Université de Montréal

Recasts, uptake and learning: Effects and relationships

Par

Assma Taddarth

Département de didactique

Faculté des sciences de l'éducation

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Présenté par :
Assma Taddarth

a été évalué par un jury composé des personnes suivantes :

Daniel Daigle, président-rapporteur
Ahlem Ammar, directrice de recherche
Patricia Lamarre, membre du jury

ABSTRACT

Learner uptake is learner's immediate response to the teacher's oral corrective feedback (Lyster & Ranta, 1997). This study investigated the relationship between uptake and L2 learning and examined the effects of implicit and explicit recasts in terms of uptake and learning. Fifty-three students in two intact grade 6 ESL classes in Montreal were assigned to the two experimental conditions-one received implicit recasts and the other explicit recasts as feedback. The treatment included communicative activities; it targeted third-person possessive determiners and question forms. The student's knowledge of the features was tested immediately before the treatment and immediately after it completed through oral tasks. Results revealed that explicit recasts were more effective than implicit recasts in terms of uptake and learning and that effectiveness of recasts depends on the target feature. It was also found that uptake could facilitate L2 learning; however, its absence should not be equated with absence of learning.

Key words: uptake, corrective feedback, recasts, implicit recasts, explicit recasts, L2.

RÉSUMÉ

L'uptake est la réponse immédiate de l'apprenant suite à la rétroaction de l'enseignant (Lyster & Ranta, 1997). Cette étude investigue la relation entre l'uptake et l'apprentissage des déterminants possessifs et des questions d'anglais L2. Elle examine aussi l'effet des reformulations implicites et explicites en termes d'uptake et d'apprentissage. Deux classes intensives (ESL) de sixième année du primaire (N=53) à Montréal ont participé à cette étude. Les deux classes ont été réparties en deux groupes : reformulations explicites et reformulations implicites. L'intervention comportait des activités communicatives. Les élèves ont été testés sur les formes cibles immédiatement avant et après le traitement pédagogique en utilisant des taches orales. Les résultats ont confirmé l'effet supérieur des reformulations explicites en termes d'uptake et d'apprentissage et que l'effet des reformulations dépend de la cible. Cette étude a montré aussi que l'uptake peut faciliter l'apprentissage et que son absence n'est pas signe de manque d'apprentissage.

Mots-clés: uptake, rétroaction, reformulations, reformulations implicites, reformulations explicites, L2.

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INTRODUCTION

This study is motivated by our increased interest and need to investigate the relationship between learner uptake and second language (L2) learning. Learner uptake is defined by Lyster and Ranta (1997) as the learner's immediate response to the teacher's corrective feedback (CF). The current study uses this definition to explore the relationship between learner uptake and L2 learning. Second language acquisition researchers have been interested in learner uptake since late 1990s, most if not all learner uptake studies have been devoted to issues relevant to its quantity and quality in relation to corrective feedback techniques. Based on the assumption that uptake is a sign of noticing, some of the previous studies used learner uptake to comment on the effectiveness of CF, implying that CF types that generate low amounts of uptake are less effective than feedback types that generate high uptake rates (Lyster & Ranta, 1997). This conclusion or speculation was drawn without any direct measure of the link between uptake and L2 learning.

Moreover, a few studies have been carried out to uncover the relationship between uptake and L2 learning. Hence the present study will be one of the few empirical studies that investigate the relationship between learner uptake and L2 learning to shed more light on the significance of uptake in corrective feedback episodes.

Chapter 1 presents the problem of the study. First, we present the debate over the sufficiency of comprehensible input in L2 learning along with the different L2 cognitive theories and hypotheses involved in this discussion to highlight the importance of attention to form and CF in the learning process. Second, we review CF research to show the need to investigate the relationship between uptake and L2 learning. Third, we discuss the debate over the role of learner uptake in L2 learning, then, we mention the few empirical studies that cover this issue. Finally we state the objective of the study.

In Chapter 2, we review the definitions and types of CF and learner uptake. We then examine the role of learner uptake and previous empirical studies regarding the relationship between uptake and learning, examining their methodological weaknesses and thus providing a rational for the present study. Finally we state the two research questions of the study.

Chapter 3 describes the design of the study. It starts with describing the context of the study, including a description of participants, target features, and CF experimental conditions. After that, treatment activities regarding each feature are explained, together with the evaluation tasks relevant to the features. Finally, the research procedure is explained and data analysis procedures are explained.

Chapter 4 presents the results of the data analysis on each of the two research questions. The results on the effects of implicit and explicit recasts, in terms of uptake and learning, are presented first followed by the results on the relationship between uptake and learning.

After discussing the obtained results, the pedagogical implications of the current study along with its limitations are presented in chapter 5. Directions for future research and the conclusion are provided in the same chapter.

CHAPTER 1: THE PROBLEM

1.1 INTRODUCTION

Although officially unilingual, Quebec is a province in which school children have to learn at least one second language in their academic lifetime. Because of socio-economic factors, e.g., the growing influence of English in the worlds of science and business, francophones have to learn English as a second language for education and employment purposes. Anglophones are compelled to do the same for French and allophones tend to learn these two languages. Because of this bilingual workforce, program designers, the Ministry, teachers and researchers are in constant search for ways to improve second language (L2) teaching approach. Since the 80s, English and French as L2 used to be taught in through a communicative ways. The teachers' sole priority was the communication of meaning paying little to no attention to the formal properties of the language. However, based on empirical research showing that communicative program graduates lack in terms of accuracy (Swain, 1984; Lightbown and Spada, 1990, 1994), programs started to be reviewed and improved in lights of research findings. For instance, because of the ever-growing interest in corrective feedback in the last fifteen years and the impressive body of research on the effects of feedback, the English as Second Language (ESL) program officially puts forward that teachers have to provide feedback. Researchers have been interested in CF for its potential beneficial effects on second language (L2) learning, benefits that are believed to accrue from the attention learners are likely to accord to form as a result of receiving CF (Doughty & Williams, 1998; Long & Robinson, 1998; Lightbown, 1998; Lyster, Lightbown & Spada, 1999). Through reacting to their students' incorrect productions (i.e., providing corrective feedback) teachers are believed to help the students notice what is wrong with their interlanguage, i.e., learner language, and eventually help them fix and develop it. Hence CF and form-focused instruction in general are considered essential within L2 learning. This position emerged from the controversial debate about the sufficiency of comprehensible input and focus on meaning in SLA, an argument that has been put forward by Krashen (1981, 1982). The different SLA theories and hypotheses that fuelled this debate will be presented in the next section highlighting the place of CF in each.

1.2 COMPREHENSIBLE INPUT IS SUFFICIENT FOR SLA

In the field of SLA, in the 80s, it was proposed that all that learners need to acquire a language is comprehensible input, and by that they denied the role of grammar teaching and CF. Krashen is one of the advocates of this position, the following section gives more details about his view.

Krashen's "monitor model" (1981, 1982)

In his monitor model comprised of five different hypotheses, namely the acquisition/learning hypothesis, the comprehensible input hypothesis, the monitor hypothesis, the affective filter hypothesis, and the natural order hypothesis, Krashen postulates that for SLA to take place learners need to be exposed to comprehensible input in an environment conducive to learning and that grammar teaching and CF are not necessary.

In his acquisition/learning hypothesis, Krashen postulates that there are two independent modes to develop L2 linguistic ability: *learning* and *acquisition*. He distinguished learning from acquisition, in that learning is conscious both in terms of process and product. Learning takes place as a result of consciously processing metalinguistic input provided via formal instruction (i.e., grammar teaching and CF). Learning results in knowledge that is conscious, explicit and explainable. As a result of learning a language, learners can, apart from detecting incorrect forms in the input, explain them based on the metalinguistic and conscious knowledge they have developed. Learnt knowledge monitors and edits learners' output, which is in itself based on acquired knowledge. According to Krashen, *learning* is a secondary mode of developing linguistic ability because its only function is limited to monitoring and editing acquired knowledge. For the monitor to work, learners must know the rule; must have enough time to draw on the rule and must have the intention to focus on form, conditions that are rarely met in natural spontaneous communication. For this reason, Krashen argued that "learning" is secondary and peripheral.

Contrary to learning, *acquisition* is a subconscious process that occurs outside awareness and that is similar to the first language acquisition process in which humans acquire language without being aware they are doing so. According to Krashen, acquisition takes place through exposure to input in which meaning is the centre of attention. In his input hypothesis, Krashen argues that "acquiring a language can occur only by exposing humans to meaningful messages i.e. rich

comprehensible input" (1985, p. 2). He maintains that for language acquisition to take place, learners should be exposed to comprehensible input that is a bit above their current level of competence; that is, *i+1* (in which *i* stands for interlanguage). Learners get this comprehensible input via listening and reading meaningful messages produced by competent users of the L2. Exposure to comprehensible input guarantees the natural and subconscious acquisition of grammar. Krashen was the only one to make the distinction between acquisition and learning. However, in the field of L2 languages, the two terms are used interchangeably. Comprehensible input develops acquisition in a way that is similar to first language learning. According to Krashen, CF and grammar teaching cannot promote L2 acquisition because they interrupt the flow of communication and raise the affective filter.

In his affective filter hypothesis, Krashen argues that above and beyond comprehensible input, learners should have a low or weak affective filter to acquire the L2. He defines the affective filter as "a mental block that prevents acquirers from fully utilizing the comprehensible input they receive for language acquisition" (Krashen, 1985, p. 3). The affective filter is kept at a low level through the provision of a non threatening environment that ensures high motivation levels and positive attitudes. These effective factors contribute to whether comprehensible input gets processed by the language acquisition device.

By favouring the acquisition mode, Krashen argues against the need for attention to form in SLA. Attention to form is less important because it promotes learning which monitors and edits acquired knowledge and which can be used under specific circumstances only. Besides, the attempt to draw learners' attention to form may raise the affective filter blocking, therefore, the input from being processed. Finally, grammar teaching and CF are to be avoided because they are likely to break the flow of communication, an argument also put forward by Truscott (1996).

The communicative approach in its pure form (i.e., the strong position[1]) which was adopted in French immersion and intensive ESL programs is considered as the perfect illustration of Krashen's monitor model. Communicative language teaching promotes the communication of real meaning and downplays the role of grammar teaching and CF. It makes use of communicative activities like; games, role plays, and group or pair work on educational - meaningful context in which the teacher acts as an input supplier using authentic material like real objects and articles

from journals. Lessons in this approach are topic based according little to no space to grammar and form in general.

Research investigating the interlanguage of communicative language teaching graduates coming out of French immersion or intensive English programs in Canada (Harley & Swain, 1984; Lightbown, Halter, J. White, & Horst, 2002; Lightbown & Spada, 1990, 1994; Schmidt, 1983; Swain, 1984) and natural L2 learning contexts (Schmidt, 1983) have revealed that even though these learners attain high levels of fluency and reading comprehension levels they remained non native like in terms of accuracy, making many morphosyntactic errors while speaking and writing (Harley & Swain, 1984; Lightbown et al., 2002; Lightbown & Spada, 1990, 1994; Schmidt, 1983; Swain, 1984). These learner's lack of accuracy have been taken as evidence of the insufficiency of comprehensible input (Doughty & Williams, 1998; Long, 1991, 1996; Long & Robinson, 1998; Rutherford & Sharwood Smith, 1985; Sharwood Smith, 1981, 1991; Spada, 1997; Swain, 1985; L. White, 1987) and leading to several hypotheses, mostly psycho-cognitive, that emphasised the insufficiency of comprehensible input to attain high accuracy level and the importance of drawing learners' attention to the formal properties of the L2.

1.3 COMPREHENSIBLE INPUT IS NOT SUFFICIENT FOR SLA

In response to Krashen's model, many psycho cognitive views and hypotheses have been advanced to argue against the sufficiency of comprehensible input in SLA and for the need to draw learners' attention to the formal properties of the target language. Some of these views are displayed in the next section.

1.3.1 Psycho-cognitive views in SLA

There is a considerable debate over the role of conscious and unconscious processes in L2 learning. Two psycho-cognitive hypotheses, namely the "noticing hypothesis" by Schmidt (1990, 1995) and the "input processing hypothesis" by Van Patten (1996), pointed out the limited scope of Krashen's model, by arguing that comprehensible input is undoubtedly necessary, but insufficient for L2 acquisition.

1.3.1.1 Schmidt's "noticing hypothesis"

Schmidt (1990, 1995) asserts that 'noticing' the formal properties (i.e., forms) in input is necessary for L2 learning to take place. In his theoretical discussion, he

highlights the importance of conscious processes such as 'awareness' in SLA. Schmidt (1990) distinguishes three levels of awareness; 'perception[2]', 'noticing' and 'understanding'. Understanding occurs when a learner notices something and compares it to his current level trying to find similarities and gaps. Awareness at the level of understanding is facilitative but not necessary for second language acquisition (Schmidt, 1990). Schmidt (1995) defined noticing as "conscious registration of the occurrence of some event" (p. 29) and considered it as the most important level of awareness. In other words, it is the conscious storage and registration of stimulus like new forms in the input. Noticing can be divided into two kinds; noticing the form and noticing the gap. Both are necessary for learning.

Noticing the form is defined as any conscious registration of a new form in the input and it takes place in short term memory (Schmidt, 1990). Once a new form is noticed, it is ready for processing, practice, modification and incorporation in long term memory. Hence, noticing plays a role in transforming input into intake[3] and once processed; the noticed forms are ready to be integrated in long-term memory. It is worthy to note that noticing is not necessarily conscious in the sense that it can take place below the learner's threshold of awareness. Noticing the gap happens when, as a result of comparing their incorrect interlanguage forms with alternative correct forms in the input, learners notice the mismatch between their interlanguage and the L2 norm. Schmidt and Frota (1986) added that "One of the advantages of conscious noticing thus notice-the-gap principle is that it provides a way to include a role for correction, and instruction in general" (p. 312). Schmidt argues that without noticing learning cannot happen. He explains "people learn about the things that they attend to and do not learn much about the things they do not attend to" (Schmidt, 2001, p. 30).

Schmidt's (1983) case study of *Wes* ―a Japanese learner of English― demonstrates the significance of the noticing hypothesis. *Wes* came to the United States to improve his communicative ability. As a result of being daily exposed to English interaction for three years, his fluency improved but not his accuracy. For instance, he never used the past tense marker -*ed*. Schmidt attributed *Wes'* lack of accuracy on some forms of the target language to the fact that he never attended to or noticed them. Thus, despite *Wes'* fluency and eagerness to interact and communicate in the target language (English), his interlanguage was far from being native like

because of the lack of noticing. Schmidt and Frota (1986) hypothesized that "those who notice most, learn most" (p. 3). Figure 1 presents a graphic illustration of Schmidt's noticing hypothesis.
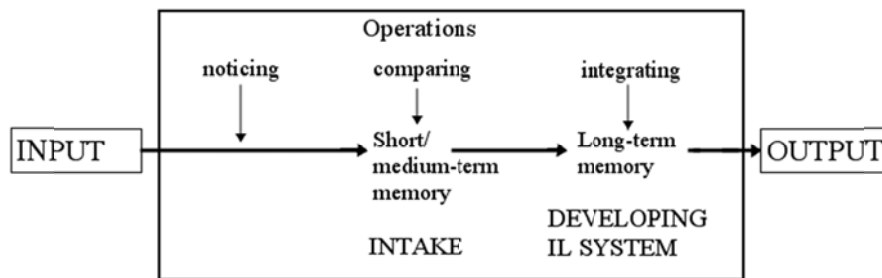
Figure 1: Noticing in the process of learning an L2 (Ellis, 1997).

In light of Schmidt's noticing hypothesis, CF was proposed as a means to trigger learner's noticing of form (Doughty & Williams, 1998; Lightbown, 1998; Long & Robinson, 1998; Lyster, Lightbown & Spada, 1999). In situations where learners are misled by semantic similarities and cannot detect the difference between what they said and what they should have said in terms of form, "corrective feedback provides a potential solution to this problem, since it juxtaposes the learner's form *i* with a target language form *i+1* and the learner is put in an ideal position to notice the gap" (Schmidt, 1990, p. 313).

