounds

made them linguistically more sophisticated and proficient and thus could have been a variable contributing to the high rate of noticing (however, for opposite findings, see Sheen, 2007, in which the target linguistic feature was English articles). Yang and Lyster (2010) have also provided evidence that recasts are comparatively noticeable for some learners. This quasi-experimental study was conducted in Chinese university language classrooms, measuring both oral and written test scores of English regular and irregular past-tense forms. Although, like other classroom studies, Yang and Lyster (2010) found supportive evidence for prompting feedback over recasts on regular past-tense forms, they also reported that irregular past-tense forms are “amenable to both recasts and prompts” (p. 28). Drawing on Skehan’s (1998) model of a dual-mode system, Yang and Lyster attributed this result to different processing demands depending on linguistic structures: Since irregular past-tense forms are less structured resulting in the exemplar-based system, learners can learn forms by being provided correct forms through recasts to a similar extent to the case where they are pushed to practice through prompting feedback (see, for neurocognitive perspectives, Hahne, Mueller, & Clahsen, 2006; Ullman, 2001, 2004; van der Lely & Ullman, 2001).

In summary, recast effectiveness can be enhanced when the corrective nature is made sufficiently clear for learners to notice it. That is, in both laboratory settings and in classrooms where saliency of recasts is operationally increased, recasts function as explicit negative evidence (R. Ellis & Sheen, 2006; see also Kim & Han, 2007). Also, it is clear that recasts can serve as both positive and negative evidence and their explicitness is decided by both the provider and the receiver of a recast, which seems to designate the ultimate effectiveness of corrective feedback. That is, recast effectiveness lies not only in feedback itself but also in types of learners. This argument does not, however, provide a good understanding of differential findings from observational classroom studies where recasts were a more implicit type of feedback (see Table 1 for a summary of studies that dealt with recasts). Why do learners in some contexts (i.e., Ellis et al., 2001; Lochtman, 2002; Loewen, 2004; Sheen, 2004) repeat recasts and possibly notice their corrective intent more than do learners in other studies (Lyster & Ranta, 1997; Panova & Lyster, 2002)? In the following sections, these contrasting findings will be explained in terms of (a) how *learning contexts* may construct learners’ cognitive orientation and (b) how *research contexts* misleadingly cause us to overgeneralize findings, especially in relation to differential amounts of explicit knowledge that each participant holds, which is arguably developed by his or her learning history prior to participating in a study.

Table 1. *Studies Including Recasts and Their Effectiveness*

Study	Participants (L1) & Target language(s)	Research setting	Operationalization of recasts	Results (vs. other types of feedback)
Lyster & Ranta (1997)	Elementary (English) French	Classroom (Quebec) Immersion	(Observational)	Low uptake rate after recasts
Panova & Lyster (2002)	Adult (French ^h) English	Classroom (Quebec) ESL	(Observational)	Low uptake rate after recasts
Havranek & Cesnik (2001)	Varied (German) English	Classroom (Germany) ESL	(Observational)	Low uptake rate after recasts
Lyster (2004)	Elementary (French) French	Classroom (Quebec) Immersion	Teachers did what they normally had been doing in their classes.	Recasts < Prompts
Ammar & Spada (2006)	Elementary (French) English	Classroom (Quebec) Intensive ESL	Teachers were chosen according to observation.	Recasts < Prompts (for lower proficiency learners)
Ammar (2008)	Elementary (French) English	Classroom (Quebec) Intensive ESL	Teachers were chosen according to interview and observation.	Recasts < Prompts
Long, Inagaki, & Ortega (1998)	University (unknown) Spanish & Japanese	Laboratory (USA)	Researcher gave recasts whenever a participant made an error.	Recasts > models
Ortega & Long (1997)	University (unknown) Spanish	Laboratory (USA)	Researcher gave recasts whenever a participant made an error.	Recasts > models
Mackey & Philp (1998)	Adult (mixed) English	Laboratory (Australia)	NSs were trained to provide recasts intensively on any errors.	Recasts > \emptyset
Iwashita (2003)	University (English) Japanese	Laboratory (Australia)	Recasts were elicited by tasks that participants engaged in with NSs.	Recasts > \emptyset
Han (2002)	University (mixed) English	Laboratory (USA)	Researcher gave recasts especially on the target form.	Recasts > \emptyset

(continue)