1.3.1.2 Van Patten's "input processing hypothesis"

Like Schmidt, Van Patten emphasized the importance of attention in L2 learning and argued against the sufficiency of comprehensible input. In his input processing hypothesis, Van Patten argued that while processing the input learners should make appropriate form-meaning connections at the moment of comprehension (e.g., *ed* means past-ness, *him* means male). He defined input processing as the process by which learners create links (connections) between grammatical forms and their meaning. According to Van Patten, L2 learners cannot attend to both meaning and form while processing because they "are limited capacity processors and cannot process and store the same amount of information as native speakers can during moment-by-moment processing" (Van Patten, 2007, p. 116). Given that L2 learners' comprehension is 'effortful' for the working memory (short-term memory), they tend to prioritize meaning carried through lexical items and rarely focus their attention on form[4]. Learners process and focus their attention on

form only when the processing for meaning is not memory costly. While processing for form, learners prioritise forms that convey meaning like (third person possessive determiners, *his*/*her*). Redundant forms– forms that do not carry meaning like the third person singular –s– are the last to be processed[5].

In summary, Van Patten proposed that learners cannot attend to meaning and form at the same time. Since attention is limited, selective, and subject to voluntary control, learners tend to prioritize meaning over form. Consequently, efforts should be made to draw learner's attention to form at the time of comprehension. CF is one of the means[7] to that end. Figure 2 illustrates the place of input processing in the acquisition process.

Input processing

| Input | → | Other processors and mechanisms (e.g., UG) |

The learner's internal grammar (i.e., the developing system)
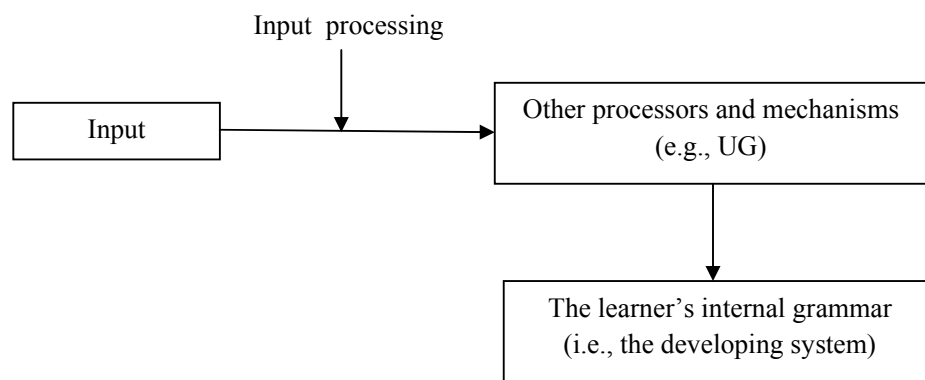
Figure 2: Input processing and second language acquisition (Van Patten, 2007)

Schmidt and Van Patten were not the only ones to argue against the sufficiency of comprehensible input. Swain (1985, 1995) and Long (1996) also argued that while necessary, comprehensible input is not enough and that learners need to engage in production and interaction activities.

1.3.2 Comprehensible output and interaction in SLA

Cognitive processes like 'noticing' and 'attention to form' are necessary for L2 learning to take place, but they are not the only processes to accomplish L2 learning. 'Comprehensible output' and 'interaction' are important processes that significantly contribute to learning by offering a chance to receive CF and to notice the gap. In the next section we will summarise Swain's output hypothesis and Long's interaction hypothesis to better understand this process.

1.3.2.1 Swain's "output hypothesis"

It was Swain's (1985) study on Canadian immersion classes that formed the base for the output hypothesis. Results of this study showed that through exposition to rich comprehensible input, learners demonstrated fluent use of the target language, but they still failed to achieve accuracy in terms of morphology and syntax. Swain argued that one of the reasons behind these obtained outcomes is that learners have little opportunities to output (i.e., produce language) and are rarely pushed to produce the L2 more accurately. As a result, she argued that comprehensible input is not enough for L2 learning and that more attention to 'comprehensible output' is required.

In her output hypothesis, Swain (1995) highlights the significance of output (e.g. speaking and writing) in facilitating SLA by explaining its different roles in the learning process. First, output can reinforce fluency, by making learners 'practice' the target language. Second, output can promote noticing, via production "learners may notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or know only partially" (Swain, 1995, pp. 125-126). This noticing, referred to as noticing the hole, enables learners to recognize their difficulties in L2, and promotes interlanguage development. Third, output promotes hypothesis testing. Through producing the L2, learners get the chance to test their interlanguage hypotheses and eventually modify them if proven inaccurate. The extent to which the interlocutors are able to understand the learner's intended meaning along with the CF they may provide allow such hypothesis testing. Fourth, output can serve a metalinguistic (reflexive) function. When learners attempt to communicate in the target language, they have to think about the appropriate form to express their intended meaning. Doing so consolidates and automatises their existing metalinguistic knowledge. Swain (1985) adds that producing the target language is "the trigger that forces the learner to pay attention to the means of expression needed in order to successfully convey his or her own intended meaning" (p. 249). Finally, learners' incorrect output can trigger CF which is believed to promote interlanguage development. Swain explains that CF – which can be given during interaction - pushes learners to produce more comprehensible output and thus learn to talk.

1.3.2.2 Long's interaction hypothesis

     In his interaction hypothesis based primarily on the Vygotskian cultural theory of mind (Vygotsky, 1978), Long (1996) argues that:

     "...negotiation for meaning, and especially negotiation work that triggers interactional adjustments by the NS or more competent interlocutors, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention and output in productive ways" (pp. 451-452).

     Negotiation for meaning refers to discourse in which the participants try to make meaning more comprehensible in communication breakdowns, in particular "...negotiation that triggers interactional adjustments by the NS..." (Long, 1996, p. 451). Negotiation for meaning can be done through processing learner utterances using repetition, comprehension and confirmation checks, clarification requests and reformulations. These negotiation techniques are thought to increase the saliency of new forms, and help learners notice and thus acquire them. Long argues that, among other things, interaction opens a way to negotiate meaning; provides interactionally adjusted comprehensible input; generates learner output, and provides opportunities for CF (e.g., recasts, clarification requests). Besides, "the need to communicate may raise learners' awareness of language" (Long, 1996, p. 451). It is noted that interaction between learners and between a learner and a teacher —specifically when a learner shows signs of incomprehension— presents the suitable moment for CF to occur.

     Both Swain and Long emphasised the importance of production and interaction in L2 learning because production helps learners to notice what they want to say but are unable to say in the L2 language (Swain, 1995). This is what Doughty and Williams (1998) referred to as noticing the "hole". Swain argued that this noticing of the hole would form the leading edge into noticing the gap. Schmidt and Van Patten also accorded a great importance to noticing and attention in L2 learning. The question that emerges is that how can we trigger this noticing and draw learner's attention to form? In general, form- focused instruction (FFI) has been proposed as a means to draw learners' attention to the formal properties of the second language (Doughty & Williams, 1998; Lightbown, 1998; Long, 1991, 1996; Norris & Ortega, 2000; Spada, 1997).

1.3.3 Form-focused instruction

Form- focused instruction can be defined as "any pedagogical effort which is used to draw the learners' attention to language form either implicitly or explicitly. This can include the direct teaching of language (e.g. through grammatical rules) and/or reactions to learners' errors (e.g. corrective feedback)" (Spada, 1997, p. 73).

Corrective feedback, the reactive component of form-focused instruction, is one way learners' attention can be drawn to the formal properties of the target language (Doughty & Williams, 1998; Lightbown, 1998; Long & Robinson, 1998; and Lyster, Lightbown & Spada, 1999). Lightbown and Spada (1999) defined CF as "any indication to the learners that their use of the target language is incorrect" (p. 171).

Schmidt's initial claims that CF may offer a chance for learners to notice the gap between their interlanguage forms and the L2 norm, are supported by a number of empirical studies reporting the beneficial effects of CF on L2 learning (Ammar & Spada, 2006; Lightbown & Spada, 1990; Lyster, 2004a; Spada & Lightbown, 1993; L. White, 1991; see the meta-analysis by Lyster & Saito, 2010).

1.4 CORRECTIVE FEEDBACK RESEARCH

Corrective feedback has been the subject of empirical research since the mid 90s and a substantial body of research has investigated CF in and out of classroom contexts. This body of research addressed three major research questions. The first group of studies investigated the different CF techniques teachers and native speakers used, their distribution and the uptake they resulted in. According to Lyster and Ranta (1997), learner uptake is the learner's immediate response to the teacher's feedback and could be divided into two categories: 1) repair in which the learner incorporates or provides the correct form and 2) needs repair in which the learner fails to provide the correct form. Results obtained from this group of research revealed that recasts (reformulations of learners' errors) are the most frequent CF type in both L2 and foreign language contexts (Lyster & Ranta, 1997; Panova & Lyster, 2002; Pica, Holliday, Lewis & Morgenthaller, 1989; Lyster, 1998a, 1998b; Sheen, 2004; Suzuki, 2004a) and the least likely to lead to immediate uptake and repair. Moreover, other studies revealed that explicit recasts lead to more uptake than

implicit recasts (Lyster, 1998a; Sheen, 2006) and that recasts in foreign language contexts lead to more uptake (Sheen, 2004).

The second group of studies investigated the noticeability of the different CF techniques. Three techniques were used to measure noticing, namely stimulated recall (Mackey, Gass, & McDonough, 2000), on-line recall (Philp, 2003; Trofimovich, Ammar & Gatbonton, 2007), and uptake (Lyster & Ranta, 1997; Mackey, 2006, Sheen, 2004). The results of this range of studies revealed that learners are more likely to notice explicit feedback than implicit feedback (Lyster, 1998a; Sheen, 2006; Lyster & Ranta, 1997). In their definition of explicit and implicit form focused instruction, Norris and Ortega (2000) state that:

> an L2 instructional treatment was considered to be *explicit* if rule explanation comprised any part of the instruction (in this first sense, explicit designates deductive and metalinguistic) or if learners were directly asked to attend to particular forms and to try to arrive at metalinguistic generalizations on their own (in this second sense, explicit designates explicit induction).When neither rule presentation nor directions to attend to particular forms were part of a treatment, that treatment was considered *implicit*. (Norris & Ortega 2000, p. 167)

The third group looked at the effects of CF on second language acquisition. Among other things, results of this research indicated that 1) CF facilitates L2 learning (Russell & Spada, 2006; Mackey & Goo, 2007; Lyster & Saito 2010); 2) prompts are more effective than recasts (Ammar, 2008; Ammar & Spada, 2006; Lyster, 2004a); and 3) explicit feedback which indicates directly and overtly that an error has been occurred is more effective than implicit feedback which is indirect (Ellis, Loewen & Erlam, 2006) and that explicitness benefits learning both in recasts and prompts (elicitations) and the effect is more pronounced in recasts (Nassaji, 2009). Figure 3 illustrates the three research questions that have been at the centre of CF research.
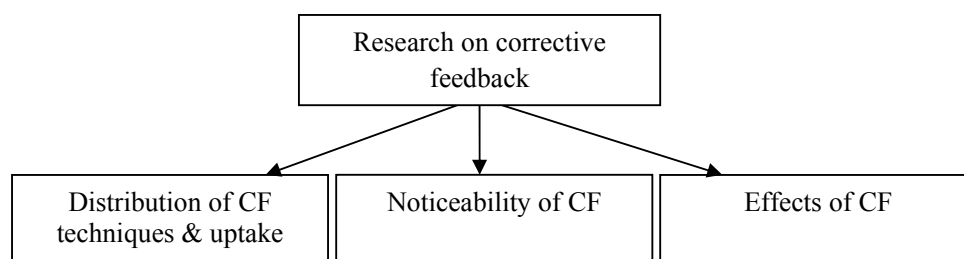
Figure 3: Corrective feedback research

Corrective feedback research has the tendency to deal with the above-mentioned research questions in isolation. That is, research that looked at the distribution of CF techniques and occurrence of uptake did so without looking at the impact of that uptake on learning. Rather, based on uptake results, conclusions were drawn as to the differential effectiveness of CF techniques without having any direct measures to corroborate such conclusions (i.e., measures of L2 learning). For instance, Lyster and Ranta (1997) found that recasts in which the teacher reformulates the learner's utterance, replacing his/her erroneous forms by correct ones lead to the least amount of uptake. Interpreting this finding, they concluded that recasts are less effective than other CF types since they are hardly to be differentiated from non-corrective repetitions. In the past, recasts were considered as implicit feedback, however many researchers agree that recasts should not be treated as a monolithic construct (Nicholas, Lightbown & Spada, 2001; Ellis & Sheen 2006, Ortega, 2009) and that future research should try to investigate recasts in their explicit form. The present study investigates recasts in their implicit and explicit form.

Based on Schmidt's noticing hypothesis and if we were to assume that uptake can be a clear sign of noticing (Lightbown, 1998), Lyster and Ranta's interpretation of the amount of uptake seems to be theoretically sound. However, little research has been undertaken so far to empirically test this claim. Long (2006) qualified this across-the-isle analysis (i.e., directly testing one research question and using the obtained results to make inferences to other questions without having any measurement tools to warrant such inferences) as misleading and invited more empirical research. It is worthy to note that this tendency applies to the different research interests addressed in the CF literature. Research looking at the noticeability of CF techniques drew conclusions about their effectiveness and vice versa even though their designs did not allow such back and forth analyses. For the purposes of the current study, I will address research that investigated uptake and discussed its significance in L2 learning.

There is a great deal of research that investigate the relationship between CF and learner uptake, but very little has been done to examine the relationship between learner uptake and L2 learning. In addition, there is a controversy on whether learners' uptake contributes to L2 development. Ellis and Sheen (2006) pointed out

that "Researchers disagree on two points: (a) whether noticing can be said to have occurred only if uptake with repair is present and (b) whether deployment of the correct forms contributes to their acquisition" (p. 589).

1.5. THEORITICAL GROUNDS ON THE RELATIONSHIP BETWEEN UPTAKE AND L2 LEARNING

For the last two decades, questions about the occurrence and potential value of learner uptake have been hotly debated. Suzuki (2007) questioned the results yielded by studies like Lyster and Ranta (1997), whose primary objective was to report occurrence of uptake, not to remark on the relationship between uptake and learning. Lyster and Ranta concluded that recasts are ineffective for learning since they induce the least amount of uptake and repair compared to other CF techniques. Furthermore, they included that successful uptake (repair) could facilitate L2 learning but they did not consider it as a measure of that learning.

The role of uptake has been at the centre of an ongoing theoretical debate with little empirical evidence to substantiate such debate. Some CF researchers argued that uptake and repair might facilitate learning by promoting noticing (Ellis, Basturkmen & Loewen, 2001; Lightbown, 1998; Mackey, Gass and McDonough, 2000; Mackey, 2006, Sheen, 2004). However, other researchers argue that learning and noticing could occur without the production of uptake and repair (Mackey & Philp, 1998). Arguments of each view on the role of noticing are presented in the literature review chapter.

However, a few studies investigated the relationship between uptake and L2 learning. Furthermore, the obtained results are controversial, indicating the necessity to further address the issue. Some of these studies revealed a positive relationship between repair and learning while other studies did not find such a relationship. As such, the goal of the current study is to help bridge this gap in literature by empirically investigating the issue.

1.6. OBJECTIVE OF THE STUDY

Most second language researchers agree about the importance of CF in L2 classes. In L2 teaching, CF is a means to draw learners' attention to the formal aspects of language. Corrective feedback can promote noticing which is claimed to facilitate L2 learning (Schmidt, 1995). An impressive body of empirical research has

been undertaken to provide the empirical research to corroborate this position and to investigate other research questions. Among other things, research looked at the distribution of CF techniques and uptake. The significance of learner uptake generated a debate on the theoretical level, because little research actually looked at the relationship between uptake and learning. If uptake is a sign of noticing as claimed by Lightbown (1998), for instance, then it must affect learning, if we were to assume that noticing is a pre-requisite for learning (Schmidt, 2001). The few empirical studies that set out to uncover this relationship yielded controversial results warranting controlled empirical research to examine the role of learner uptake in L2 learning. The present study is designed to shed light on the link between learner repair resulting from two CF techniques (i.e., implicit and explicit recasts) and the acquisition of possessive determiners (PDs) and question forms of English as an L2. It looked also at the differential effects of implicit and explicit recasts.