Ishida (2004)	University (English) Japanese	Laboratory (USA)	Researcher gave intensive recasts.	Recasts > \emptyset
Carroll & Swain (1993)	Adult (Spanish) English	Laboratory (Canada)	Participants were trained to be given recasts before the data collection.	Recasts \approx Prompts
McDonough (2007)	University (Thai) English	Laboratory (Thai)	NSs were told to provide recasts on the target structure.	Recasts \approx Clarification request
Lyster & Izquierdo (2009)	University (English) French	Laboratory (Quebec)	Researcher gave recasts whenever a participant made an error.	Recasts \approx Prompts
Doughty & Varela (1998)	Middle school (mixed) English	Classroom (USA)	An error was repeated and if not corrected, a recast was provided.	Recasts > \emptyset
Ohta (2000)	University (English) Japanese	Classroom (USA)	(Observational)	Recasts > \emptyset
Ellis, Basturkmen, & Loewen (2001)	Adult (mixed) English	Classroom (New Zealand)	(Observational)	High uptake rate after recasts
Sheen (2004)	Adult (Korean) English	Classroom (Korea)	(Observational)	High uptake rate after recasts
Lochtman (2002)	Middle school (Dutch) German	Classroom (Belgium)	(Observational)	Recasts \approx Explicit corrections
Yang & Lyster (2010)	University (Chinese) English	Classroom (China)	Teacher was provided a booklet explaining recasts.	Recasts \approx Prompts
Loewen & Philp (2006)	Adult (mixed) English	Classroom (New Zealand)	(Observational)	Recasts < Prompts
Sheen (2007)	University (mixed) English	Classroom (USA)	Teacher was trained and practiced how to provide recasts.	Recasts < Prompts

Note. ^a L1 of 20 out of 25 participants was Haitian Creole but French was the language of instruction in their home country.

Contexts and Research Participants

There has been a growing perspective in the field of SLA that argues that social and contextual factors have been dismissed despite their significant impact on language learning (Larsen-Freeman, 2007; Swain & Deters, 2007). This argument takes a sociocultural approach opposing the traditional approach that tries to develop universal cognitive-oriented theories that apply to any type of learner in any kind of context. For example, a seminal article by Firth and Wagner (1997) particularly challenged Long's (1993) stance that claimed the necessity of "theory convergence" in SLA by "culling" (p. 235; see also Block, 1996; Watson-Gegeo, 2004). From a postmodernism position, Rampton (1997) also criticized the traditional SLA's pursuit of "universal, referential above indexical meaning, disembedded cognition, value-free inquiry, progress as natural condition, and assimilation to the norms of an idealised monolingual U.K. or U.S. national" (p. 330). As SLA research is rapidly growing worldwide, posing numerous contextual variables and perspectives to language learning research, the present article investigates recasts by considering context as a variable that affects L2 learning behaviours. In explaining the divergent results of recast effectiveness, this position focuses on learner factors rather than feedback factors (explicit or implicit) because the directionality is from the learner side, affected by contextual factors.

Contextual Factors in Recast Effectiveness

One of the few studies that addressed differential findings of recasts across contexts is Lyster and Mori (2006) that compared uptake rates of students of French immersion in Canada and Japanese immersion in the United States (the original data sets were from Lyster & Ranta, 1997 and Mori, 2002, respectively): They found that students in Japanese immersion showed repair moves after recasts considerably more than French immersion students did. In other words, in contrast to the Canadian immersion context where recasts seemed to be too ambiguous for them to notice (or to show uptake moves), for Japanese immersion students, recasts were more noticeable (or followed by more uptake).

Lyster and Mori (2006) claimed that the difference might have been due to the classroom orientation which was revealed by COLT classroom observation (see Spada & Fröhlich, 1995): they found that Japanese immersion students occasionally engaged in choral repetition activities. Thus, their immediate responses to recasts might have to do simply with what they were used to doing: repeating what the teacher said. However, Lyster and Mori also sought reasons in the linguistic environment where Japanese immersion students did not have access to the target language. They discussed that the structural and typological differences between the L1s and target languages might have affected the result as well: since Japanese is more different from English than is French, Japanese immersion students noticed the corrective feature of recasts more. Combining these variables, they attributed the supportive evidence of recasts to the learners' *form-orientation* that was developed by the instructional context. They proposed the Counterbalance Hypothesis, which states that instruction that counters a classroom's instructional communicative orientation will be facilitative of learning, to explain why form-oriented learners were able to benefit from otherwise meaning-oriented feedback (i.e., recasts). Lyster (2007) argued, "it may be the case, therefore, that prompts are more effective than recasts in a given instructional setting, because of the immediate repair they encourage. Recasts,

however, might prove equally effective in another instructional setting where they too lead to immediate repair” (pp. 129-130).

The other study that took a look at contextual factors in relation to recast effectiveness is Sheen’s (2004) comparative study. She reanalyzed the data from three descriptive studies with her own collected in conversation schools in Korea: Lyster and Ranta (1997), Panova and Lyster (2002), and Ellis et al. (2001). These studies were conducted in immersion classrooms in Canada, ESL classrooms in Canada, and intensive ESL classrooms in New Zealand, respectively. Descriptive analyses of the proportions of interactional moves among four sets of data revealed that, first, the uptake rates of students in the two Canadian contexts (Lyster & Ranta: 54.8%; Panova & Lyster: 46.6%) were significantly lower than the ones in New Zealand (80.4%) and Korea (82.3%). This was the case for successful uptake as well. Second, the same tendency was found for the relationship between uptake and recasts by analyzing types of feedback followed by uptake: Students in Korean and New Zealand contexts responded significantly more to recasts (82.5% and 72.9%, respectively) than did ESL students in Canada (39.8%) and immersion students (30.7%).

Sheen interpreted the results as the outcome of different proficiency levels: discussing Korean and Canadian ESL data, she stated that, since students in the Korean context had a higher educational background and English proficiency than Canadian students, they perceived teachers’ feedback more. She also discussed that students’ orientations differed across the contexts, arguing that educational contexts in Korea and New Zealand encouraged them to attend to feedback more, since they “had had years of formal instruction” (p. 291). Interestingly, she also reported that the feedback given in Korean classrooms is explicit to the degree that “the illocutionary force is more or less the same as explicit correction” (p. 293). This argument coincides with Lochtman’s (2002) interpretation for less unsuccessful uptake following recasts in German classrooms. Lochtman emphasized, borrowing Stern’s (1990) term, that the participants had highly *analytic* orientation due to the foreign language pedagogy in Belgium, resulting in higher noticing rates.

Lyster and Mori (2006) and Sheen (2004) descriptively provided us with a new perspective; that is, implicit feedback in the form of recasts functions considerably differently depending on context. Looking at the studies, learners who detect recasts more seem to be found in language schools where learners are keen on learning language forms and thereby tending to repeat recasts more. Also, in foreign language contexts, recasts seem to be noticed relatively more. Therefore, contexts are surely a variable affecting recast effectiveness. The words *context*, *foreign language*, and *second language*, however, require careful interpretation because misinterpretation can result in overgeneralization of learners.

Learning Contexts and Research Participants

The word *context* has been used quite differently by many researchers (see Berns, 1990). Just to list a few usages, the word can be used to refer to social circumstances affecting language usages (Sociolinguistics—e.g., Gibbons, 2003; Tarone, 2007; Tarone & Liu, 1995), conditions of language processing (Psycholinguistics—e.g., Batstone, 2002; Gass, 2004), foci of language teachers’ feedback (Instructed SLA—e.g., Egi, 2007; Oliver & Mackey, 2003), and discrepancies between target language cultures and cultures where languages are taught (Foreign Language Pedagogy—e.g., Kramsch, 1993). The present article investigates learners’ cognitions in relation to noticing of recasts, which vary across different classroom settings. Henceforth, the

word *context* is defined as a research setting where a study is conducted, which entails official status of the language, geographical places, and institution types.

In the comparison of foreign and second language contexts as a variable in recast effectiveness, Mackey and Goo's (2007) meta-analysis detected a significant difference. Although they seemingly provide evidence that L2 learning behaviours differ depending on contexts, their selection criteria do not explain how they divided studies into the two contexts. In contrast, Lyster and Saito (2010) did not detect any significant differences between second and foreign language classroom settings. In their study, decision was made according to official or recognized status of the target language following Stern's (1983) definition. However, this way of distinction imposes a problem because a *research context* does not represent learning history of each research participant necessarily. In other words, it is highly possible that participants in a study had distinguishable educational backgrounds that may have developed differential cognitive processes.