CHAPTER 2: LITERATURE REVIEW

This study is stimulated by the need to explore the relationship between learner uptake and L2 learning. In this chapter, I review the research constructs and the empirical literature related to this research objective. First, definitions of CF and its types are provided, followed by definitions of learner uptake and its types. Then, learner uptake is discussed in relation to CF in general and recasts in particular. Last but not least, studies that explored the relationship between learner uptake and L2 learning are reviewed and criticised and the research questions are stated.

2.1 CORRECTIVE FEEDBACK

CF has been defined by Lightbown and Spada (1999) as "any indication to the learners that their use of the target language is incorrect" (p. 171). According to Carroll and Swain (1993), CF includes all reactions that explicitly or implicitly mention that the production of a learner is erroneous (i.e., non-target like).

According to Lyster and Ranta's taxonomy (1997), corrective feedback can be delivered through six main corrective feedback techniques, namely explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation and repetition and can solicit different reactions from the learners i.e., uptake. The next section presents the different CF techniques teachers have at their disposal along with the different uptake types.

Explicit feedback. As shown in example 1, the teacher clearly indicates that the student's utterance (production) was incorrect by providing the correct form.

Example 1
    St: * Yesterday, my teacher gives me a book.
    T: No, you should say gave. Yesterday my teacher gave me a book.

Recasts. The teacher reformulates the learner's utterance, replacing his/her erroneous form by correct ones (see example 2).
Example 2
    St: * Yesterday, my teacher gives me a book.
    T: He gave you a book.

Clarification requests. The teacher indicates to learners that their renditions contained some kind of error and that a repetition or a reformulation is recommended. In this type a teacher may use phrases like "I don't understand" and "excuse me?" (see example 3)

Example 3

St: * Yesterday, my teacher gives me a book.

T: I don't understand?

Metalinguistic feedback. As illustrated in example 4, the teacher indicates the presence of an error by providing verbal and linguistic clues inviting the learner to self-correct (e.g., "Do we say it like that?" ,and "Its masculine").

Example 4

St: * Yesterday, my teacher gives me a book.

T: Do we say give?

T: Do we say give when it is in the past?

Elicitation. The teacher elicits the correct form from learners by using questions like "How do we say that in English?"; by pausing to elicit completion of learners' utterances as in example 5; or by asking learners to reformulate their utterances like "can you repeat".

Example 5

St: * Yesterday, my teacher gives me a book.

T: Yesterday your teacher……

Repetition. The teacher repeats the learners' erroneous forms and adjusts intonation on the error to draw attention to the incorrect form as in example 6.

Example 6

St: * Yesterday, my teacher gives me a book.

T: Yesterday, my teacher give*s*? (Rising intonation on the erroneous past)

The six corrective feedback techniques outlined above can be classified as input providing as is the case with reformulations and explicit feedback because the correct form is provided by the teacher or output eliciting as in repetition, metalinguistic feedback, elicitation and clarification requests because the teacher withholds the correct form and pushes the learner to self correct. The second category has been referred to as negotiation of form in Lyster and Ranta (1997) and prompts in Lyster (2004a).

2.2 LEARNER UPTAKE

In the last two decades, uptake has been at the centre of a significant body of research. Slimani (1992) defined uptake as learner's performance after a lesson, or even after the class. Lyster and Ranta (1997) operationalized uptake in the context of corrective feedback as "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance" (p. 49). Lyster and Ranta definition is adopted in the current study. There are two types of uptake, namely *repair* and *needs- repair. Repair* refers to instances when the student manages to produce the correct form after the teacher's feedback, it can be in the form of repetition or incorporation as in examples 7 and 8. Repetition refers to instances when the learner repeats the correct form supplied by the teacher. Incorporation, on the other hand, corresponds to episodes in which the learner incorporates the teacher's correction in a larger context.

Example 7
   St:* Yesterday, my teacher gives me a book.
   T: Gave. (Feedback-recasts)
   St: Gave.

Example 8
   St: Yesterday, my teacher gives me a book.
   T: Gave. (Feedback-recasts)
   St: Gave me a book, but it was lost.

Needs repair is "uptake that results in an utterance that still needs repair" (p. 49). It includes six sub-categories:

Acknowledgement in which the learner responds to the teacher's feedback by simply saying "yes" or "yeah" as in example 9.

Example 9

    St: * Yesterday, my teacher gives me a book.

    T: He gave you a book.

    St: Yeah, but it was lost!

Same error is where the learner repeats his initial error despite the feedback (see example 10).

Example 10

    St: * Yesterday, my teacher gives me a book.

    T: Your teacher what? (Clarification)

    St: <u>gives</u> me a book

Different error corresponds to instances in which the learner produces an error other than the one that the teacher corrected in his own uptake as is the case with example 11.

Example 11

    St: * Yesterday, my teacher gives me a book.

    T: He gave you a book.

    St: But it <u>is </u>lost.

Off target refers to uptake that is unrelated to form target by the teacher's feedback (see example 12).

Example 12

    St: * Yesterday, my teacher gives me a book.

    T: Sorry? (Clarification)

    St: My teacher history gives me a book of history, yesterday morning at 10 o'clock in classroom

Hesitation corresponds to instances in which the student hesitates to respond to the teacher's feedback as is the case in example 13.

Example 13

St: * Yesterday, my teacher gives me a book.

T: Gives? (Clarification)

St: Uhm, I don't know.

Partial repair which refers to student reactions that include a correction of parts of the initial error (see example 14).

Example 14

St: * Yesterday, my teacher gives me a book.

T: Gives? (Clarification)

St: Give

2.3 RESEARCH ON THE OCCURENCE OF FEEDBACK TECHNIQUES AND UPTAKE

In their seminal work about CF in French immersion, Lyster and Ranta (1997) observed four teachers and their respective 104 students in grades four and five for approximately 18.3 hours (one hour per day). Transcripts of 18.3 hours of classroom interaction were analysed for feedback types and learner uptake. Results indicated that recasts were the most frequently used CF type 55% of the time, but were the least likely to lead to uptake (31%) and to repair (18%). In contrast prompts which include the four techniques that push the learner to self-correct (i.e., elicitation, clarification requests, metalinguistique feedback, repetition) led to the highest amounts of uptake (100%, 88%, 86%, 78% respectively) and repair (46%, 28%, 45%, and 31% respectively) despite their limited frequency of use. Table 1 summarises the findings reported in Lyster and Ranta (1997).

Table 1: Distribution of CF types and their uptake

Types of corrective feedback	Frequency	*Uptake*	*Repair*
Recasts	55%	31%	18%
Elicitation	14%	100%	46%
Clarification requests	11%	88%	28%
Metalinguistic feedback	8%	86%	45%
Repetition	5%	78%	31%
Explicit correction	7%	50%	36%

A similar pattern of results has been obtained by Panova and Lyster (2002) who addressed the same research questions in adult English as second language (ESL) classrooms.

Sheen (2004) compared the occurrence of CF techniques and uptake across four different contexts, namely French immersion, ESL in Canada, ESL in New Zealand, and English as a foreign language in Korea. Among other things, results indicated that the different CF techniques have comparable frequencies of occurrence and lead to comparable amounts of uptake except for recasts in the New Zealand and Korean contexts. Recasts were found to be more frequent in this context and most importantly more effective in terms of uptake. Table 2 illustrates the obtained results. Sheen attributes this difference to context and to the teaching approaches adopted in each of the four investigated contexts. Recasts were found to lead to less uptake in contexts that are highly communicative, namely L2 contexts in Canada. They were, on the other hand, found to lead to more uptake in foreign language contexts that tend to adopt more structured methods (Sheen, 2004) likely to increase the saliency of recasts and the resulting uptake.

Table 2: Distribution of CF types in relation to uptake and learner repair

		Recasts	Elicitation	Clarification requests	Metalinguistic feedback	Repetition	Explicit correction
Canada Immersion	Frequency	54.7%	13.7%	10.6%	8.5%	5.2%	7.3%
	Uptake	30.7%	100%	87.7%	86.2%	77.8%	50%
	Repair	57.4%	45.7%	31.3%	52%	39.3%	72%
Canada ESL	Frequency	54.9%	3.6%	10.7%	5.1%	1.5%	2.2%
	Uptake	39.8%	100%	100%	71.4%	100%	33.3%
	Repair	32.2%	73.3%	22.7%	40%	83.3%	0%
NZ ESL	Frequency	68.3%	6.9%	4.2%	2.1%	5.8%	12.7%
	Uptake	72.9%	100%	100%	100%	90.9%	95.8%
	Repair	66%	84.6%	50%	100%	70%	73.9%
Korea EFL	Frequency	82.8%	1.1%	2.7%	1.6%	1.1%	10.8%
	Uptake	82.5%	100%	100%	100%	100%	70%
	Repair	70.1%	50%	20%	100%	50%	71.4%

Lyster (1998a) ─ in a follow-up to Lyster and Ranta (1997) ─ investigated the different forms and functions of recasts in French immersion. Based on a re-analysis of the Lyster and Ranta data, he identified four recast types, namely isolated declarative recasts, isolated interrogative recasts, integrated declarative recasts, and integrated interrogative recasts.

In isolated recasts the teacher reformulates the student's incorrect rendition by zooming on the problematic part of the utterance. He does so without adding any

meaning and with a falling intonation in isolated declarative recasts and with a rising intonation in isolated interrogative recasts. Examples 15 and 16 illustrate isolated declarative and isolated interrogative recasts respectively.

Example 15

St: * Yesterday, my teacher gives me a book.

T: Yesterday, my teacher gave me a book.

Example 16

St: * Yesterday, my teacher gives me a book.

T: gave?...

In incorporated recasts the teacher incorporates the correct reformulation into a larger context. He can do so with a falling intonation in incorporated declarative recasts or with a rising intonation in incorporated interrogative recasts. Examples 17 and 18 illustrate these two recast types respectively.

Example 17

St: * Yesterday, my teacher gives me a book.

T: Yes, it's true that, yesterday your teacher gave you a book but, you didn't read it.

Example 18

St: * Yesterday, my teacher gives me a book.

T: He gave you a book?

Results indicated that the amount of uptake depended on the type of recasts used by the teachers. Isolated declarative recasts were found to lead to more uptake and repair than isolated interrogative recasts and incorporated recasts, Table 3 summarises the obtained findings.

Table 3: Frequency of recast types and their respective repair

Types of recasts	Frequency (n)	Repair (n)
Isolated declarative	251	66
Isolated interrogative	46	1
incorporated declarative	64	0
incorporated interrogative	16	0

In a similar study, Sheen (2006) looked at the relationship between characteristics of recasts and learner uptake/repair in two communicative ESL classes of New Zealand and two communicative EFL classes of Korea (see Sheen, 2004). Results revealed that recasts that are short (i.e., reformulate only one word or a short utterance), declarative, reduced (i.e., reformulate just one word or small part of the learner's erroneous phrase), with a single error focus (change one linguistic item), with a pronunciation focus (rising intonation), and that involve substitutions (change one element with another) led to more uptake/repair than long, interrogative, incorporated, and grammar focused recasts because they entail a focus on a single linguistic form in an isolated manner, rendering the reformulated item salient and more noticeable to learners.

2.4 SUMMARY

Research looking into the frequency of CF techniques along with students' uptake has established that recasts are the technique of choice in different L2 contexts and that they lead to the least amount of immediate uptake compared to the other techniques of feedback. However, in Sheen (2004) recasts provided more uptake than recasts found in Lyster and Ranta (1997), because they were used in a grammar oriented context (structure based programme) as opposed to a communicative context. Furthermore, results from Lyster (1998a) and Sheen (2006) revealed that the rate of uptake/repair depends on the type of recasts. For instance isolated declarative recasts led to more repair 23% than incorporated recasts 0%.

Based on this research that looked at the amount of uptake/repair following CF techniques, some conclusions as to the effectiveness of these same techniques have been made. For instance, based on the findings from Lyster and Ranta (1997), it was assumed that recasts would be less effective than prompts. While plausible, this argument is empirically unfounded because of the study's design. First, no such

claims can be made on the basis of descriptive research. Research that looks at the effects of these techniques is required to substantiate such claims. More importantly, given the debate that has ensued around the significance of uptake in feedback research, empirical studies that directly investigate the relationship between uptake and learning is warranted. The coming section presents the different positions that emerged from this debate and reviews the empirical research that has uncovered the relationship between uptake and learning.

2.5 SIGNIFICANCE OF LEARNER UPTAKE

Uptake has been treated in the CF literature as a measure of noticing and by implication learning. Lightbown (1998) explained that uptake might indicate learner's noticing of the target feature, and may be considered as a move on the way to acquisition. Mackey (2006) used uptake along with other measurement tools to investigate the noticeability of CF. Ellis et al. (2001a) treated uptake in the form of repair as a sign of noticing. Uptake continues to attract SLA researchers (Nassaji, 2009) and that is in spite of all the discussion around it. In fact, while some treat uptake as a sign of noticing and eventually learning, others argue that uptake is an invalid measure of such complex constructs for different reasons. Uptake is a questionable yardstick because it is optional in that learners may notice the teacher's reformulations but do not feel the need to uptake (Loewen, 2004). Uptake is sometimes impossible especially following interrogative recasts and when the teacher continues talking without giving the learner the chance to uptake. After eliminating contexts in which uptake was impossible, Braidi (2002) and Oliver (1995) reported that the uptake rates following recasts went from 9.5% and 16.31% to 34.21% and 35% respectively. Uptake that occurs after recasts may be 'parrot-like' repetitions of the teachers' reformulation. That is, repetitions that do not require any analysis or revision on the part of the learner (Gass, 2003). Finally, uptake can be delayed in the sense that it can occur 2 to 3 turns after the teacher's reformulations. McDonough and Mackey (2006) showed that recasts have a priming effect in the sense that they helped the learners integrate the correct form 2 to 3 turns later. In the current study we are interested in immediate uptake only.

So while presence of uptake should not be equated with noticing and learning, its absence cannot be seen as evidence of absence of noticing and learning. The debate around the significance of uptake remained quite theoretical, i.e., without

empirical substantiation, because few studies have been undertaken to uncover the relationship between uptake and learning. Furthermore, this research yielded controversial results, calling therefore for more empirical research to help settle the debate.

2.5.1 Empirical studies on the relationship between uptake and L2 learning

Although significant research has been done to investigate the relationship between CF and learner uptake, few studies have looked at the relationship between uptake and L2 learning (Suzuki, 2007).

Mackey and Philp (1998), for example, explored the effects of recasts on the short-term acquisition of question forms in English as a second language, and analysed the link between the effects of recasts and learner uptake. Thirty five adult ESL learners attending two private language schools in Australia participated in this laboratory study which used a pretest-posttest control group design. Concerning group assignment, the participants were placed randomly into three groups: interractor, recast, and control. While performing the tasks in pairs with a native speaker, the recast group received recasts on their erroneous question forms, the interactor group carried out the same tasks during the treatment but without receiving recasts. The control group participated only in pre- and post-tests. In the first week of the study a pre-test was administered, followed by the treatment sessions for three days, one session per day. One day after the treatment ended a first post-test was administered, followed by a second post-test a week later, then a third post-test three weeks later. Each of the treatment and test sessions consisted of tasks that elicited question forms, in which each learner performed the tasks in dyads with a native speaker. Each treatment and test session lasted 15 to 25 minutes approximately. Analysis of the results showed that the recast group outperformed the other groups on question development, furthermore it was found that recasts led to the acquisition of questions irrespective of whether there was uptake. That is, even learners who did not react to the teacher's reformulations developed on question forms because they had been exposed to more comprehensible input in which the target form was repetitively used. This fact made the researchers conclude that uptake does not predict interlanguage development and that uptake is not a valid measure of noticing and learning.

While acknowledging the significance of the obtained results, caution is warranted because of the nature of the study. The fact that this study was conducted in a laboratory setting might have influenced the obtained outcomes in that it added saliency to CF and the target structures. In the same vein, Spada (1997) and Lyster (1998a) argued that the controlled nature of laboratory research renders CF and target structures more salient and noticeable. It has been argued that laboratory studies results are not openly valid to L2 teaching practice (Lightbown, 1985, 2000; Mitchell, 2000; Suzuki, 2007). Ellis and Sheen (2006) emphasised that:

> We do not believe that it is easy to extrapolate the results obtained from Laboratory studies that involve one-on-one interactions to classrooms in which the teacher interacts with the whole class. In our view, ecological validity can only be achieved through classroom-based research. (p. 365).

Philp and Loewen (2006) examined the nature and the effects of different characteristics of recasts on short-term L2 learning. This study was conducted with 12 intensive ESL classes. Twelve teachers and 118 adult learners from a private language school in New-Zealand participated in 17 hours of meaning-focused interaction that were observed, audio-recorded and used for testing. During these observed sessions learners engaged in communicative tasks (i.e., information and opinion gap tasks, narrated stories, and took part in various in-class discussions). All form focused episodes in the observed sessions (FFEs) were identified, transcribed, and used to develop individual tailor made tests. An FFE is "the discourse from the point where the attention to linguistic form starts to the point where it ends, due to a change in topic back to message or sometimes anther focus on form" (Ellis et al., 2001a, p. 294). The tailor made tests were administered immediately after the observation ended (immediate post-test) and two weeks later (delayed post-test) to investigate the impact of the feedback on the forms targeted in those same FFEs. Nassaji (2009) explained that:

"These tests are designed based on feedback learners receive on any form that occurs during interaction and then administered to the same learners after interaction" (p. 420); that is, the FFEs were used to construct individualised test items related to the linguistic forms that were targeted. In these tests, individual learners were tested on the specific features that occurred in the FFEs in which they participated . Instances of CF, and learner uptake were analysed and coded. The researchers also looked at the relationship between uptake that occurred during the FEEs and

students' performance on the tailor made tests. Three CF techniques were used in the FFEs, namely recasts, elicitation and metalinguistic feedback. Results revealed that 1) recasts were used the most; led to uptake 60% of the time; and affected L2 knowledge 50% of the time; 2) elicitation and metaliguistic feedback were less frequent, and resulted in uptake 83% and 46% of the time respectively. Furthermore, correlation analyses indicated that uptake in the form of repair correlated with accuracy in the tailor made tests only with elicitation and metalinguistic feedback. No relationship was found between uptake and learning when the feedback was in the form of recasts. However, regression analyses revealed that certain characteristics of recasts predicted successful uptake and accuracy on test scores; that is, recasts in which the corrected error received prosodic stress, recasts with only one change, recasts ending with high rising intonation predicted successful uptake. Recasts with rising intonation, shorter recasts (i.e., fewer than 5 morphemes), and recasts with only one change predicted accuracy on test scores. Like Philp and Loewen, Nassaji (2009) also found that explicit recasts were more likely to lead to immediate and delayed learning than implicit recasts.

While interesting, the results of the study should be interpreted with caution. Given that no pre-test was administered to measure the participants' knowledge of the target forms before the intervention started, it is hard to clearly interpret the obtained results.

Loewen (2005) explored the effects of "incidental focus on form" that "draws learners' attention to linguistic items as they arise spontaneously—without prior planing—in meaning-focused interaction" (p. 361) on interlanguage development. It investigated also the link between learner uptake and L2 development and looked for the characteristics of incidental focus on form that predict language development. Similarly to Philp and Loewen (2006), 12 adult ESL classrooms totalling 118 learners in Auckland (New-Zealand) participated in the study. A total of 17 hours of meaning focused classroom interaction presented data for the study in which the researcher observed and audio recorded all teacher learner interaction. Following the observations, 491 FFEs were identified in the observation sessions, an FFE started when a learner produced a linguistics error that was addressed by the teacher. Once identified, the FFEs were used to construct individualised test items related to the linguistic items targeted in the FFEs. In these tests each learner responsible for triggering specific FFEs was tested on those same items. There were two tests, an

immediate test that was administered a day after the FFE took place and a delayed test two weeks after the FFE. Loewen treated the incorrect renditions in the FFEs as proof of lack of knowledge of the targeted structure (i.e., a pretest).

Results revealed that learners were capable of correctly using the targeted linguistic forms 60% of the time on the immediate post-tests and 50% of the time on the delayed post-tests. Regression analyses revealed that successful uptake was the best predictor of correct test scores. Furthermore, the researchers speculated that successful uptake - during the FFEs - predicted accuracy of recall on test scores. Successful uptake was found as the characteristic of incidental focus on form primarily associated with subsequent use of the forms.

Williams' (2001) descriptive study investigated language related episodes (LREs) of intensive English ESL classroom interaction that included incidental attention to form. A LRE is a:

> "discourse in which (1) learners talk or ask about language, or question, implicitly or explicitly their own language use, or (2) the teacher or another learner talks or asks about language, or questions, implicitly or explicitly the language of the learner, in response to a learner problem or error" (p. 328).

Participants (n=8) were volunteers ranging in age from 18 to 28 and data consisted of 65 hours of classroom audio recordings of observed sessions over a period of 8 weeks in which learners were audio-recorded twice a week for 45-min. The tapes were transcribed and coded to identify (LREs) and to collect learner's spontaneous production of the forms focused in the (LREs). There were 303 (LREs) that included; learner requests for assistance, learner–learner negotiation, and feedback on error. A tailor-made test of each of the forms that occurred in the (LREs) was constructed – one test for each form – for the sake of checking if learners remembered the form in question. The tailor made tests were administered, two weeks after the end of each (LREs). The final testing session occurred one week after the last week of class. Results revealed a positive relationship between repair of forms —especially 'self repair'— and short-term retention of the forms with scores varying from 40–94%, but the consequent use of forms was low. As a result, this study asserted that learners pay attention to the feedback provided by their teacher.

This study did not control for prior knowledge because no pre-test was administered. Furthermore, because of the sample size, that is rather small (n=8), the generalisability of these results are questionable.

McDonough (2005) examined the impact of CF and modified output (i.e., learner uptake) on the development of English question forms, measured according to Pienemann and Johnston's (1987) developmental sequence for questions. This study focused exclusively on negative feedback in the form of clarification requests and repetition because the former has been shown to elicit modified output and the latter is believed to help learners detect the problematic features of their utterances. Participants were 60 Thai university students of English as a foreign language EFL. Regarding the tests, the learners were set in a laboratory and tested individually on question forms by way of four oral production tests. The test sessions were analysed to check the level of development the learners achieved on question forms before and after the treatment. In the first week of the study, the learners completed a pre-test on question forms. Then they were assigned to four treatment conditions that provided different CF environments. The four treatment conditions were (1) enhanced opportunity to modify (i.e., repetition with stress and rising intonation + clarification requests), (2) opportunities to modify (i.e., clarification requests), (3) feedback without opportunity to modify (i.e., error repetition + topic continuation), and (4) no feedback. In each of the treatment conditions the learners carried a series of communicative tasks that elicited questions with native speakers of English. Once done, the treatment sessions were analysed to find the amount of modified output produced by learners after the feedback. The postests were completed in the second, fifth, and eighth week of the study. Regression analyses revealed that the production of modified output was the only significant predictor of ESL question development.

This study investigated only one target structure (question forms), to enhance the external validity of the study, it would be better to add other structures like to strengthen the results and make them more generalisable.

Recently, Suzuki (2007) empirically investigated ―in a controlled laboratory setting― the relationship between learner uptake and the acquisition of the English past tense. The study was conducted with 40 adult Japanese EFL university students in Tokai (Japan). Their age ranged from 18 to 21 years. The participants were assigned to two groups: an experimental group (n=30) and a contrast group (n=10). The study employed a pretest-posttest design in which oral description tasks and

grammaticality judgements tasks were used to assess learners' comprehension of the English past tense. In the treatment sessions, picture description activities were used, to elicit past tense forms. During the treatment, all the groups received CF on their nontarget like past tense forms in the form of recasts, but the manner in which the recasting was done differed. While the experimental group received recasts with the opportunity for uptake, the contrast group received recasts without opportunity for uptake (i.e. the interlocutor continued with the topic immediately after providing the recasts). The application of the two types of recasts was done to get differential rates of uptake (i.e. able to produce uptake and not able to produce much uptake). After each treatment session, the participants did a written recall. Immediately after the last treatment session an immediate posttest was administered for all the groups. The delayed posttest was administered three weeks after the immediate posttest in which the experimental group was randomly divided into two groups; a stimulated recall group (n=15) and a posttest group (n=15). This was done for the sake of gathering data about noticing as well as for checking the sustained effect of uptake.

The results of the regression analyses revealed that uptake and repair resulted from recasts were significant predictors of oral immediate posttest score improvement, but not for the delayed posttest.

In this study, there was a great difference in group size (i.e., experimental group (n=30) & contrast group (n=10)); number of participants in the contrast group should be equal to the number of participants in the experimental group to facilitate comparison of the results. Moreover, this study used one CF type. Adding other types would have enriched the uptake data. Finally, the fact that this is a laboratory study might create problems with the generalizability of the results, as well as threaten the external validity.

2.5.2 Summary

As seen above, there is a debate on the role of learner uptake in L2 learning and to date, little research has been done to cover this issue. The obtained results from the existing research are quite contradictory. On the one hand, some studies found that uptake was not predictive of learning. Mackey and Philp (1998), for instance, found that even learners who did not produce uptake in response to recasts achieved accuracy gains on the post-test. However and as explained above, caution is warranted while interpreting these results because the study was carried in a

constrained and tightly controlled laboratory setting likely to increase the salience of the form and therefore ambiguating the difference between the experimental conditions in question. On the other hand, there are studies that found uptake to be predictive of learning. Loewen (2005), as an example, showed that uptake was the best predictor of test scores. Once again, methodological limitations (no pre-test was administered to measure students' prior knowledge of the target structures) weaken the significance of the obtained results. Williams (2001) reported a positive relationship between repair and short-term retention of the forms, but this study did not specify the CF types that were investigated nor the language features that were targeted. McDonough (2005) found that modified output was the only significant predictor of question improvement. Philp and Loewen (2006) also found uptake/repair to be predictive of post-test development but only with elicitation and metalinguistc feedback. No such relationship was found between recasts and uptake/repair. However, it was found that certain characteristics of recasts predicted repair and accuracy on test scores. Recasts in which there is prosodic stress on the corrected error, recasts with a single change, and with high rising intonation predicted successful uptake. Recasts that are short, with rising intonation, and with only one change predicted accuracy on test scores. The above empirical studies are summarised in table 4.

Table 4: Summary of learner uptake and L2 acquisition studies

Studies	CF types	Relationship between uptake and L2 learning	Problem
Mackay & Philp(1998)	Recasts	No	Laboratory
Loewen (2005)	_	Yes	Absence of pre-test
Philp & Loewen (2006)	Recasts Elicitation Metalinguistic feedback	Yes, but only with Elicitation and Metalinguistic feedback	Absence of pre-test
Suzuki (2007)	recasts	Yes	Laboratory Sample size One feedback type
Williams (2001)	Incidental focus on form	Yes	Absence of pre-test
McDonough (2005)	Clarification requests Enhanced salience of non targetlike forms	Yes	One target structure

Using a pretest postest design, the present quasi-experimental study investigated the relationship between repair and learning in intact ESL classes. Using data from a larger research project in which the relationship between noticing and learning is investigated, the present study differs from previous research by 1) directly measuring the relationship between repair and learning ; 2) by carefully controlling for learners' previous knowledge; and 3) by taking into consideration different types of reformation i.e., implicit and explicit recasts.

2.6 RESEARCH QUESTIONS

The literature reviewed above indicated that recasts are the teachers' technique of choice and the least likely to lead to uptake. This same research showed that the amount of uptake can vary depending on the nature of recasts. Isolated, intonationally emphasized declarative recasts targeting a single error lead to more uptake and interlanguage development than incorporated, implicit recasts that do not add any verbal or intonational clues. However, to date, experimental and quasi-

experimental research rarely accounted for these differences in the operationalization of recasts, hence the relevance of the first research question.

R.Q.1: what is the effect of implicit and explicit recasts on repair and the development of possessive determiners and question forms?

Recasts were chosen because they are the technique the most widely used, and that is regardless of context type (i.e., second or foreign language). Possessive determiners and questions will be targeted because they were found to be problematic for francophone learners of English as a second language (See J. White, 1998; White & Ranta, 2002 for PDs and Lightbown & Spada, 2001 for questions).

Even though uptake has attracted researchers' attention, little has been done to uncover it significance by investigating the relationship between it and L2 learning. Hence, the goal of the current study is to help bridge this gap in the existing literature, and to empirically investigate the relationship between uptake and interlanguage development. More specifically I would like to investigate if there is a relationship between uptake and learning within explicit and implicit recasts. The difference between these two types of reformulations is explained in the methodology chapter.

R.Q.2: What is the relationship between learner repair resulting from implicit and explicit recasts and L2 learning? That is; what is the relationship between learner repair and the learning of possessive determiners and questions in English as a second language for the two recast types?

CHAPTER 3: METHODOLOGY

The purpose of this quasi-experimental study was to contribute to the body of knowledge regarding the relationship between learner uptake and L2 acquisition. This chapter describes the data collection procedures of the study. It describes the research design including the research context, feedback conditions, participants, targeted grammar structures, treatment and testing materials, and the procedure.

3.1 RESEARCH CONTEXT

This study was conducted in intensive English as a second language (ESL) programs in the Montreal area. Intensive ESL programs are offered in French language schools at either grade five or grade six. Different models of intensive ESL programs exist in Quebec (see Collins, Halter, Lightbown & Spada, 1999)[1]. For our study we investigated the 5-month/5-month model in which students study English every day, all day for five months of the school year. In the remaining five months, regular program topics are taught in French (e.g., maths, science). In the ESL part of the school year, there is an emphasis on communicative activities focusing on speaking and listening comprehension skills, but, to a lesser degree, writing and reading activities as well as grammatical accuracy (Lightbown & Spada, 1994).

3.1.1 Participants

Two grade six intact classes and their respective teachers in a Montreal French language school in which intensive ESL programs were offered participated in the study. The teachers were selected based on previous observations (Ammar & Spada, 2006) which revealed that one of them was a "total recaster" (because of her tendency to use recasts when she corrects her students' errors) and that the other used a mix of techniques, mostly recasts and clarification requests. The "total recaster" was assigned the first experimental condition in which implicit recasts were provided in reaction to erroneous uses of the target structures. The second teacher was assigned the second experimental condition in which explicit recasts were provided (further details as to the difference between the two experimental conditions are provided in section 3.2). Both teachers were bilinguals who have been teaching intensive ESL for comparable numbers of years. The students (N = 53) were 11 to 12

years old and were mostly francophone Quebecers. At the time the study took place, they were in the second half of the school year (February to June).

3.2 FEEDBACK CONDITIONS

In the current study, implicit and explicit recasts were chosen to see if they resulted in the same amount of uptake and learning. Implicit recasts refer to reformulations of the students' incorrect renditions with no additional linguistic, verbal or intonational clues. These reformulations are provided while reiterating the students' original utterances or by expanding on them (i.e., incorporated recasts according to Lyster and Ranta's taxonomy). Example 1 illustrates the possible forms an implicit recast can take:

Example 1
S: *I go to the cinema last week.
T: You went to the cinema last week, good.
T: You went to the cinema last week, and which film did you watch?

Explicit recasts, on the other hand, refer to reformulations that are marked by additional linguistic, verbal or intonational clues and/or isolation, i.e., isolated the error by reformulating it out of its larger context (i.e., isolated recasts according to Lyster and Ranta's taxonomy) as in example 2:

Example 2
S: *I go to the cinema last week.
T: you went (rising intonation on went)
T: went (with or without rising intonation)
T: you should say went (verbal clue)

3.3 TARGET FEATURES

The grammatical features targeted in this study were (1) third person singular possessive determiners (PDs) *his* and *her*, and (2) question forms, more specifically subject/verb inversion in yes/no and wh- questions. The two target forms of this study were chosen for two reasons. First, these features were shown to be problematic for francophone ESL learners (Spada, Lightbown & White, 2005).