In the SLA arena, second language is usually characterized by the extent to which learners are surrounded by the target language. That is, if the target language, including a third or fourth, is not his or her native language or mother tongue, it is called a second language (Gass & Selinker, 2001). On the other hand, foreign languages are defined by Mitchell and Myles (2004) as languages that "have no immediately local uses or speakers." They went on and said "[w]e believe it is sensible to include 'foreign' languages under our more general term of 'second' languages, because we believe that the underlying learning processes are essentially the same for more local and for more remote target languages" (pp. 1-2). When it comes to research participants in classroom studies who are categorized as second or foreign language learners, however, we need to interpret the results carefully: even if foreign and second language contexts in general are supposedly distinguishable based on the sociolinguistic status of the target language, these labels can often be misrepresentative of participants in an SLA study. For instance, a 21-year-old Korean learner of English staying in Australia for three months as an exchange student would be described as a second language learner and so would a 21-year-old francophone Canadian learner of English studying at a Canadian university. Also, both a 17-year-old Japanese learner of English studying in Japan and a 17-year-old American learner of Japanese in an immersion program in the United States would be categorized as foreign language learners. That is, learners who have a foreign language learning background can be easily found in a study conducted in a second language context. This is exactly when a context does not match learners' educational backgrounds and where the word *context* causes us to overlook variations in research participants.

In fact, a majority of the participants in the studies conducted in New Zealand, who were labeled *second language* learners, were from Asian countries such as Japan, Korea, Taiwan, and China (Ellis et al., 2001: 71%; Loewen, 2003, 2004; Loewen & Philp, 2006: 76.2%). In these countries where the target language (English) is more precisely a *foreign language*, English is a compulsory subject (except for Japan) and grammar-translation methods are still predominant methods of instruction (see evidence in Adamson, 2004 for China; Butler, 2004; 2005 for South Korea, Japan, and Taiwan; O'Donnell, 2005; Robinson, Sawyer, & Ross, 2001 for Japan). It is not unreasonable to assume, therefore, that the learning experiences of the learners in the New Zealand classrooms are similar to the ones in the studies conducted in Asian countries (i.e., Sheen, 2004; Yang & Lyster, 2010), who also noticed recasts relatively more than learners in Canadian contexts.

In summary, context does play a role in some cases in determining types of linguistic

skills and awareness a learner develops. For instance, learners in immersion programs where they are surrounded by the target language inside and outside classrooms generally develop a meaning-focused orientation, in which primary attention is given to communication, not to accuracy of production (see Harley, Cummins, Swain, & Allen, 1990; Lyster & Mori, 2006). On the other hand, learners who are learning in a grammar-oriented program tend to become analytic learners (see Bialystok, 2001). In the case of the learners in the studies conducted in New Zealand, however, context does not tell us much about the participant's L2 processing patterns due to the mismatch between research contexts and learning experiences of each participant.

The remaining question concerning the noticeability of recasts is *why* do some learners tend to notice recasts more when compared to others? What kinds of cognitive processes do they go through when given truly implicit feedback? Ultimately, what constitutes form-orientation in a cognitive sense? As Nicholas et al. (2001) suggested, an "issue that is not resolved by the research to date is what constitutes evidence for the effectiveness of recasts" (p. 750). In the following section, this article discusses the relationship between explicit knowledge and noticing from a psycholinguistic point of view, based on an assumption that learners who tended to respond to recasts had learned grammar rules explicitly prior to participating in the studies.

Explicit Knowledge and Noticing

Hulstijn (2005) claimed that investigation of explicit knowledge and its relation to L2 learning has good theoretical and educational value, since explicit knowledge is one of the keys to a successful learning process. He warned, however, that dealing with the construct is a challenge and an investigation requires careful operationalization as, in addition to inconsistent usage of the term, it entails a theoretical complex: namely, "learners' individual differences in knowledge, skills, and information processing styles, which might be beneficial or detrimental to discovering underlying regularities" (p. 130; see also N. Ellis, 1994). This claim suggests that an amount of explicit knowledge can be indicative of noticeability of recasts. Explicit knowledge, defined by R. Ellis (2004) as "the conscious awareness of what a language or language in general consists of and/or of the roles that it plays in human life" (p. 229), is learnable and can grow "as the learner accumulates more declarative facts about the language" (p. 237). In this sense, the terms metalinguistic knowledge and explicit knowledge are interchangeable, as Ranta (2008) defined metalinguistic knowledge as "the mental representations that underlie the ability to perform metalinguistic tasks" (p. 205). Hence, in the current article, explicit knowledge specifically refers to a type of knowledge entailing a language skill to describe, correct, and explain grammatical errors (Green & Hecht, 1992), which was developed by explicit teaching.