Second, research has shown that CF increases learner's use of possessive determiners and question forms (Ammar, 2008 for possessive determiners; and Mackey & Philp, 1998 for question forms).

3.3.1 Possessive determiners

Many French-speaking learners of English encounter difficulties in deciding between third person PDs because English and French attribute gender to PDs differently. In English the choice between third person PDs *his* and *her* depends on the natural gender of the possessor while in French the choice is based on the grammatical gender of the possessed entity as in example 3. The effects of this gender assignment are apparent in contexts where the possessor and the possessed entity have different grammatical genders.

Example 3

*La fille joue avec **son** père*.

*The girl is playing with **his** father.

The girl is playing with **her** father.

As the example illustrates the masculine form *son* was used because *père* "father" is masculine and singular. This is the case even though the possessor is feminine. Previous research (J. White, 1998) has shown that Francophone learners of ESL have the tendency to incorrectly apply this rule to English, yielding the incorrect form *"the girl is playing with his father"*.

3.3.2 Question forms

Many francophone learners of English apply French question formation rules while acquiring English questions, because of their confusion with respect to subject and verb inversion. In English grammatical questions, the inversion of subject and verb is obligatory to make grammatical questions.

Questions are formed in English through subject verb inversion. When a declarative statement contains an auxiliary, the auxiliary and the subject are inverted to obtain an interrogative form as is the case in example 4. However, when the sentence does not contain an auxiliary, *do* support is required. The auxiliary in this case is marked for tense and number as in example 5.

Example 4

I have worked for 4 hours.

Have I worked for 4 hours?

You can travel alone.

Can you travel alone?

Example 5

I hate broccoli.

Do you hate broccoli?

She stole my pen.

Did she steel your pen?

He loves fish.

Does he love fish?

In French, subject-verb inversion is optional. Inversion is possible only when the subject is a pronoun. Otherwise, inversion is impossible and questions are formed by placing "*est-ce-que*" at the beginning of a declarative sentence. The *"est-ce-que"* option applies to sentences with noun phrase subjects as well as to sentences with pronoun subjects. Spada et al., (2005) argue that the invariant "*est-ce-que*" form "functions in some sense like <u>do</u> in that it can be placed at the beginning of a sentence to change a declarative to an interrogative" (p. 207). Another case is that, in French, learners can ask questions just with adding intonation to declarative sentences (see example 6). Although ungrammatical, this option is widely used.

Example 6

Il aime parler

Aime t-il parler?   ***Est ce qu****'il aime parler*   *Il aime parler?*
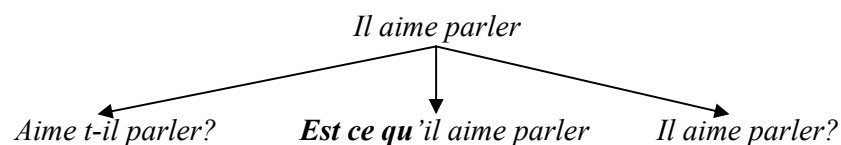
Francophone learners encounter difficulties in producing English question forms for two reasons. First, the similarity between French and English in terms of inversion (French like English requires inversions with pronoun subjects) and the use

of invariant forms may mislead francophone ESL learners into thinking that, like French, inversion is optional in English and/or impossible with noun phrase subjects and that all kinds of questions can be formed by simply placing "do" in frontal position (See Lightbown & Spada, 2001), resulting in all kinds of incorrect questions as in example 7.

Example 7

Fish can swim.

*Do fish can swim? As in: *Est-ce que les poissons peuvent nager?*

3.4 EXPERIMENTAL TREATMENT

For the current study, learners performed six oral activities, each of which lasted between 30 to 45 minutes, designed to elicit the use of the target features. Three of these activities elicited PDs and the remaining three elicited question use.

3.4.1 Possessive determiner activities

To elicit third person singular PDs *his* and *her,* three oral activities were designed *to* provide the students with opportunities to use in-context utterances by describing person's possessions and/or relationships with each other. The activities were: Family Trees; What Happened; and Chain Stories.

3.4.1.1 Family trees

This activity was intended to engage the students in thinking about different cultures focusing on different family structures. First, the students worked in groups of four to come up with their own family trees for brainstorming purposes. Then, they compared their family tree with a typical Japanese family. Apart from providing obligatory contexts to use PDs, this activity aimed to raise students' cultural awareness and to prepare for the second activity "What Happened?"

3.4.1.2 What happened?

As a whole class, students watched a Japanese cartoon depicting a family scene. Later, in groups of 3-4, students were asked to come up with a story of what

happened in the cartoon. Finally, after each group presented their own interpretation of the story, the group that came up with the closest story line won the game.

3.4.1.3 Chain story

This activity starts by asking a student to say his/her name and to say one fact about his/her father and one fact about his/her mother as in "my name is Bob. My father is an engineer and my mother hates hockey". Another student is asked to report what the first student said and to add his/her own facts as in "his name is bob. His father is an engineer and his mother hates hockey. My name is Katya, my father plays the piano and my mother is beautiful". Students keep reporting and adding facts till the chain breaks (i.e., when a student fails to report all the previous facts). Once broken, students have to start a new chain. From time to time, they were asked to talk about other members of their family or friends.

3.4.2 Question activities

For question forms, three oral activities were designed to provide the students with an opportunity to use in-context questions. The activities were; (d) picture differences, (e) the alibi game I, and (f) the alibi game II.

3.4.2.1 Picture differences

In this one way interaction task, the teacher held a picture and the students had the same picture except that there were some details that were on the teacher's version but not on theirs. The students' task consisted of asking as many questions as they wanted to identify all the differences between each pair of pictures. Two pairs of pictures, one of a city scene and another of an airport scene were used in this activity that was adapted from Granger and Plumb (1986).

3.4.2.2 The alibi game I and II

In this activity, adapted from Gatbonton (1994a) students were asked to work in pairs and to pretend to have spent last Saturday together. In their groups, they needed to agree on the details of what they did during the day. Later, the teacher chose one pair at a time, asked one student to stay in class and the other student to leave class, and invited class to interrogate the former about his weekend with his classmate. Once students asked all the questions they had in mind, the second student was brought in and was interrogated by his classmates who asked the same questions

that they asked to the first student. The goal of the game was to identify the group that told the most consistent story. To give all pairs the chance to be interrogated, something that the students insisted on, the activity was done in two separate periods of 30 to 45 minutes each.

As mentioned above each of the PD and Q activities lasted between 30 to 45 minutes. The whole intervention lasted three days that were spread over a period of one week. Table 5 demonstrates the distribution of the treatment activities over the three days:

Table 5: Distribution of treatment activities

	Possessive determiners	Questions
Day 1	Family tree	Picture difference
Day 2	What happened?	Alibi game I
Day 3	Chain story	Alibi game II

During the treatment, each teacher provided feedback depending on the experimental condition she/he was assigned. The intervention lasted three days spread over a period of one week, and each activity lasted between 30 to 45 minutes. All the activities were video recorded, transcribed and coded to identify the uptake that resulted from the two types of recasts.

3.5 TESTING MATERIALS

The participants' knowledge of third person PDs and questions was tested twice: 1) immediately before the treatment started (pre-test); and 2) immediately after it ended (immediate post-test). During these two different test administrations, all learners completed three tasks (one for PDs and two for questions) by working with a research assistant on an individual basis. Two tasks were administered for questions in an attempt to measure different facets of the learners' knowledge of this target feature. All tests were audio-recorded. The learner's knowledge of third person PDs and questions was measured in terms of how often these forms were supplied accurately where they were required (i.e., in obligatory contexts). Each of the testing sessions had a different version of the three tasks; that is, tasks were the same but differed in some details to limit training and memorisation effects.

3.5.1 Possessive determiner test

A picture description task was administered to measure students' knowledge of possessive determiners. In this task, learners were required to describe series of pictures representing events that a fictive family, the Browns did last weekend (see Appendix 3). To establish obligatory contexts for the use of PDs, students were told that all the pictures were about members of the same family (family Brown) and were shown a portrait of that same family. The research assistant took the necessary time to explain the relationship between the different members of the family on the portrait. The family comprised a mother, a father, two children (one boy and one girl) and one grandfather and one grandmother. Students took all the time they needed to orally describe what the family did last weekend.

3.5.2 Question formation test

For question formation, a "spot-the-difference" task and a computer task were administered to elicit different kinds of questions and different facets of their knowledge.

3.5.2.1 Spot the difference task

In this one-way information gap activity, a native speaker or a perfect bilingual research assistant and a learner sat across from each other while holding two versions of the same picture. Learners were required to ask ten questions in order to find the differences between the two pictures. However and in order to elicit a variety of question types and to prevent the use of formulaic questions, students were asked not to use "is there" and "do you see" and were explicitly reminded to ask different questions.

3.5.2.2 Computerised picture description task

In the first part of this computerised task, students saw appear a picture on the computer screen with a corresponding sentence. They, immediately, heard a male voice read the sentence. Students were given eight seconds to ask a question about the picture and the sentence. (see Appendix 4). They were asked to be fast in their response because once the 8 seconds elapsed, a different picture would appear on the screen and a corresponding sentence would be heard. In this part of the task, students were required to ask a question about the sentence in general.

The second part of the task followed the same procedure. However, instead of asking a question about the sentence in general, students were requested to ask a question about a specific underlined word (as in "my sister hates pasta"). The first part comprised six picture and sentence sets and the second part consisted of four sets, giving a total of 10 questions. This task was different from the "spot-the-difference" task in that it was more structured and, therefore, more likely to measure learners' explicit knowledge although the time constraint (the fact that learners had to respond within a specific time limit after which the pictures along with the sentences disappeared and were replaced by new pictures) may have reduced the learners' chance to think about form.

3.6 PROCEDURE

The current study used a pretest-posttest design to investigate the relationship between uptake and the learning of English third person PDs and questions. One week before the intervention started the researcher met with the participating teachers and provided them with a booklet that contained all the teaching materials including detailed description of the activities, handouts and all necessary photocopies. During the same meeting, the researcher went through the activity descriptions to make sure the teachers understood them. She also answered all the teachers' questions about the activities. She explained the CF techniques they should and should not use by providing examples. Six days later the pre-test was administered. Students were pulled, one student at a time, from their regular class and were taken to a quiet area where the three tasks (picture description, computerised test and spot the difference) were administered. The following day, the experimental intervention started. While doing the activities, the teachers reacted to their students' incorrect uses of the target structures according to the experimental conditions they were assigned to. All the activities were video-taped. One day after the experimental intervention ended, the immediate post-test was administered. During these two different test administrations all learners completed three tasks by working with a research assistant on an individual basis. Each of the tests has a different version from the other, as an example; a different set of pictures was used in the picture description task in each test administration. All tests were audio-recorded. The learner's knowledge and learning of third person PDs and questions were measured in terms of how often these forms were supplied accurately where they

were required (i.e., in obligatory contexts). Table 6 illustrates the different parts of the study.

Table 6: Experimental schedule

Groups	Pre-test (one day before the treatment)	Treatment	Immediate post-test(the day following the treatment)
Implicit recasts And Explicit recasts	Picture description (PDs) Spot the difference (Qs) Computerised test (Qs) Versions 1 of 2		Picture description (PDs) Spot the difference (Qs) Computerised test (Qs) Versions 2 of 2

3.7 DATA CODING

Students' performance on the treatment activities were coded for instances of erroneous use of the target features as well as repair following teacher feedback. Their PD and question use on the pre-test and post-test tasks were coded and scored using an analysis of suppliance in obligatory contexts. Details on the coding procedure are displayed in the following section.

3.7.1 Treatment activities data

The learners' performance on the treatment activities was coded for incorrect uses of the target structures and uptake (i.e., immediate repair) occurrence within CF episodes. As described before, immediate repair is a subset of uptake in which the learner produced successfully the correct form immediately after the teacher s' CF (Lyster & Ranta, 1997). In the first stage of coding, all instances of incorrect use of questions and PDs were identified. Then, teachers' provision of feedback in reaction to these errors was coded as either present or absent. Only episodes in which teachers provided feedback were coded for uptake. Only immediate uptake in the form of repair was coded. Students got one point each time they produced repair. No points were assigned to uptake in the form of needs repair. Feedback and repair following errors on forms that were not targeted in this study were not considered. Examples 8 and 9 show instances of repair production in the explicit recast group.

Example 8

(a) Repair following the recasts on PDs errors.

S: <u>his</u> mom. (PDs error)

R: whose mom, it is the girl's mom, her mom. (Explicit recasts)

S: her mom has glasses, her dad has a guitar. (Repair)

Example 9

(b) Repair following the recasts on questions errors

S: it is the door open? (Qs error)

R: do you mean "is the door open"? (Explicit recasts)

S: is the door open? (Repair)

The rate of repair for each learner was calculated by dividing the number of times a learner produced repair in reaction to feedback on a specific target by the number of times she/he received feedback on that same structure.

3.7.2 Oral production tests data

The learners' production of the target structures (i.e., PDs and questions) was analysed using analysis of suppliance in obligatory conditions.

3.7.2.1 Possessive determiner data (picture description test)

Correct and incorrect uses of his and her were identified from transcripts of the oral data and tallies of that usage were kept. Incorrect uses category comprised four sub-categories in which students used different words at the place of *his* and *her*, incorrect subcategories are: (a) use of definite pronoun *the*, (b) use of *your*, (c) wrong choice of *his* and *her* (i.e., using *his* when it is required to use *her* and vice versa), and (d) non use of PDs (null). Examples 10 to 13 show instances of the four incorrect subcategories. Accuracy was calculated for each student by dividing the number of correct third person PD uses by the total PD use (i.e., both correct and incorrect). The obtained percentages were entered to compute group mean accuracy scores and to run statistical analysis.

Example 10

    (a) use of definite pronoun *the*

    S: the grandmother was helping *the* grandson to dress at night.

Example 11

    (b) use of your

    S: the father gave a present for *your* wife

Example 12

    (c) wrong choice of his and her

    S: the father read a story to *her* daughter

Example 13

    (d) non use (null)

    S: the husband give a present to *wife*

3.7.2.2 Question data (picture differences and computer tests)

Learners' production of question forms was coded using two categories (i.e., correct and incorrect questions). Correct questions category included forms of questions that were grammatical. Incorrect (ungrammatical) questions comprised two subcategories, they are: (a) fronting, i.e., questions in which the students placed an interrogative word like what and does and at the same time did not make the required word order changes (i.e., kept a declarative word order) as in *does the woman is wearing a hat*? and (b) other, which includes the rest of ungrammatical questions except fronting. This category questions in which the students used intonation to ask questions as in *the girl eat apple?* Examples 14 and 15 show occurrences of these two subcategories.

Example 14

    (a) fronting questions

    S: What the woman with glasses is reading?

    S: Do there is a woman behind the car?

    S: Do he reads a newspaper?

Example 15

       (b) other ungrammatical questions

       S: The girl in front of the picture eat an apple?

       S: What colour is the hair of the girl in the street?

       S: there is only one car?

3.8 DATA ANALYSIS

To analyse the data of this quasi-experimental study, quantitative as well as qualitative (descriptive) analysis were applied.

3.8.1 Analysis of the amount of repair and learning of PDs and questions

As explained, the rate of repair per student was calculated by dividing the number of instances in which each individual student repaired his own incorrect utterances by the total number of instances he received feedback. The effects of implicit and explicit recasts on L2 learning was analysed by comparing the two groups' gain scores. Gain scores were obtained by subtracting a student's mean accuracy score on the pre-test from his mean accuracy score on the post-test. As explained before, mean accuracy scores were calculated by dividing the number of correct uses of the correct form by the total use of that same form (i.e., correct and incorrect uses). Once both repair rates and gain scores were obtained, independent t-tests were run to compare implicit and explicit groups' means of repair and learning per target. Statistical analyses were performed with SPSS (Statistical Package for the Social Sciences) Version 14.0 for windows. T-tests on repair and learning were conducted to respond to the first research question which is: Do implicit and explicit recasts result in the same amount of repair and lead to the same learning?