For a long time, there has been a considerable amount of theoretical debate as to how explicit knowledge and implicit knowledge are related (or unrelated), the latter of which is considered as the ultimate type of knowledge because it requires automatic retrieval from memory when producing the target language—a kind of knowledge that native speakers possess and utilize (see Paradis, 2009; Skehan, 1998; White & Ranta, 2002, for discussion of different interface positions). At the same time, however, there seems to be a consensus that explicit knowledge is facilitative of language learning, as shown by studies that investigated skill acquisition theory proposed by Anderson (1983, 1990; see also DeKeyser, 1997, 1998, 2003, 2007). Nonetheless, the relationship between explicit knowledge and noticing is yet uninvestigated, mainly due to the complex construct of explicit knowledge (N. Ellis, 2005) and subsequent difficulty in measuring it (R. Ellis, 2005; 2006). That is, although there is much

research that seems to have dealt with the relationship, the explicit knowledge variable was not isolated; rather, it was buried under other constructs such as individual differences and proficiency.

Individual Differences or Explicit Knowledge?

There is a body of research that has investigated a noticing variable, one component of which is seemingly identical with explicit knowledge: analytic(al) ability in the paradigm of individual differences. Robinson (1995) claimed that “individual differences in memory and attentional capacity both affect the extent of noticing, thereby directly influencing SLA” (p. 284). Theorizing individual differences, especially foreign language aptitude, Skehan (2002) also emphasized that individual capacity to infer rules of language and to make linguistic generalizations has significant effects on differential learning processes and outcomes. Findings from this research generally confirm that the higher the scores of individual difference tests, the better the learner’s noticing ability of recasts.

Among different components of individual differences, Mackey, Philp, Egi, Fujii, and Tatsumi (2002), for example, focused on working memory and found that it was positively related to noticing of recasts and consequent L2 development, concluding that “learners with high WM [working memory] capacities are more efficient at processing input they receive” (p. 204). Another study that investigated individual differences in relation to recast effectiveness is Trofimovich, Ammar, and Gatlinton (2007). Following Skehan’s (2002) framework of individual differences (i.e., working memory, phonological memory, attention control, and analytical ability), they tested how these individual differences affect the extent to which recasts improve noticeability and oral production skills. They found that (a) after the recast sessions, the participants showed significant improvement on the target features (including grammatical and lexical) and the effect was sustained until the delayed posttest, indicating the effectiveness of recasts, and (b) accuracy in oral production skills was positively correlated with individual difference scores, meaning those who had higher scores benefited more from recasts (see also Mackey, Adams, Stafford, & Winke, 2010).

Indeed, research on individual differences is relevant to the investigation into recast effectiveness and individual differences are a significant learner factor. Ammar and Sato (2010) discussed that individual differences may have a comparable effect to feedback types on the effectiveness of corrective feedback. It is also true that some key features of explicit knowledge and analytical abilities correspond to each other; namely, they both entail an ability to describe and detect grammar rules. However, explicit knowledge is not identical to the construct of analytical abilities. Ranta (2002), when discussing language aptitude, sees *metalinguistic skills* and *analytic abilities* in the same paradigm. In her theoretical view, while aptitude is viewed as a stable individual difference, metalinguistic skills refer to a range of skills which are affected by a learner’s development, and they “are two sides of the same coin” (p. 163). Consequently, in her study and Trofimovich et al. (2007) as well, analytic ability was measured by a written L1 error detection and correction task. Therefore, research on analytical abilities does not provide clues for the relationship between recast effectiveness and explicit knowledge that a learner has been taught in the framework of *instructed* SLA.

Proficiency or Explicit Knowledge?

Proficiency is another construct that has been claimed to have positive effect on recast effectiveness. There does not seem to be much disagreement that measuring proficiency is not a simple task, and that standardized tests such as the TOEFL do not necessarily represent a learner's proficiency accurately (see Shin, 2005). Consequently, proficiency has been operationalized differently yet it has been commonly reported by many studies that learners with higher proficiency tend to benefit more from recasts.

For instance, Lin and Hedgcock (1996) divided participants into high- and low-proficiency groups based on their levels of speech judged holistically by trained raters, in addition to the length of residence in the L2 environment and their formal education of the target language. In Mackey and Philp's (1998) study, two groups were identified (readies and unreadies) based on the developmental stages of question forms (see Pienemann & Johnston, 1987). The same method was employed by Philp (2003) and the learners were labeled as high, intermediate, and low learners. Havranek and Cesnik (2001) identified *verbal intelligence* and *relative English fluency* as variables that positively affected the effectiveness of corrective feedback. Verbal intelligence was not clearly defined, and relative English fluency was measured by combining the school-administered English final exam scores and C-test scores (a type of cloze test). Finally, in Ammar and Spada's (2006) experimental study, participants were assigned to low and high proficiency groups based on the pretest scores of the passage-correction task and picture-description task.

What these studies have revealed in general is that developmental readiness is a key to noticing recasts (Ellis & Sheen, 2006). That is, "recasts can be effective if the learner has already begun to use a particular linguistic feature and is in a position to choose between linguistic alternatives" (Nicholas et al., 2001, p. 752; see also Saxton, 1997 for a discussion of L1 acquisition). It is important to mention that although some parts of the proficiency measurements entailed explicit knowledge, none of these studies measured explicit knowledge separately as an independent variable affecting noticing. If *proficiency* was measured by different language abilities, it is difficult to interpret the findings and premature to claim that explicit knowledge affects noticing.

In the line of recast research, Bigelow, delMas, Hansen and Tarone (2006) conducted a groundbreaking study that investigated literacy as a variable on recast effectiveness. What is particular in this study is that the participants were Somali immigrants whose literacy levels were comparatively low due to their educational background. Based on their L1 and L2 literacy levels, the participants were divided into two groups. Analyses of the interaction data with one of the researchers revealed that those who were with higher literacy level recalled given recasts accurately more than did the ones in the low-literacy group. They also found that recall of complex recasts (those including 2 or more changes to the original utterance) was significantly related to literacy level. Drawing on Olson's (2002) view of literacy and metalinguistic knowledge, Bigelow et al. attributed the result to metalinguistic knowledge that more literate participants held.

What this finding tells us is the possible contribution of a specific type of knowledge to L2 acquisition especially through the means of recasts. Tarone and Bigelow (2005) argued that literacy is directly linked to metalinguistic knowledge. They stated that becoming literate is "to develop an explicit and analytical awareness of language itself. With that awareness comes increasing cognitive control" (p. 85). In the sense of cognitive development, this claim seems to

synchronize with foreign language learning that usually begins with studying grammar rules and eventually challenges to acquire more implicit type of knowledge that can equip the learners to produce the target language in a spontaneous manner.

Explicit Knowledge and Noticing of Recasts

In the investigation of explicit and implicit knowledge and their differential contributions to the effectiveness of corrective feedback, Ellis et al. (2006) measured the two types of knowledge separately and investigated the effectiveness of two types of feedback, recasts and metalinguistic explanation, the latter of which served as a prompting type of feedback. In this classroom study, explicit knowledge was measured by an untimed grammaticality judgment test that asked participants to identify ungrammatical sentences and to indicate their certainty without time constraint, as well as by a metalinguistic test in which they corrected grammatical mistakes and verbally explained the reason (see, for details, R. Ellis, 2005; Erlam, 2006). Not surprisingly, the learners' scores of the tests were already almost perfect at the onset as 77% of the participants were from East Asian countries where, predictably, they had received grammar-based instruction. Most of them had spent less than a year in New Zealand and the average length of formal English education was 7 years, indicating that the explicit knowledge that the participants held was from their previous learning experiences.