3.8.2 Analysis of the relationship between repair and learning

The relationship between repair on PDs and questions, on the one hand, and the learning of these two target forms, on the other hand, was analysed by looking at the performance of three subgroups within each of the experimental groups, namely

1) students who produced repair in response to CF; 2) students who did not produce repair in reaction to CF; and 3) students who did not participate in the CF episodes. Once these subgroups were established, we analysed their learning performance by simply counting those who achieved gains in their L2 knowledge and those who did not. Table 7 illustrates the analysis procedure for them.

Table 7: Some of the explicit recast group students' questions repair and mean gains

Students	N (CF)	N (repair 0)	N (repair 1-2)	N (repair >2)	Qs repair %	Gains (pretest-posttest)
A1	5			5	100	33,33
A2	2		2		100	5,56
A3	**1**	**0**			**0**	25
A4	0				-	30

So as the table shows, students A1 and A2 repaired all their incorrect questions in reaction to their teacher's reformulation, hence obtaining a repair rate of 100%. These two students represent the first repair subgroup. Student A3, who is part of the second subgroup, received one reformulation and did not produce repair, obtaining a 0% repair rate. Finally, representing the third subgroup is student A4 who did not receive feedback and consequently did not have a chance to produce repair. After forming the three subgroups, we counted the number of students who obtained gains within each of the subgroups to establish the relationship between repair and L2 learning.

CHAPTER 4: RESULTS

This chapter reports the results of the analysis of the effects of implicit and explicit recasts, in terms of uptake production and L2 development, on the learning of possessive determiners and questions and the relationship between uptake in the form of repair and the learning of these two target features. First, the chapter presents the uptake results both descriptively and statistically. Subsequently, it outlines the learning results by comparing the two groups' gain scores. Last, results of the relationship between repair and learning are provided.

4.1. UPTAKE RESULTS

To address the first part of the first research question regarding the effects of implicit and explicit recasts in terms of repair, independent t-tests were conducted for each target feature. The obtained results are presented in the following sections.

4.1.1 Possessive determiner repair results

To evaluate group differences in the amount of repair following implicit and explicit recasts targeting PDs, an independent t-test was conducted with an alpha level offset at .05. Rates of repair of the two groups (i.e., implicit and explicit recasts) on PDs are shown in Table 8. As shown in this table, the explicit recast group produced repair 89.58% of the time, whereas the implicit recast group produced repair 25% of the time. The independent t-test indicated that the difference between the two groups was statistically significant $t\ (1,26) = 4.65$, $p < .001$. It is worthy to note that students who did not participate in the CF episodes were excluded from the analysis of repair, which explains the reduced sample sizes in both groups.

Table 8: Possessive determiner repair

Group	N	Mean	Sig	SD
Explicit recasts	12	89.58	0.000*	29.11
Implicit recasts	16	25	0.000	40.82

4.1.2 Questions repair results

Rates of question repair for the two groups (i.e., implicit and explicit recasts) are presented in Table 9. As exposed in the table, the overall rate of repair for the implicit recast group was 0.83% and that of the explicit recasts group was 90.47%. The difference in the repair rates between the groups was statistically significant t $(1,39) = 13.22$, $p < .001$.

Table 9: Question repair

Group	N	Mean	Sig	*SD*
Explicit recasts	21	90.47	0.000*	30.07
Implicit recasts	20	0.83	0.000	3.72

4.2. LEARNING RESULTS

As explained in the analysis section, gain scores were calculated to compare the effects of the two experimental conditions on the development of possessive determiners and questions and to answer the second part of the first research question (i.e., the effects of implicit and explicit recasts on L2 learning). Independent t-tests were conducted to determine the statistical significance between the two groups' overall development (i.e., the gain scores for all three tasks combined) as well as their development on each of the three individual tasks administered to measure L2 development (i.e., picture description, picture difference, and computerised picture description). The following section presents the results of overall development followed by the results from each individual test.

4.2.1 Overall development

Overall learning results (see Table 10) indicate that the explicit recasts group obtained higher overall gain scores than the implicit recasts group. An independent t-test revealed that the difference between the two groups was statistically significant t $(1, 51) = 2.78$, $P = .007$.

Table 10: Overall group gains

Group	N	Mean	Sig	SD
Explicit recasts	27	48.06	.007*	17.88
Implicit recasts	26	36.84	.007	10.26

4.2.2 Possessive determiner development (picture description test)

As explained in the analysis section, tallies of correct and incorrect uses of *his* and *her* were kept and PD accuracy was operationalised as percentage of correct PD use in obligatory contexts (i.e., both correct and incorrect). The obtained ratios were entered to compute group mean accuracy scores and to run statistical analyses. Results of the two groups on both test administrations (i.e., pre-test and post-test) are shown in Table 11.

Table 11: Picture description task mean scores

		Pre-test		Post-test		Gain score		
Group	N	Mean	SD	Mean	SD	Mean	Sig	SD
Explicit	27	.52	.37	72.00	25.26	69.86	.806	28.33
Implicit	26	.63	.22	72.07	16.65	71.44	.805	16.59

An independent t-test indicated that the difference between the two groups in terms of PD gain scores was not statistically significant $t (1,51) = - .25$, $P = .806$.

4.2.3 Question development

Question development was measured with three tasks, namely a picture difference task and a computerised picture description task. Results from each of these tasks are presented in the following sections.

4.2.3.1 Picture differences test

The groups' mean accuracy scores at the pre-test and the post-test are provided in Table 13. As shown in Table 12, the mean scores from the pre-test revealed that the implicit recast group's students were more accurate than the explicit group in their use of English questions. However, by the time of the post-test, the explicit group caught up with and even surpassed the implicit group. An independent

t-test indicated that the difference between the two groups' gain scores were statistically significant $t\,(1, 51) = 3.58, P = .001$.

Table 12: Picture differences task mean scores

		Pre-test		Post-test		Gain score		
Group	N	Mean	SD	Mean	SD	Mean	Sig	SD
Explicit	27	22.51	21.8	50.39	26.2	28.32	0.001*	24.08
Implicit	26	34.43	31.6	39.44	28.9	5	0.001	23.28

4.2.3.2 Computerised picture description task

Results pertaining to both groups' performance on the computerised picture description task (see Table 13) indicate that the implicit recast group's performance at the pre-test was superior to the explicit recast group's performance. However, the latter surpassed the former group by the time of the post-test. An independent t-test revealed that the difference between the two groups' gain scores were statistically significant $t\,(1,51) = 4.55, p < .001$).

Table 13: Computerised picture description task mean scores

		Pre-test		Post-test		Gain score		
Group	N	Mean	SD	Mean	SD	Mean	Sig	SD
Explicit	27	22.84	17.1	46.02	23.5	24.17	.000*	18.38
Implicit	26	30.03	21.4	29.52	26.2	-.5	.000	21.03

4.3 RESULTS OF THE RELATIONSHIP BETWEEN REPAIR AND LEARNING

As described in the above chapter, the relationship between repair and learning was analysed for each class depending on a chart that presents the number of students' CF times they received on a target form, their subsequent repair times and rates on the same target. The table presents also mean gain scores from pretest to immediate posttest for each student. Each class is presented with this table the explicit recast class then the implicit recast class respectively. The relationship

between targets repair and targets learning were analysed based on comparing targets mean gain scores between three subgroups, [those who repaired], [those who did not repair] and [those who did not receive CF]. The relationship between repair and learning was analysed also by comparing two other subgroups; [those who repaired from 1-2 times] and [those who repaired more than two times]. This analysis procedure was done for each of the target structures (i.e., PDs and questions) in each class.

4.3.1 Results of the relationship between PDs repair and PDs learning (Picture description test)

The results of the relationship between PD repair and PD learning for the explicit recast group and the implicit recast group are presented in the following section. The results of each class are summarised in a table that presents PD repair occasions, PD repair rates and PD mean gains for each student. The results of the explicit recast group are presented at the beginning followed by the implicit recast group s' results.

4.3.1.1 Explicit recast group's results of the relationship between PDs repair and PDs learning

Table 14 shows the number of CF episodes targeting PDs, PD repair occasions, PD repair rates and PD gains for each student in the explicit recast group.

Table 14: Individual students' repair and gains in the explicit group

Explicit recasts Students	N (CF)	N (repair 0)	N (repair 1- 2)	N (repair < 2)	PDs repair %	PDs gains (pretest - immediate posttest) %
A1	5			5	100	62,5
A2	0	-	-	-	-	44,79
A3	4			3	75	39,64
A4	0	-	-	-	-	76,78
A5	0	-	-	-	-	74,54
A6	0	-	-	-	-	77,78
A7	0					20
A8	**1**	**0**			**0**	**99,46**
A9	1		1		100	39,64
A10	0	-	-	-	-	16,47
A11	0	-	-	-	-	85,21
A12	0	-	-	-	-	80
A13	0	-	-	-	-	99,29

A14	1		1		100	99,09
A15	1		1		100	65,67
A16	4			4	100	40
A17	1		1		100	99,38
A18	1		1		100	82,61
A19	0	-	-	-	-	68,9
A20	1		1		100	91,48
A21	0	-	-	-	-	72,73
A22	0	-	-	-	-	74
A23	1		1		100	79,13
A24	0	-	-	-	-	99
A26	0	-	-	-	-	0
A27	0	-	-	-	-	99,13
A28	1		1		100	99,17

Table 14 indicates that 12 out of 27 students participated in the CF episodes targeting PDs. From those who received CF, 11 students repaired their non-target-like PDs, while only one student did not produce any repair. The results of the three subgroup mean gains (i.e., those who repaired, those who did not repair, and those who were not targeted by the CF episodes) revealed that in general the 10 students who produced uptake in the form of repair on PDs obtained gain means that ranged between 39% and 99%, yielding a total mean of 72.6. However, the table also indicates that the one student who did not produce repair also obtained some significant gains (99.5%). The obtained results also indicate that the students who were not directly involved in the CF episodes benefited from the feedback provided to their peers (67.4%). One more finding is note worthy. Among those who generated repair, three students got more than two occasions to repair their PD errors, that is; from 3 to 5 times, while the remaining seven students produced repair 1 to 2 times. While the former group obtained a mean gain of (47.38%), the latter recorded a mean gain of (82%). The results of the gain scores for the obtained three subgroups (i.e., those who received feedback and repaired, those who received feedback and did not repair, and those who did not receive feedback) are illustrated in Figure 4.
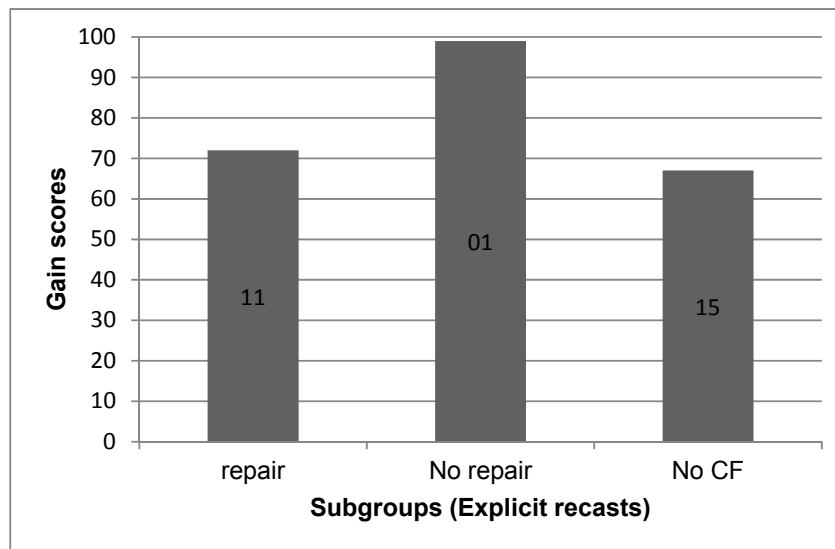
Figure 4: Explicit recast subgroups and PD mean gains

4.3.1.2 Implicit recast group's results of the relationship between PDs repair and PDs learning

Table 15 presents the number of PD corrective episodes, PD repair occasions, PD repair rates and PD gains for each student in the implicit recast group.

Table 15: Individual students' repair and gains in the implicit group

I-R Students	N (CF)	N (repair 0)	N (repair1-2)	N (repair < 2)	PDs (repair %)	PDs gains (pretest-immediate posttest) %
B1	2		2	0	100	58
B2	**2**	**0**		0	**0**	**77,28**
B3	**2**	**0**		0	**0**	**57,33**
B4	**1**	**0**		0	**0**	**90,96**
B5	**0**	-	-	-	-	49,85
B6	**1**	**0**		0	**0**	**61,86**
B7	**1**	**0**		0	**0**	**42,11**
B8	**0**	-	-	-	-	61,35
B9	1		1	0	100	99,23
B10	0	-	-	-	-	79,41
B11	1		1	0	100	49,5
B12	0	-	-	-	-	82,67
B13	**2**	**0**		0	**0**	**44,62**
B14	**2**	**0**		0	**0**	**74,25**
B15	**1**	**0**		0	**0**	**62,08**

B16	0	-	-	-	-	74
B17	0	-	-	-	-	88,09
B18	0	-	-	-	-	66,03
B19	0	-	-	-	-	70,65
B20	**1**	**0**		**0**	**0**	**89,11**
B21	0	-	-	-	-	79,43
B22	2		1	0	50	76,59
B23	2		1	0	50	77,22
B24	0	-	-	-	-	92,88
B25	**1**	**0**		**0**	**0**	**53,62**
B26	**4**	**0**		**0**	**0**	**99,44**

For the implicit recast group 16 of 26 students participated in the CF episodes targeting PDs. Only 5 of these 16 students produced repair. The remaining 11 students did not produce any repair or uptake for that matter. Results indicate that: 1) the students who produced repair achieved some gains (72.1%), 2)the students who did not repair their incorrect productions following the teacher's implicit reformulations improved as well (68.42%) and, 3) students who did not participate in the CF episodes improved (74.44). It is important to note that students did not get the chance to produce repair on more than two occasions in the implicit recast group, which was not the case in the explicit group. Figure 5 illustrates the obtained findings.
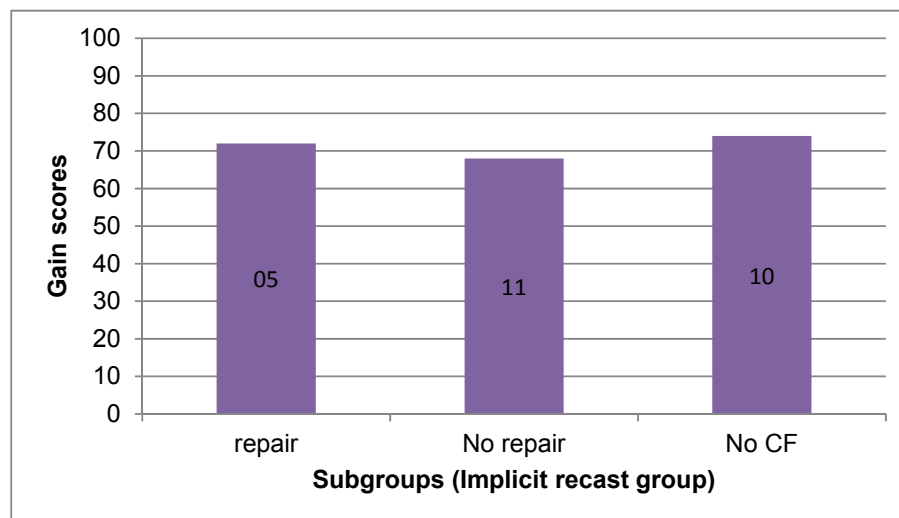

Figure 5: Implicit recast subgroups' PD mean gains

4.3.2 Results on the relationship between question repair and overall question learning (computer task + picture difference task)

In the following section, the results on the relationship between question repair and overall question learning (i.e., results pertaining to the computer task and the picture difference task together) are presented for the two experimental groups.

4.3.2.1 The relationship between question repair and question learning for the explicit reformulation group

Table 16 describes the number of CF episodes targeting questions, question repair rates and question mean gains for students in the explicit recast group.