The comparison between the two types of feedback showed strong supportive evidence for metalinguistic explanation in terms of the development of implicit knowledge measured by spontaneous oral production skills with the use of oral imitation tests. Notably, however, recasts also positively served in developing implicit knowledge over time: learners who received recasts improved more than did the ones in the control group. That corrective feedback including recasts facilitated learning in a limited amount of instruction (30 minutes) with this type of learners indicates that "explicit L2 knowledge can enhance the processes involved in the development of implicit knowledge" (R. Ellis, 2006, p. 364). With the same measurement tools and participants, R. Ellis (2007) reported effects of types of feedback on two grammatical elements: past tense (-ed) and comparative (-er). The results support the contribution of explicit knowledge to learning from implicit feedback: having found differential effects of metalinguistic feedback depending on the target morphemes (the effect was delayed on past-tense forms but immediate on comparative forms), Ellis claimed that acquisition processes differ depending on "how well-formed learners' explicit knowledge of a structure is" (p. 359). He argued that corrective feedback helps the transition from explicit knowledge to implicit knowledge (i.e., proceduralization) and this is *more* so for prompting feedback.

Loewen and Nabei (2007) conducted a study in Japan directly addressing the contribution of *taught-explicit knowledge* to learning from recasts. In this study, the participants were Japanese university students who had been learning English with traditional grammar-translation methods as shown in the background questionnaire: 90 % of the participants reported that their English education had been formal and they had studied in Japan mostly with the average length of 7 years. Therefore, the amount of explicit knowledge they had can be reasonably assumed to be homogeneously high, considering also the educational system where they passed the paper-based university entrance exams (whose focus was primarily on measuring explicit knowledge).

Employing untimed and timed grammaticality judgment tests, in addition to an oral production test, as did the series of Ellis' studies, Loewen and Nabei (2007) revealed that all

feedback groups (i.e., recasts, metalinguistic feedback, and clarification requests) equally improved their test scores on the timed grammaticality judgment test, which indicates a comparable effect of recasts on improvement of implicit knowledge. However, in the oral production test, which is also claimed to measure implicit knowledge, Loewen and Nabei did not find significant improvements. They provided two possible reasons for this: (a) the nature of the oral production task which required the participants to produce sentences on their own unlike the grammaticality judgment test, and (b) the developmental stages of question forms that were too broad to measure improvement. Although Loewen and Nabei acknowledged that the research setting was not as natural as a classroom setting because of the interlocutor and the number of students in one class, they revealed that learners who have explicit knowledge can benefit equally from recasts and prompting types of feedback.

What these studies (Ellis et al., 2006 and Loewen & Nabei, 2007) demonstrate is that *explicit knowledge* but not *proficiency* or *analytic(al) ability* partly constructs the form-orientation. In other words, explicit knowledge aids learners to detect corrective nature even in an implicit type of feedback, namely, recasts. This argument can be strengthened when the findings are compared with the experimental studies from meaning-oriented classrooms that did not find notable differences between the recast and no-feedback groups (e.g., Lyster, 2004). It can be claimed, then, that this cognitive ability, which identifiably distinguishes the learners in the studies conducted in New Zealand from the ones in the Canadian studies, is a powerful variable in detecting recasts and thus contributing to language acquisition; that is, explicit knowledge is one of the constituents of the form-orientation. Table 2 shows the focused studies and the findings with regard to variables affecting recast effectiveness.

Table 2. *Studies Including Recasts and Variables on the Effectiveness of Recasts and the Measurements*

Study	Participants (L1) & Target language(s)	Research setting(s)	Variable(s)	Measurement(s)
Lyster & Mori (2006)	Elementary (English) French vs. Elementary (English) Japanese	Classroom (Quebec) Immersion vs. Classroom (USA) Immersion	Instructional context	COLT Part A
Sheen (2004)	Adult (mixed) English vs. Adult (Korean) English	Classroom (Quebec) Immersion & ESL vs. Classroom (Korea & NZ) ESL & Private language schools	Instructional context	(None)
Mackey, Philp, Egi, Fujii, & Tatsumi (2002)	Adult (Japanese) English	Laboratory (USA)	Individual differences (working memory)	Nonword recall test Listening span test
Trofimovich, Ammar, & Gathbonton (2007)	Adult (French) English	Laboratory (Quebec)	Individual differences (phonological memory, working memory, attention control, analytical ability)	Letter-number recall test Nonword recognition test Trail Making Test Modern Language Aptitude Test (Part IV)
Lin & Hedgcock (1996)	Adult (Chinese) Spanish	Laboratory (Spain)	Proficiency	Holistic assessment of speech Length of education Length of residence
Mackey & Philp (1998)	Adult (mixed) English	Laboratory (Australia)	Proficiency	Developmental stages of question forms
Philp (2003)	Adult (mixed) English	Laboratory (Australia)	Proficiency	Developmental stages of question forms