Table 16: Repair and gains for the explicit reformulation group

Student	N (CF)	N (repair 0)	N (repair 1- 2)	N (repair < 2)	Qs repair %	Gains (pretest - immediate posttest) %
A1	5			5	100	48,485
A2	1	0			0	12,5
A3	2		2		100	6,37
A4	1		1		100	30,77
A5	1		1		100	34,285
A6	3			3	100	14,445
A7	0	-	-	-	-	11,11
A8	2		2		100	21,11
A9	1		1		100	35
A10	3			3	100	5
A11	0	-	-	-	-	8,375
A12	2		2		100	22,22
A13	1		1		100	45
A14	1		1		100	50
A15	2		2		100	20,695
A16	1		1		100	11,665
A17	6			6	100	33,335
A18	0	-	-	-	-	21,43
A19	2		2		100	30
A20	2		2		100	37,5
A21	0	-	-	-	-	59,285
A22	0	-	-	-	-	20,7
A23	0	-	-	-	-	30
A24	1		1		100	18,57
A26	4			4	100	28,89
A27	1		1		100	27,12
A28	1	0			0	25

As illustrated in Table 16, 21 out of 27 students participated in the explicit recast episodes. Nineteen out of these 21 students repaired their non-target like uses of questions. Results indicate that 1) students who repaired their incorrect interrogative productions achieved some accuracy gains (25.9%); 2) students who did not produce repair achieved accuracy gains (18.75%); and students who did not participate in the CF episodes obtained comparable gains (25%.2%). Results also reveal that students who had more than two occasions to repair their question forms (i.e., five students who produced repair between 3 to 6 times) obtained less mean gains (26.031%) than those (14 students) who repaired 1 to 2 times (27.89%). Figure 6 illustrates those findings.
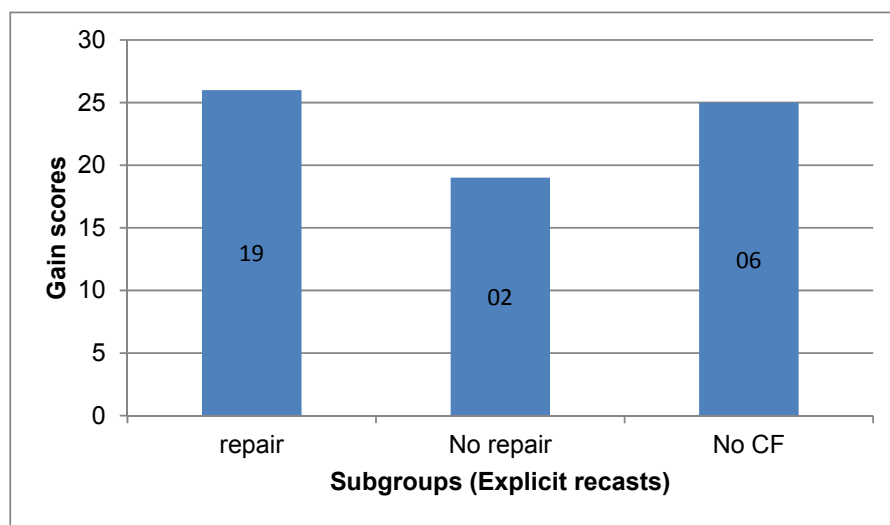

Figure 6: Explicit recast subgroups' overall question mean gains

4.3.2.2 The relationship between question repair and question learning for the implicit reformulation group

Table 17 presents the number of interrogative CF episodes, question repair rates, and mean gains for each student in the implicit recast group.

Table 17: Question repair and question mean gains for the implicit recast group

Student	CF (Q)	0 repair	Repair 1-2	Repair < 2	Repair%	Gains (pretest - immediate posttest) %
B1	1	0			0	-1,665
B2	6		1		16,67	5,955
B3	1	0			0	8,635
B4	0	-	-	-	-	-8,025
B5	4	0			0	12,78
B6	6	0			0	5
B7	1	0			0	14,525
B8	4	0			0	13,89
B9	1	0			0	7,5
B10	0	-	-	-	-	6,95
B11	5	0			0	-18,575
B12	0	-	-	-	-	16,11
B13	0	-	-	-	-	2,035
B14	2	0			0	-6,665
B15	5	0			0	3,335
B16	1	0			0	3,46
B17	1	0			0	1,665
B18	5	0			0	-15,16
B19	0	-	-	-	-	-14,325
B20	1	0			0	-18,79
B21	1	0			0	25
B22	0	-	-	-	-	5
B23	2	0			0	6,27
B24	1	0			0	21,665
B25	5	0			0	-8,845
B26	1	0			0	-9,285

Table 17 indicates that 20 out of 26 students received implicit recasts targeting incorrect uses of questions in English. Nineteen of those who received implicit recasts did not repair. The mean gain of this subgroup was **2.35%**. Only one student from those who received CF repaired his incorrect production. His/Her mean gain score was 5.95%. The remaining six students who did not participate in the CF episodes obtained an overall mean gain of 1.29% (see Figure 7 for an illustration of the obtained results).
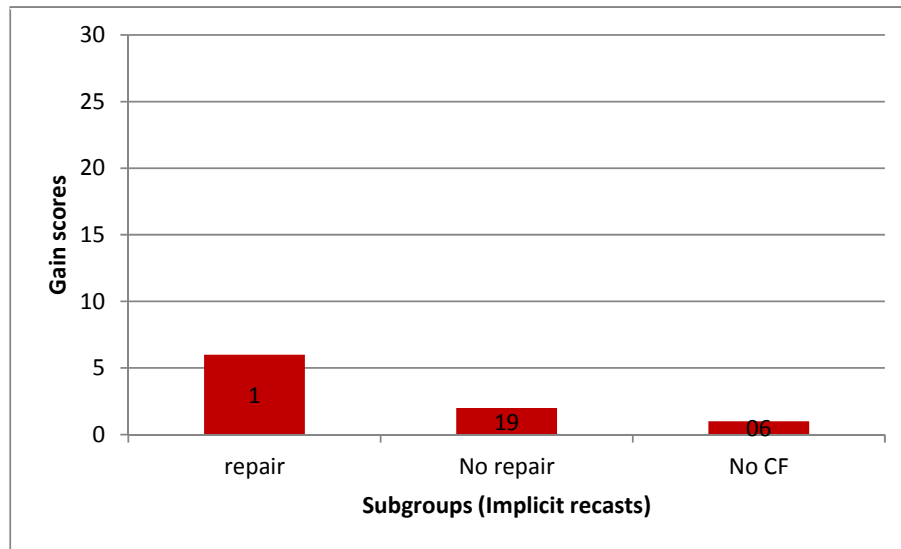
Figure 7: Implicit recast subgroups' overall question mean gains

CHAPTER 5: DISCUSSION

With the ongoing interest in the effects of different CF techniques and in light of some of the theoretical debates that emerged from such interest and resulting research, the present study set out to investigate the effects of implicit and explicit recasts on the repair and development of PDs and questions in ESL as well as the relationship between repair and development. After presenting the obtained results in the previous chapter, the present chapter discusses the findings with respect to each of the two research questions. It also presents the pedagogical implications of the results and outlines the limitations of the present study and directions for future research on CF in SLA.

5.1. SUMMARY AND INTERPRETATION OF THE FIRST RESEARCH QUESTION RESULTS

As explained above, this study aimed to compare the effects of implicit and explicit recasts on repair and L2 development. Results indicated that the explicit recast group significantly outperformed the implicit recast group on repair rates, and this was for each of the two targets (i.e., PDs and questions). The rates of PD repair for the explicit and the implicit recast groups were 89.58% and 25% respectively and 90.47% and 0.83% respectively for questions. In terms of learning, the obtained findings revealed that the explicit recast group significantly outperformed the implicit recast group when it comes to question development. This was not the case for PDs. In fact both groups improved their knowledge of PDs equally well.

The two groups' repair results corroborate the findings reported by Sheen (2006) and Lyster (1998a). For instance, isolated recasts as well as recasts that included intonation clues led to higher learner uptake and repair in Sheen (2006). French immersion students were also found to produce more uptake and repair in reaction to isolated recasts in Lyster (1998a). The superior rates of repair in the explicit recast group can be largely attributed to their saliency when compared to implicit recasts. As explained by Lyster (1998a), recasts by nature can be quite ambiguous because they are quite similar to non-corrective repetitions in terms of form and frequency. Both can be isolated or integrated and both are used quite

frequently in L2 classes. Given these similarities, students can treat recasts as non-corrective repetitions (i.e., another way of saying the same thing) and may miss their corrective intent especially in meaning oriented classrooms. That is, recasts can be seen as reactions to the veracity of the students' productions and not as reactions to their well-formedness. This can be the case especially for implicit recasts because they tend to be integrated and because they do not include any explicit signals that help the students identify the intent behind their provision. The corrective intent behind explicit recasts, on the other hand, may be easier to detect because the teacher adds clues (e.g., linguistic/acoustic clues and/or isolation) that are likely to differentiate them from non-corrective repetitions. These clues render explicit recasts more salient and easier to detect. This difference in saliency also explains the repair results. Because explicit recasts are more salient and consequently easier to notice than implicit recasts, they result in more repair rates.

Learning results showed that implicit and explicit recasts' learning effects depended on the target feature in the sense that explicit recasts were more effective than implicit recasts with respect to questions and that both CF conditions were equally effective with PDs, echoing the results reported by Long, Inagaki and Ortega (1998), Iwashita (2003), and Ishida (2004). Long, Inagaki and Ortega's study indicated that recasts had positive effects on the development of adjective ordering and adverb placement but not with fronted locative construction and object topicalization. The fact that explicitness benefited the learning of questions more than implicitness but that both conditions benefited PDs comparably can be attributed to the differential "functional transparency" (Dekeyser, 2005) of both target features. Dekeyser (2005) explained that grammatical forms differ in levels of difficulty and that the transparency, or lack thereof, of the relationship between form and its function (i.e., functional transparency) is one factor that contributes to such difficulty. That is, if the relationship between form and its function is transparent, the grammatical structure is easier to learn. However, if that relationship is opaque, then the form becomes more difficult to learn.

Given that PDs contribute to the meaning of the utterance in which they are inserted in the sense that an incorrect use of *his* or *her* changes the meaning of the utterance, then we can talk about a transparent relationship. This is not the case for question formation. Students can always convey their intended meaning (i.e., asking

a question) regardless of the well formedness of their questions. All they have to do is add rising intonation at the end of their utterance to show the interrogative nature of their utterance. They do not need to invert the subject and the verb to make their interlocutors understand that they are asking a question. This means that subject verb inversion does not contribute to the meaning of interrogation in English, rendering the relationship between their use and function opaque. Although question in which students keep the declarative order and add rising intonation are grammatically inacceptable, they, nonetheless, convey the learners' intended meaning. So the teacher's reformulation in this situation maybe been seen as another way of saying the same thing and expressing the same meaning.

The transparency of the relationship between form and its meaning in the case of PDs allowed learners to benefit from recasts regardless of their nature (i.e., whether implicit or explicit). Students were more able to detect the teachers' reformulations in both conditions because the two sentences (the students' incorrect sentence and the teachers' reformulations) conveyed different meanings. In other words, the teachers' reformulations, be it implicit or explicit, could not be seen as other ways of saying the same thing because the two versions (the student's incorrect version and the teacher's reformulation) conveyed different meanings. Such detection positively affected their PD knowledge. The situation was different with questions. Given that the relationship between question forms and their meaning was opaque, students needed extra help to detect their teachers' reformulations. Such help was provided via prosodic and/or linguistic clues in the explicit recast group and were absent in the implicit recast group. Consequently, students in the explicit recast group benefited more than their peers in the implicit recast group. These findings echo DeKeyser (2005) who argued that instruction effects are moderated by the difficulty level of the target structure in the sense that difficult forms may benefit from some instructional interventions more than others. The present study seems to indicate that forms which have a transparent relationship with their meaning benefit from implicit and explicit recasts equally and that forms which have an opaque relationship with their meaning benefit more from explicit reformulations especially in a meaning oriented context. As explained in the methodology section, the present study was carried out in intensive ESL classes that tend to be highly communicative barely focusing on form (Ammar & Spada, 2006).

5.2. SUMMARY AND INTERPRETATION OF THE SECOND RESEARCH QUESTION RESULTS

This research question was formulated to investigate the relationship between repair and learning. More precisely, it investigates if any relationship exists between PD and question repair, on the one hand, and PD and question learning, one the other.

Corresponding to the relationship between PD repair and PD learning, the results revealed that those whose errors were reformulated and who repaired their own incorrect renditions (i.e., 11 students in the explicit group and 5 in the implicit group) obtained some gains in their PD knowledge, 72,6% and 72% for each group respectively. However, results also showed that the one student who did not produce repair after receiving explicit reformulations and the 11 students who behaved similarly in the implicit group achieved important gains in their PD knowledge as well, 99% and 42% respectively. More importantly, results also revealed that students who did not participate in the CF episodes (15 in the explicit group and 10 in the implicit group) improved as well, achieving gain scores of 67% and 74% respectively. So what do all these findings mean?

Receiving reformulations, implicit or explicit regardless of repair, seems to have helped students to notice the gap between the incorrect forms they produced and their correct alternatives. However, the findings from the students who did not produce repair and did not participate in the CF episodes and who, nevertheless, improved indicate that 1) absence of uptake does not mean absence of noticing and eventually L2 development (Mackey and Philp, 1998) and more importantly 2) students do not need to be active participants in CF to benefit from it. On the contrary, students can benefit from feedback by being in the back seat and by simply observing the others being corrected, a finding that was reported by Havranek (2002). As explained by Havranek, these students benefit because the fact that they are not directly involved in the CF episode gives them the necessary "time and opportunity to formulate a silent response similar to the one being corrected to match it with the correction" (p.269). In other words, their non-participatory status gives them the chance to process the reformulation, assuming that they have noticed it of course if noticing is really an inevitable stage in L2 development as claimed by Schmidt (2001), and eventually benefit from it. Their status may also have taken out

the pressure factor that comes with receiving feedback. As claimed by Krashen (1985) and Truscott (1996), being corrected puts the students in the hot seat and may be stressful, conditions that may prevent learning from taking place. Once this stress and pressure are attenuated and preferably eliminated, as is the case with the students who are not directly involved in the CF episodes, students may be in the ideal affective condition to benefit from feedback. This certainly remains to be empirically tested. Because the number of students in the different subgroups is not comparable, caution is warranted while interpreting the obtained results.

Analyses of the question data revealed that students who repaired their questions after receiving reformulations (19 in the explicit group and 1 in the implicit group) achieved the highest gain scores of 25.9% and 5.95% respectively, indicating, therefore, a possible positive relationship between repair and learning particularly for the explicit recast group. Loewen (2005) and Philp and loewen (2006) reported similar results about the significance of uptake and repair in CF episodes and L2 learning. The 2 students who did not repair in the explicit group and the 19 students in the implicit group achieved gain scores of 18.75% and 2.35% respectively. Finally, students who did not directly participate in the CF episodes, 6 in the explicit group and 6 in the implicit group, improved by 25% and 1.29% respectively.

These results -especially for the explicit recasts group- indicate a possible positive link between uptake and learning and this would signify that repair could facilitate L2 learning (Lightbown, 1998). However, and yet again, absence of uptake should not be equated with lack of noticing and eventually learning because students who did not repair and who did not participate in the CF episodes improved. More importantly, analyses revealed that students who produced more than two repairs in reaction to CF on the same feature (i.e., 7 students for PDs and 14 students for questions) improved less than their peers who produced repair on 1 or two occasions. That is, 3 students got the chance to repair their PD errors on more than two occasions and 5 students did so with question errors in the explicit recast group. At a first glance, this finding ambiguates the relationship between uptake and learning because if, as assumed by some, uptake in the form of repair is a sign of noticing and one positive step in the direction of learning, one would expect those who got the chance to produce such repair more often to be the biggest beneficiaries. However, this did not turn out to be the case. This can be attributed to the nature of the

processing behind that repetitive repair. Students who got the chance to repair quite frequently did not benefit from the provided reformulations despite their explicitness because they were not processing the feedback they kept getting from their teacher and that could explain why they kept making the same error over and over again. If the students were not processing the feedback they were provided, i.e., their repair was some kind of parrot repetition of their teacher's reformulation (Gass, 2003), one could not expect their L2 knowledge to improve, which seems to be the case here. These students may have been repairing their original utterances in reaction to their teacher's reformulations because they knew that their teacher was expecting some kind of answer. This message may have been conveyed by the explicit clues the teacher was providing. In other words, their repair may have been used as a way to keep the conversation going and to meet their teacher's expectations. That is, it may be void of any processing or after thought. This certainly is speculative and further research is certainly required to bear this argument.