(continued)

Havranek & Cesnik (2001)	Varied (German) English	Classroom (Germany) ESL	Proficiency	Verbal intelligence School-administered test C-test
Ammar & Spada (2006)	Elementary (French) English	Classroom (Quebec) Intensive ESL	Proficiency	Passage correction task Picture description task
Bigelow, delMas, Hansen, & Tarone (2006)	Adult (Somali) English	Laboratory (USA)	Literacy	Native Language Literacy Screening Device
Ellis, Loewen, & Erlam (2006)	Adult (mixed) English	Classroom (NZ)	Explicit knowledge	Untimed Grammaticality judgment test Timed Grammaticality judgment test (ungrammatical items) Metalinguistic test
Ellis (2007)	Adult (Spanish) English	Classroom (NZ)	Explicit knowledge	Untimed Grammaticality judgment test Timed Grammaticality judgment test (ungrammatical items) Metalinguistic test
Loewen & Nabei (2007)	University (Japanese) English	Classroom (Japan)	Explicit knowledge	Untimed Grammaticality judgment test Timed Grammaticality judgment test (ungrammatical items)

Conclusions and Remarks

In reviewing studies pertaining to recasts, this article adds to our present knowledge of recasts by: (a) focusing on implicit recasts in order to separate learner factors from feedback factors; (b) exploring possible learner variables determining the effectiveness of implicit recasts; and (c) proposing form-orientation, which does not entail individual differences or developmental readiness (see Ellis & Sheen, 2006), as a general descriptor of L2 learners who benefit from implicit recasts. More specifically, this paper sought to address three questions: (a) What roles do contexts play in second or foreign language acquisition research? (b) How does explicit knowledge affect the noticing of recasts? (c) What types of learners learn the most from recasts? In the first section, operationalizations of recasts in various studies were discussed to confirm that in many studies, the saliency of recasts was experimentally increased and thus that learners noticed recasts is not so surprising; that is, in these studies, recasts arguably provided explicit negative evidence. In the second section, by employing a sociocultural approach, contextual factors were the focus as a possible variable in learning from recasts. The last section focused on the psycholinguistic dimension used to examine explicit knowledge and its effect on recast noticeability. To answer the proposed questions, a research context provides us with information about an instructional setting but not necessarily information about individual participants. In this case, measuring explicit knowledge of participants seems a valid methodology, considering the fact that some of them may have educational backgrounds which do not conform to the linguistic environment of the research context. In some cases, however, context does play a role in forming certain cognitive orientations. Obviously this SLA variable is multi-faceted (e.g., linguistic environment, L1-L2 distance, classroom orientations) and requires further research. Nonetheless, what is clear is that these features evidently develop an ability to notice recasts, even the ones that are truly implicit. Therefore, context and explicit knowledge do not independently affect the noticeability of recasts; rather, these two constructs interdependently create a cognitive ability to detect recasts. Learners who possess this *form-orientation* thus seem to benefit the most from recasts.

The hypothesis build in this paper cannot be answered conclusively because of the paucity of relevant research. Additional empirical studies are needed to examine context as an independent variable when operationalizing recasts. The number of studies that have investigated explicit knowledge and its relation to noticing is limited as well. It would be of interest to see more empirical studies in the future that directly investigate how contextual factors and explicit knowledge play a role in learning language through recasts. Important, however, is to consider ecological validity. Van den Branden (2006) argued that findings from laboratory studies are often unfeasible to practice in actual classrooms and, thus, research should ultimately be conducted in classroom settings (see also Foster, 1998; Lightbown, 2000). Ellis et al. (2006) also emphasized that “ecological validity can only be achieved through classroom-based research” (p. 365; but see Hulstijn, 1997 for a comprehensive justification of conducting a laboratory study). Also, considering the fact that learning background and previous education are factors that affect a learner’s amount of explicit knowledge, careful participant selections and measurements are necessary. This is to say, a given research setting should not be a predictor of how much explicit knowledge a participant holds. This raises a question to a simplified construct of the ESL and EFL dichotomy (Block, 2003). In addition, having fluent speaking ability does not promise that he or she has an amount of explicit knowledge, and neither does a low score on a proficiency test

indicate his or her explicit knowledge is limited. Thus, clear identification and operationalization of the construct of proficiency is also of necessity.

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