5.3. PEDAGOGICAL AND TEACHING IMPLICATIONS

Seven major findings have emerged from the current study; (1) explicit recasts seem to be more effective than implicit recasts in leading to immediate repair; (2) explicit and implicit recasts are equally effective with PD development; (3) explicit recasts are more effective than implicit recasts with question development; (4) repair can be positively related to question learning particularly for the explicit recast group; (5) learners' knowledge can develop even when they do not produce repair immediately after receiving recasts; (6) repair is a matter of quality not quantity. That is, students who produced repair more than two occasions performed less than those who produced repair on 1 or 2 occasions; and (7) learners who do not directly participate in CF episodes can achieve knowledge gains. All these findings can be used to inform ESL and L2 teaching in general.

First and as explained in the first chapter, descriptive research has shown that recasts are the CF technique the most frequently used in second and foreign language classrooms. Apart from being a natural part of speech, recasts are favoured because they are unobtrusive and allow teachers to keep the conversation flowing. They can be compared to a two-in-one-deal in the sense that recasts allow teachers to continue working with meaning and at the same time to target the formal properties of the

language. The same descriptive research showed that recasts can take different forms rendering them more or less explicit. The obtained findings indicate that if teachers want to continue using recasts frequently, they may need to make them more explicit. Even though the differential effects of implicit and explicit recasts have not been thoroughly examined so far, with the exception of the present study and Nassaji (2009), the existing findings indicate that explicit recasts are more effective than implicit recasts in terms of repair and learning.

Teachers have to keep in mind that their choice of CF techniques needs to be made according to the target L2 feature. If the L2 form has a transparent relation with its meaning, as is the case with PDs in English, then any form of reformulations or feedback may be effective. However, if that relationship is opaque, as it is the case with questions, then teachers should consider being more explicit and providing extra clues to help their students especially in meaning oriented programs. Doughty and Varela (1998) reported positive outcomes from reformulating students' past tense use, a form that is classified as a difficult L2 form given the ambiguity between its form and meaning. A thorough analysis of the provided recasts indicated that they were highly explicit. Adding explicit clues and help may be especially necessary for low proficiency learners. Ammar and Spada (2006) reported that beginner ESL learners did not benefit as well as high proficiency ESL learners from recasts.

In terms of the relationship between repair and L2 learning, this study revealed a possible relationship between repair and immediate learning of questions particularly for the explicit recast group. This result would indicate that uptake (i.e., repair) can facilitate the learning of questions and that teachers need to invite their students to react to feedback once it is provided. However, they also need to pay attention to the frequency with which their students keep making the same error over and over again. Frequent occurrence of the same error despite the reformulations and repair times that followed it may be a sign that the student may need extra help or even a different CF technique. For instance, if feedback that provides the correct form, as it is the case with recasts in the current study, be it explicit or implicit, does not work, the teacher should consider using a different technique. Research (Ammar & Spada, 2006; Ammar, 2008; Lyster, 2004) showed that prompts – techniques that push the learners to self-correct- are more effective than recasts. Ammar and Spada

recommend that teachers use a variety of techniques to maximise learning chances for all students.

Last but not least, the learning results of the students who did not play an active role in the CF episodes show that teachers do not need to correct every single student in their class. Feedback has been attacked on the ground that it is not feasible to correct everyone in class (Truscott, 2009). It is certainly illogical to expect teachers to correct everyone in class but that should not be a reason to abandon feedback because even those who are not targeted by the feedback can benefit from it and they sometimes do so better than those who are being corrected.

5.4. LIMITATIONS AND FUTUR RESEARCH

One characteristic of this study was the absence of a control group (i.e., one which was not exposed to the treatment and that did not receive any feedback), which is considered as a limitation studying experimental research. A control group could have shed light on the differential effectiveness of CF versus no CF and more importantly controlled all extraneous variables. Given that there is no control group, the obtained results cannot be attributed to the experimental treatment only and as a result several factors could interfere with these results, endangering the internal validity of the study. Extraneous variables like history, testing and maturation could have contributed to the reported results. A typical measure to attenuate the effects of such research design problem is to look at knowledge gains instead of post-test versus pre-test results, a measure that has been adopted in the present study.

Another variable that the study did not control for and that might limit the significance of the reported findings is teacher effect. The fact that there is one single teacher per experimental condition may have attributed to the obtained results because the behaviour of one teacher may have altered the outcomes. It is always preferable to have more than one teacher per condition to control for teacher effect.

Another limitation is related to the way in which the relationship between repair and learning was analysed and that is due to the nature of uptake data. Students in this study did not get equal chances to participate in the activities and some of them by virtue of participating more than others made more errors, received more feedback and had more chances to repair their incorrect productions. That is,

students did not have the chance to produce uptake equally, which means that they did not contribute the group's repair mean equally. Consequently, it was impossible to run any statistical analyses on the uptake data to determine the significance of the relationship between repair and L2 learning. Data were analysed descriptively instead. Even though the present descriptive analyses revealed some interesting patterns, not much can be said about the strength of the obtained relation, which can be seen as a weakness. However, unless this study is conducted in a laboratory context were students' production is tightly controlled, it would be impossible to solve the present research issue. Notwithstanding, it is of great importance to continue investigating this research issue in classroom settings because of the ecological validity of such research. This research should keep in mind how problematic it is to interpret uptake data. Uptake is a complex measure and needs to be interpreted with caution because one learner who produced one repair with one opportunity for repair getting therefore a 100% uptake rate is not necessarily better than another learner who gets 66% after producing two repairs in reaction to three feedback instances.

This study indicated an eventual effect of target features. It is of great importance to further pursue this research aspect by investigating a variety of L2 features. Individual differences are another important variable that deserves being at the centre of CF research. The current study showed that within each of the three subgroups (those who produced repair, those who did not, and those who did not take part in the CF episodes) students benefited differently which gave place to big standard deviation values. One reason behind this big variability may have to do with the different characteristics of the participating learners. Trofimovich et al. (2007) showed that the effects of recasts are moderated by a cohort of attention and memory variables. More research is certainly needed to investigate the present two research questions in relation to individual differences.

CONCLUSION

There was a debate over the role of uptake and repair in L2 learning. There are those who advocated that repair could facilitate L2 learning and could indicate noticing, whereas, others contradicted this assumption. The current study investigated the relationship between repair and L2 learning and looked at the differential effectiveness of implicit and explicit recasts. More specifically, it aims to uncover 1) how implicit and explicit recasts affect uptake (repair) and the learning of PDs and questions in ESL; and 2) how uptake in the form of repair relates to L2 development.

A pre-test-immediate post-test design was employed. Two ESL classes were assigned to one explicit recast group and one implicit recast group. During the experimental treatment, all classes performed communicative activities which elicited the targeted structures and the teachers provided CF in response to students' errors on those same features depending on the experimental condition they were assigned to. Treatment activities were analysed for uptake rate for each learner. The tests were analysed to identify each student's accuracy gain scores from pre-test to immediate post-test. Independent t-tests were run to compare the two groups' repair rates and gain scores and descriptive analyses were undertaken to shed light on the relationship between repair and L2 learning.

In relation to the different effectiveness of implicit and explicit recasts, the results revealed that explicit recasts had superior effects over implicit recasts on both uptake and learning. However, the effects of recasts on learning seemed to be moderated by the nature of the target in the sense that the superiority of the explicit recast effects were obtained with questions but not PDs. Results about the relation between repair and learning revealed that learner repair could have a positive effect on immediate learning of questions. However students who produced repair on more than two occasions performed less than those who received feedback and produced repair once or twice. Results also indicated that students who did not produce repair progressed and so did those who did not participate in the CF episodes. This result may imply, as stated by some in the field, that presence of uptake may be a positive step in the right direction but that its absence should not be equated with lack of

noticing and eventually learning. Caution is however warranted given that the numbers of students who repaired is clearly superior to those who did not. Given the inequality of the number of students per sub-groups, the results should be interpreted with caution. Results in relation to the second research question also showed that students who did not participate in CF episodes did achieve gains that are sometimes comparable to those who produced repair. This finding has an important pedagogical weight in the sense that teachers do not have to correct everyone in class before expecting change. Change can happen by virtue of providing some corrections to some students while others watch. Another important pedagogical implication of the obtained results is that teachers need to make their reformulations more explicit especially in activities in which communication of meaning is the first priority, as it is the case in the present study. Hence, it could be said that explicit feedback leads to more repair and learning particularly for questions.

More research is certainly required to further investigate the current research questions. Among other things, such research needs to look at the moderating effect of individual differences on the relationship between uptake and learning. It will inform researchers and teachers about which students benefit from producing repair and which do not. Other research questions need to be addressed. For instance, very little has been done to investigate the timing variable (i.e., if CF should be provided immediately once an error occurs or at the end of an activity or lesson). Given that this research question can be of great importance to researchers and especially teachers, researchers are invited to design research that properly investigates this important variable.

END NOTES

[1] Three positions have been formulated in relation to the place of grammar in communicative language teaching, namely the strong, median and weak positions which accord little to more attention to grammar respectively.

[2] Perception has been defined by Schmidt (1990) as the "mental organisation and the ability to create internal representations of external events" (p. 132).

[3] Intake has been defined by Van Patten (2004b) as the linguistic data actually processed from the input and held in working memory for further processing.

[4] (e.g., She prepar*ed* the exam *yesterday*). In this example learners attend more to *yesterday* more than *ed* past marker to derive time.

[5] (e.g., *She* like**s** McDonald), hear third person singular **s** is redundant because we already derive the subject *She* that encodes the same meaning as **s**. Third person singular **s** is redundant because the meaning (third person singular) is conveyed by the pronoun *She*).

[6] Other means include input enhancement, input flood and grammar teaching in its inductive and deductive forms.

[7] Collins et al. distinguished three types of ESL programs they are: 1) Distributed: in which students were exposed to English about two hours per day above 10 months of one school year. In the remaining hours, learners were taught regular Grade six curriculum in French. 2) Massed: in which students spent for the most part of every school day in ESL classes for five months of one school year, while just few courses continue to be taught in French. The remaining 5 months are devoted to regular Grade six curriculum taught in French. 3) Massed plus: in which students spent five months in all day intensive ESL classes. In this programme, all students were in Grade six and did intensive ESL during either the first or the last five months of the school year. Moreover, exposure to English was enhanced through other places in the school like cafeteria.

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APPENDIXES

APPENDIX 1

CERTIFICAT D'ÉTHIQUE

Université
de Montréal

COMITÉ PLURIFACULTAIRE D'ÉTHIQUE DE LA RECHERCHE (CPÉR)

CERTIFICAT D'ÉTHIQUE

Le Comité plurifacultaire d'éthique de la recherche a examiné le projet de recherche intitulé :

« Constraints on noticing and benefiting from corrective feedback: Variable effects of linguistic and individual learner variables »

Soumis par : **Ahlem Ammar**
Organisme : **CRSH**

Le Comité a conclu que le projet respecte les normes de déontologie énoncées à la « Politique sur la recherche avec les êtres humains » de l'Université de Montréal.

Tout changement anticipé au protocole de recherche doit être communiqué au CPÉR qui devra en évaluer l'impact au chapitre de l'éthique afin de déterminer si une nouvelle demande de certificat d'éthique est nécessaire.

Toute interruption prématurée du projet ou tout incident grave devra être immédiatement signalé au CPÉR.

APPENDIX 2

FORMULAIRE DE CONSENTEMENT

Chercheur: Ahlem Ammar, Professeure, Faculté de l'Éducation, Université de Montréal

La participation de votre enfant à cette recherche se fera sur deux niveaux. En premier lieu, il/elle participera à une gamme d'activités pédagogiques durant lesquelles il/elle recevra différentes techniques de correction des erreurs. Ces activités, douze en tout, seront conçues par la chercheuse elle-même en collaboration avec l'enseignant(e) de votre enfant et cibleront des structures grammaticales jugées problématiques pour des francophones apprenant l'anglais comme langue seconde. En deuxième lieu, quelques tâches évaluatives seront administrées à votre enfant pour mesurer l'effet de ces techniques

Les renseignements liés à votre enfant demeureront confidentiels. Chaque participant à la recherche se verra attribuer un numéro et seul le chercheur principal aura la liste des participants et des numéros qui leur auront été attribués.

En participant à cette recherche, votre enfant pourra contribuer à l'avancement des connaissances et à l'amélioration des pratiques pédagogiques. Sa participation à la recherche pourra également lui donner l'occasion de mieux connaître ses capacités.

La participation de votre enfant est entièrement volontaire. Il/elle est libre de se retirer en tout temps sur simple avis verbal, sans préjudice et sans devoir justifier sa décision.

B) CONSENTEMENT

Je déclare avoir pris connaissance des informations ci-dessus, avoir obtenu les réponses à mes questions sur la participation de mon enfant à la recherche et comprendre le but, la nature, les avantages, les risques et les inconvénients de cette recherche. Après réflexion et un délai raisonnable, je consens librement à ce que mon enfant prenne part à cette recherche. Je sais qu'il/elle peut se retirer en tout temps sans aucun préjudice, sur simple avis verbal et sans devoir justifier sa décision.

	Oui	Non
Je consens à ce que les données anonymisées recueillies dans le cadre de cette étude soient utilisées pour des projets de recherche subséquents, conditionnellement à leur approbation éthique et dans le respect des mêmes principes de confidentialité et de protection des informations	☐	☐

Signature : _____   Date : _____

Nom de
l'enfant : _____   Prénom : _____

Je déclare avoir expliqué le but, la nature, les avantages, les risques et les inconvénients de l'étude et avoir répondu au meilleur de ma connaissance aux questions posées.

Signature du chercheur
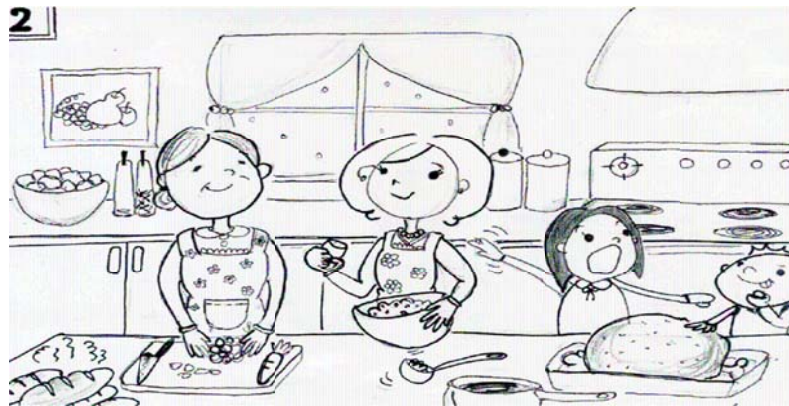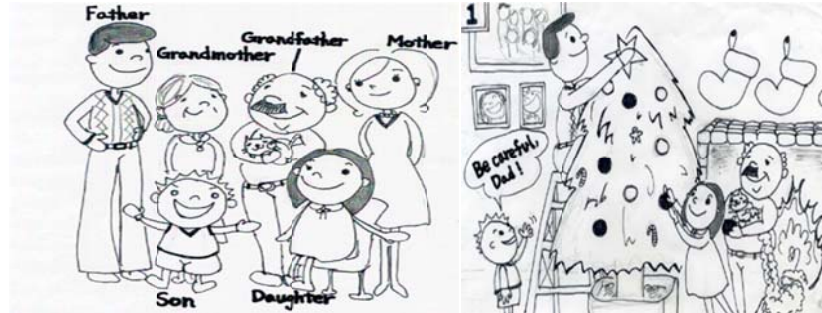(ou de son représentant) :   Date :

Nom :   Ammar   Prénom :   Ahlem

APPENDIX 3

ELICITATION PICTURES (PICTURE DESCRIPTION TASK)

APPENDIX 4

COMPUTERISED PICTURE DESCRIPTION TASK

Children like McDonald's.